

パプアニューギニア独立国
小規模稲作振興プロジェクト
(フェーズ2)
中間レビュー調査報告書

平成25年11月
(2013年)

独立行政法人国際協力機構
農村開発部

農村
JR
13-111

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序 文

独立行政法人国際協力機構は、パプアニューギニア独立国関係機関との討議議事録（R/D）に基づき、技術協力プロジェクト「小規模稲作振興プロジェクト（フェーズ2）」を2011年11月から3.5年間の予定で実施しています。

この度、プロジェクトが協力期間の中間地点に至ったことから、プロジェクトの進捗や実績を確認のうえ目標及び成果達成に向けた貢献・阻害要因を分析すること、評価5項目（妥当性、有効性、効率性、インパクト及び持続性）の観点から日本側・パプアニューギニア独立国側双方で総合的にプロジェクトを評価すること、及び今後の対策について提言を行うことを目的として、平成25年9月7日から9月28日まで中間レビュー調査団を現地に派遣しました。

現地では、パプアニューギニア独立国側の団員と合同評価調査団を形成し、評価結果を合同評価報告書に取りまとめ、プロジェクト合同調整委員会に提出するとともに、パプアニューギニア独立国側の政府関係者と今後の方向性について協議し、ミニッツ（M/M）に署名を取り交わしました。

本報告書は、その結果を取りまとめたものであり、今後のプロジェクトの実施にあたり広く活用されることを願うものです。

終わりに、本調査にご協力とご支援を頂いた内外の関係者の皆様に対し、心から感謝の意を表します。

平成25年11月

独立行政法人国際協力機構
農村開発部長 熊代 輝義

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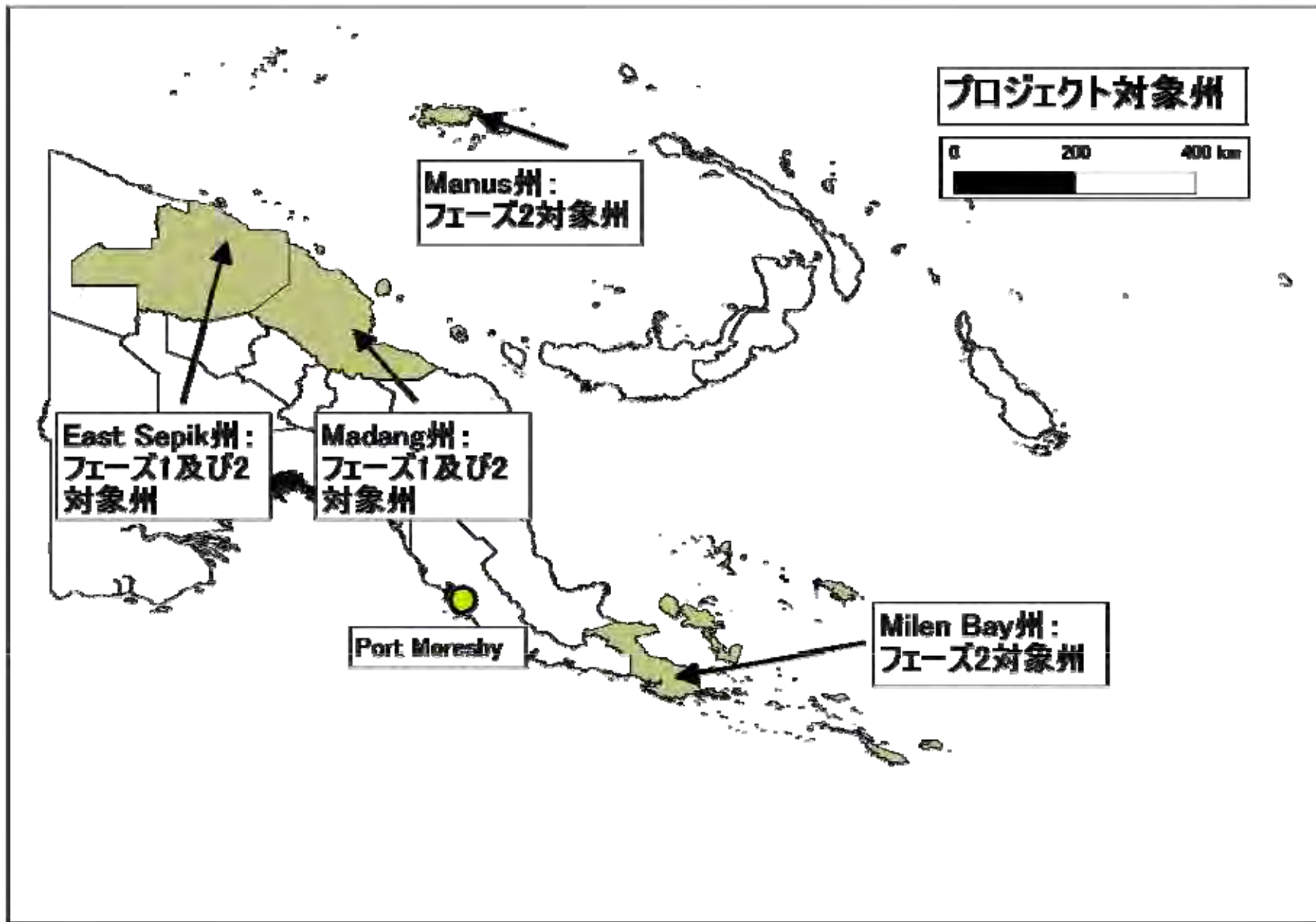
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プロジェクト対象地域位置図

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マダン州農業畜産省地域事務所表敬



マダン州において螟虫（めいちゅう）による被害を受けた小規模稲作農家圃場



東セピック州における小規模稲作農家からの聞き取り調査



東セピック州 Hamahop 郡の稲作圃場



東セピック州 Bom 郡における小規模稲作農家からの聞き取り調査



東セピック州モデル精米所に供与された精米機



ウエワク州農業畜産局地域事務所表敬



ウエワク州の学校内に設置された稲作圃場



合同評価委員会



合同中間レビュー報告書の署名



第3回合同調整委員会



農業畜産省におけるミニッツの署名

略 語 表

略語	正式名称	日本語
2KR	2nd Kennedy Round	食糧増産援助
ADB	Asian Development Bank	アジア開発銀行
APCD	Aid Policy & Coordination Directorate	援助政策調整局 (国家計画モニタリング省内部局)
C/P	Counterpart	カウンターパート
DMED	Development Monitoring and Evaluation Division	開発モニタリング評価課 (国家計画モニタリング省内部局)
DNPM	Department of National Planning and Monitoring	国家計画モニタリング省
DPI	Department of Primary Industry	第一次産業局 (州内部局)
FAS	First Assistant Secretary	第一次官補
FSB	Food Security Branch	食料安全保障局 (農業畜産省内部局)
FTFEA	Farmer to Farmer Extension Activities	農民から農民への普及活動
JCC	Joint Coordination Committee	合同調整委員会
LLG	Local Level Government	地方自治政府
MF	Model Farmer	モデル農家
M/M	Minutes of Meeting	協議議事録
MOA	Minutes of Agreement	覚書 (各州と NDAL との締結文書)
NCP	National Project Coordinator	農業畜産省カウンターパート
NDAL	National Department of Agriculture and Livestock	農業畜産省
NEC	National Executive Council	国家評議会
OISCA	The Organization for Industrial, Spiritual and Cultural Advancement-International	オイスカ (日本の国際協力 NGO : ラバウルに研修所あり)
PDAL	Provincial Department of Agriculture and Livestock	州農業畜産局
PGK	Papua New Guinea Kina	キナ (貨幣単位)
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
R/D	Record of Discussions	政府間技術協力プロジェクト合意文書
REU	Rice Extension Unit	稲作普及課 (食料安全保障局内部署)
ROC	Technical Mission of the Republic of China	台湾技術団

評価調査結果要約表

1. 案件の概要	
国名：パプアニューギニア独立国	案件名：小規模稲作振興プロジェクト（フェーズ2）
分野：農業開発	援助形態：技術協力プロジェクト
所轄部署：農村開発部水田地帯第一課	協力金額（評価時点）：1.8億円
協力期間： （R/D：2011年10月） 2011年12月1日～2015年5月31日	先方関係機関：農業畜産省食料安全保障局/稲作普及課（REU） 日本側協力機関：なし
1-1 協力の背景と概要	
<p>パプアニューギニア独立国（以下、「パプアニューギニア」と記す）では、農業セクターが人口の約8割の生計を支えており、その多くが自給食料の生産と輸出換金作物であるコプラ、コーヒー、カカオなどを栽培する小規模農家である。かつては食料自給が可能であったが、人口増加と、都市化、産業開発及び食生活の変化により、食料需要が大きく増え、現在、穀物や肉など多くの食料を輸入に依存している。特にコメはパプアニューギニアにおける重要な主食の1つとなっているが、供給の大半を輸入（20万t）に依存し、外貨流出が年間4億キナ（約160億円）以上に及んでいる。また、農家ではコメの購入が大きな支出の1つになっており、小規模農家の家計の大きな負担になっている。</p> <p>パプアニューギニア農業畜産省は、食料安全保障政策として稲作の振興を国家戦略として掲げており、特に小規模農家への普及に重点を置き、同省食料安全保障局（Food Security Branch：FSB）に稲作普及課（Rice Extension Unit：REU）を設置し、全国への稲作の振興を各州と協力しながら実施する体制をとっている。2003年から2008年に実施された技術協力プロジェクト「小規模稲作振興計画」（以下、フェーズ1）では、小規模稲作技術の整理と強化（低投入の陸稲栽培管理、手動木臼による収穫後処理、種子の自己生産と保存、稲作技術のサイクル化）や農民間普及手法（モデル農家アプローチ：Model Farmer Approach）を導入し、モデル農家（Model Farmer：MF）育成、地方政府による普及サービスの構築（モデル農家支援システム構築、公営精米所の機能強化、種子配布の実施）、及び中央行政の政策実施・機能強化（REU組織の立ち上げやガイドライン策定）を行った。また、稲作振興の担い手となる州政府農業畜産局スタッフの稲作普及計画の策定やモニタリング、報告書作成等の事業実務管理能力強化を行い、フェーズ1対象2州政府（東セピック州、マダン州）は州政府独自の稲作振興予算配賦を開始するなど、地方政府のイニシアティブによりモデル農家アプローチによる稲作普及が行われる体制が構築された。その後、農業畜産省は小規模稲作の普及対象として2州（マヌス州、ミルンベイ州）を加えている。</p> <p>このように稲作普及の拡大が行われる一方で、病害虫による被害や休耕期間の短縮化による収量低下が明らかになっており、モデル農家によるこうした技術的問題への初歩的対応が要望として挙げられている。また、旧対象2州ではモデル農家の活動報告が徹底されておらず、稲作普及の実態を把握し的確な行政施策を策定するためにもモデル農家のモニタリングや支援方法の改善が必要となっている。このように、フェーズ1で導入したモデル農家アプローチやその支援システムの改善を行い、更に新対象州で導入していくことが求められる。更に、稲作農家からは手動精米技術だけでなく、公営・私営の精米所による機械精米サービスへの要望が依然として大きい。村落部では精米機械の機械操作や維持管理の問題により稼働が不安定な精米機が多く存在している。</p> <p>フェーズ1ではモデル公営精米所の改善と実践マニュアルの作成を行ったが、機械の修繕・</p>	

維持管理などの技術指導や、現地の能力に応じた適切な精米機を導入しサービスを改善するための運営指針の作成が必要である。加えて、行政機関の体制面については、フェーズ1では中央政府のコメ普及体制を構築したが、コメ栽培に関する正確な統計情報が存在しないため、次の段階として全国的な食料安全保障政策を実施するための障害になっている。また、地方分権を背景とする中央と地方の連携不足や共通の普及ガイドラインの未整備などの課題があり、引き続き行政の実施面での強化が必要である。

現状ではパプアニューギニア農業畜産省によるこれら課題への対応能力・体制が弱いため、独力で問題解決を行えず、全国普及するための制度や体制も十分に整っていない。係る状況の下、フェーズ1で構築した稲作振興体制を維持発展しつつ、稲作を普及・定着させるためのさまざまな課題への解決能力を強化すべく、後継プロジェクトがわが国に要請された。

このような背景から、パプアニューギニアはモデル農家アプローチとその適用拡大による小規模稲作普及に関する協力の継続をわが国に要請した。係る要請を受け、関連情報を収集しプロジェクトの枠組み案等についてパプアニューギニア国政府関係機関と協議するため、2011年3～4月に詳細計画策定調査団を派遣し、これを踏まえ、2011年10月に討議議事録（R/D）に署名、2011年12月から3.5年間の計画で「小規模稲作振興プロジェクト（フェーズ2）」を開始した。

本プロジェクトは、現在、2名の長期専門家（チーフアドバイザー/普及計画管理、業務調整/行政強化）を派遣中であり、スタッフ補完研修及びモデル農家補完研修を各対象州において実施するとともに、モデル精米所の運営・管理上の問題点を摘出し、運営改善のための方策を検討、対象州以外の州でベースライン調査を実施している。

今次の中間レビューでは、プロジェクトの中間点を経過したことから、パプアニューギニア国側と合同で、協力開始から現在までの実績、プロジェクト目標と成果の達成度をPDMに基づき確認し、更に評価5項目の観点からプロジェクトの評価を行うとともに、プロジェクトの残り期間の課題及び今後の方向性について確認し、合同評価報告書に取りまとめ、合意することを目的とする。

1-2 協力内容

(1) 上位目標

対象州における稲作生産者と生産量が持続的に拡大する。

(2) プロジェクト目標

モデル農家アプローチとその支援システムの適用と改善によって対象州において小規模稲作が普及される。

(3) 成果

- 1) モデル農家補完研修の実施とモニタリングシステムの改善によりモデル農家アプローチとその支援システムによる稲作普及サービスの実施体制が改善する。
- 2) 公営・私営精米所による機械式精米サービスが改善する。
- 3) 農業畜産省の稲作普及課（REU）と食料安全局による稲作政策実施が強化される。

(4) 投入（評価時点：2013年9月時点）

<日本国側>

長期専門家派遣：延べ3名、短期専門家派遣：延べ4名派遣

機材供与：466,693キナ（車両、精米機、視聴覚機材等）、携行機材：638,500円

プロジェクト運営費：額約545,828キナ相当の在外事業強化費

なお研修はフェーズ2では実施されていないが、国内研修として、上級モデル農家研修に4名参加あり。

<パプアニューギニア側>

カウンターパート（以下、「C/P」）：累計16名（現在13名、農業畜産省に5名、パイロット4州に各2名）農業畜産省の建物に専門家執務室を提供。またパイロット州の精米機器を設置する

場所の提供。

活動費の支出：中央政府からは1799,944.00キナ、パイロット州では、東セピック州で302,000キナ、マダン州で180,000キナ、マヌス州で700,000キナ、ミルンベイ州で649,000キナの支出が報告。

2. 評価調査団の概要

調査者 (日本側)	担当分野	氏名	所属
	総括/普及計画管理	角田 幸司	JICA農村開発部 参事役
	稲作栽培	滝田 正	JICA筑波 研修指導者
	評価分析	松本 彰	A&Mコンサルタント有限公司 代表取締役
	計画管理	金子 健二	JICA農村開発部 水田地帯第一課

なおパプアニューギニア側も、Mr. Tony Yedu（国家計画モニタリング省）を団長に、国家計画モニタリング省から2名、農業畜産省から1名の計3名を配置。

調査期間 2013年9月7日～9月27日 調査種類：中間レビュー

- ① 技術協力の開始からプロジェクト中間時点までの実績と実施プロセスを確認し、その情報に基づいて、評価5項目（妥当性、有効性、効率性、インパクト及び持続性）の観点から両国の合同中間レビュー調査団により総合的に評価する。
- ② プロジェクト後半の活動計画について協議し、必要な助言を行い、必要に応じて計画の修正を行う。
- ③ 円滑なプロジェクト運営のために取るべき措置について協議し、結果を日本及びパプアニューギニアの両国政府及び関係当局に報告・提言する。

3. 評価結果の概要

3-1 成果の達成状況

【成果1】

モデル農家補完研修の実施とモニタリングシステムの改善によりモデル農家アプローチとその支援システムによる稲作普及サービスの実施体制が改善する。

指標1-1. 郡行政等の地域性にかんがみたモニタリング改善計画（単数または複数）の適用性と実施可能性：適用性及び実施可能性の記載

指標1-2. 予算措置の有無にかかわらず、モニタリング改善計画を採用する郡の数：11郡

指標1-3. 補完研修を受けたMFの数：170名

指標1-4. 外部要員への委託なしで実施されたMF補完研修の数：12コース

指標1-5. MF補完研修のモジュール数：10

指標1-6. 補完研修を受講した州職員〔郡及び地方自治政府（Local Level Government：LLG）職員を含む〕の数：20名

<成果1達成レベル&状況>

成果1の普及サービスについては、既にフェーズ1で導入したモデル農家アプローチの有効性が認められるものの、対象地域の拡大に伴い、普及員並びにモデル農家等、関係者が新たに増えたことで、まだ十分な成果を出すには至っていない。

なお、州のイニシアティブ（独自予算で計画及び実行）で、普及員やモデル農家に対する研修や普及活動は実施されつつあり、研修を受講した普及員やモデル農家が、専門家やボランティアと協力しながら、周辺農家に対して稲作技術の移転、普及活動が開始されつつある。

またモニタリングシステムは、稲作に関する基本情報の整備、記録を取ることで、活動結果の確認や適切な予算・普及計画を立てることに役立てるといった目的があるとともに、その場を活用して、稲作農家に対する指導、助言を行うことで、農家が継続してコメ栽培を行い、稲作が根づくことをめざすものでもある。しかしながら、上記のとおり、対象地域の拡大や関係

者の増加もあり、まだ十分に関係者に理解、浸透しておらず、かつ組織構造（特に州政府から郡・地方自治政府へ、郡・地方自治政府と農民との関係）からも、機能するには至っておらず、見直しが迫られている。

【成果2】

公営・私営精米所による機械式精米サービスが改善する。

指標2-1. 調査された精米機の数：公設施設で稼働中の機械の80%以上

指標2-2. 特定された推奨精米機の数：2種類以上

指標2-3. 地域的に異なった精米機ニーズに対する精米サービス改善計画の適用可能性：適用性と実施可能性の記載

指標2-4. 供与された稼働中のモデル精米機の数：8台

指標2-5. 推奨精米機を導入した精米所における精米機とロス削減量：Madang No.2 in Madang, Hayfield in East Sepik, Tamat Station in Manus, Bubuleta in Milne Bay

<成果2達成レベル&状況>

成果2の機械式精米サービスについては、短期専門家の支援もあり、既に同国の精米機状況につき調査が行われ、推奨精米機も3機種が特定され、既に各州に4セット（モデル精米機8台）が供与されるなど、進捗しつつあるものの、精米機の稼働状況を今後、見守る必要がある。

【成果3】

農業畜産省のREUと食料安全保障局による稲作政策実施が強化される。

指標3-1. 情報を提供した郡の数：対象州で少なくとも80%、11郡/年→33郡/2012～2014

指標3-2. ニュースレターの発行件数：11件

指標3-3. 小規模稲作普及ガイドライン作成に動員された作業部会の員数：タスクフォースで活動中のメンバー6名

指標3-4. 機械精米サービスガイドライン作成に動員された作業部会の員数：タスクフォースで活動中のメンバー6名

<成果3達成レベル&状況>

成果3については、稲作振興、特に小規模農家に係る農業畜産省の政策は継続し、実施され、プロジェクトのニュースレターは発行されているものの、職員の数に限られており、小規模稲作普及並びに機械精米サービスガイドライン作成に係る作業部会の活動は開始されていない。また2014年に完了する稲作振興戦略・政策ペーパーがまだ作られていないなどの課題あり。

3-2 プロジェクト目標の達成状況

【プロジェクト目標】

モデル農家アプローチとその支援システムの運用と改善によって、対象州において小規模稲作が普及される。

指標1. 終了時の小規模稲作農家の数：2014～2015年において15,590戸/対象4州

指標2. モニタリング改善計画を実施する郡またはLLGの数：関係郡のうち80%以上

指標3. MF補完研修が実施可能なREUと州職員の数：10名以上

指標4. MF補完研修修了試験に合格したMFの数：80%以上

指標5. 精米サービス改善計画を実施する郡またはLLGの数：関係郡のうち80%以上

指標6. 本プロジェクトにより訓練されたMFから指導を受けた農民の数：16,000人

<達成レベル&状況>

現時点でプロジェクト目標の達成を評価するのは時期尚早であるが、プロジェクト目標が計画どおり、達成可能かどうかについては、対象州及び郡での活動によって、稲作が根づいていけるかどうかにかかっており、そのためにはモデル農家を主体とした農家間の支援システム、

稲作振興の支援策がどこまで充実し、定着できるかにかかっているといえる。なおモデル農家アプローチは同国で有効であり、適切な手法であることは調査結果からも明らかとなった。各州での稲作振興の状況はかなり相違しており、現行、稲作農家の正確な統計は不透明であることから、モニタリングシステムの改善や目標指標については、各州の事情に応じた対応が必要である。

3-3 評価結果の要約

3-3-1 妥当性

妥当性は次の理由により高いと判断される。

- 1) 現金収入が限られている小規模農家に対し、稲作技術を普及することで、小規模農家における食料生産の向上、支出の削減と摂取カロリーの増加による貧困削減に貢献するほか、地域内の食料安定供給並びにコメの国産化にも貢献するものである。なお、同国の国家計画ではコメ増産を推し進める政策はフェーズ1以降、継続しており、本プロジェクトは同計画に合致している。
- 2) パプアニューギニアにおけるわが国の重点分野として、「経済成長基盤の強化」が掲げられ、農業は優先分野の1つであり、持続的経済成長の達成と、社会経済の基盤を強化し生活向上を図ることを目的とした協力をこれまで行ってきた。またわが国の援助方針を示す対パプアニューギニア事業展開計画にも合致しており、本件は、重点分野「経済成長基盤の強化」のうち、開発課題「経済活動の拡大」分野に含まれ、「産業振興プログラム」に位置づけられており、農林水産業をはじめとした産業・商業の振興による収入拡大等への支援を通じて、国民の大半が暮らす地方における生活基盤を強化することがうたわれている。

3-3-2 有効性

有効性は中程度と見込まれる。本プロジェクトは、需要の高い主食作物である稲作の普及を目的に、モデル農家アプローチとその支援システムの適用と改善によって、プロジェクト対象4州において、①稲作普及サービスの改善、②機械式精米サービスの改善、③農業畜産省による稲作政策実施の強化を行うことにより、小規模農家が持続的に栽培できる稲作技術を普及し、もって対象地における小規模稲作が普及、ひいては食料の自給率の向上に寄与するものであり、有効性が認められる。しかしながら、プロジェクトが計画どおり達成可能かどうかについては、対象州及び郡での活動によるものである。とりわけ、新規対象2州ではコメは新しい作物であり、新技術、知識の習得を開始したばかりである。よって、コメの普及、定着のためには、モデル農家を主体とした農家間支援システム、稲作振興の支援策がどこまで充実、効果的に機能するかにかかっている。

3-3-3 効率性

協力期間前半における効率性は中程度である。農業畜産省及び州政府による運営予算が不足がちで遅滞状態であったことを除くと、要員と機材等の投入はおおむね予定どおりなされた。日本人専門家の投入については、派遣計画の短期専門家のリクルートが順調に進まず遅滞したことや、チーフアドバイザー/普及計画管理専門家の前任離任から後任着任まで間が空いたことなど、プロジェクトの円滑な活動実施、並びに継続性のためには今後、留意する必要がある。一方、パプアニューギニア側の人的投入はR/Dに準じて行われているものの、減員となった1名の増員はされていないうえに、入院中の職員など人材不足の課題が残されている。なお本件は、最終受益者となる小規模稲作農家に対し、農民間普及手法（モデル農家アプローチ）を導入し、稲作の振興を図るとともに、農業畜産省NDAL/REU及び対象州農業畜産局（Provincial Department of Agriculture and Livestock : PDAL）の食料関係普及官を対象

にして、稲作振興支援に関する能力向上を図っていくものである。中央・地方政府ともに稲作技術者（指導者）の人材が不足している現状、更に同国の特性にかんがみて、信頼関係の構築にはモデル農家を育成したうえで、周辺農家への波及効果を行うという普及アプローチは妥当のみならず、効率的であると考えられる。

3-3-4 インパクト

上位目標にある「対象州において持続的小規模稲作の拡大による稲作農家数並びにコメ生産が改善される」についての判断を現時点で下すのは時期尚早である。しかしながら、以下のような正のインパクトが現れてきており、その継続、拡大が期待される。

- 1) 対象州において、農家だけでなく学校や教会等、給食をはじめコメを常時消費する人々が稲作栽培や技術についての関心を深めつつあり、コメへの関心を抱き、その経済並びに食料安全保障等の利点（現金の節約ないし収入向上、栄養改善、より美味、貯蔵可能、料理の容易さなど）を認識し、実践しつつある。
- 2) 東セピック州マプリック郡では、モデル農家が自発的に月例会議を開催し、意見交換（精米機器や病害虫管理について）を実施。また、農民独自で精米機を共同管理するグループも出てきているなどの正のインパクトがみられる。中央政府に比べて人員が充実している州ないし郡政府の支援でこうした農民の組織化や情報共有が進むことが、今後期待される。なお、マプリック郡のある村では稲作農家が精米を運営しているのみならず、精米後に、パッケージまで作り、自分たちのコメの推進を行っている。さらに、こうした農民が集まる機会を利用して、郡担当官は、稲作の生産や状況に関する情報・データ収集、また農家の問題点の把握や相談も行っている模様。
- 3) 州普及員やモデル農家によって、稲作が徐々にではあるが周辺農家へ技術移転され、稲作栽培を始めた農家が出ており、農民間普及手法が有効に生きている事例が多く出ている（一方、モデル農家や普及員の支援がない、労働力不足、他の換金作物へと関心が移るなどの理由で、稲作を止めてしまった農家も存在）。
- 4) パプアニューギニアの遠隔地では現金収入機会は少なく、自給自足生活生計に近い生活をしている農民はいまだに多いが、そのような農民でさえ、昨今、長期保存が可能な輸入米の消費が進み家計を圧迫している。しかし、自前でコメを生産できるようになることで、家計が改善され、かつ余剰米の売却で現金収入の道も開けるなど、僻地の生計向上、食料安全保障にも寄与すると考えられる。また対象州で小規模稲作の振興が継続的に進めば、2014年に現行の政策が終了する「コメ開発政策」の後継政策などに正のインパクトを与えることが見込まれる。

3-3-5 持続性

中間レビュー時点では持続性を判断するのは時期尚早であるが、現時点での見通しは以下のとおり。

1) 政策・制度面

国家農業開発政策はプロジェクト終了後も継続されるので、稲作振興政策についても継続される見込みは高い。ただし2014年に終了する「コメ開発政策」の後継について現状ではまだ具体的な対応の動きはなく、小規模稲作の振興の位置づけや国家としての優先順位、更に普及の方法や種子確保をはじめ、政府の関与に係る方針、戦略はまだ不透明のままである。

2) 組織・財政面

REUは2008年に農業畜産省食料安全保障局に設置されたが、職員は現在3名（1名は病欠）に限られ、組織として十分に機能していない。業務はREUの長（Rice Coordinator）が掌握し、他職員との協働・共有は現状難しく、また人事が極めて不安定である。この

ように中央政府の人事は極めて脆弱である一方、州政府の農業事務所では優秀な人材が新規採用されているところもあり、総じて地域人材は豊富である。また、パプアニューギニア側の予算は、これまで食料安全保障局の運営予算、食糧増産援助（2nd Kennedy Round：2KR）を原資とするカウンターパートファンド予算ともに十分に確保されているものの、農業畜産省幹部の不安定な人事によって、執行は遅れ、内容も不明瞭など課題も多く残されており、引き続き注視が必要である。

3) 技術面

これまでの協力を通じ、農業畜産省及び州政府のC/Pは稲作に関する基本的な技術を指導できる能力を獲得している。しかし、モデル農家の離脱や稲作の状況など適切な報告がなされていないなど、モニタリング方法や支援体制はまだ十分でなく、技術並びに責任体制などの向上をめざすため、テキストの改訂やタイムリーな支援体制の整備などに取り組む必要がある。なお、これまで導入している車両については適切に維持管理されており、現在導入を進めているモデル精米機と付随する施設については、今後、適切な管理につき指導を行う予定である。

3-4 効果発現に貢献した要因

(1) 計画内容に関すること

フェーズ2開始以前から、パプアニューギニア主導で、新規対象州をはじめ、対象地域において、C/Pや農家に研修が行われ、稲作に関する知識や農家アプローチについて理解促進が図られた。こうしたパプアニューギニア側のイニシアティブや尽力があったことで、本プロジェクトに対する理解が促進され、またプロジェクト活動を着実に進められたと考えられる。

(2) 実施プロセスに関すること

プロジェクト業務を遂行するうえで、中央並びに対象州のC/Pの多くの意欲や意志は高く、本計画を促進するための有利な条件となっている。加えて、多くの普及員やモデル農家は本プロジェクトにおける自らの役割や責務を理解しており、また稲作の振興及び村落共同体の生計改善に意欲をもっている。

3-5 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

ベースライン調査の実施及び調査結果の取りまとめの遅れによって、調査結果を十分に活動に反映でなかった。また、稲作に関する基礎データがまだ十分に入手できず、各州で稲作の現状を明確に把握できていないことで、実態に合った活動計画を立てることが十分にできないなどの要因を引き起こした。

(2) 実施プロセスに関すること

・小規模農家と行政官との信頼関係

稲作農家と行政官、特に郡担当官との信頼関係が構築されていないことが、データの収集をはじめ現状把握を困難にするだけでなく、十分な普及支援活動を行えない要因ともなった。これは、郡政府の稲作への理解や郡の優先順位という側面もあるが、何より郡担当官が農家を訪問する機会が少ない、あっても一方的な質問やデータ収集だけで、農民の声に耳を傾けない、問題や課題への対応をしてくれないという農家側の不満が背景にある。一方、東セピック州のように、フェーズ2以降、郡の関与、協力の重要性にかんがみ、郡にコメ担当官を配置する手はずを整え、農家への支援を行っているところもあり、そうした地域では、農家と普及担当官との関係も良好で、活動もスムーズであり、また稲作が根

づきつつある。

・人材投入の制約

パプアニューギニアの人的投入ではC/Pの人数の制限や度重なる交代など、プロジェクト実施につき人材配置が大きな制約となっている。

3-6 結論及び提言（当該プロジェクトに関する具体的な措置、提案、助言）

プロジェクトは開始から約2年が経過し、今回、中間レビュー調査を実施した。その結果、本プロジェクトはパプアニューギニア並びにわが国の援助政策との整合性を保っており、妥当性は高いといえる。また、本プロジェクトで採用されたモデル農家アプローチは、成果の達成に貢献している。効率性は、パプアニューギニアのC/P交代の遅滞、C/Pの配置等から、中程度と見込まれる。なお、ミルンバイ州やマヌス州など新規対象州におけるモデル農家は、今後もコメ栽培の技術や知識を習得していく必要があることから、本プロジェクトの有効性も同様、中程度と見込まれる。インパクトや持続性についての判断を現時点で下すのは時期尚早であるが、成功事例として、農民間普及手法が有効に生き、稲作が徐々にではあるが周辺農家へ技術移転され、稲作栽培を始めたり、コメの自給を達成した小規模農家が出るなど、正のインパクトが現れている。結論として、プロジェクト活動は基本的に当初計画に沿って実行されているものの、まだ期待する成果を十分に出すには至っておらず、持続的稲作振興はまだ道半ばである。

よって、プロジェクト目標が計画どおり、達成可能かどうかについては、モデル農家を主体とした農家間の支援システム、稲作振興の支援策がどこまで充実し、定着できるかにかかっており、モデル農家への支援及びモニタリングシステムの充実、また小規模農家の希望と自信が何より重要であると調査団は判断した。更に今回の調査結果、プロジェクトの一層の成功、前進のためには、まだ取り組むべき課題が残されていることから、プロジェクト後半に残された時間や予算の制約をかんがみつつ、パプアニューギニア側の実施体制の更なる強化が必要と思われる。

中間レビューの結果に基づく評価団の提言は、以下のとおり。

3-6-1 プロジェクトに対する提言

(1) モニタリング実施体制の強化

- ・対象州の農業畜産局によるモデル農家指導を含むモニタリング活動のための十分な予算措置及び予算の適切な執行
- ・モニタリング様式の簡素化・改訂
- ・関係機関間（農業畜産省、とりわけ稲作普及課職員、郡及び地方自治体を含む州政府職員）の緊密な連絡及び関係者のモニタリングに対する強力なイニシアティブ

(2) モデル農家支援の強化

- ・コメ生産技術リーフレットの作成をはじめ、既存のマニュアルを改訂することが求められる。
- ・州農業畜産局は、モデル農家のモチベーションを高めることが望まれる。

(3) 小規模農家の支援の重要性

農業畜産省及び州農業畜産局は小規模農家に対する研修、コメの病害虫に関連する情報提供等の支援を行うことが重要である。さらに、対象州における農業畜産省、州農業畜産局、郡、地方自治体及び小規模農家の間の技術情報の円滑な流れは、稲作振興に向け十分に確保されなければならない。

(4) 対象州間の技術交換の推進

今後の協力期間において、東セピック州に蓄積された好事例及び経験を他州に普及することが効果的である。さらに、相乗効果の発現のために、州の行政官間のみならず

農家間の技術交換の推進が必要である。

(5) 稲作に係る技術助言

- ・稲作普及課は対象4州と協力し、主要かつ重要な病害虫を同定するための迅速な調査を実施し、この結果を踏まえ、短期専門家の派遣要請を行うこととする。
- ・各品種の特性、特に長所と短所を示したリストを整備する必要がある。
- ・乾燥についての研修が重要で、収穫後の粃の乾燥方法を示したパンフレットを作成するとともに、各精米所に水分測定器を設置することが必要である。

(6) 精米機の据付け・運用

対象州での小規模農家のコメ生産を推進するには、精米機の運用が急務となっており、上記精米機の設置及び精米所の建設に向け州農業畜産局の支援が必要である。

(7) PDMの改訂

プロジェクト目標及び上位目標に記載された稲作農家の指標は、現状に基づき改訂されるべきである。さらに、ベースライン調査は時間及び予算的な制約から、本プロジェクト対象4州に限定すべきである。

3-6-2 農業畜産省及び州農業畜産局に対する提言

農業畜産省は、プロジェクト活動の効果的な実施のために、収穫後処理技術、栽培、農業普及サービス及び情報工学の分野で少なくとも計3名のC/Pを配置すべきである。他方、各対象州の州農業畜産局は、プロジェクト活動の円滑な実施のために、それぞれ必要とされる人数のC/Pを新たに配置する必要がある。

3-7 教訓

(1) ベースライン調査とモニタリング

ベースライン調査は、プロジェクト関係者が現状に係る情報及び関連データを共有するために適時に実施されるべきである。

(2) 現地の状況に合致した営農システムの開発

小規模農家の生計向上を推進するためには、稲作マニュアルの整備とともに、稲作を含めた地域に適した営農体系の構築が求められる。

(3) JICAボランティアとの連携、他のステークホルダーとの連携

より効果・効率的な協力のために、コメ生産にかかわる他のステークホルダーとの調整とともに、ボランティアとの連携を強化することが求められる。

(4) 現地リソースの活用

協力実施段階において、日本人専門家に限定せずに、ローカルリソースを含む幅広い人材の登用をプロジェクトの投入として検討すべきである。

(5) モデル農家アプローチの有効性

本プロジェクトの対象州のみならず、パプアニューギニアの他の州においても、農民間普及アプローチが普及することが期待される。今後は、モデル農家の役割の明確化及びモデル農家支援システムの整備も必要である。

(6) 好事例の収集・蓄積

過去の経験から成功及び制約要因を収集し、その要因を分析することにより、他の小規模農家への適用及び活用が可能となる。

(7) 小規模農家による稲作データ収集並びに農家が直面する課題の収集の重要性

稲作の現状や傾向を把握するために、正確なデータの収集は重要であり、データ収集と同時に、圃場において農家が直面する問題や疑問を収集し、把握することが望ましい。データ収集と記録の保管は、精度の高い統計及び資料作成に必要なのみならず、的確なモニタリング及び計画策定のためにも必要な作業である。

Summary Report of the Mid-term Review Study

I. Outline of the Project	
Country: Papua New Guinea	Project title : The Project on Promotion of Smallholder Rice Production (Phase 2)
Issue/Sector: Agricultural Development	Cooperation scheme : Technical Cooperation
Division in charge : Paddy Field Based Farming Area Division 1, Rural Development Department	Total cost : 180million Yen
Period of Cooperation	(R/D): December 2011 to May 2015
	Partner Country's Implementing Organization : National Department of Agriculture and Livestock (NDAL) Supporting Organization in Japan : N/A
Related Cooperation : Nil	
<p>1. Background of the Project</p> <p>Agriculture sector sustains the livelihood of approximately 80 % of the population in Papua New Guinea (hereinafter referred to as "PNG"). Most of the agricultural products are produced by small-scale farmers cultivating cash crops such as copra, coffee, cacao and so on. PNG used to produce its own food at subsistence level. In recent years, there has been an increase in the demand for imported food such as grains and meat. This is due to increased population growth, urbanization and industrial development, and dietary patters have been changing. In particular, there has been a gradual increase in consumption of rice and it has become a staple food in urban and rural areas. However, most of the rice requirement is imported to meet the demand for rice consumption. It is estimated that annual rice import stands at 200,000 tons per year valued at more than K400 million. The cost of imported rice is a burden to subsistence farmers.</p> <p>Under such situation, the National Department for Agriculture and Livestock (NDAL) formulated the National Rice Policy for promoting rice production and the National Food Security Policy, and set up the Rice Extension Unit (REU) in the Food Security Branch (FSB) in NDAL for the promotion of rice cultivation in cooperation with provincial governments.</p> <p>The technical cooperation project for Promotion of Smallholder Rice Production (hereinafter referred to as "Phase 1") was conducted in East Sepik and Madang province between 2003 and 2008 contributed:</p> <p>As a result of the Phase I activities, under the initiative of the target provinces, the extension system of rice cultivation through the MF approach was established securing their own budget for the promotion of rice cultivation. Thereafter, in 2008 two provinces (Manus and Milne Bay) were added by NDAL as the target provinces for the extension of small-scale rice cultivation.</p> <p>As the extension of rice cultivation expanded, so the rice yield has been decreasing due to the damages caused by the pests and the shortening of fallow period, MFs required taking necessary measures to attend to above-mentioned technical issues.</p> <p>Due to the lack of information on the MFs' activities in the target provinces of Phase 1, it was necessary to improve the monitoring of the MFs' activities and its support system in order to grasp the actual conditions on the extension of rice cultivation and formulate the administrative measures precisely. In this matter, it was required to improve the MF approach and support system introduced by the Phase 1, and to introduce its approach and supporting system to target provinces newly established.</p>	

Although there were strong demands for not only manual rice milling but also the mechanical rice milling in public and private milling service stations, there are many unstable rice milling machines for the operation due to the operation and maintenance of rice milling machines in rural villages. The model public milling service stations were improved and the practical manuals were developed, there are necessity to prepare the technical guidance such as repair of the rice milling machine and its maintenance, and the operation guideline for improving the services introducing appropriate rice milling machines in accordance with the local capacity.

In addition, in regard to the system of the public administration, the extension system of rice cultivation of the central government (NDAL) was established in the Phase 1, the lack of precise statistical data concerning the rice cultivation is obstacle to implement the National Food Security Policy as the next stage. On the other hand, there are some problems such as the lack of coordination between NDAL and local provinces based on the decentralization, and common guidelines for extension, is necessary to strengthen the execution continuously.

Under the circumstances, NDAL has not enough capacity and system to solve the existing problems by one's own efforts due to lack of system and organization to disseminate in the whole country.

Taking into consideration the situation mentioned above, the Government of Papua New Guinea (hereinafter referred to as "GoPNG") requested a technical cooperation project on Promotion of Smallholder Rice Production (hereinafter referred to as "Phase 2") to Japan on July 2007 for the purpose of further extension of small-scale rice cultivation through the MF approach and its expansion.

The Project is being conducted through dispatching two JICA experts carrying out supplementary training for staff and MFs in the respective selected provinces, the activities conjunction with the administration of model milling stations (milling service) to identify existing issues and to study the measures necessary for improvement, and baseline survey on nationwide.

In response to the request made by the GoPNG, the detailed planning survey team was dispatched by JICA to PNG for discussing the framework of the Project from March to April, 2011 and the Project was launched in December in the same year to be implemented until May 2015 for 3.5 years. Since the Project has reached the halfway point, the JICA has determined to conduct a mid-term review.

2. Project Overview

(1) Overall goal: Rice farmers and rice production are expanded sustainably in the target provinces.

(2) Project purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.

(3) Outputs

Output 1: By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.

Output 2: The existing mechanical milling service of public and private milling service station is improved.

Output 3: Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.

(4) Inputs as September 2013

Japanese side:

Experts: 7 Experts (in total: Long-term 3, Short-term 4) Trainees received: 4

Trainees in PNG

Equipment: 466,693 Kina + 638,500 Japanese Yen (equipment from Japan)

Local cost: 545,828 Kina

<p>PNG Side :</p> <p>Counterparts (C/Ps) 18C/Ps (13 at present, NDAL 5; 2 in 4 target provinces)</p> <p>Equipment Office fixtures and fittings Land and Facilities Office for the experts</p> <p>Local Cost 1799,944.00Kina (NDAL), 302,000Kina (East Sepik), 180,000Kina (Madang), 700,000Kina(Manus) & 649,000Kina(Milne Bay Province)</p>			
<p>II. Evaluation Team</p>			
Members of Mid-term Review Team	Mr. Koji SUMIDA Dr. Tadashi TAKITA Mr. Kenji KANEKO Mr. Akira MATSUMOTO	Team Leader/ Extension Control Rice Cultivation Evaluation Management Evaluation and Analysis	Senior Advisor to the Director General, JICA Training Advisor, JICA Tsukuba, JICA Advisor, Paddy Field Based Farming Area Division 1, Rural Development Department, JICA President, A & M Consultant Limited
Period of Evaluation	2013/09/7~ 2013/09/28		Type of Evaluation : Mid-term Review
<p>III. Results of Evaluation</p>			
<p>1. Project Performance (Project purpose)</p> <p>Since the project activities started in hand less than 2 years, it was not possible to conclude the achievement level at this stage since most activities under the Project are still in progress. According to the results of questionnaire and interviews with the Project C/Ps, experts and MF members conducted during the review study, most of them had opinion that MF Approach is right way in the PNG, and very adoptable. However, its support system in the target provinces was still weak and it has been no report and no data collected due to the insufficient monitoring system. Regarding to the unknown number of rice farmers and rice production due to monitoring system and collect data method, it is reconsider the system and target.</p> <p>(Output1)</p> <p>The achievement level for Output 1 is still low at this stage due to the expansion of the target areas and numbers of stakeholders. MF and also farmer training on rice farming was conducted by the initiatives of some targeted provincial government. And, the provincial officers who have received the practical training has started their extension works to MF and surrounding farmers in collaboration with experts and volunteers. The monitoring system aims to collect basic data and record on rice situation, and also the system can be utilized to counseling and advise to the smallholder farmers when they faces a range of problem and anxiety. However, the system is not functional yet due to the relationship between extension officers and farmers and weak institutional structure such as province with district/LLG, district/LLG and farmers.</p> <p>(Output 2)</p> <p>According to the project plan, the existing mechanical milling service was investigated and identified the situation of the services. At the same time, a number of the model milling machines were delivered, so hereafter the milling machine will be set up, and then it is expected to operate and monitor the service.</p> <p>(Output 3)</p> <p>A number of newsletters have been published and delivered; however, the taskforce for the extension</p>			

service as well as mechanical milling service guideline has not been set. The rice policies by REU and Food Security Branch in NDAL have been implemented, but the numbers of human resources who engage in rice promotion are quite limited. Due to the non-existence on the taskforce for the extension service guideline and also mechanical milling service guideline, it is not started the next rice policy and development papers.

2. Summary of Review Results

(1) Relevance

The relevance of the Project is high.

1) Relevance to policies of the GoPNG

The National Food Security Program (2000-2010) and PNG Rice Development Policy (2004-2014) were prepared by the NDAL. These two main national policies clearly constitute a fundamental base to promote the domestic rice production by all the smallholders, institutions and semi-commercial entities in the whole country. Within national food security and rice policy endorsed the concept of total rice self-sufficiency and recognized that rice self-sufficiency as the principle way to achieve food security in PNG.

Toward this strategy and policy, the purpose of the Project is to meet the need of smallholder farmers to produce rice locally for self-consumption and better nourishment like other staple foods such as yam, taro, banana etc. and thus to reduce farmers' expenditures on rice and to supplement seasonal food shortage in rural areas. At the national level, increase in self-production and self-consumption of rice will contribute to decrease of expenditures on rice import. Furthermore, practice of rice self-production will provide effective food security measures against possible drastic population increases in the future.

2) ODA policies of the GoJ (Government of Japan)

One of the three priority areas of the Japan's ODA policy to PNG is "Strengthening of the Foundation of Economic Growth". Within this area, agricultural is one of important issues. Overall end is the achievement of sustainable economic growth and improvement of the living standard by strengthening basic socio-economic foundation.

Similarity, the Country Program of JICA for PNG also emphasize the "Strengthening of Economic Activities" with a cooperation program on "the improvement of industrial promotion" as one of the priority issues. Therefore, the Project is in conformity to priority assistance subjects of the GoJ, and considered to be quite consistent with the Japanese aid policy and alignment with PNG national policy.

(2) Effectiveness

The effectiveness of the Project is predicted moderate at the time on the Mid-term Review.

The smallholder farmers in the target areas, especially MFs in the new provinces under the Project are expected to acquire new skills and knowledge for sustainable rice farming within their own capability and creativity. On the other hand, Provincial governments are expected to provide support systems for the farmers that will enable them to realize sustainable rice farming activity.

The achievement of the Project will depend on substantially on performance by the target areas in each province especially when driving the supporting system for the MF into a sufficient level, and also the MF willingness and confidence for rice farming. At this moment, the supporting systems at provincial level are very weak, and not yet fully functional as well as farmers are still learning process on rice farming.

Therefore, the Project shall formulate tangible action to tackle these issues pertaining to the farmers as well as the officers in all the level (national/provincial and district/LLG).

(3) Efficiency

The efficiency of the Project is predicted moderate at the time on the Mid-term Review.

Inputs of the Project resource which include human resources and equipment were made mostly as expected, with the exception of provision in budget for the Project operation by NDAL and also C/P assignment. Especially, the issues on human resource allocation, the delay of dispatching short-term experts and also the shortage/frequent replacement of the counterpart personnel affected the Project progress.

On the other hand, MFs are key personnel to improve rice cultivation techniques and then disseminate their knowhow and experiences to other surrounding interested farmers. It can be said that the MF approach is relevant and also as very efficient to promote smallholder rice production in the target provinces.

The Project has been struggling of extension method and monitoring system due to weak relationship between farmers and local government/district offices, as well as the shortage of budget and awareness for rice promotion.

(4) Impact

1) Prospects of achieving Overall Goal

The achievement of the Project's Overall Goal, "Rice farmers and rice production are expanded sustainably in the target provinces." it is too early to measure the final progress of the respective outcomes and let alone how much contribution by the Project has been made in terms of sustaining rice farmers and rice production in the target provinces.

However, in the light of this, the Project is expected to continue implementing interventions to support smallholder farmers in the target provinces.

According to the central/provincial office, field interviews and questionnaire survey conducted during the Review, the Team observed that the Project brings several positive changes as mentioned below.

2) Spill-over Effects

(Create awareness on rice to farmers/resident people)

Not only farmers but also school and church people have interested in rice farming and also to acquire basic knowledge and technique about rice cultivation. Through the MFs and extension officers in respective provinces, resident people has been getting awareness about rice and recognizing the advantage of rice with economic and security reasons (e.g., saving & gain cash, good nourishment, better taste, stock longer time, easy to cook, etc.).

(Group exercise and joint efforts by smallholder farmers)

In the Maprik district, East Sepik Province, MFs hold a monthly meeting spontaneously and carried out exchange of opinions about rice farming such as milling services and pest management. Moreover, one of the best practices as positive impact, it has observed a farmer group in the district attempted to operate and manage a rice milling machine jointly, and make brand rice package to promote their rice sales.

It is expected that such a farmer's initiatives, organization and information sharing will progress supported by the respective provincial government where staffs are substantial compared with the central government.

In addition, the District officers in the above areas also seem to perform the information and data collection about production and the situation of rice crop using the opportunity for such farmers to gather.

(Technology adoption by other surrounding farmers)

With the leading role by provincial staffs and MFs in Project areas, rice produced not only the

farmlands of MFs but also their neighboring farmers.

Gradually, some of the MFs reported that they had made contacts to the neighboring farmers with whom they shared experiences on rice cultivation techniques. Some of these surrounding farmers adopted the basic rice techniques which is the practice of the technical package introduced by the Project. It seems that "FTFEA" has been taken place gradually by the means of learning from MFs.

(Future expectation and contribution through the Project)

In the local and remote place of PNG, there are very few cash-earnings opportunities and most farmers are living a life near a self-sufficiency livelihood.

Nowadays, even though the self-sufficient smallholder farmers increases a consumption of the imported rice in which can preserve a long time, and their household economy is pressed, however, it is thought that improving the household economy and also opening the way of cash earnings by sale of surplus rice contributes also to the improvement in their livelihood and food security by the ability of rice to be produced now on one's own account.

Moreover, if promotion of a smallholder rice crop progresses continuously in the state for the Project, it will count upon giving positive impact to the succeeding policy of the "Rice Development Policy" which the present policy will end in 2014.

(5) Sustainability

Project sustainability is not likely to be secured at this stage for the following three (3) reasons.

1) Policy aspect

Rice becomes one of the selected food security crops as stated in the national agricultural development policy, therefore; the GoPNG will continuously support rice cultivation during and after the end of the Project. In addition, under the present circumstances, there is no movement toward still concrete correspondence about the inheritor of the "Rice Development Policy" to be ended in 2014.

2) Organizational and budgetary aspect

Rice Extension Unit (REU) has been installed in Food Security Office, DAL in 2008, but the personnel are very limited and are not fully functioning as an organization. Moreover, while the central government's personnel affairs are very vulnerable, there is a place where excellent talented people are hired newly, and local talented staffs are abundant generally in the provincial governments. On the other hand, the management budget of FSB and the counterpart-fund budget which makes Japan-2KR financial funds are delayed in execution according to the personnel instability of DAL, although the budget from the PNG is fully secured until now, therefore it is needed to be kept continuously.

In order to fully implement and continue the Project activities even after the Project completion, the GoPNG is required to make efforts to provide necessary operational budget and timely disbursement for the continuation of Project activities as well as MOA will need to be signed between DNP&M, NDAL and the four PDALs.

3) Technical aspect

Since the Project started, NDAL and C/P of provincial governments have acquired the ability to guide the fundamental technology about rice farming. However, the field monitoring method is not still established and the supporting system are not functioning yet due to neither record keeping/reporting nor information sharing on rice production's situation. It was assessed that need to tackle the revision of monitoring sheet, being efficient and timely support system in order to improve the technological backup and also the system of accountability.

Finally about the vehicle and equipment introduced by the Project until now, the maintenance and

management has been carried out appropriately, and the rice milling machine and the infrastructure will be needed in effective utilization and suitable management from now on.

3. Factors that promoted realization of effects

The following are identified as promoting and hampering factors.

(1) Factors concerning to Planning

Before the Project Phase 2 started, there have been trained respective officers and smallholder farmers by the Initiatives of central and provincial government, and new stakeholders become recognized the basic knowledge of rice farming and MF approach. Such initiatives and efforts have been apparently promoting the understanding of the Project, and accelerating the Project activities.

(2) Factors concerning to the Implementation Process

High motivation and willingness of some Project counterparts in national and provincial level in their attitudes to perform their duties seems to be one of favoring factors to promote the Project activities. Most extension officers and model farmers are well aware of their responsibility, and are highly motivated to promote rice farming and to improve livelihood of their communities.

4. Factors that impeded realization of effects

(1) Factors concerning to Planning

Delay of conducting baseline study and also compiling the results, it has not been reflected the analytical results into the Project activities sufficiently. In additions, there were not sufficiently collecting basic rice data in the target provinces, and it was not captured the past and current situation of rice farming in the target provinces, then, it causes the difficulties to make proper and timely planning and monitoring.

(2) Factors concerning to the Implementation Process

(Relationship between Smallholder farmers and Extension officers)

The relationship between Smallholder farmers and Extension officers, in particularly district level was not well, so it causes the difficulties that cannot grasp the rice situation and also not undertake effective extension activities.

(Number of C/P assignment)

Number of C/P assignment from PNG is not sufficient enough and also their frequent replacement, and the budget from PNG are not released to DAL on time.

5. Conclusions

The Project has passed nearly two years since its commencement. The Team conducted mid-term review based on the “New JICA Guidelines for Project Evaluation (June 2010)”. Major perspective of evaluation is relevance; effectiveness (whether the project produces effects as expected), and efficiency is reviewed based on the current status and performance. Relevance is evaluated high because the Project is in line with policies of both GoPNG and GOJ. In addition, MF approach adopted by the Project contributes to produce outputs of the Project. Efficiency of the Project is evaluated moderate due to the delay of the replacement of counterpart personnel of NDAL and assignment of counterpart personnel of PDALs. Effectiveness of the Project is predicted moderate because the MFs in the new target provinces as Milne bay Province and Manus Province are expected to acquire the skills and knowledge necessary for rice farming through the Project.

It may be too early to evaluate the Project impact and sustainability at this stage; however, as for impact of the Project, positive impacts have been shown. For example, the number of smallholder farmers in Maprik District has been increasing through MF approach disseminating rice production to local farmers

as well as promoting self-consumption of rice.

The Team observed that the Project activities are being conducted basically according to the original plan, however the Team recognizes that the tangible results are not yet fully produced as expected and sustainable rice farming is still on going, then the Project Purpose will not be achieved without driving more effective supporting & monitoring system for the MFs, and also the willingness and confidence of smallholder farmers by the end of the Project term. The Team also recognizes some issues that need to be tackled in order to make the Project more successful and develop even after the Project has ended.

Taking into consideration both time and budgetary limitations, the Team puts emphasis on the importance of the further strengthening of the Project implementation system of the PNG side at an earlier stage for achieving the Project Purpose satisfactorily at the end of the Project. Reflecting on the Team's recommendations below, the Project activities shall be continuously conducted within the remaining cooperation period.

6. Recommendation

(1) Recommendation for the Project

1)Improvement of monitoring system

In order to grasp precisely the current conditions of rice farming introduced by the Project in the respective provinces in a timely manner, the Project is strongly expected to improve the actual monitoring system promoting active involvement of Provincial staff (including Districts and LLGs).

The Team considers that it is urgent to establish appropriate monitoring & reporting system for obtaining information necessary to reflect the activities of the Project. The results on the monitoring should be shared by relevant organizations.

Therefore, the Project needs to take the following actions for securing the sustainability of monitoring system, as well as maintaining its institutional capacity.

- Ample funding of PDALs for the monitoring activities including support for MFs through workshops and the adequate disbursement of the fund
- Simplification and Modification of the monitoring format based on the recommendations made by provincial officers
- Close communication between officials of NDAL, particularly REU and provincial officers including Districts and LLGs) and their greater initiative for the monitoring

2)Improvement of support for MFs

It is indispensable for the Project to improve the support for MFs in order to expand rice production of smallholders in the target provinces.

The Project should support MFs through the following activities:

- The Project should revise existing manuals on rice production (i.e. countermeasure to rice stem borer and weeding) as well as develop a leaflet on rice production techniques for farmers.
- It is desirable that Provincial DALs encourage MFs to promote extension activities for farmers appreciating their efforts

3)Importance of the support for Smallholders

The introduction of rice farming to smallholders contributes to not only food security but also human security promoting self-consumption and the income generation through the sales of surplus.

Therefore, it is important for both NDAL and PDALs to provide the support for smallholders such as training, and the information related to pest and disease of rice. In addition, a smooth flow of technological information among NDAL, PDALs, Districts, LLGs and smallholder farmers in the target provinces must be established for the purpose of promoting the cultivation of rice.

4)Promotion of technical exchange among the target provinces

The Team believes that East Sepik province will be able to become model province applicable for other provinces in terms of smallholder rice production due to existing good practices and the knowhow accumulated, and strong commitments made by both provincial and district governments.

Therefore, the Team suggested that the Project should transfer good practices and experiences accumulated in East Sepik Province to other target provinces in remaining cooperation period (2014 to 2015).

In addition, the Project needs to promote technical exchange not only among officers but also among farmers in target four provinces in order to generate synergy effects.

5)Technical suggestions on rice farming

5-1)Pest and disease control

The Team confirmed that stem borer was the most serious pest in field. The Team suggests that short-term expert should be dispatched to identify the species and study the measures to solve the problem. REU in collaboration with four target provinces should conduct a rapid pest and disease survey to determine and identify major and important pest and disease: based on this Project can request and invite short-term expert form JICA.

5-2)Variety

The Team confirmed that there were several varieties cultivating in the farmers' fields, but the Team could not find which variety would be good in each site. The Team suggests that the Project should make a list which shows the characteristics of each variety, especially strong points and weak points should be shown in each variety.

5-3)Milling machine and rice grain moisture content

The Team confirmed that milling recovery was good in appropriate moisture content of grains. On the other hand, the milling recovery was worst in excessively dried grains. Therefore the training for drying is very important. The Team recommends that the Project should develop a leaflet showing how to dry rice after harvesting. Equipment for measuring the moisture content should be delivered in each milling station if possible.

6)Installation and operation of rice milling machines

Some rice milling machines provided by JICA have not yet installed due to a lack of electric supply facilities and the delay of the construction of rice milling infrastructure. In order to promote smallholder rice production in the target provinces, it is required for the Project to utilize existing rice milling machines for smallholders. The Project must support PDALs to complete the installation of milling machines and the construction of related infrastructure.

7)Revision of PDM

Based on the results obtained by the baseline survey, the number of the rice growers in the target provinces is less than 3,400. In addition, the number of the rice growers in the Madang Province has been decreasing due to a lack of incentives for smallholder farmers. Therefore, the indicators on rice farmers in the project purpose and overall goal should be revised reflecting the current data. Moreover the baseline survey should be focused on four target provinces considering both time and budgetary limitations. The revised PDM (version 2.0) is attached in Annex.

(2) Recommendation for NDAL and PDALs

Assignment of Counterpart personnel for the smooth implementation and the sustainability

Actually NDAL has allocated only two officials who cover the coordination with Provincial governments. The Team considers that the allocation of necessary number of capable counterpart personnel is indispensable

to implement the Project smoothly and successfully, and to accomplish the aims of the Project.

NDAL must allocate at least three qualified and enthusiastic counterpart personnel in the fields of post-harvest technology, agronomy, agricultural extension service, and information technology for implementing Project activities effectively. NDAL should retain them over the course of the Project for ensuring the smooth implementation and the sustainability of the Project. Moreover counterpart personnel allocated and to be allocated by NDAL should build close linkages to persons concerned in the target provinces (including Districts and LLGs) for the purpose of maintaining smooth flow of information and data.

On the other hand, Provincial DALs should assign newly the following counterpart personnel for implementing the Project activities in the respective provinces until 4th JCC.

Madang Province should assign two (2) counterpart personnel in the fields of agronomy and agricultural extension service.

East Sepik Province should assign two (2) counterpart personnel as rice officer for Angoram District and Wosera Gawi District.

Manus Province should assign two (2) counterpart personnel as rice officer and agricultural extension service officer.

Milne Bay Province should assign three (3) counterpart personnel (3) as rice officer for Alotau District, Samarai-Murua District and Kiriwina-Goodenough District.

In addition, the signing of MOA between NDAL, DNP&M and the target provinces must be concluded no later than the end of October, 2013.

7. Lessons Learnt

(1) Baseline survey and monitoring

It takes more than one year to conduct baseline survey due to geographical factors and ability of local surveyor, therefore the indicators setting up on actual PDM are not being reflected on the current conditions.

Furthermore, it should clarify the level of achievements setting up the verifiable indicators based on the baseline survey to be done in the beginning of the Project. Therefore, baseline survey should be done in a timely manner for sharing the information on the current conditions and related data among persons concerned with the Project.

(2) Development of the farming system according to local conditions

Most farmers who were transferred rice cultivation techniques through MFs are cultivating rice. However, some farmers in the target provinces have quitted to cultivate rice and changed other local cash crops such as cocoa and coffee due to some constraints such as a lack of labor force and rice milling facilities, and the decreased price of rice.

In the project formulation process, the appropriate farming system for smallholders should be considered carefully taking into consideration local conditions and existing farming system adopted by local farmers.

Therefore, it is required to develop farming system suitable for target areas including rice farming to improve the life conditions of smallholders, as well as to develop manuals on rice farming in the respective countries.

(3) Partnership with JICA volunteers and coordination with other stakeholders

Several volunteers are being dispatched by JICA to the target provinces of the Project for the purpose of contributing to the community development. The above-mentioned JICA volunteers are disseminating rice farming in their respective communities for supporting self-consumption of rice for local smallholders. Moreover other donors such as Taiwan Technical Mission and China have been providing cooperation for increasing rice production in PNG.

It will be required for the Project to promote partnership with JICA volunteers as well as coordination with

other stakeholders engaging in the rice production for more effective and efficient cooperation.

(4)Utilization of Local resources

For increasing the efficiency of the Project it is expected to utilize not only Japanese experts but also local consultants as the input of the Japanese side. Moreover local human resources have enough capabilities to attend local needs based on their experiences and background.

In the implementation process of the cooperation, wide range of human resources including local resources should be considered as input for the Project.

(5)Right approach on “Model Farmer”

The Model for smallholder rice promotion using the Farmer To Farmer Extension approach has been developed and promoted in the target provinces by the Project. Most of the MFs and also surrounding smallholder farmers who the Team interviewed and/or were given answer by questionnaire survey are well aware of “MF”’s role and its importance, and are highly motivated to disseminate rice techniques and also contribute to improve livelihood of their communities. For extending rice farming to farmers in neighboring village or island, it is obvious in PNG that most effective approach is Farmer To Farmer Extension approach which the MFs can share their knowledge to others. In conclusion, it is required to continue the approach in target provinces but also other provinces in PNG. In addition to that, it also needs to define their role and improve support system for MFs.

(6)Compiling good practices: Lesson learnt from last experience

During the project implementation, a lot of rice farming stories has been told such as good practice on rice farming as well as smallholder farmers who abandoned rice unfortunately. By compiling the success and constraint factors from the past experiences in what were the reasons behind and how it will be applied or utilized into any other smallholder farmers. There is one of the good cases such as MF meeting, joint group works and rice milling management in Maprik group in East Sepik Province.

(7)Importance of collecting data of rice farming and facing issues by smallholder farmers

Under the current situation in the target provinces, data on of smallholder famers and rice production are not reliable and timely available. For effective monitoring and reporting system, data collection and recording is essential.

It is important to collect accurate data of rice farming in order to know the rice situation and also its trend. At the same time on data collection, it had better to capture the problem and questions which most farmers are facing in the ground.

Collecting data and keeping record aim not only to remain as accurate statistics and documentation, but also utilize as analytical works and for better monitoring and planning.

(end)

第1章 中間レビュー調査の概要

1-1 調査団派遣の経緯と目的

1-1-1 調査団派遣の経緯

パプアニューギニア独立国（以下、「パプアニューギニア」と記す）では、農業は国民の生計を大きく支える産業であり、同国の実質GDPの約27.9%（2012年）に貢献し、国民の約8割が農業セクターに従事し、その多くが自給食料の生産と輸出換金作物であるコプラ、コーヒー、カカオなどを栽培する小規模農家である。かつては食料自給が可能であったが、人口増加と、都市化、産業開発及び食生活の変化により、食料需要が増大し、近年、穀物や肉など多くの食料を輸入に依存している。特に、コメはパプアニューギニアにおける重要な主食の1つとなっているが、供給の大半を輸入に依存し、これによる外貨流出が年間4億キナ（約160億円）に及んでおり、小規模農家ではコメの購入費が家計に大きな負担となっている。

このような背景から、技術協力プロジェクト「小規模稲作振興計画」（フェーズ1）が2003年から2008年まで実施され、小規模稲作技術の整理と強化（低投入の陸稲栽培管理、手動木臼による収穫後処理、種子の自己生産と保存、稲作技術のサイクル化）、モデル農家（Model Farmer：MF）を通じた農民間普及手法の導入、地方政府（州及び郡）による普及サービスの構築（モデル農家支援システム構築、公営精米所の機能強化、種子配布の実施）、及び中央行政の政策実施・機能強化〔稲作普及課（Rice Extension Unit：REU）の創設及びガイドラインの策定〕を行った。さらに、対象2州（東セピック州、マダン州）の農業畜産局（Provincial Department of Agriculture and Livestock：PDAL）に対する稲作振興事業管理能力の強化を行った結果、州政府が独自に稲作振興予算の確保に努めるなど、州政府のイニシアティブによりモデル農家アプローチによる稲作普及を推進する体制が構築された。その後、REUは、小規模稲作の普及対象として2州（マヌス州、ミルンベイ州）を選定し、活動を展開した。

フェーズ1の成果を踏まえ、上記4州を中心に全国的に稲作の普及が進展する一方で、病害虫による被害や休耕期間の短縮による収量低下が顕在化し、これら技術的課題の克服が求められるとともに、稲作普及の実態を把握し的確な行政施策を策定するために、モデル農家のモニタリング・支援の強化が課題となってきた。さらに、機械精米機の保守・維持管理技術の指導及び現地の状況に適した精米機の導入とともに、精米サービスの改善のための運営指針の策定が急務となっていた。加えて、中央政府と地方政府の連携強化及び稲作普及ガイドラインの整備を通じた稲作振興政策の実施体制の強化も喫緊の課題であった。

このような状況下、同国はモデル農家アプローチの適用拡大を通じた小規模稲作普及のための技術協力を日本政府に要請し、当機構は2011年12月から2015年5月までの3.5年間の予定で、農業畜産省（National Department of Agriculture and Livestock：NDAL）をカウンターパート（C/P）機関として、技術協力プロジェクト「小規模稲作振興プロジェクト（フェーズ2）（Project on Promotion of Smallholder Rice Production）（Phase 2）」を実施しており、長期専門家2名（プロジェクトチーム：チーフアドバイザー/普及計画管理、業務調整/行政強化）を派遣中である。

本プロジェクトでは、対象州（ミルンベイ州、マヌス州、マダン州及び東セピック州）における小規模稲作の普及を目的として、モデル農家アプローチとその支援システムによる稲作普及サービスの実施体制の改善、公営・私営精米所による機械式精米サービスの改善、農畜産省REUと食料安全保障局（Food Security Branch：FSB）による稲作政策の実施体制の強化のための

活動を実施している。

これまでに対象州4州におけるベースライン調査、精米機の配置実態・機能調査、モデル農家及び州政府職員を対象とした補完研修等を実施してきているが、対象州におけるモデル農家モニタリング・支援体制が脆弱な状況にあり、一層の体制強化と活動の促進に取り組んでいる。

今次の中間レビューでは、プロジェクトの中間点を経過したことから、パプアニューギニア側と合同で、協力開始から現在までの実績、プロジェクト目標と成果の達成度をプロジェクト・デザイン・マトリックス（Project Design Matrix：PDM）に基づき確認し、更に評価5項目の観点からプロジェクトの評価を行うとともに、プロジェクトの残り期間の課題及び今後の方向性について確認し、合同評価報告書に取りまとめ、合意することを目的とする。

なお、具体的な派遣目的は以下のとおりである。

1-1-2 派遣目的

- (1) PDM及びPOに基づき、プロジェクトの進捗や実績を確認するとともに、目標及び成果達成の貢献・阻害要因を分析する。
- (2) 評価5項目（妥当性・有効性・効率性・インパクト及び持続性）の観点から、プロジェクトの評価を行う。
- (3) プロジェクトの残り期間の課題及び今後の方向性について確認し、プロジェクト運営のために取るべき措置について協議し、結果を日本、パプアニューギニア両国政府及び関係当局に報告・提言する。
- (4) 類似プロジェクトのための教訓を抽出する。

1-2 調査団の構成と調査期間

1-2-1 調査団の構成

調査の実施にあたっては、以下のメンバーからなる合同評価調査団を形成し、日本側・パプアニューギニア側双方による合同評価を行った。

(1) 日本側調査団員

担当分野	氏名	所属
総括/普及計画管理	角田 幸司	JICA農村開発部 参事役
稲作栽培	滝田 正	JICA筑波 研修指導者
評価分析	松本 彰	A&Mコンサルタント有限公司 代表取締役
計画管理	金子 健二	JICA農村開発部 水田地帯第一課

(2) パプアニューギニア側評価団員

担当分野	氏名	所属
総括	Mr. Tony Yedu	Senior Monitoring & Evaluation Officer - Monitoring and Evaluation Division (DNP&M)
普及計画管理/稲作栽培	Mr. Paul Kil	Acting Director, Compliance and Monitoring and Evaluation, NDAL

評価分析・計画管理	Mr. Dan Lyanda	Aid coordinator, JICA Desk, Bilateral Branch, Foreign Aid Division
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1-2-2 調査日程

2013年9月7日(土)～9月27日(金) (21日間)

※官団員は、9月14日(土)～9月28日(土) (15日間)

調査日程の詳細については、付属資料1を参照。

主要面談者については、付属資料2を参照。

1-3 対象プロジェクトの概要

中間レビュー調査時点でのPDMに基づく本プロジェクトの概要は以下のとおり。

サイト	ミルンベイ州、マヌス州、マダン州、東セピック州	
協力期間	2011年12月1日～2015年5月31日	
相手国機関名	農業畜産省 (National Department of Agriculture and Livestock)	
プロジェクトの概要	上位目標	対象州における稲作生産者と生産量が持続的に拡大する。
	プロジェクト目標	モデル農家アプローチとその支援システムの適用と改善によって対象州において小規模稲作が普及される。
	成果	1: モデル農家補完研修の実施とモニタリングシステムの改善によりモデル農家アプローチとその支援システムによる稲作普及サービスの実施体制が改善する。 2: 公営・私営精米所による機械式精米サービスが改善する。 3: 農業畜産省のREUと食料安全保障局による稲作政策実施が強化される。
	活動	1-1. モニタリングシステムの改善: 対象州/郡のモデル農家が行う現行の農民間普及について、モデル農家支援システム、モデル農家の報告書様式、言語、報告書の提出方法等の観点から見直しが行われる。 1-2. モニタリング改善案が開発され、関係地方政府職員が参加するワークショップを通して最終化される。モニタリング改善案(単数または複数)が対象の地方/郡で実施される。 1-3. モデル農家補完研修: 土壌管理、病虫害等の分野において、モデル農家補完研修を実施するためのカリキュラムが開発される。 1-4. モデル農家補完研修の実施計画案が作成・実施される。 2-1. 機械精米サービス: サンプル抽出された対象州/郡の公営及び民間精米施設の精米機の技術仕様書、出力及び実際の性能、職員の能力が調査され、調査結果が本プロジェクトに関与する全地方政府とその他関係機関に公開される。 2-2. 上記の調査結果に基づいて、機械精米サービスの改善計画(単数または複数)が立案される。改善計画案には、精米機の技術仕様に係る勧告(複数)、推奨機械の運用収支分析、既存機械設置の改善案を含む。 2-3. 上記の改善計画(単数または複数)がプロジェクト対象地で試行される。 2-4. 少なくとも4対象州の選定された公営精米施設において、モデル精米サービスが展示される。 2-5. 精米機の運用と機械精米サービス施設の管理に係る研修が実施される。 3-1. ベースライン調査: 食料安全保障の観点から、全国を対象とする国内米生産とコメ消費に関するベースライン調査が実施される。

	<p>3-2. 情報共有：全国の管理会議や州レベルの課題別会議などさまざまな機会を利用することによって、対象州/郡の稲作関連の情報が共有される。</p> <p>3-3. 上記の活動3-1と3-2から得られる結果が定期ニュースレターに編集され、本プロジェクトに関与する政府機関及びその他関係機関更に対象州以外の州にも公開される。</p> <p>3-4. モデル農家アプローチを通して小規模稲作を開発するよう対象州以外の州に促進が行われる。</p>
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1-4 カウンターパート配置及びプロジェクト実施体制

2013年9月現在のカウンターパート配置及び活動の進捗状況は表-1のとおり。

表-1 カウンターパート配置及び活動の進捗状況（2013年9月時点）

	カウンターパート数	モデル農家数 (各州申告数)	稲作栽培農家数 (ベースライン調査結果)
農業畜産省	2	---	---
東セピック州	2	143	2,093
マダン州	2	128	556
マヌス州	2	10	42
ミルンベイ州	2	18	680
計	10	299	3,371

なお、対象4州比較情報については、付属資料3を参照。

第2章 中間レビュー調査の方法

2-1 中間レビュー調査の視点と手法

本中間レビュー調査は、「新JICA事業評価ガイドライン 第1版」(2010年6月)に沿って、JICAプロジェクトのマネジメントツールとして用いられる「プロジェクト・デザイン・マトリックス(PDM)」に基づき、以下の手順で実施した。

- ① 技術協力の開始から中間までのプロジェクトの実績の確認(投入、活動実績)、実施プロセスの検証
- ② プロジェクト目標と成果の達成状況、貢献要因・阻害要因の分析
- ③ 上記を踏まえて、評価5項目(妥当性、有効性、効率性、インパクト及び持続性)の観点からの評価
- ④ プロジェクト終了時までに行うべきこと、プロジェクトが抱える課題等への取り組みについて提言の取りまとめ

2-2 評価調査項目と方法(データ収集分析)

2-2-1 調査項目

本中間レビューの主な調査項目は、以下のとおりであった。

(1) 実績の確認

プロジェクトの投入実績、活動実績、アウトプット(成果)の現状、プロジェクト目標の達成見込みを確認、検証した。

(2) 実施プロセスの確認・検証

プロジェクトの実施プロセスを検証するために、活動を円滑にするために工夫されたこと、モニタリングのための仕組みの有無、事業関係者(日本人専門家、パプアニューギニアC/Pスタッフ、その他関係者)間の連携状況等をあわせ確認した。

(3) 評価5項目の視点からの分析

上記、事業の実績と実施プロセスの確認・検証を通して収集した情報を基に、評価5項目の視点からプロジェクトを評価した。評価5項目の視点の概要は、以下に示したとおりである。

項目	定義
妥当性	プロジェクトのめざしている効果(事業目標や上位目標)が受益者のニーズに合致しているか、問題や課題の解決策として適切か、被援助国及び日本側の政策との整合性はあるか、プロジェクトの戦略・アプローチは妥当か、公的資金であるODAで実施する必要があるか等といった「援助事業の正当性・必要性」を問う視点。
有効性	事業の実施により受益者もしくは社会への便益がもたらされているのか(あるいは、もたらされる見込み)を問う視点。事業目標は達成される見込みか、それは当該事業のアウトプットの結果もたらされる見込みか、目標に至るまでの外部条件の影響はあるか、有効性を貢献・阻害する要因は何か等を分析する。
効率性	主に事業コストと効果の関係に着目し、資源が有効に活用されているか(あるいは、されるか)を問う視点。プロジェクト目標の達成度はコスト(投入)に見合うか、より低いコストで達成する代替手段はなかったか、実施プロセスの効率性を阻害・促進する要因は何か等を分析する。

インパクト	当該事業の実施によりもたらされる、より長期的、間接的効果や波及効果（上位目標の達成度を含む）をみる視点。予期していなかった正・負の効果・影響を含む。
持続性	援助が終了しても当該事業で発現した効果が持続しているか（あるいは、持続の見込みはあるか）を問う視点。

2-2-2 評価グリッドの作成と情報・データの収集

上記の調査を実施するに先立ち、評価項目に沿った評価設問を設定した。それぞれの評価設問に対して、必要な情報・データ、その情報源や収集方法について検討し、評価グリッド（和文、付属資料4）を作成した。本調査のための情報・データの収集は、作成した同評価グリッドに沿って実施した。なお、評価グリッド（英文）は、「合同中間レビュー調査報告書」ANNEX3にも添付。

具体的な情報・データの収集方法は、以下のとおり。

(1) 既存資料のレビューと分析

当該事業に関する以下の資料をレビューし、分析に活用した。

- ・「小規模稲作振興プロジェクト（フェーズ2）事業事前評価表」
- ・“PNG Rice Development Policy 2004-2014（DAL Nov. 2004）”
- ・“Monitoring & Review Provincial Food Security Program：Annual Rice Report 2011-2012, East Sepik Province”（Nov. 2012）
- ・“Monitoring Report 2011-2012（Milne Bay, Madang, Manus Province”, Nov. 2012）”
- ・その他プロジェクト作成資料（ニュースレター、PDM、PO、現地活動月次報告書、プロジェクト冊子、JCC資料他）
- ・「病害虫にかかるパンフ（ブラウンホッパー）」1枚紙
- ・「ベースライン調査にかかる質問票」並びにベースライン調査結果データ
- ・「専門家業務完了報告書（チーフアドバイザー/普及計画管理）」並びに短期専門家報告書
- ・プロジェクト関係者（専門家・C/P）作成による中間レビュー事前準備資料
- ・「対パプアニューギニア独立国 国別援助方針」（英文）
- ・「対パプアニューギニア 事業展開計画」（2010年9月）
- ・プロジェクトフェーズ1 関連資料（稲作栽培、収穫後処理、病害虫管理等のマニュアル他）
- ・各対象州の作成資料（モデル農家リスト、稲作データ）
- ・関連する協力隊員報告書（ボランティア活動報告書、第1次産業分科会報告書、稲作研修用配布冊子等）

(2) 事業関係者への質問票（アンケート）調査

現地調査に先立ち、評価分析を担当する団員が、プロジェクトの実績、実施プロセス、評価5項目に関する質問票を作成し、事前にパプアニューギニア側事業関係者（NDAL本省、パイロット州のC/P）、並びにモデル農家、日本人専門家及び関係する協力隊員に配布した。結果については、付属資料5を参照。

(3) 事業関係者に対するインタビューの実施

現地調査中は、可能な限り関係者（パプアニューギニア側プロジェクトC/P、モデル農家、日本人専門家、対象州配属の協力隊隊員）に面会し、事前入手資料や質問票から得られない情報の補完的な収集に努めるとともに、プロジェクトに対する意見や提案を収集した。

(4) プロジェクト合同中間レビュー調査報告書の作成と署名

調査結果に基づき英文「合同中間レビュー調査報告書（Joint Mid-Term Review Report）」を作成し、双方の団長により署名が行われ、報告書は2013年9月25日のJCCの場で参加者に配布されるとともにその内容結果を発表した。

2-2-3 中間レビューに用いたPDM

本事業では、プロジェクトに対し、基本計画を示すPDM Ver. 0が実施協議（R/D）署名時2011年9月に作成され、その後、活動開始後、関係者によってPDMの内容見直しが行われ2012年6月にVer. 1が作成されている¹。このため、本レビュー調査は、同PDM Ver. 1に基づき実施した。レビューに用いたPDM（英語版Version1.1）は、「合同中間レビュー調査報告書」のANNEX 1として添付した。

2-3 評価調査の制約・限界

本中間レビューでは、可能な限り客観的かつ包括的な情報・データの入手に努めたが、限られた時間内での調査と分析のため、以下に示すような制約があった。

- (1) 本レビューでは幸い、対象4州をすべて訪問したものの現地調査時間の制約もあり、すべての観点の詳細観察ないし分析ができていない点があること。
- (2) 調査期間中にプロジェクトで対象となったサイトを可能な限り訪れ、活動に参加した関係者（最終受益者を含む）からできるだけ多くの情報を得よう努めたものの、直接インタビューを行うことができた関係者の数には調査期間の制約があったこと（離島や州都から離れた農家の圃場訪問はできず）。
- (3) プロジェクトから得られた、質・量的なデータないし資料は、アンケートの方法に工夫を加えるなど、できる限り定量的、客観的な分析ができるよう努力をしたものの、サンプル数ないしアクセスに制約があり、また一部データ数値の信憑性など、得られた情報には限界があったこと。
- (4) 調査団全員が全行程に参加することは不可能であり、団員による分析ないし視点の相違があること。とりわけ、パプアニューギニア側団員が一部の調査行程に参加できないなどの制約もあった。
- (5) 本中間レビュー実施前におけるパプアニューギニア側団員に対する事前説明不足が現地調査及び成果達成に影響を及ぼした。

¹ R/D署名時のPDM（Ver.0）には成果指標の具体的な数値が入れられておらず、同指標は、プロジェクト開始後6カ月以内に設定とミニッツに明記されていたため、これに従い、プロジェクトのほうで検討作業が進められた結果、2012年6月開催のJCCにおいて、Ver. 1が共有され、承認された。

第3章 PDMの改訂

中間レビューの実施にあたり、プロジェクト活動の実情に照らしたPDMの修正が必要であることが明らかとなったため、合同評価調査団は中間レビュー用PDM (Ver. 3.0) 案を作成した。同案は「合同中間レビュー調査報告書」(英文)(付属資料6)に収録され、下記のとおり調査終了時に開催されたJCCにおいて最終的に承認された(付属資料7)。PDMの主な改訂項目は表-2のとおりである。

表-2 PDMの改訂内容

(1) 上位目標

項目	現行Ver. 1.1 (Current Statements)	変更案Ver. 2.0 (Suggested Modifications)	検討ポイント・変更理由
上位目標	対象州における稲作生産者と生産量が持続的に拡大する。 Rice farmers and rice production are expanded sustainably in the target provinces.	(変更なし)	
指標	(1) 2020年までに小規模稲作農家の数が対象州で <u>20,000</u> 戸になる。 (1) Number of smallholder (agricultural households) growing rice becomes over <u>20,000</u> in the target provinces by 2020.	(変更案) (1) 2020年までに小規模稲作農家の数が対象州で <u>7,500</u> 戸になる。 (1) Number of smallholder (agricultural households) growing rice becomes over <u>7,500</u> in the target provinces by 2020.	(提案) 現行、モニタリングシステムがうまく機能しておらず、農家データも不整備のままである。よって、プロジェクト目標にもあるとおり、2012年9～12月に実施したベースライン調査データを基に再検討し、潜在農家並びに稲作栽培を止めた農家があることも考慮し、数値目標を再設定した。なおモニタリングシステムの機能化を図るとともに、終了時前にエンドライン調査を行い、稲作振興の状況を確認する必要あり。

(2) プロジェクト目標

項目	現行Ver. 1.1 (Current Statements)	変更案Ver. 2.0 (Suggested Modifications)	検討ポイント・変更理由
プロジェクト目標	モデル農家アプローチとその支援システムの適用と改善によって対象州	(変更なし)	

	<p>において小規模稲作が普及される。 Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.</p>																																
指標	<p>1) 2014/15年の4つの対象州での稲作農家数：<u>15,590</u>戸 1) Number of farmers growing rice becomes over 15,590 in the four target provinces in 2014/15 season.</p> <p>6) 本プロジェクトにより訓練されたMFから指導を受けた農民の数：<u>16,000</u> 6) Over <u>16,000</u> farmers receive guidance from MF trained by the Project.</p>	<p>(変更案) 1) 2014/15年の4つの対象州での稲作農家数：<u>5,000</u>戸 1) Number of farmers growing rice becomes over <u>5,000</u> in the four target provinces in 2014/15 season.</p> <p>6) 本プロジェクトにより訓練されたMFから指導を受けた農民の数：1万人 6) Over <u>10,000</u> farmers receive guidance from MF trained by the Project.</p>	<p>(提案) 稲作農家数（各対象州別）は、対象州からのモニタリング・レポートが滞っており、正確な稲作農家数が把握できていない。上位目標の指標同様、稲作に関心がある潜在稲作農家、既に稲作離れした農家数、更に現行存在するモデル農家数等も考慮に入れ、数値目標を再設定しなおした。ベースライン調査での対象州の現行農家数は下記のとおり。</p> <table border="1"> <thead> <tr> <th></th> <th>Estimated no. of HH</th> <th>No. of Rice Farmers</th> <th>Area of Rice Field (m²)</th> <th>Paddy Production (kg)</th> </tr> </thead> <tbody> <tr> <td>East Sepik</td> <td>69,363</td> <td>2,093</td> <td>769,228</td> <td>166,168</td> </tr> <tr> <td>Madang</td> <td>64,503</td> <td>556</td> <td>76,300</td> <td>15,186</td> </tr> <tr> <td>Milne Bay</td> <td>41,910</td> <td>680</td> <td>560,071</td> <td>32,605</td> </tr> <tr> <td>Manus</td> <td>8,840</td> <td>42</td> <td>6,165</td> <td>814</td> </tr> <tr> <td>Total</td> <td>184,616</td> <td>3,371</td> <td>1,411,764</td> <td>214,774</td> </tr> </tbody> </table>		Estimated no. of HH	No. of Rice Farmers	Area of Rice Field (m ²)	Paddy Production (kg)	East Sepik	69,363	2,093	769,228	166,168	Madang	64,503	556	76,300	15,186	Milne Bay	41,910	680	560,071	32,605	Manus	8,840	42	6,165	814	Total	184,616	3,371	1,411,764	214,774
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(3) 成果

項目	現行Ver. 1.1 (Current Statements)	変更案Ver. 2.0 (Suggested Modifications)	検討ポイント・変更理由
成果2の指標	<p>(4) 供与され稼働中のモデル精米機の数：8台 (4) Number of the model milling machines that are delivered and go in service : 8 units</p>	<p>(変更案) (4) 機材が供与され稼働しているモデル精米所の数：4カ所 (4) Number of <u>model milling stations</u> that are delivered and go in service : <u>4 sets of milling station</u></p>	<p>(提案) 現在各州の状況に応じて、精米サービスのモデルを構築することが目的であり、表現を「モデル精米所」と変更し、誤解のないよう、より適切な表現に変更。</p>
成果3の指標	<p>(1) 情報を提供した郡の延べ数：2012～2014年の間に延べ33郡 (1) Accumulated number of</p>	<p>(1) 改訂版フォーマットをもって、農業畜産省（REU）に収集情報を提供した郡の数：17郡</p>	<p>より適切な表現に変更。</p>

	the districts that provide information collected : 33 Districts from 2012 to 2014	(1) Number of the districts that provide information collected to NDAL (REU) in accordance with the format to be developed : <u>17 districts</u>	
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(4) 活動

項目	現行Ver. 1.1 (Current Statements)	変更案Ver. 2.0 (Suggested Modifications)	検討ポイント・変更理由
活動 3-1	<p>ベースライン調査:食料安全保障の観点から、全国を対象とする国内米生産とコメ消費に関するベースライン調査が実施される。</p> <p>(Baseline survey: Baseline survey on nationwide domestic rice production and consumption is conducted in aspect of food security.)</p>	<p>ベースライン調査:食料安全保障の観点から、対象州/郡を対象とする国内米生産とコメ消費に関するベースライン調査が実施される。</p> <p>(Baseline survey: Baseline survey on domestic rice production and consumption <u>in the target provinces</u> is conducted in aspect of food security.)</p>	調査の時間、予算の状況にかんがみて、より適切な表現に変更。

第4章 プロジェクトの実績

本中間レビューは、投入、活動、成果、プロジェクト目標を各PDM、POを基に分析し、下記のとおりまとめた。詳細は、「合同中間レビュー調査報告書」（英文）を参照。

4-1 投入実績

4-1-1 両国の投入実績

(1) パプアニューギニア側

1) カウンターパート (C/P) 人員の配置

パプアニューギニア側からの投入は、累計18名（現在13名、NDAL本省に5名、パイロット4州に各2名）がC/Pとしてアサインされている。詳細は、「合同中間レビュー調査報告書」本文にまとめた。ただし、NDAL本省は累計5名であるものの、現在、3名のみ（1名は病欠）。

2) 施設・機材

NDAL本省の建物に専門家執務室が提供されている。また、パイロット州の精米機器を設置する場所を提供している。

3) 活動費の支出

中央政府（NDAL）からは1799,944.00キナ、パイロット州では、東セピック州で302,000キナ、マダン州で180,000キナ、マヌス州で700,000キナ、ミルンバイ州で649,000キナの支出が報告されている。（1キナ＝約43円）

(2) 日本側からの投入

本レビュー調査時点における日本側からの投入実績概要は、以下のとおりであった。詳細は、「合同中間レビュー調査報告書」本文にまとめた。

1) 専門家の派遣

長期専門家3名、短期専門家4名が派遣された。

2) 本邦研修

本邦研修はフェーズ2では実施されていないが、国内研修として、補完研修に4名参加あり。

3) 機材調達・施設の補修など

車両、精米機、視聴覚機材が投入された。

4) 現地活動費

総額約545,828キナ相当の現地活動費（在外事業強化費）が2012年1月から2013年6月までの期間に支出された。

4-1-2 活動の実績

本プロジェクトは、2011年12月に専門家が派遣され開始された。チーム構成はパプアニューギニア側C/Pと日本人専門家からなり、R/D署名時のPDM（Ver.0）及び、2012年6月開催のJCCにおいて改訂された、PDM（Ver.1）、POに沿って活動が展開されており、活動の進捗結果をはじめ詳細は、「合同中間レビュー調査報告書」本文にまとめたとおり。

4-2 成果（アウトプット）の達成状況

検証結果の概要、3つの成果の達成度は、PDM（Ver. 1）を基に以下のとおり、集約される。

(1) 成果1

成果 1	モデル農家と州職員への補完研修の実施とモニタリングシステムの改善により、モデル農家アプローチとその支援システムによる稲作普及サービスの実施体制が改善する。	
	指標（PDM Ver. 1）	達成状況・見込み
1-1	郡行政等の地域性にかんがみたモニタリング改善計画（単数または複数）の適用性と実施可能性	・モニタリング計画は対象州とともに改善され（回答内容の簡略化等）、適用性と実施可能性を検証中。
1-2	予算措置の有無にかかわらずモニタリング改善計画を採用する郡の数：11郡	・上記のとおり、適用性と実施可能性を検証中であり、モニタリング改善計画を採用する郡の数は現行ではまだない。
1-3	補完研修を受けたモデル農家（Model Farmer：MF）の数：170名	・補完研修を受けたMFの数は20名。
1-4	各州の人員で実施されたMF補完研修の数：12回	・各州で実施されたMF補完研修はまだなく、今年度実施予定。
1-5	MF補完研修のモジュール数：10	・MF補完研修のモジュール数（研修項目）は、10ユニット*。
1-6	補完研修を受けた州職員の数：4名	・補完研修を受けた州職員の数は各州1名ずつで、計4名受講（2012年11～12月に実施）。更に州主導での研修も行われている。

（成果の達成状況）

成果1の普及サービスについては、既にフェーズ1で導入したモデル農家アプローチの有効性が認められるものの、対象地域の拡大に伴い、普及員並びにモデル農家等、関係者が新たに増えたことで、まだ十分な成果を出すには至っていない。

なお、州のイニシアティブ（独自の予算、計画から実行）で、普及員やモデル農家に対する研修や普及活動は実施されつつあり、研修を受講した普及員やモデル農家が、専門家やボランティアと協力しながら、周辺農家に対して稲作技術の移転、普及活動が開始されつつある。

なお、モニタリングシステムとは、稲作に関する基本情報の整備、記録を取ることで、活動結果の確認や適切な予算・普及計画を立てることに役立てるといった目的があるとともに、その場を活用して、稲作農家に対する指導、助言を行うことで、農家が継続してコメ栽培を行い、稲作が根づくことをめざすものでもある。しかしながら、上記のとおり、対象地域の拡大、関係者の増加もあり、関係者へまだ十分に理解、浸透しておらず、かつ組織構造（特に州政府から郡・地方自治政府へ、郡・地方自治政府と農民との関係）からも、機能するには至っておらず、見直しが迫られている。

*研修項目は、①経験共有、②地域プロフィール・アクションプラン、③コメ種子・種子選定、④優良種生産、⑤土壌・水質管理、⑥・⑦病害虫管理、⑧収穫後処理、⑨普及方法、⑩評価の10項目。

(2) 成果 2

成果 2	公営・私営精米所による機械式精米サービスが改善する。	
	指標（PDM Ver. 1）	達成状況・見込み
2-1	調査された精米機の数：公営施設で稼働中の機械の80%以上	・公営施設で稼働中の機械すべて（100%）、調査済み。同国に導入されている精米機台数、型式、稼働状況等について、調査票を用いて数別に聞き取り調査を実施。調査対象精米機合計177台（4州合計・内訳は東セピック州46台、マダン州60台、マヌス州21台、ミルンベイ州50台）短期専門家報告

2-2	特定された推奨精米機の数：2機種以上	・特定された推奨精米機の数「3」機種。
2-3	地域的に異なった精米量ニーズに対する精米サービス改善計画の適用可能性	・対象州ごとで改善計画を示し、今後適用可能性を調査。
2-4	供与され稼働中のモデル精米機の数：8台	・プロジェクトからは既に8台モデル精米機が供与され（ヤンマー製、細川製：東セピック、マダン、ミルンベイ、マヌス州の各州2台の計8台）。うち、通電工事が完了していない東セピック州の1台及び設置工事中のマヌス州の2台を除き、5台が稼働可能な状況。
2-5	推奨機器を導入した精米所における精米量とロス削減量（サンプル調査による正粒米の割合）：東セピック州 Hayfield、マダン州 Madang No.2、マヌス州Tamat Station、ミルンベイ州Bubuleta	・精米量とロス削減量については、まだ実施されていない。
<p>（成果の達成状況）</p> <p>成果2の機械式精米サービスについては、短期専門家の支援もあり、既に同国の精米機状況につき調査が行われ、推奨精米機も3機種が特定され、既に各州に4セット（モデル精米機8台）が供与されるなど、進捗しつつあるものの、精米機の稼働状況を今後、見守る必要がある。</p>		

(3) 成果 3

成果 3	農業畜産省のREUと食料安全保障局による稲作政策実施が強化される。	
	指標（PDM Ver. 1）	達成状況・見込み
3-1	情報を提供した郡の延べ数：2012年から2014年に33の郡	・情報を提供した郡の延べ数は全国60郡以上（対象4州の郡17カ所は州を通してすべて網羅配布）。
3-2	ニュースレターの発行件数：11回	・ニュースレター発行はこれまで5回。
3-3	小規模稲作普及ガイドライン作成に動員された作業部会の員数：6名	・タスクフォースメンバーは選出されたものの、ガイドライン作成に係る作業部会としての活動はまだ開始されていない。
3-4	機械精米サービスガイドライン作成に動員された作業部会の員数：6名	・タスクフォースメンバーは選出されたものの、精米サービスガイドライン作成に係る作業部会としての活動はまだ開始されていない。
<p>（成果の達成状況）</p> <p>成果3については、稲作振興、特に小規模農家に係る本省の政策は継続し、実施され、プロジェクトのニュースレターは発行されているものの、職員の数に限られており、小規模稲作普及並びに機械精米サービスガイドライン作成に係る作業部会の活動は開始されていない。また2014年に完了する稲作振興戦略・政策ペーパーがまだ作られていない等の課題あり。</p>		

4-3 プロジェクト目標の達成度（見込み）

プロジェクト 目標	モデル農家アプローチとその支援システムの適用と改善によって対象州において小規模稲作が普及される。
指標（PDM Ver. 1）	
	達成レベル&状況
1. 2014/15年の4つの対象州での稲作農民数：1万5,590戸	<ul style="list-style-type: none"> 基本データは利用可能ながら、正確な数値は入手できておらず。 稲作農民数（各対象州別）は、対象州からのモニタリング・レポートが滞っており、正確な稲作農家数が把握できていない。現在、稲作離れした農家数も考慮に入れ、各対象州に報告を督促しているところ。ベースライン調査と現行のPDM指標との差異があまりに大きく、モニタリングシステムの改善、調査方法の策定が必要であり、今回指標の再設定を行った。 最新データとして、2012年9～12月に実施したベースライン調査では、4州あわせ、「3,371戸」。
2. モニタリング改善計画を実施する郡または地方自治政府（Local Level Government：LLG）の数：関係郡のうち80%以上	<ul style="list-style-type: none"> 現行、まだ実施なし。半年ごとのモニタリング・レポートのフォーマット策定や調査方法改善が、主なモニタリング改善計画の改定となる。
3. MF補完研修が実施可能なREUと州職員の数：10名以上	<ul style="list-style-type: none"> 現行2名、講師としての要件を満たし、研修実施可能。なお、州レベル及びモデル農家のなかでも研修講師の素質、経験をもつ人材も存在している。また「MF補完研修」そのものの定義も見直し、各州で開催するC/P及びモデル農家、周辺農家への稲作研修も今後、カウントを想定。
4. MF補完研修修了試験に合格したMFの数：80%以上	<ul style="list-style-type: none"> データ不明。2012年10月にOISCA（The Organization for Industrial, Spiritual and Cultural Advancement-International）で開催されているが、講習内容や終了試験の有無は不明のままである（受講生に理解度につき確認は行っているものの、試験は行っていない模様。また教材もプロジェクトには未提出）。
5. 精米サービス改善計画を実施する郡またはLLGの数：関係郡のうち80%以上	<ul style="list-style-type: none"> 精米サービスは設置されたばかりであり、まだ改善度合いは不明。なお、ポストハーベスト委員会で、精米サービスに係る要件を各州で検討しており、それらの結果に基づき、今後精米サービスのモデル化を図る予定。
6. 本プロジェクトにより訓練されたMFから指導を受けた農民の数：16,000人	<ul style="list-style-type: none"> 現行、正確なデータなし。現状にかんがみ、指標の見直しを行った。なお、現在、長期専門家とNDAL/PDALの指導によって、各州の2～3MF農家（あるいは農家グループ）に対する指導中（耕起による稲作栽培を従来のものと比較し、収量を実感してもらう）。その他、MF農家の相談内容としては、害虫対策・収穫後処理（乾燥と保管）・種子配布・気象情報などがある。

(プロジェクト目標の達成状況)

現時点でプロジェクト目標の達成を評価するのは時期尚早であるが、プロジェクト目標が計画どおり、達成可能かどうかについては、対象州及び郡での活動によって、稲作が根づいていけるかどうかにかかっており、そのためにはモデル農家を主体とした農家間の支援システム、稲作振興の支援策がどこまで充実し、定着できるかにかかっているといえる。なおモデル農家アプローチは同国で有効であり、適切な手法であることは調査結果からも明らかとなった。各州での稲作振興の状況はかなり相違しており、現行、稲作農家の正確な統計は不透明であることから、モニタリングシステムの改善や目標指標については、各州の事情に応じた対応が必要である。

4-4 上位目標達成の見込み

上位目標	対象州における稲作生産者と生産量が持続的に拡大する。
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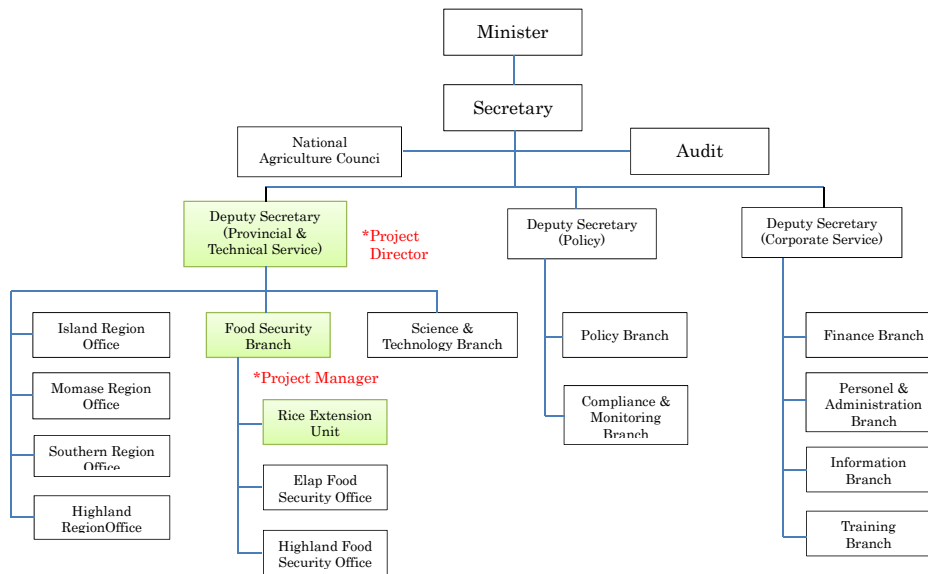
(上位目標の達成状況)

中間レビュー時の現時点では、稲作農家数更に生産量の持続的拡大予測はできない。少なくともコメが、農家にとって、かつ政府にとって、食料安全保障上、農家の生計向上のうえでも、重要な戦略作物になりつつあることから、稲作農家の持続的な栽培とともに政府からの支援の継続が不可欠である。

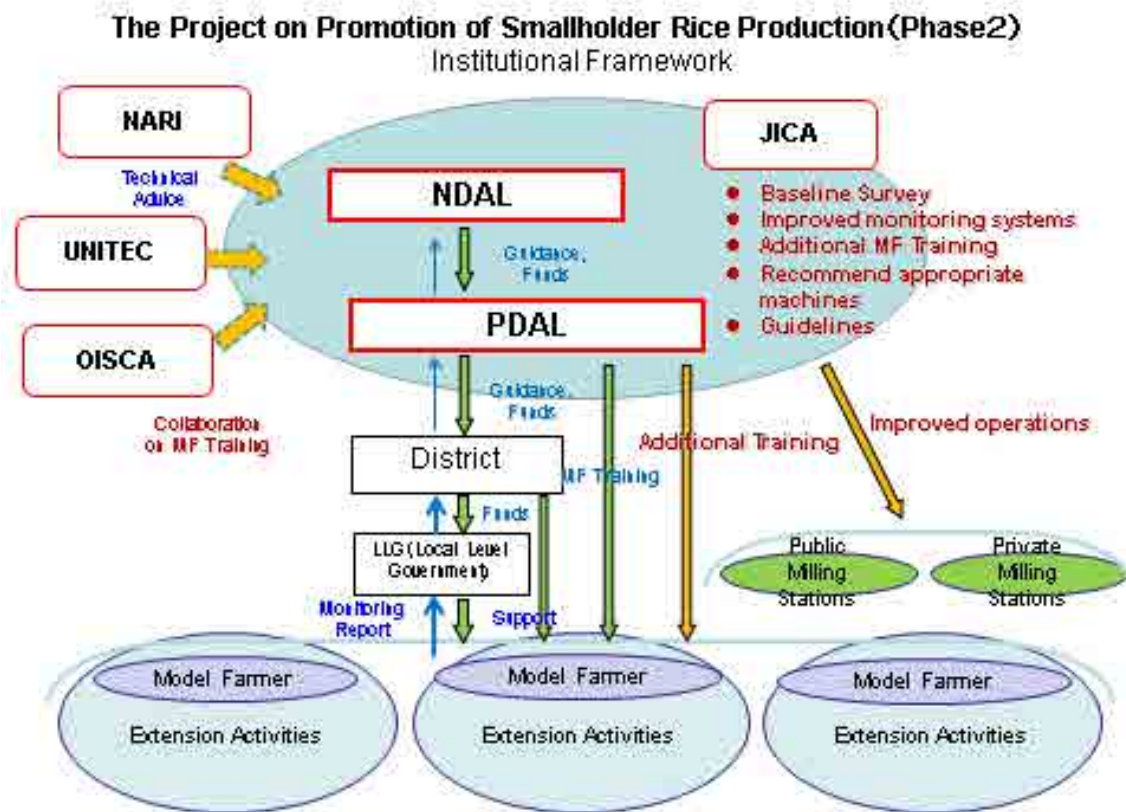
4-5 プロジェクトの実施プロセスにおける特記事項

活動実施に係るメカニズムとその構造は「合同中間レビュー調査報告書」本文図表3.1及び図表3.2にまとめたとおりで、現行、計画に沿って実施されている（下記にも添付）。C/Pは食料安全保障局（FSB）の局長（Project Manager）と稲作普及課（REU）の3名（1名減員で3名になった：2012年11月。また3名のうち今年になり1名病欠）の職員（図-1参照）。また、東セピック州、マダン州、マヌス州、ミルンバイ州の4州をプロジェクト活動の対象州とし、それぞれの州政府農業畜産事務所のアドバイザーとコーディネーター2名をC/Pとしている。日本人専門家と中央並びに州C/Pとは密接に共同で活動しており、またJCCの場が年1度開催され、プロジェクトの進捗や計画案につき共有されてきている。

なお、中央と州政府とでは、通信手段や組織構造上のコミュニケーションの問題、またC/Pの交代などの課題あり。



図－１ 農業畜産省の組織図（緑色部分はプロジェクト関連組織）



図－２ プロジェクト関連組織図

4-6 専門分野における特記事項

4-6-1 稲栽培

マダン州及び東セピック州の陸稲作について現地調査をした。稲作で最大の問題は、稲の穂の下軸を食い荒らし、白穂を発生させる螟虫（めいちゅう）であった。この問題を解決すれば稲作はかなり安定すると思われる。品種については数品種が栽培されていたが、品種の特記すべき優れた特性や弱点を示した品種一覧表がなかった。重要稲作情報として早急に作ることが求められる。また、精米時に発生する砕米率は20～80%と幅があり、砕米率が高いのは過乾燥による結果であった。このため、適正乾燥法の指導指針として、収穫後の乾燥調整のマニュアルを作成し関係者に配布することが求められる。あわせて籾水分計が各精米所に1台あることが必要である。

以上のことから稲作改善の課題は多い。その他、適性品種開発、雑草制御、地力増進等の課題があるが、それらの問題を解決していくためには研究機関（National Agricultural Research Institute : NARI）との連携は不可欠であろう。

まとめとして、パプアニューギニアは雨期の降水量が多く、陸稲の最大の問題である干ばつ害が少なく、アフリカのギニア高原と同じく陸稲の適地であり、モデル農家（MF）への支援が適切に行われれば自然と稲作は拡大していく環境にあると思われる。

4-6-2 稲作普及

本プロジェクトで行う栽培方法は、フェーズ1で確立した手法を用いている。

また、その普及においては、MFを主体に行われている。パプアニューギニアの民族の多様性、地理的条件等を考慮すれば、MFによる普及が最も効率的で現実的であると思われる。

ただし、前項で挙げた栽培上の問題点について、すべてMF任せで行政の関与が少ないことは改善される必要がある。

特に、病虫害防除、乾燥及び精米については、地方行政が細やかなケアをすることが今後更に必要になると思われる。

具体的には、リーフレットなどによる栽培や収穫後管理に関する情報提供をMFに行うことが必要である。

4-6-3 行政強化

(1) ベースライン調査：パプアニューギニアにおける統計データの信頼性は低く、統計的に有意義な調査は困難との判断から、統計調査を断念し、事例調査（質問票調査）が2012年10月から12月まで、4州において実施された。質問票のデータの入力・集積に時間がかかり、データのチェックに時間を要し、10月をめどに取りまとめる予定である。なお、事例調査と同時並行して、農家数・生産量調査が実施された。

(2) ニュースレターの発行：2012年12月までに4号、2013年3月に5号を発行、2013年11月第1週に6号を出版予定。これまでは、プロジェクト活動の紹介が主であったが、今後は農民が興味をもてる題材とする。

(3) 2012年12月にNational Rice Development Committeeを開催し、台湾、NARI、Truka1（SunRiceの子会社）、国家計画・モニタリング局、4州のアドバイザーの参画の下、援助協調が議論されたが、第2回目の会合は開催に至っていない。

第5章 評価5項目の評価結果

5-1 妥当性

(1) 当該国における農業セクターの開発政策と本事業の位置づけ

本プロジェクトは、パプアニューギニアにおいて、現金収入が限られている小規模農家に対し、低投入の稲作技術を普及することにより、各農家におけるコメの自給を促進し、コメ購入にかかる支出を削減する。小規模農家における食料生産の向上、支出の削減と摂取カロリーの増加による貧困削減に貢献するほか、地域内の食料安定供給並びにコメの国産化にも貢献するものである。

国家計画の農業セクターにおいては、「国家農業開発計画National Agriculture Development Plan 2007-2016」、さらに「国家食料安全保障政策 National Food Security Policy 2000-2010」のなかで、2010年までにコメの輸入量を20%削減するという目標を掲げており、これは「コメ開発政策 Rice Development Policy 2004-2014」でも継続して支持されていて、コメ増産を押し進める政策は継続しており、本プロジェクトは同計画に合致している。

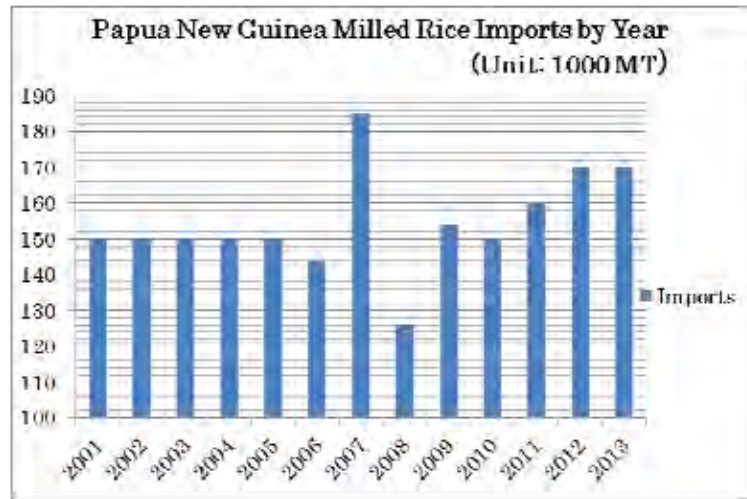
＜パプアニューギニアの国家開発政策＞

- ・パプアニューギニア政府は、長期的な国家開発計画として、2050年にあるべき姿を「PNG Vision 2050」として発表し、鉱物資源への依存から脱却し、農水産業などの持続可能な産業推進による経済成長をめざすとしている。
- ・パプアニューギニア政府の「国家農業開発計画2007-2016」では経済成長、社会福祉、食料安全保障、貧困削減のために農業セクターを持続的な形で転換することをめざしている。
- ・上記の中長期政策を受け、稲作セクターでは、「国家食料安全保障政策National Food Security Policy 2000-2010」、「コメ開発政策Rice Development Policy 2004-2014」を制定し、コメは戦略作物の1つに位置づけられ、その国産化は高い優先順位に置かれている。

＜パプアニューギニアの稲作事情＞

パプアニューギニアでは、農業セクターが人口の約8割の生計を支えており、その多くが自給食料の生産と輸出換金作物であるコプラ、コーヒー、カカオなどを栽培する小規模農家である。かつては食料自給が可能であったが、人口増加と、都市化、産業開発及び食生活の変化により、食料需要が大きく増え、現在、穀物や肉など多くの食料を輸入に依存している。特にコメはパプアニューギニアにおける重要な主食の1つとなっているが、供給をもっぱら輸入に依存し²、外貨流出が年間4億キナ（約160億円）以上に及んでいる。また、農家ではコメの購入が大きな支出の1つになっており、小規模農家の家計の大きな負担になっている。

表－3 パプアニューギニアにおける年別のコメ輸入量



出所：United States Department of Agriculture

(2) わが国援助政策との関連、JICA国別事業実施計画上の位置づけ（プログラムにおける位置づけ）

パプアニューギニアにおけるわが国の重点分野として、「経済成長基盤の強化」が掲げられており、農業は優先分野の1つであり、持続的経済成長の達成と、社会経済の基盤を強化し生活向上を図ることを目的とした協力をこれまで行ってきた。

また、わが国の援助方針を示す「対パプアニューギニア事業展開計画（2012年4月公表）」にも合致しており、同計画において、本プロジェクトは、重点分野「経済成長基盤の強化」のうち、開発課題「経済活動の拡大」分野に含まれ、「産業振興プログラム」に位置づけられており、農林水産業をはじめとした産業・商業の振興による収入拡大等への支援を通じて、国民の大半が暮らす地方における生活基盤を強化することがうたわれている。したがって、本プロジェクトとわが国の援助政策との整合性は高いといえる。

(3) プロジェクト対象地域選定とターゲットグループのニーズに係る整合性

フェーズ1では、東セピック州、マダン州のみが対象であったが、その後、農業畜産省は小規模稲作の普及対象として2州（マヌス州、ミルンベイ州）を加えたことで、本プロジェクトでは、東セピック州、マダン州、マヌス州、ミルンベイ州の4州の小規模農家をターゲットグ

² ここ数年は、年間150～170万tの精米を輸入している（表-3参照）。

ループとしており、対象地域は都市近郊、山間地、島嶼地域とさまざまである。なお稲作に適する平坦地に限られるなどの制約はあるものの、農家ではコメの購入が大きな支出の1つになっており、地方農民の生計向上のために小規模稲作振興のニーズは高い。

一方、本プロジェクトの裨対象地域が全国に散らばっていること、各地域の特徴が、自然環境だけでなく、技術レベルの格差も大きく多様であることから、プロジェクトの実施体制や支援アプローチなどの点で課題も残されている。

(4) その他整合性

これまでパプアニューギニアに対して日本が取り組んできた稲作分野の技術移転活動や、本国への研修派遣などが現在のプロジェクトのベースとなっており、継続的な協力活動の実施に大きな優位性と責任を有していると思料される。

5-2 有効性

本プロジェクトの有効性は中程度と見込まれる。

本事業は、需要の高い主食作物である稲作の普及を目的に、モデル農家アプローチとその支援システムの適用と改善によって、プロジェクト対象4州において、①稲作普及サービスの改善、②機械式精米サービスの改善、③農業畜産省による稲作政策実施の強化を行うことにより、小規模農家が持続的に栽培できる稲作技術を普及し、もって対象地における小規模稲作が普及、ひいては食料の自給率の向上に寄与するものであり、有効性が認められる。

しかしながら、プロジェクトが計画どおり達成可能かどうかについては、対象州及び郡での活動によるものである。とりわけ、新規対象2州ではコメは新しい作物であり、新技術、知識の習得を開始したばかりである。よって、コメの普及、定着のためには、モデル農家を主体とした農家間支援システム、稲作振興の支援策がどこまで充実、効果的に機能するかにかかっている。なお各州で稲作振興の状況はかなり相違しており、各州の事情に応じた対応が必要である。

5-3 効率性

実施前半期間で見ると、本プロジェクトの効率性は中程度であった。

農業畜産省及び州政府による運営予算が不足がちで遅滞状況であったことを除くと、要員と機材等の投入はおおむね予定どおりなされた。なおモニタリングにみられるモデル農家の追跡状況に示されるように、州・郡レベルC/Pのプロジェクト関与は対象州・郡により大きく相違がある。

日本人専門家の投入については、当初派遣計画の短期専門家の募集が順調に進まず遅滞したことや、チーフアドバイザー/普及計画管理専門家の前任離任から後任着任まで間があいたことなど、プロジェクトの円滑な活動実施、並びに継続性のためには今後、留意する必要がある。

一方、パプアニューギニア側の人的投入はR/Dに準じて行われているものの、減員となった1名の増員はされていないうえに、入院中の職員など、人材不足の課題は残されている。

なお本件は、最終受益者となる小規模農家に対し、農民間普及手法（モデル農家アプローチ：Model Farmer Approach）を導入し、稲作の振興を図るとともに、農業畜産省NDAL/REU及び対象州PDALの食料関係普及官を対象にして、稲作振興支援に関する能力向上を図っていくものである。中央・地方政府ともに稲作技術者（指導者）の人材が不足している現状、更に同国の特性にかんがみて、信頼関係の構築にはモデル農家を育成したうえで、周辺農家への波及効果を行うという

普及アプローチは妥当のみならず、効率的であると考えられる。

＜フェーズ2での稲作研修＞

フェーズ1では、まずはOISCA（ラバウルに研修センター及び研修圃場あり）と連携し、州普及員並びにモデル農家の研修を実施し、その後、各州での研修、普及が可能ないように活動を行った。本フェーズ2でも、同様、稲作研修実施において、同団体の研修センターと職員を、技術リソースとして活動レベルで活用・連携することで、効率的な事業実施が当初、期待された。

フェーズ2では、「補完研修」との位置づけで、同団体の協力を得て、フェーズ1で脆弱であった病虫害や精米をはじめ収穫後処理といった課題にも重点を置いた研修を実施してきた。

しかしながら、新規対象州の職員とフェーズ1から活動を行っている職員、ないし交代等で新たに配属となった職員とでは知識・実地経験に差があることが明白なこともあり、まだ基礎的な技術が十分でない職員に対するフォローないし拡充も課題である。

＜協力隊員との連携＞

対象各州の農業畜産局に青年海外協力隊（村落開発）を派遣しており、稲作の普及にあたっている（現在、新規対象2州に各1名）。またマダン州職業訓練校にシニアボランティア（農業機械）が派遣中であり、これらボランティアと人材育成及び普及面での情報交換をはじめ協力を行ってきてはいるが、更なる連携、協力が期待される。

5-4 インパクト

上位目標にある「対象州において持続的小規模稲作の拡大による稲作農家数並びにコメ生産が改善される」についての判断を現時点で下すのは時期尚早である。しかしながら、以下のような正のインパクトが現れてきており、その継続、拡大が期待される。

- (1) 対象州において、農家だけでなく学校や教会等、給食をはじめコメを常時消費する人々が稲作栽培や技術についての関心を深めつつあり、コメへの関心を抱き、その経済並びに食料安全保障等の利点（現金の節約ないし収入向上、栄養改善、より美味、貯蔵可能、料理の容易さなど）を認識し、実践しつつある。
- (2) 成功事例として、東セピック州マプリック郡では、モデル農家が自発的に月例会議を開催し、意見交換（精米機器や病虫害管理について）を実施している。また、農民独自で精米機を共同管理するグループも出てきているなどの正のインパクトがみられる。中央政府に比べて人員が充実している州ないし郡政府の支援で、こうした農民の組織化や情報共有が進むことが今後、期待される。なお、マプリック郡のある村では稲作農家が精米を運営しているのみならず、精米後に、パッケージまで作り、自分たちのコメの推進を行っている。さらに、こうした農民が集まる機会を利用して、郡担当官は、稲作の生産や状況に関する情報・データ収集、また農家の問題点の把握や相談も行っている模様。
- (3) 州普及員やモデル農家によって、徐々にではあるが、周辺農家へ稲作が技術移転され、稲作栽培を始めた農家が出ており、農民間普及手法が有効に生きている事例が出ている（一方、モデル農家や普及員の支援がない、労働力不足、他の換金作物へと関心が移るなどの理由で、稲作を止めてしまった農家も存在）。
- (4) パプアニューギニアの遠隔地では現金収入機会は少なく、自給自足生活生計に近い生活をしている農民はいまだに多いが、そのような農民でさえ、昨今、長期保存が可能な輸入米の消費が進み家計を圧迫している。しかし、自前でコメを生産できるようになることで、家計が改善され、かつ余剰米の売却で現金収入の道も開けるなど、僻地の生計向上、食料安全保

障にも寄与すると考えられる。また対象州で小規模稲作の振興が継続的に進めば、2014年に現行の政策が終了する「コメ開発政策」の後継政策などに正のインパクトを与えることが見込まれる。

< 成功事例 “Good Practice” >

上記のとおり、東セピック州マプリック郡では、モデル農家が自発的に集まり、月例会議を開催し、意見交換（精米機器や病害虫管理について）を実施している。また同郡では稲作農家が組織化し、稲作の際（耕作、作付、除草、収穫期と繁期等、労働力がある時）に、共同で互いに助け合っ

て農作業を行っているだけでなく、農民独自で精米機を共同管理するグループもできている、更には精米後、コメのパッケージまで作り、自分たちのコメの推進を行っているなどの好事例がみられる。

その背景にあるのは、①モデル農家アプローチの重要性と継続の大切さを重々承知、②相互補助の精神（共同作業の必要性和稲作の利点を農家全員で理解）⇒また問題が起これば会議で情報共有、問題解決策を探っていること、③リーダーシップ（グループリーダー、ないし稲作の知識がある農家）の存在、④郡・州の支援（研修をはじめ技術の共有、種子の配布、精米機供与、担当官が交代せず、ずっと指導していること）⇒特にマプリック郡はパプアニューギニアで唯一、郡レベルにコメ担当官を置いており、稲作農家と郡担当官（普及員）との関係が深く、信頼関係が築かれていること、⑤政治家をはじめ関係者高官に対して、コメの理解促進や巻き込みを行っている、といったことが成功の一大要因であると思われる。またその他、条件として、⑥稲作農家は基本、自家種子採取保存、⑦精米所が近い、アクセス可能（一方、大都市に近いと他の換金作物への関心ないし労働機会を他に求めるなどの理由で必ずしもうまく機能しないこともあり：現在のマダン市周辺地区）、⑧昔は個々人ないし稲作農家が少なかったが、今は稲作農家が増え、仲間が増え、聞く相手がすぐ傍にいるようになった、⑨換金をメインにおいておらず、まずは自家消費が基本。以上のことから、フェーズ1では稲作の基本の導入が行われ、フェーズ2では、徐々にではあるが、稲作の定着が見受けられる。

一方マダン州のように元々、土壌、地理、街の人口など、他州に比較し優位にあったはずの稲作振興が、他の換金作物への関心、行政の支援の欠如、郡をはじめ行政との信頼関係のなさなどによって稲作離れが起こるといふマイナスの影響がみてとれる場合もある。



Solomb村（マプリック郡）新精米導入1周年祭 同村のパッケージ精米

MF&稲作農家インタビュー

5-5 持続性

(1) 政策・制度面

「国家農業開発計画」はプロジェクト終了後も継続されるので、稲作振興政策についても継続される見込みは高い。ただし、2014年に終了する「コメ開発政策」の後継について現状ではまだ具体的な対応の動きはなく、小規模稲作の振興の位置づけや国家としての優先順位、更に普及の方法や種子確保をはじめ、政府の関与に係る方針、戦略はまだ不透明のままである。

(2) 組織・財政面

稲作普及課（REU）は2008年にNDAL食料安全保障局（FSB）に設置され、職員は3名（1名は病欠）に限られ、組織として十分に機能していない。業務はREUの長（Rice Coordinator）が掌握し、他職員との協働・共有は現状難しい。またNDALの次官は多額の使途不明金が発覚したことなどを理由に大臣から停職を命じられて裁判になるなど、人事が極めて不安定である。このように中央政府の人事は極めて脆弱である一方、州政府の農業事務所では優秀な人材が新規採用されているところもあり、総じて地域人材は豊富である。

またパプアニューギニア側の予算は、これまでFSBの運営予算、食糧増産援助（2nd Kennedy Round：2KR）を原資とするカウンターパートファンド予算ともに十分に確保されているものの、NDAL上層部の人事不安定によって、執行は遅れ、内容も不明瞭など課題も多く残されており、引き続き注視が必要である。

(3) 技術面

これまでの協力を通じ、NDAL及び州政府のC/Pは稲作に関する基本的な技術を指導できる能力を獲得している。しかし、モデル農家の離脱や稲作の状況など適切な報告がなされていないなど、モニタリングの方法や支援体制はまだ十分でなく、技術並びに責任体制などの向上をめざすため、テキストの改訂やタイムリーな支援体制の整備などに取り組む必要がある。

なお、これまで導入している車両については適切に維持管理されており、現在導入を進めているモデル精米機と付随する施設については、今後、適切な管理につき指導を行う予定である。

第6章 結論

本プロジェクトは開始から約2年が経過し、「新JICA事業評価ガイドライン第1版」(2010年6月)に沿って、評価5項目に従い、中間レビュー調査を実施した。その結果、本プロジェクトはパプアニューギニア並びにわが国の援助政策との整合性を保っており、妥当性は高いといえる。また、本件で採用されたモデル農家アプローチはプロジェクトの成果を上げるのに貢献している。

パプアニューギニア側のC/P交代の遅滞、C/Pの配置等から、効率性は、中程度と見込まれる。なお、ミルンベイ州やマヌス州など新規対象州におけるモデル農家は、今後もコメ栽培の技術や知識を習得していく必要があることから、本プロジェクトの有効性も同様、中程度と見込まれる。

一方、インパクトや持続性についての判断を現時点で下すのは時期尚早である。しかしながら、成功事例として、東セピック州マプリック郡では、農民間普及手法が有効に生き、徐々にではあるが、周辺農家へ稲作が技術移転され、稲作栽培を始めた、コメの自給を達成した小規模農家が出るなど、正のインパクトが現れている。

結論として、プロジェクト活動は基本的に当初計画に沿って実行されてはいるものの、まだ期待する成果を十分に出すには至っておらず、持続的稲作振興はまだ道半ばである。

よって、プロジェクト目標が計画どおり、達成可能かどうかについては、モデル農家を主体とした農家間の支援システム、稲作振興の支援策がどこまで充実し、定着できるかにかかっており、モデル農家への支援及びモニタリングシステムの充実、また小規模農家の希望と自信が何より重要であると調査団は判断した。

更に今回の調査結果、プロジェクトの一層の成功、前進のためには、まだ取り組むべき課題が残されていること、プロジェクト後半に残された時間や予算の制約をかんがみつつ、パプアニューギニア側の実施体制の更なる強化が必要と思われる。

第7章 提言

7-1 本プロジェクトに対する提言

(1) モニタリング実施体制の強化

対象州における稲作の現況を適時かつ正確に把握するために、州政府（郡及び地方自治体を含む）職員の積極的な関与を促し、モニタリング体制を整備することが重要で、プロジェクト活動に求められる情報を収集するために、適切なモニタリング・報告システムの確立が急務である。さらに、モニタリング結果は、すべての関係機関の関係者で共有されなければならない、モニタリング体制の持続性を確保するために以下の対応が必要である。

- ・対象州の農業畜産局によるモデル農家指導を含むモニタリング活動のための十分な予算措置及び予算の適切な執行
- ・モニタリング様式の簡素化・改訂
- ・関係機関間（農業畜産省、とりわけ稲作普及課職員、郡及び地方自治体を含む州政府職員）の緊密な連携及び関係者のモニタリングに対する強力なイニシアティブ

(2) モデル農家支援の強化

対象州における小規模農家のコメ生産を拡大するために、モデル農家支援の強化が不可欠である。

- ・小規模農家向けコメ生産技術リーフレットの作成をはじめ、コメ生産〔三化螟虫（サンカメイチュウ）対策、除草を新たに含め〕既存のマニュアルを改訂することが求められる。
- ・州農業畜産局は、モデル農家の功績を評価するとともに、小規模農家向けの稲作普及活動の振興のためにモデル農家のモチベーションを高めることが望まれる。

(3) 小規模農家の支援の重要性

小規模農家に対する稲作振興は食料安全保障のみならず、コメの自給及び余剰米販売を通じた所得向上を促し人間の安全保障にも資する。それゆえ、農業畜産省及び州農業畜産局は小規模農家に対する研修、コメの病害虫に関連する情報提供等の支援を行うことが重要である。さらに、対象州における農業畜産省、州農業畜産局、郡、地方自治体及び小規模農家の間の技術情報の円滑な流れは、稲作振興に向け十分に確保されなければならない。

(4) 対象州間の技術交換の推進

既存の好事例及び蓄積されたノウハウ、更には州及び郡の両政府の稲作振興方針から、東セピック州は小規模農家のコメ生産について他の州に適用可能なモデル州になり得るものである。よって、今後の協力期間において、東セピック州に蓄積された好事例及び経験を他州に普及することが効果的である。さらに、相乗効果の発現のために、州の行政官間のみならず農家間の技術交換の推進が必要である。

(5) 稲作に係る技術助言

- ・病虫害

螟虫（めいちゅう）が農家圃場において最も深刻な虫害となっており、種の同定と問題解決のための対策を検討する必要がある。稲作普及課は対象4州と協力し、主要かつ重要な病虫害を同定するための迅速な調査を実施し、この結果を踏まえ、短期専門家の派遣要請を行うこととする。

- ・品種

農家圃場で数種類の品種が栽培されており、各サイトにおいて適正な品種が栽培されているか否かは不明である。よって、各品種の特性、特に長所と短所を示したリストを整備する必要がある。

- ・精米機及びコメの水分含有量

精米の歩留まりは穀粒の水分含有量の影響を受け、精米の歩留まりは過乾燥により悪化する。よって、乾燥についての研修が重要で、収穫後の粳の乾燥方法を示したパンフレットを作成するとともに、各精米所に水分測定器を設置することが必要である。

(6) 精米機の据付け・運用

本プロジェクトを通じて供与された精米機の一部は、電力供給及び設置する精米所の建設の遅延により未設置状況にある。対象州での小規模農家のコメ生産を推進するには、精米機の運用が急務となっており、上記精米機の設置及び精米所の建設に向け州農業畜産局の支援が必要である。

(7) PDMの改訂

ベースライン調査によると、対象4州における稲作農家数は3,400人以下である。さらに、マダン州では、州政府による小規模農家への稲作支援の後退等が原因で、稲作に取り組む農家数が減少傾向にある。これらの状況を踏まえ、プロジェクト目標及び上位目標に記載された稲作農家の指標は、現状に基づき改訂されるべきである。さらに、ベースライン調査は時間及び予算的な制約から、本プロジェクト対象4州に限定すべきである。改訂PDM（バージョン2.0）は付属資料6に示す。

7-2 農業畜産省及び州農業畜産局に対する提言

円滑な実施及び持続性確保に向けたC/Pの配置

農業畜産局は、対象州の州政府との調整を担当する2名の職員をC/Pとして配置しているにすぎない。本プロジェクトの円滑かつ成功裏の実施及びプロジェクト目標の達成のため、十分な能力をもった必要な人数のC/Pを配置することが必要である。

農業畜産省は、プロジェクト活動の効果的な実施のために、収穫後処理技術、栽培、農業普及サービス及び情報工学の分野に少なくとも計3名のC/Pを配置すべきで、本プロジェクトの円滑な実施及び持続性の確保のために協力期間後も継続配置することが肝要である。さらに、農業畜産省により配置中及び配置予定のC/Pは、情報及びデータの円滑な伝達と共有を図るために、対象州（郡及び地方自治体を含め）の関係者と緊密な連携を構築する必要がある。

他方、各対象州の州農業畜産局は、プロジェクト活動の円滑な実施のために、第4回合同調整委

員会までに以下のC/Pを新たに配置する必要がある。

マダン州は、栽培及び農業普及サービスの分野で2名のC/Pを配置すべきである。

東セピック州は、アンゴラム郡及びオセラガミ郡のためにライスオフィサーとして2名のC/Pを配置すべきである。

マヌス州は、ライスオフィサー及び農業普及サービスオフィサーの2名を配置すべきである。

ミルンバイ州は、アロタウ郡、サマライ・マルア郡及びキリウィナ・グーデノウ郡のためのライスオフィサーとして3名のC/Pを配置すべきである。

さらに、農業畜産省、国家計画モニタリング省及び対象州との間での合意締結書（Minutes of Agreement : MOA）が、2013年10月末までに署名されるべきである。

第8章 教訓

(1) ベースライン調査とモニタリング

地理的要因及び現地調査員の能力的制約からベースライン調査に1年以上を要したため、現行PDMの各指標には調査結果の反映がなされていない。したがって、協力開始時に実施するベースライン調査結果を踏まえ、適切な指標の設定により達成レベルの明確化がなされる必要がある。よって、ベースライン調査は、プロジェクト関係者が現状に係る情報及び関連データを共有するために適時に実施されるべきである。

(2) 現地の状況に合致した営農システムの開発

モデル農家を通じて稲作技術の指導を受けて大半の小規模農家は稲栽培を継続しているものの、対象州の一部の小規模農家は、労働力や精米施設の不足、更にはコメ価格の下落により、稲作を中止し、ココア、コーヒー等の換金作物の栽培に転換している。

プロジェクト形成過程において、対象州の現状及び農業をとりまく状況を注意深く調査し、各地域の特性に適した小規模農家向けの営農体系が検討されなければならない。

よって、小規模農家の生計向上を推進するためには、稲作マニュアルの整備とともに、稲作を含めた地域に適した営農体系の構築が求められる。

(3) JICAボランティアとの連携、他のステークホルダーとの連携

コミュニティ開発に資するために、対象州に当機構より数名のボランティアが派遣されており、これらボランティアは、小規模農家のコメの自給を支援するために各コミュニティにおいて稲作普及に取り組んでいる。さらに、台湾技術団及び中国等の他ドナーは、パプアニューギニアにおいてコメの増産のために協力を実施している。より効果・効率的な協力のために、コメ生産にかかわる他のステークホルダーとの調整とともに、ボランティアとの連携を強化することが求められる。

(4) 現地リソースの活用

プロジェクトの効率性の向上のために、日本側の投入として、日本人専門家のみならずローカルコンサルタントの活用が期待される。さらに、ローカル人材は、現地事情に精通しており、経験に基づき、現地のニーズに対応し得る十分な能力を有する。よって、協力実施段階において、日本人専門家に限定せずに、ローカルリソースを含む幅広い人材の登用をプロジェクトの投入として検討すべきである。

(5) モデル農家アプローチの有効性

農民間普及アプローチを用いた小規模農家向け稲作振興モデルは、本プロジェクトの対象州において構築され、振興されつつある。モデル農家の大半及び周辺の小規模農家は、モデル農家の役割とその重要性を認識しており、稲作技術の普及及びコミュニティの生計向上に意欲的に取り組んでいる。このことから、近隣コミュニティあるいは島嶼地域において、稲作を農家に普及し、定着させるには、モデル農家の知見を他の農家に移転する、この農民間普及アプローチが最も効果的なアプローチといえる。よって、本プロジェクトの対象州のみならず、パプ

アニューギニアの他の州においても、このアプローチが普及することが期待される。更に今後は、モデル農家の役割の明確化及びモデル農家支援システムの整備も必要である。

(6) 好事例の収集・蓄積

プロジェクト実施中、一部農家が稲作を止めた事例のみならず、稲作普及の好事例が関係者から聞かれた。こうした過去の経験から成功及び制約要因を収集し、その要因を分析することにより、他の小規模農家への適用及び活用が可能となる。なお、東セピック州マプリック郡におけるモデル農家会合、共同作業及び精米機運営は好事例として挙げられる。

(7) 小規模農家による稲作データ収集並びに農家が直面する課題の収集の重要性

対象州の小規模稲作農家及びコメ生産に係るデータは信頼性が低く、適宜に利用することが困難である。したがって、効果的なモニタリング・報告システムのために、データ収集と整理記録は必須である。稲作の現状や傾向を把握するために、正確なデータの収集は重要であり、データ収集と同時に、圃場において農家が直面する問題や疑問を収集し、把握することが望ましい。データ収集と記録の保管は、精度の高い統計及び資料作成に必要なのみならず、的確なモニタリング及び計画策定のためにも必要な作業である。

第9章 団長所感

本プロジェクトは、フェーズ1で確立された単一の手法を用いて更にその拡大を図るものであり、各州主体となった取り組みが展開されていた。一方、パプアニューギニアは州によって民族、地理的・経済的環境が異なり、稲作に対する農民の熱意、意欲も大きく異なることがわかった。

例えば、ミルンバイ州のような島嶼地域や、東セピック州マプリック郡のように地理的に隔離された地域においては、自給用作物としてのコメの生産が重要な意味をもつが、マダン州のように、都市部に近い地域では、コメも求めやすく、生産の優先順位がココア等の換金作物よりも落ちる状況にある。

また、支援を展開する地域が地理的に険しいことから、州政府にはそれなりの人材の確保が必要となるが、州によってはその確保が十分でなく、州政府とのコミュニケーションがより緊密であるべきであった。

さらに、精米機の選定には地域、生産の特性を考慮し、小型のものを配置すべきであった。

このように、「第8章 教訓」にも記したが、プロジェクトの立ち上げにあたり地域の実態を十分に調査できていないことはプロジェクトの円滑な実施に支障をもたらしたと考えられ、残念である。しかしながら、現在プロジェクトも新体制のもと問題点を洗い直し、今回の提言を基に建て直しを早急に図っており、プロジェクトの活動は今後円滑に行われると期待している。また、既存の成果を利用する場合、特にフェーズ1からの移行に伴う場合、新たな外部要因の変化も含めこれまでの成果が活用できるのか客観的に評価することが大切であると痛感した。

一方、技術的には、病虫害対策及び種子の安定供給について技術的な基盤が全くないことが大きな課題である。この分野の活動は、個々の地方行政組織が行うのは非効率であることから、本来であれば中央政府が体制を整備すべきで、特に種子の安定供給に必要な体制整備への支援が今後必要になるのではないかとと思われる。

ただし、まずはこれらの対策の重要性を彼らと共有することが重要であり、共有化を図るためには政策アドバイザーによる支援が必要ではないかとと思われる。

さらに、営農体系という点からみれば、一部の恵まれた平野を除けば、この国はほとんどが畑地であり、稲も畑作物の1つにすぎない。畑作においては、連作障害の回避が避けて通れない問題であり、そのためには、輪作（ローテーション）が欠かせない。経済性と持続性の両面を備えた輪作体系技術について、近い将来腰を据えて取り組む必要が出てくるのではないかとと思われる。

最後になるが、パプアニューギニアのすべての民族に通じるものではないかもしれないが、共同作業を行う地域があり、日本の集落営農と共通する文化があることは興味深いことであった。

付 属 資 料

1. 調査日程
2. 主要面談者リスト
3. 対象4州比較情報
4. 評価グリッド
5. 質問票調査分析レポート (Report of Analysis on Questionnaire for the Project Mid-Term Review)
6. 合同中間レビュー調査報告書
7. ミニッツ (協議議事録)
8. A quarterly newsmagazine“Didimag”

1. 調査日程

調査日程〔Schedule for mid-term review mission for the Project on promotion of smallholder rice production (Phase 2)〕

	Date	Day	Leader, Rice Cultivation, Evaluation Management member	Evaluation & Analysis member	Stay-in
1	7/09/13	Sat		11:10 Narita, Tokyo→(SQ 637) 17:20 SINGAPORE/CHANGI 23:25 SINGAPORE/CHANGI(PX393)	
2	8/09/13	Sun		08:00 Arrival to POM, Discussion with the Project team	POM
3	9/09/13	Mon		Courtesy visit to JICA Office, DNPM & DAL, discussion and information collection	POM
4	10/09/13	Tue		Move to Manus, 8:30POM→MAS11:30(PX222) Manus Provincial Agriculture Office	Lorengau
5	11/09/13	Wed		Rice mill center, Data collection and visit to rice farmers	Lorengau
6	12/09/13	Thu		Data collection Move to POM, 12:00MAS→POM13:20 (PX291)	POM
7	13/09/13	Fri		Move to Milne Bay, 9:30POM-ALOTAU10:20 (PX954) Milne Bay Provincial Agriculture Office	Alotau
8	14/09/13	Sat		Rice mill center, Visit to rice farmers	Alotau
9	15/09/13	Sun	13:15 Narita, Tokyo→(PX 055) 20:45 Arrival to POM	Move to POM, 10:50 ALOTAU→POM11:40 (PX955) Discussion in a team	POM
10	16/09/13	Mon	(Public holiday) Move to Madang, 16:55POM→MAG18:00 (PX112)		Madang
11	17/09/13	Tue	08:00 Courtesy Call to Madang Provincial Administration 10:00 Visit to Model Milling Center 11:30 Visit to farmers in Sein village 14:00 Visit to farmers in Bom village		Madang
12	18/09/13	Wed	11:00 Move to East Sepik, MAG-WWK11:40 (PX126) Move to Maprik by car		Maprik
13	19/09/13	Thu	08:30 Visit to Old Model Milling Center 09:00 Courtesy Call to Maprik District Administration 10:15 Visit to model rice farmers in Hamahop 11:00 Visit to model farmers and rice farmers in Balif Village 12:00 Observe Official Opening Rice Milling Center 14:30 Interview with MFs and Farmers in Solomb village		Maprik
14	20/09/13	Fri	08:30 Visit to Model Milling Center 10:00 Travel back to Wewak by car 13:00 Courtesy Call to East Sepik Provincial DAL 14:00 Courtesy Call to the Office of East Sepik Administration 15:00 Visit to school		Wewak
15	21/09/13	Sat	08:30 Visit to Wewak Town Market 10:00 Visit to rice farmers		Wewak
16	22/09/13	Sun	Move to POM, 10:45WK-POM12:15 (PX945) Discussion for drafting the Joint Evaluation Report		POM
17	23/09/13	Mon	09:30 Courtesy visit to JICA Office 10:30 Courtesy visit to NDAL PM: Discussion and information collection 1st Joint Evaluation Committee Drafting the Joint Evaluation Report		POM
18	24/09/13	Tue	AM: Drafting the Joint Evaluation Report 14:00 2nd Joint Evaluation Committee		POM
19	25/09/13	Wed	09:00 Signing of Joint Evaluation Report 13:45 3rd Joint Coordinating Committee (signing of M/M)		POM
20	26/09/13	Thu	09:00 Report to JICA PNG Office 14:00 Report to Embassy of Japan	Report to Embassy & JICA PNG Office, 14:25 Departure from POM (PX 392) 18:45 Arrival to SINGAPORE/CHANGI 21:30 Departure form SINGAPORE/CHANGI (SQ 636)	POM
21	27/09/13	Fri	Move to LAE 09:00 POM→09:45 LAE (PX102) 10:30 Visit National Agricultural Research Institute) NARI 14:00 Courtesy Call to Move to POM 18:45 LAE→19:30 POM (PX107) Meeting with JICA experts	05:30 Arrival to Narita, Tokyo	POM
22	28/09/13	Sat	14:00 Departure from POM (PX 054) 19:55 Arrival to Narita, Tokyo		

2. 主要面談者リスト

<先方政府関係者>

NDAL (農業畜産省)

- Mr.Mawe Gonapa, Acting Deputy Secretary, Provincial & Agriculture Technical Services, National Department of Agriculture & Livestock (NDAL)
- Mr. Brown Konabe, Director, Food Security, National Project Manager, NDAL
- Mr.Stephen Hoko, National Project Coordinator, NDAL

DNPM (国家計画モニタリング省)

- Ms. Jenny Tumun Bire, Assistant Secretary, Bilateral Foreign Aid Division, Department of National Planning and Monitoring
- 小林秀夫 JICA 個別専門家 (Development Advisor- JICA Foreign Aid Division)

対象州関係者

<マヌス州>

- Mr. Paso Pohei, Provincial Deputy Administrator, Manus Province
- Mr. John Lale, Advisor, PDAL, Manus Province
- Mr. Paul Bulei, Rice Crop Officer, PDAL, Manus Province
- Mr. Morgan, Rice Milling Manager, PDAL, Manus Province
- MF 農家 (Mrs. Jua Family, Mr.Paul Baimo, Horum, Mr. Benjamin Pokarup, Lon island, Nalopa, Mr.Jonah Pokemai 他、稲作農家)
- 高橋春人協力隊員 (24-1 次隊：村落開発普及員：州都ローレンガウ PDAL 配属)

<ミルンベイ州>

- Mr.Michael Kape, Provincial Administrator, Milne Bay Province
- Mr.James Duks, Advisor, PDAL Milne Bay Province
- Mr. Jonathan Kapola, Food Security Officer, PDAL, PDAL Milne Bay Province
- MF 農家 (Mr.Kelly, Mr.Peter)
- 新開将協力隊員 (24-2 次隊：村落開発普及員：州都アロタウ PDAL 配属)

<マダン州>

- Mr. Ganei Agodop, Provincial Deputy Administrator, Madang Province
- Mrs. Mary Lilih, Acting Advisor, PDAL, Madang Province
- Mr.Godfrey Agabara, Rice Crop Officer, PDAL, Madang Province
- MF 農家 (Mr.Noila Gunar 他)
- 松川シニアボランティア (マダン州配属)

<東セピック州>

- Mr.Richard Kombo, Provincial Administrator, East Sepik Province
- Mr. Kevin Hawan, Advisor, PDAL, East Sepik Province
- Mr. Pius Numbatai, Rice Crop Officer, PDAL, East Sepik Province
- Mr. George Teliki, District Administrator, Maprik District, East Sepik Province
- Mr. James Hosea, DDAL, Manager, Maprik District, East Sepik Province
- Mr. Philemon Minilisk, District Rice Officer, DRO, Maprik District, East Sepik Province

- Mr. Andrew Maika, PDAL/SPO, Machinist, Maprik District, East Sepik Province

<モロベ州>

- Mr. Msayan Moat, Deputy Provincial Administrator/ Economic Services Regional Director, Morobe Provincial Administration

<National Agricultural Research Institute>

- Dr. Raghunath Ghodake, Director General, Lae, Morobe Province
- Dr. Sim Sar, Programme Director, Lar, Morobe Province
- Dr. Peter A. Gendua, Senior Scientist, NARI, Lae, Morobe Province

<JICA 事務所>

- 杉山茂 JICA パプアニューギニア事務所長
- 岩本洋光 JICA パプアニューギニア事務所企画調査員

<プロジェクト専門家>

- 金本正和 (チーフアドバイザー/普及計画管理)
- 渡邊成男 (業務調整/行政強化)

<在パプアニューギニア日本大使館>

- 山内 康裕 一等書記官
- 宍戸 公 二等書記官

対象州	東セピック州 (ウエワク)	マダン州 (マダン)	ミルンバイ州 (アロタウ)	マヌス州 (ローレンガウ)
【プロジェクトとの関係】	フェーズ1～	フェーズ1～	新規対象州(フェーズ2)	新規対象州(フェーズ2)
【自然状況】	沿岸州	沿岸州	島嶼	島嶼
【州の予算・活動】				
独自予算の確保	中	低い(昨年)	高い	中
C/Pの能力・モチベーション	高い	低い	高い(データ以外にも州 予算で行っている活動 あり)	中
C/Pの交代・移動	死去のため、一部、職務交代有(ただしフェーズ1から州人材はほぼ変わらず)	職務交代あり(ただしフェーズ1から州人材はほぼ変わらず)	なし	あり(今の州C/Pもまだ配置後、1カ月や1年と短い)
C/Pの研修参加経験	フェーズ1で参加	フェーズ1で参加	フェーズ2で参加	1部のみ(C/P交代のため、研修参加経験ない人もあり)
C/Pの研修講師実績(州での)	講師実績あり	講師実績あり(フェーズ1に比較し、減少)	州独自の研修で実績あり	計画のみ(講師になれるC/Pは少ない)
その他、州のイニシアティブ	少しあり(農家訪問)	ほとんどなし	あり(試験圃場での増殖や稲作栽培、農家研修)	少しあり(農家訪問)
モニタリング状況(データ有無、記録)	あり(郡からのデータを基に作成)	ほとんどなし(データも信憑性なし)	あり(ただし信憑性には疑問あり)	ほとんどなし(農家訪問を始めたばかり)
協力隊隊員の配置	過去派遣(現在なし)	現在SV派遣(農業機械:2013年9月で満了後任なし)	現在派遣中(村落開発1名)	現在派遣中(村落開発1名)

【対象地域の稲作状況】				
対象地区（郡）*MF 配置	6 全郡（6 郡：フェーズ 1 は 1 地区のみ、ただし他地区の普及員や農家にも研修参加あり）	6 全郡（6 郡：フェーズ 1 は 1 地区のみ、ただし他地区の普及員や農家にも研修参加あり）	4 郡（16 郡）	郡としては 1 郡のみ〔その傘下の LLG は 8LLG（12LLG 中）〕
現在 MF 数	100~150	100~130	20	16
稲作農家数（ベースライン調査データ）	2,093（うちマプリック地区 1,407）：州データでは昨年 3,397 農家存在	556（うちマダン地区 335）	680（うちアロタウ地区 438）	42（実際にはもっと多い）
稲作面積（m ² ）	769,228	76,300	158,131	6,165
稲作栽培の傾向	拡大傾向	停滞&マダン地区は減少	拡大傾向	関心ある農家はあるものの、まだ栽培開始には至っていない
稲作農家へのアクセス	他州に比較すると容易（長距離ではあるが、車で移動可能）	1 地区のみ飛行機（島嶼州に比較すると利便性あり）	かなり困難（離島）	かなり困難（離島）
州の交通手段（車両の有無）	かなり豊富にあり	かなり豊富にあり	プロジェクト車両以外にも車両あり。ただし離島へのアクセスは困難。	かなり限定（プロジェクトからの供与なし）。また離島へのアクセスは困難。
公営精米所	稼働中（マプリック郡では新しい精米所も建設し精米開始）。州内に 33 カ所もあり。	井関精米機稼働中、ここ 2 年間精米量は大きく減少。精米機も使っていないところ多くあり。	稼働可能（生産量は少量）	まだ建設中（そもそも初生産量は少量）

種子供給	あり（ただしマプリック郡では既に各農家が自家種子採取保存）	原則、稲作農家が自家で確保。1部、種子農家あり州で買い取っている。	あり（州予算で配布あり、また種子農家を育てる計画あり）	あり（州予算での配布あり。NARI はじめ他州からの購入）
稲作栽培の経験	あり（マプリック郡では、長い人で20年以上という経験者も存在）	あり（長い人で5年以上栽培経験あり）	ほとんどなし	ほとんどなし（数年どまり）
MFの能力・モチベーション	高い	中（MFのなかには指導は行っているが、稲作栽培をやめている農家もあり）	高い	かなり高い
普及員と農家の関係	かなり濃い（マプリック郡はじめ5郡に米担当官を配置）	かなり薄い（特にLLG）	まだ薄い	かなり薄い
核となるMF・普及員の存在（基礎技術移転、精米サービス）	かなりの数存在	不明（Sunkar, Middle Ramu District には新規雇用の可能な職員が存在する模様）	数名は最低存在	数名は最低存在
農家の課題	病害虫、商業化	精米サービス、労働力、稲作への関心低下で他作物に転換（稲作放棄）	精米サービス、継続的な技術フォロー、種子確保	まず基礎栽培技術が不十分、道具の不足、病害虫被害
その他課題	LLGの理解高し	LLGの理解・協力薄し	LLGの理解・協力あり	LLGの理解・協力薄し
備考				

* 対象州は、フェーズ2では上記のとおり4州。なおパプアニューギニアには21もの州がある〔従来、パプアニューギニアは19の州から成り立っていたがJiwaka州が西ハイランド州から、Hela州が南ハイランド州独立したため、21州になった。なおNational Capital District（特別区）を含めると全部で22州〕。
出所：各州でのヒアリングを基に調査団で作成（主観的判断を含む）。

「PNG国 小規模稲作振興プロジェクトフェーズ2中間レビュー調査」 評価グリッド (Ver.1)

2013年9月

(1) プロジェクトの実績

評価の視点・項目	評価設問	必要な情報・データ	情報源・収集方法		
投入実績 (実績の記載のみ)	日本側の投入実績	専門派遣(分野、専門分野、人数、派遣のタイミング) C/P研修(研修分野、内容、人数、実施タイミング) 供与機材(投入機材の種類、数量、使用目的、調達タイミング) ローカルコスト(プロジェクト運営費)負担(現地活動費予算額と支出内容、拠出タイミング)	専門家派遣実績データ 研修実績データ(人数、期間、研修内容) 供与機材リスト、調達の記録 現地活動費会計報告	プロジェクト実施運営総括表、業務完了報告書 プロジェクト実施運営総括表、研修員レポート 機材供与実績表 現地活動費会計報告書(投入予算実績)	
	バブアニューギニア側の投入実績	C/Pの配置(人数、職位、交代の有無)	C/P配置の記録	C/P配置実績一覧表	
		プロジェクト関連経費の予算と投入金額、拠出タイミング	バブアニューギニア実施機関の予算と投入実績データ	バブアニューギニア実施機関の予算書と会計記録	
	成果(アウトプット)の達成状況	成果1「モニタリングシステムの改善とモデル農家への補完研修の実施により、稲作普及サービスが改善する。」の達成度	指標1-1「郡行政等の地域性にかんがみたモニタリング改善計画(単数または複数)の適用性と実施可能性」はどの程度達成されるか	NDALレポート、サンプル調査、プロジェクトの進捗・活動記録、専門家・C/Pの意見	ベースライン調査報告書、各州年次報告書、ニュースレター、プロジェクト実施運営総括表、モニタリング改善計画、活動結果リスト、補完研修レポート、自己評価表、専門家・C/Pへのインタビュー・アンケート
			指標1-2「予算措置の有無にかかわらずモニタリング改善計画を採用する郡の数:11郡」はどの程度達成されるか		
			指標1-3「補完研修を受けたMFの数:170人」はどの程度達成されるか		
指標1-4「外部要員への委託なしで実施されたMF補完研修の数:12回」はどの程度達成されるか					
指標1-5「MF補完研修のモジュール数:10」はどの程度達成されるか					
指標1-6「補完研修を受けた州職員の数:20人」はどの程度達成されるか					
成果2「公営・民間精米所における機械式精米サービスが改善される。」の達成度	指標2-1「調査された精米機の数:公営施設の精米機械のうち80%以上が稼働中」はどの程度達成されるか	NDALレポート、サンプル調査、プロジェクトの進捗・活動記録、専門家・C/Pの意見	ベースライン調査報告書、各州年次報告書、ニュースレター、プロジェクト実施運営総括表、モニタリング改善計画、活動結果リスト、補完研修レポート、自己評価表、専門家・C/Pへのインタビュー・アンケート		
	指標2-2「特定された推奨精米機の数:2機種以上」はどの程度達成されるか				
	指標2-3「地域的に異なった精米量ニーズに対する精米サービス改善計画の適用可能性」はどの程度達成されるか				
	指標2-4「供与され稼働中のモデル精米機の数:8機」はどの程度達成されるか				
	指標2-5「公営精米所(マダン州:マダンNo.2、東セピック州:ハイフィールド、マヌス州:タマツ所、ミルンバイ州:プブレタ)での精米サービスにおける精米量、精米率、精米の品質(サンプル調査の結果、全精米量のうちのパーセンテージ)」はどの程度達成されるか				
成果3「農業畜産省のREUとNDAL本省食料安全保障局による稲作政策実施が強化される。」の達成度	指標3-1「情報を提供した郡の延べ数:2012~2014年の間に延べ33郡」はどの程度達成されるか	NDALレポート、サンプル調査、プロジェクトの進捗・活動記録、専門家・C/Pの意見	ベースライン調査報告書、各州年次報告書、ニュースレター、プロジェクト実施運営総括表、モニタリング改善計画、活動結果リスト、補完研修レポート、自己評価表、専門家・C/Pへのインタビュー・アンケート		
	指標3-2「ニュースレターの発行件数:11件」はどの程度達成されるか				
	指標3-3「小規模稲作普及ガイドライン作成に動員された作業部会の員数:6名」はどの程度達成されるか				
	指標3-4「機械精米サービスガイドライン作成に動員された作業部会の員数:6名」はどの程度達成されるか				

評価の視点・項目		評価項目	必要な情報・データ	情報源・収集方法
プロジェクト目標の達成度	プロジェクト目標「モデル農家アプローチの支援システムの適用と改善によって対象州において持続的小規模稲作が普及される。」の達成見込み	指標1「2014/15年には、対象4州において稲作農家数が15,590戸以上になる。」は達成されるか	NDALLレポート、サンプル調査、プロジェクトの進捗・活動記録、専門家・C/Pの意見	ベースライン調査報告書、各州年次報告書、ニューズレター、プロジェクト実施運営総括表、モニタリング改善計画、活動結果リスト、補完研修レポート、自己評価表、専門家・C/Pへのインタビュー・アンケート
		指標2「モニタリング改善計画を実施する郡またはLLGの数：関係郡の内80%以上」は達成されるか		
		指標3「MF補完研修が実施可能なREUと州研修職員の数：10人以上」は達成されるか		
		指標4「MF補完研修終了試験に合格したMFの数：80%以上」は達成されるか		
		指標5「精米サービス改善計画を実施する郡またはLLGの数：関係郡のうち80%以上」は達成されるか		
		指標6「本プロジェクトにより訓練されたMFから指導を受けた農民の数：16,000人以上」は達成されるか		
上位目標の達成見込み	上位目標「対象州における持続的小規模稲作の拡大によって稲作農家数並びにコメ生産が改善される。」の達成見込み	指標1「2020年までに小規模稲作農家の戸数が対象州で2万戸になる。」の実現見込みはどの程度か	NDALLレポート、サンプル調査、プロジェクトの進捗・活動記録、専門家・C/Pの意見	ベースライン調査報告書、各州年次報告書、ニューズレター、プロジェクト実施運営総括表、モニタリング改善計画、活動結果リスト、補完研修レポート、自己評価表、専門家・C/Pへのインタビュー・アンケート
		指標2「対象州において無作為抽出された小規模農家のうち10%以上が過去3年間自給稲作を行っている。またその80%以上が本プロジェクトのMFから指導を受けている。」の実現見込みはどの程度か		
		指標3「対象州において無作為抽出された小規模農家(半数以上が稲作農家)のうち5%以上が50kg以上の稲作収量を持つ。」の実現見込みはどの程度か		
		指標4「2020年までにMFが所在する郡の80%以上が小規模稲作普及ガイドライン及び機械精米サービスガイドラインを採用し実施する。」の実現見込みはどの程度か		

(2)実施プロセス

実施プロセス	投入、活動の進捗状況	投入・活動は計画どおりに実施されているか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト実施運営総括表、専門家・C/Pへのインタビュー・アンケート
	マネジメント体制	モニタリングは、適切に行われているか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト実施運営総括表、業務完了報告書、JCCレポート、専門家・C/Pへのインタビュー・アンケート
		PDM・POの軌道修正は適切に行われたか		
		日本人専門家とC/P間で日常的なコミュニケーション・情報共有は、適切に行われているか		
		定期会議、運営調整委員会は開催され、課題解決のために機能しているか		
		JICA(在外事務所)とプロジェクト間のコミュニケーションは良好に行われているか		
	実施機関のオーナーシップ	バブアニューギニア側実施機関責任者、C/Pのプロジェクト活動への参加は十分あるか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト実施運営総括表、専門家・C/Pへのインタビュー・アンケート
		実施機関によるプロジェクト活動予算の手当は十分なされているか	バブアニューギニア実施機関の予算と投入実績データ、専門家・C/Pの意見	プロジェクト実施運営総括表、専門家・C/Pへのインタビュー・アンケート
	他のプロジェクトとの連携	他のプロジェクトとの連携はあるか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト実施運営総括表、専門家・C/Pへのインタビュー・アンケート
	実施プロセスにおける留意点・阻害要因	実施機関の組織改編、人事異動(責任者・C/P)があったか、あった場合、プロジェクトの進捗にどう影響したか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト実施運営総括表、C/P配置実績一覧表、専門家・C/Pへのインタビュー・アンケート
プロジェクトの実施プロセスで生じている問題や、効果発現に影響を与えた阻害要因はあるか		プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト実施運営総括表、専門家・C/Pへのインタビュー・アンケート	

(3)5項目評価

妥当性	プロジェクトの必要性・優先度・政策との整合性	協力内容は、バブアニューギニア政府、対象州政府のニーズと合致しているか	国家開発計画(国家稲作開発政策文書他)・対象州開発計画政策文書	開発計画書、専門家・C/Pへのインタビュー・アンケート
		協力内容は対象グループ(対象地域の住民)や社会のニーズと合致しているか	対象地域の住民の意見	住民へのインタビュー・アンケート
		プロジェクトが設定した目標は、バブアニューギニアの国家開発計画、対象州の開発政策との整合性があり、優先度が高いか	国家開発計画・NDAL、対象州開発計画政策文書、州計画・政策担当者・専門家・C/Pの意見	開発計画書、NDAL、対象州計画・政策担当者・専門家・C/Pへのインタビュー・アンケート
		日本の援助政策(外務省国別計画、JICA国別事業実施計画)との整合性はあるか	対バブアニューギニア国別援助計画、JICA事業実施計画、外務省・JICA担当者の意見	外務省・JICA担当者へのインタビュー・アンケート
妥当性	手段・ターゲットグループ選定の適切性	「モデル農家間アプローチ(FTFEA)」というプロジェクト・アプローチは、稲作の普及戦略として適切だったか		
		プロジェクトの対象地域(西セビック、マダン、マヌス、ミルンベイ州)の選定は同国の開発戦略に照らして適切だったか	国家開発計画政策文書、NDAL、州計画・政策担当者の意見	開発計画書、州計画・政策担当者・専門家・C/Pへのインタビュー・アンケート
		ターゲットグループ(対象地域の住民)の絞り込み(対象、規模、男女比等)は適切に行われたか ターゲットグループ以外への波及は発現しているか、また今後の波及の可能性はどうか	専門家・C/P・JICA事務所プロジェクト担当者の意見	専門家・C/Pへのインタビュー・アンケート
		日本の技術の優位性はあったか(日本に対象技術のノウハウが蓄積されているか。わが国の経験・ノウハウを生かせるか)	専門家・C/P・JICA事務所プロジェクト担当者の意見	専門家・C/Pへのインタビュー・アンケート
妥当性	受益の公平分担	効果の受益や費用の負担が公平に分配されているか	専門家・C/P・JICA事務所プロジェクト担当者の意見	専門家・C/Pへのインタビュー・アンケート
有効性	プロジェクト目標の達成見込み	プロジェクト目標「モデル農家アプローチの支援システムの適用と改善によって対象州において持続的小規模稲作が普及される。」を達成できる見込みは高いか	専門家・C/Pの意見	開発計画書、各州年次報告書、専門家・C/Pへのインタビュー・アンケート
		プロジェクトの3つの成果(アウトプット)は、プロジェクト目標の達成に貢献しているか		
	外部要因の影響	プロジェクト以外にプロジェクト目標達成に貢献、ないし阻害した要因はあるか		
		成果(アウトプット)からプロジェクト目標に至るまでの外部条件「深刻な病虫害が大流行しない。」「極端な気候変動が発生しない。」「NDAL並びに対象州のC/Pがプロジェクト期間中、他のオフィスに異動しない。」の影響はあるか(外部条件は、現時点においても正しいか。外部条件が満たされる可能性は高いか)	専門家・C/Pの意見	開発計画書、各州年次報告書、専門家・C/Pへのインタビュー・アンケート
有効性		プロジェクト目標達成を阻害する、予期せぬ要因はあるか(協力開始当初と比べて、プロジェクトをとりまく環境(政策、経済、社会など)に変化はないか)		
効率性	活動の貢献	成果(アウトプット)を達成するために十分な活動が計画され、タイミングよく実施されているか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、各州年次報告書、専門家・C/Pへのインタビュー・アンケート
		専門家の専門性、資質、派遣人数、日数、タイミングは適切か		
	日本側の投入の適性度	供与機材の種類、量、投入タイミングは適切か		
		本邦研修の対象人数、分野、研修内容、研修期間、実施時期は適切か	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
		本邦研修で得られた知識・技術は帰国後に活用されているか		
	バブアニューギニア側の投入の適性度	日本のローカルコスト負担は、金額、使途、拠出タイミングからみて適正か		
C/Pの人数、配置、能力は適切か				
土地、建物、施設の規模、質、利便性に問題はないか		プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート	
効率性		バブアニューギニア側が拠出したプロジェクト活動予算額は、適正規模か		

効率性	外部要因の影響	活動からアウトプットに至るまでに何か外部条件の影響はあるか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
		プロジェクト以外に効率性を促進した要因はあるか		
		効率性を阻害した要因はあるか		
効率性	投入コスト比較	類似プロジェクトと比較して、プロジェクト目標、アウトプットは投入コストに見合ったものか	プロジェクトの進捗・活動記録、投入実績記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
		類似プロジェクトと比較して、投入コストに見合ったプロジェクト目標の達成が見込めるか(より低いコストで達成する代替手段はないか、同じコストで高い達成度を実現することはできないか)		
		他のJICAのスキームとの連携や他の援助機関との協力による成果があるか		
インパクト (予測)	上位目標の達成見込み	上位目標「対象州における持続的小規模稲作の拡大によって稲作農家数並びにコメ生産が改善される。」は、プロジェクトの効果として達成される見込みがあるか 上位目標を達成するための方策が考えられているか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
		上位目標とプロジェクト目標は乖離していないか	PDM、専門家・C/Pの意見	PDM、プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
	因果関係・外部条件	プロジェクト目標から上位目標に至るまでの外部条件「中央政府と地方政府が現在の食糧安全保障方針、特に中核的政策の1つとして、「生計のための小規模稲作振興」に優先度を付けて、予算配布を続ける。」が、満たされる可能性は高いか	PDM、プロジェクトの進捗・活動記録、専門家・C/Pの意見	PDM、プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
		上位目標の達成を阻害する要因はあるか		
波及効果	政策、組織制度、文化社会、経済、技術、環境面(ジェンダー、人権、倫理、貧富等を含む)などで、上位目標以外のプラスあるいはマイナスの予期しない効果・影響があったか(例:相手国の開発計画及び関連政策へのインパクトは見込めるか)	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート	
持続性 (予測)	政策・制度	協力内容が、今後もバブアニューギニア側の政策として支援されるか(中央政府並びに州政府) 協力終了後も、政策支援は協力終了後も継続するか、また関連規制、法制度は整備されているか。整備される予定か	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
		経常経費を含む予算の確保は行われているか。その国の予算措置は十分に譲られているか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
	財政・予算	将来プロジェクトの成果を持続させていくための予算確保の対策は十分か		
		協力終了後も、効果を上げていくための活動を実施するに足る組織能力はあるか(人材配置、意思決定プロセス等)	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
	組織	実施機関のプロジェクトに対するオーナーシップは、十分に確保されているか		
		プロジェクトで用いられる技術移転の手法は、C/Pによって受容されつつあるか(技術レベル、社会的・慣習的要因等)	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
	施設、資機材の維持管理は適切に行われているか			
	対象地域に移転された技術は他の地域に普及できる技術であるか。また、移転された技術を普及するメカニズムは、プロジェクトに取り込まれているか			
	技術	協力終了後、本プロジェクト対象外の地域普及する見込みはどの程度あるか パイロット・サイトを対象とするプロジェクトではプロジェクトの成果の他地域への普及を支援する取り組みが担保されているか		
		女性、貧困層、社会的弱者への配慮不足により、持続的効果を妨げる可能性はないか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート
社会・文化・環境面	環境への配慮不足により持続的効果を妨げる可能性はないか			
	持続性を阻害するその他の要因はあるか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート	
総合的自立発展性	本プロジェクトによるインパクトの総合的な持続性は、どの程度見込めるか	プロジェクトの進捗・活動記録、専門家・C/Pの意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート	
軌道修正の必要性	本プロジェクトに関して、軌道修正の必要性はあるか。また、残された課題や今後行うべき活動の軸は。	プロジェクトの進捗・活動記録、専門家・C/P・JICA事務所プロジェクト担当者の意見	プロジェクト進捗報告書、専門家・C/Pへのインタビュー・アンケート	

Papua New Guinea



PROJECT
ON
PROMOTION OF SMALLHOLDER RICE PRODUCTION (PHASE 2)

Report
of
Analysis on Questionnaire
for the Project *Mid-Term* Review

September 2013

By

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Analysis on Questionnaire for the Project Mid-term Review

Analyst: Akira Matsumoto (JICA Consultant)

TARGETED GROUP OF QUESTIONNAIRE

	Responded/Returned Numbers
HQ, NDAL	4
Manus Province: Officers ¹	6
Model Farmers (MF)	6
Milne Bay Province: Officers	7
Model Farmers (MF)	4
East Sepik Province Officers	5
Model Farmers (MF)	22
Madang Province: Officers	6
Model Farmers (MF)	16
Japanese volunteers in pilot provinces ^{*2}	2
Grand total	78

*1 "Officers" means the management level of the Project indicated as members of Counterpart Personnel include Project director, Project manager, and pilot provincial officials.

*2 The questionnaire was distributed to the Japanese volunteers (JOCV) who are engaging in target provinces at Mid-term Review. The responses are only Japanese.

Questionnaire Process

Since the Project has passed the halfway point, this Mid-Term Review is conducted in order to review the status of the Project progress and to examine necessary measures to be taken during the remaining implementation period.

Then two (2) kinds of questionnaire were distributed to the main stakeholders of the Project. One for the Project C/Ps and another is for Model Farmers (MF) in target provinces. The questionnaire was fulfilled by the respondents, and been returned and collected during the Mid-term Review. The replied questionnaire was confident and was analyzed according to the evaluation criteria.

Methodology and Objectives of Questionnaire

The questionnaire aims to grasp the opinion and ideas through the self-evaluation of the Project stakeholders, and specify the Project performance with deep concerns.

To fulfill the above objectives, the Mid-term Review Team members constructed the questionnaire. The questionnaire was made by choosing answer as well as "free answer" which has an open style in the Q&A sheet. It aims to catch the "qualitative" way of evaluation, not "quantitative" way with numerous data accumulations.

Interview Process

The questionnaire was collected and analyzed by the Mid-term Review Team members. Based on the questionnaire results, it is summarized as bellows.

- 1) Answer of the Questionnaire for the Members of Counterpart Personnel: p.2-4
- 2) Answer of the Questionnaire for Counterpart Personnel in targeted Provincial level: p.5-16
- 3) Answer of the Questionnaire for Model Farmers (MF) in targeted Provinces: p.17-24

Answer of the Questionnaire for Members of Counterpart Personnel

Answer sheets: Total four (4)

1. Inputs/Efficiency of the Project

Question 1: In order to achieve the expected Outputs and Purpose of the Project, to what extent do you think the inputs below has been appropriate so far?

Project Inputs	Answer
Assignment of Japanese Experts	(2) Very much (2) Fair
Equipment	(3) Very much (1) Fair
Assignment of PNG C/P	(1) Very much (1) Fair (2) Not at all
Amount of financial assistance (local expense) from Japanese side	(3) Very much (1) Fair
Amount of budget allocated from PNG government (Central as well as Provincial)	<Central Government> (2) Fair (2) Not at all <Provincial Government> (1) Fair (1) Not at all (2) No answer

On the all above, please explain if your choice is either "Fair" or "Not at all".

- It needs of the assignment of short-term experts on "Soil fertility & Management" and "Rice Pests Control & Management" in terms of time allocated, subject matter and involvement of PNG staff to learn from them.
- "Soil chemical status testing kit" needs to be improved and strengthened to more detailed testing of soil fertility status of rice cropping soils in PNG.
- it needs more C/Ps to work in the area of rice production system development and extension as rice production, though quite small, are now being reported in many provinces in PNG. And REU has only 3 staff at Port Moresby.
- Assignment of PNG C/P is not sufficient enough, we don't have experienced rice officers and we don't have full-time rice officers who is specialize on rice work only. When positions change as officer change: DAL can consider positions for rice officers at district level.
- Budget has been appropriate; however, disbursement of allocation of budget has been inconsistent at times.
- PNG's budget is not stable and not on time.
- Budget from PNG is lacking and funds are not released to DAL on time. To cope with this situation, we need to meet with national planning every quarter and present our project report and activities.
- Still shortage within DAL means that we cannot fully meet the counterpart requirement and DAL needs to recruit to fill up vacancies.

2. Effectiveness of the Project

Question 2: In order to achieve the expected Outputs and Purpose of the Project, do you think if there are alternative ways of undertaking the Project activities? Your answer is "yes", please explain your ideas as clearly as possible.

Explanation:

- Opportunities should be given to new provinces in the Project, especially heads of Provincial administrators & DAL to participate in study tours with policy training. This is for them to understand the Project concept and methodologies, and that is expected to broaden their knowledge to develop food production policies.
- Given the expected outputs & purpose, one alternative is to give incentive for MFs to perform in terms of having number of growing rice actively and having increase rice production on a continual yearly basis.

Question 3: Looking at the current status of the Project progress, to what extent do you think the Purpose of the Project that is "Sustainable smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces." will be achieved before the end of the Project term in May 2015?

(4) Yes, to some extent

Explanation:

- It seems at this stage, the MF approach and its support system is sometimes misunderstood especially by model farmers.
- There are challenges for extending rice sustainable smallholder's rice farming and this includes incentives for MFs to continue the work against their ambition to earn money. There are competing farming activities that earn money for rice farmers like betel nut, cocoa, coffee and others.
- Depends on availability of funds at provincial and district level, especially target districts and provincial supports to their districts to conduct FTFEA and all project activities.
- Uncertainty in budget support for local province might be a problem in attaining the purpose.

Question 4: To what extent do you think the Project will contribute to the Overall Goal of the Project that is "Rice farmers and rice production are expanded sustainably in the target provinces." after the Project has achieved the expected Outputs and Purpose of the project?

(4) Yes, to some extent

Explanation:

- The MF concept and its support system need to be fully understood and adopted at the provincial and local level governments.
- It now has the fundamentals in place for rice production extension to sustainably be extended after the Project. This include the newly established milling infrastructure in 4 target provinces, a cadre of MF who continue to grow rice, and support system plans in place with the local government like training, monitoring and "reporting" and seeds.

3. Impact of the Project

Question 5: Have you observed any positive or negative impact so far apart from the expected Outputs of the Project?

(3) Yes (1) No

Explanation:

- There has been an improvement in the work attitude of staff on provincial, national levels and leading MF's.
- Positive impacts: 1) Farmers and officers in target districts and provinces gained skills and knowledge on rice, 2) Understood FTFA and MF approach, 3) Improve living standard of farmers, 4) Established linkage of work among district to provinces and also national level.
- Increase smallholder rice production in Madang & East Sepik provinces

Question 6: There are some important assumptions for the Project to achieve the Project Purpose and Overall Goal that were identified at the beginning of the Project. To what extent do you think each of these assumptions has materialized (occurred) or likely to occur? Please indicate the status of each assumption.

(1) "The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence smallholders' rice production" as one of the core policies."

- 1) Policy has not changed and the fund is available. (x)
- 2) Policy has not changed, but the fund is not sufficiently available. (4)
- 3) Policy has changed. (x)
- 4) Don't know (x)

(2) "Severe outbreak of pest and disease does not occur."

- 1) No severe outbreak does occur. (4)
- 2) Severe outbreak does occur. (x)

(3) "Severe climatic change does not occur."

- 1) No severe climatic change does occur. (4)
- 2) Severe climatic change does occur. (x)

(4) "The C/P staffs of NDAL and target provinces are not transferred to other offices during the Project period."

- 1) No any C/P staff transferred during the Project period. (2)
- 2) Some C/P staff transferred and replaced during the Project period. (1)
- 3) Some C/P staff transferred during the Project period, and no replacement. (1)
- 4) Don't know (x)

4. Sustainability of the Project

Question 7: To what extent do you think the knowledge and skills you will obtain through the JICA Project are likely to continue to improve even after the end of the Project term in 2015?

(2) Yes, very much (1) Yes, to some extent (1) Don't know

Question 8: What factors do you think will be major constraints to your work in the future?

Answer:

- Constant budget support, Staff transfer, Policy changes
- Disruption to the current communication system and/or the lack of it, including telecommunication, internet email services, and travel to target provinces and site:
- Reduce or no funding for planned fields activities and operation.
- Lack of incentives, and bonuses for understanding increased work and responsibilities,
- Loss of collaborating partners at the national and provincial level through retirement or transfer to other jobs.
- 1) Lack of funds, funds not made available on time at both national and provincial level, 2) Lack of communication between target districts and their provinces and with national REU. 3) Transfer and replacement of C/Ps at districts, provincial and national level, 4) No support to target districts by their provinces.
- Insufficient budget & manpower

Question 9: Finally please write any suggestions or comments to improve the JICA Project for the remaining period.

Answer:

- Improvement of staffs in appropriate technical areas. Consider policy training for senior administrative staff for Manus and Milne Bay Provinces.
- One area of improvement is the data collection activities at the Project. A system has been developed through the Project, however, there is a need to have in place reward or incentive system to strengthen MFs, provincial staff, and even at the national level staff to continue to conduct monitoring, record taking and reporting of all rice farming system development activities. This data recording, collection and reporting needs to be made at routine job for all stakeholders. Further, coaching and training on skills and attitude in recording, record keeping is necessary for annual monitoring of rice-based activities through the country, This may require short-term expert input.
Furthermore, work may need to be done on technical aspect of soil fertility management mechanised rice growing, and pest disease control, monitor and management.
- 1) Meet with National Planning regarding budget for rice program and present project activity report every quarter, 2) Conduct consultation visit to target provinces/districts every quarter for every 2 months, 3) DAL to look at creating rice positions, so we can have full-time rice officers at district levels and the provinces, 4) Capacity building for young C/Ps at the districts and provincial level and also at national level. Receive training in the countries on rice culture or other related trainings.

1 Manus

Answer of the Questionnaire for Counterpart Personnel in targeted Provincial level

Answer sheets: Total 24 (Manus: 6)

1. Inputs/Efficiency of the Project

Question 1: In order to achieve the expected Outputs and Purpose of the Project, to what extent do you think the inputs below has been appropriate so far?

Project Inputs	Answer
Assignment of Japanese Experts	(1) Very much (5) Fair
equipment	(1) Very much (4)Fair (1) Not at all
Assignment of PNG C/P	(2) Very much (2)Fair (2) Not at all
Amount of financial assistance (local expense) from Japanese side	(2) Very much (2) Fair (2) Not at all
Amount of budget allocated from PNG government (Central as well as Provincial)	<Central Government> (2) Fair (2) Not at all (1) No answer (1) Don't know < Provincial Government>(3) Fair (2) Not at all (1) No answer

- Due to changes with rice officer & JICA experts inputs and efficiency of rice project with the use of model farmer approach is insufficient.
- (Others) Communication and understanding between officers and Japanese Experts needs more improvement when transfer knowledge & skills.

2. Effectiveness of the Project

Question 2: In order to achieve the expected Outputs and Purpose of the Project, do you think if there are alternative ways of undertaking the Project activities? Your answer is "yes", please explain your ideas as clearly as possible.

Explanation:

- MF concept using model farmer is right approach. The support service to the MF needs to be implemented fully.

Question 3: Looking at the current status of the Project progress, to what extent do you think the Purpose of the Project that is "Sustainable smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces." will be achieved before the end of the Project term in May 2015?

(2) Yes, very much (2)Yes, to some extent (1) Not much (1) No answer

Explanation:

- There will a change in the progress in terms of production only when there is a change in the management of the Division. The rice officer is not permanent and always another officer is selected to attend programs.
- With the numbers of training of MFs and interesting rice farmers on rice cultivation and processing, this will increase rice production in our province.

Question 4: To what extent do you think the Project will contribute to the Overall Goal of the Project that is "Rice farmers and rice production are expanded sustainably in the target provinces." after the Project has achieved the expected Outputs and Purpose of the project?

(3) Yes, very much (3) Yes, to some extent

Explanation:

- People should accept the rice production into the culture. They rely on purchase rice, therefore we need to make more awareness for the people to get into rice production.
- After all, the long-term goal of reducing rice imports will be achieved as the province will contribute in productivity if own rice cultivation.

3. Impact of the Project

Question 5: Have you observed any positive or negative impact so far apart from the expected Outputs of the Project?

(5) Yes (1) Don't know

Explanation:

- Generally, rice is soon to become a crop people will have to grow for household consumptions which is already happening.
- Farmers have not trust on the officer previously and had not expanded.
- Most farmers are becoming aware of rice production and its importance, especially where rice can be grown, produce locally then the imported rice.

Question 6: There are some important assumptions for the Project to achieve the Project Purpose and Overall Goal that were identified at the beginning of the Project. To what extent do you think each of these assumptions has materialized (occurred) or likely to occur? Please indicate the status of each assumption.

(1) "The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence smallholders' rice production" as one of the core policies."

- 1) Policy has not changed and the fund is available. (1)
- 2) Policy has not changed, but the fund is not sufficiently available. (4)
- 3) Policy has changed. (x)
- 4) Don't know (x)
- 5) No answer (1)

(2) "Severe outbreak of pest and disease does not occur."

- 1) No severe outbreak does occur. (6)
- 2) Severe outbreak does occur. (x)

(3) "Severe climatic change does not occur."

- 1) No severe climatic change does occur. (5)
- 2) Severe climatic change does occur. (1)

(4) "The C/P staffs of NDAL and target provinces are not transferred to other offices during the Project period."

- 1) No any C/P staff transferred during the Project period. (x)
- 2) Some C/P staff transferred and replaced during the Project period. (2)
- 3) Some C/P staff transferred during the Project period, and no replacement. (x)
- 4) Don't know (1)
- 5) No answer (3)

4. Sustainability of the Project

Question 7: To what extent do you think the knowledge and skills you will obtain through the JICA Project are likely to continue to improve even after the end of the Project term in 2015?

(1) Yes, very much (4) Yes, to some extent (1) No answer

Question 8: What factors do you think will be major constraints to your work in the future?

Answer:

- Sustainable milling service, operation management back up service of the appropriate milling machine model, a major pest/disease outbreak.
- The milling machine should be in good condition and operating. There should be back up to assist the mill operators.
- Support in terms of funding and extension
- Maintain trust from the farmers and close relationship
- Less or reduce of funding support to rice project, less attention to improve rice MF approach system, lack of political will by both provincial & national leaders of selected provinces, regular changes of rice officer at provincial/national level

Question 9: Finally please write any suggestions or comments to improve the JICA Project for the remaining period.

Answer:

- Main concept is to provide adequate support service to modern farmers to expand rice programs in the villages. Also program extension must be conducted to boost farmer's interest and continuity.

2 Milne Bay**Answer of the Questionnaire for Counterpart Personnel in targeted Provincial level****Answer sheets: Total 24 (Milne Bay: 7)****1. Inputs/Efficiency of the Project***Question 1: In order to achieve the expected Outputs and Purpose of the Project, to what extent do you think the inputs below has been appropriate so far?*

Project Inputs	Answer
assignment of Japanese Experts	(2) Very much (4) Fair (1) Not at all
equipment	(3) Very much (2) Fair (2) Not at all
assignment of PNG C/P	(1) Very much (5) Fair (1) Not at all
amount of financial assistance (local expense) from Japanese side	(2) Very much (3) Fair (1) Not at all (1) No answer
amount of budget allocated from PNG government (Central as well as Provincial)	<Central Government> (3) Fair (3) Not at all (1) Don't know < Provincial Government> (2) Very much (1) Fair (2) Not at all (1) Don't know (1) No answer

- Need frequent dialogue preferably direct access of telephone is require even email service.
- Increase frequency of Japanese experts' assignment.

2. Effectiveness of the Project*Question 2: In order to achieve the expected Outputs and Purpose of the Project, do you think if there are alternative ways of undertaking the Project activities? Your answer is "yes", please explain your ideas as clearly as possible.*

Explanation:

- MF approach is good, but as project picks up need to develop farmer cooperatives.
- MF support system is very ineffective in Milne bay province, because MOA is not sign, therefore our Project is not recognize although DAL staff & MFs are doing the work for almost 2 years.
- Utilize the Prov, DAL HQ, especially Food Security office for liaisons and other activities. RDO's & DRDOs with Food Security office need to meet with JICA as regular as possible for monitoring purposes.
- Farmers are willing to work, but not enough funding to boost their interest. Gov. officers are willing to go out and work but no funding.

Question 3: Looking at the current status of the Project progress, to what extent do you think the Purpose of the Project that is "Sustainable smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces." will be achieved before the end of the Project term in May 2015?

(1) Yes, very much (3) Yes, to some extent (3) Not much

Explanation:

- The concept is excellent, but farmers need to take ownership of the idea and increase rice production.
- Speed up funding for final MF training - Misima. MF support system is the most effective strongly for MF approach success.
- MF approach will improve, if the support system is coordinated promptly as per program with providing sufficient back up logistics from districts and LLGs.
- Some MF have been trained, but are not doing much to extend the knowledge, There has to be some kind of motivating factors such as paying MF for carrying out extension.

Question 4: To what extent do you think the Project will contribute to the Overall Goal of the Project that is "Rice farmers and rice production are expanded sustainably in the target provinces." after the Project has achieved the expected Outputs and Purpose of the project?

(5) Yes, very much (2) Yes, to some extent

Explanation:

- Skill is improved, Food production improved, Cash security through rice sales.
- There is greater impact on the program so far. The way the program going, it is achievable by 2015 whereby most rice farming communities will be making their rice for consumptions and then sales for some income.
- The MF concept with rice is constantly being developed in target area whilst some areas have little improvement, otherwise there is potential in inland area.
- Yes, if government is concerned about his human population's health and wellbeing, he should start pumping more money to this Project before it's too late & the humans grow weak and die out.

3. Impact of the Project

Question 5: Have you observed any positive or negative impact so far apart from the expected Outputs of the Project?

(6) Yes (1) No

Explanation:

- Farmers acquire rice farming skills. Some level of rice culture is achieved in some areas, Political leaders taking ownership of Project.
- Every district in Milne Bay province now cultivating rice.
- The concept had drawn a lot of attention with individual farmers, but requires support logistics for increased productions such as tools etc, including mills. Some surplus dried grains are stored for consumption and seeds.
- After people seeing rice being milled during demonstrations, they are really interested and have asked for seeds. So far many people have received seeds, but will depend on them on how well they manage them after planting.

Question 6: There are some important assumptions for the Project to achieve the Project Purpose and Overall Goal that were identified at the beginning of the Project. To what extent do you think each of these assumptions has materialized (occurred) or likely to occur? Please indicate the status of each assumption.

(1) "The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence smallholders' rice production" as one of the core policies."

- 1) Policy has not changed and the fund is available. (1)
- 2) Policy has not changed, but the fund is not sufficiently available. (6)
- 3) Policy has changed. (x)
- 4) Don't know (x)

(2) "Severe outbreak of pest and disease does not occur."

- 1) No severe outbreak does occur. (7)
- 2) Severe outbreak does occur. (x)

(3) "Severe climatic change does not occur."

- 1) No severe climatic change does occur. (3)
- 2) Severe climatic change does occur. (4)

(4) "The C/P staffs of NDAL and target provinces are not transferred to other offices during the Project period."

- 1) No any C/P staff transferred during the Project period. (4)
- 2) Some C/P staff transferred and replaced during the Project period. (1)
- 3) Some C/P staff transferred during the Project period, and no replacement. (x)
- 4) Don't know (2)

4. Sustainability of the Project

Question 7: To what extent do you think the knowledge and skills you will obtain through the JICA Project are likely to continue to improve even after the end of the Project term in 2015?

(4) Yes, very much (2) Yes, to some extent (1) Not much

Question 8: What factors do you think will be major constraints to your work in the future?

Answer:

- Staff management to officer may affect rice work. Funding limitation. Lack of consistent support and funding the part of NDAL and may be JICA. Maybe disease outbreak and climate change effects.
- Transport to reach MFs and farming communities, Funding 4 districts/LLG is doubtfully believed currently, The type of local leaders with neglect to DAL programs, People will accept rice concept gradually because they are already used to buying store rice easy, Rice production should attract a rice mill for the LLG.
- Lack of machinery & tool, lack of funding

Question 9: Finally please write any suggestions or comments to improve the JICA Project for the remaining period.

Answer:

- Incentive for staff through management training, Email or telephone access communication, Identify skilled and good farmers and promote semi-commercial rice farming as business. Promote good staff by increasing the levels or training.
- Need to organize training to Japan, or Indonesia or Thailand including our MFs.
- JICA should standby to assist LLGs that are now in rice development with mills especially when funding to buy one from districts/LLG because it is constraint. JICA officials and PDAL should assist LLGs that are progressing well with rice program by farmer training, officer external training and farmer field days. Same applies the LLG/District is possible.

3 East Sepik

Answer of the Questionnaire for Counterpart Personnel in targeted Provincial level

Answer sheets: Total 24(East Sepik: 5)

1. Inputs/Efficiency of the Project

Question 1: In order to achieve the expected Outputs and Purpose of the Project, to what extent do you think the inputs below has been appropriate so far?

Project Inputs	Answer
assignment of Japanese Experts	(4) Fair (1) Don't know
equipment	(4)Fair (1)Don't know
assignment of PNG C/P	(4)Fair (1)Don't know
amount of financial assistance (local expense) from Japanese side	(3) Fair (2)Don't know
amount of budget allocated from PNG government (Central as well as Provincial)	<Central Government> ((3) Fair (2)Don't know < Provincial Government>(3) Fair (2)Don't know

- Current situation can be more improved only if the Project can introduce a common internet use between target provinces.
- Short-term Expert visit to increase more than 2-3 weeks in fields, and long-term Experts must have frequent visit to Provinces and districts. (attend MF meetings, Provincial reviews)
- PNG side always experience delays in budget.
- For Output2; Milling machinery has very good, but require some more portable one to be established in remote areas,

2. Effectiveness of the Project

Question 2: In order to achieve the expected Outputs and Purpose of the Project, do you think if there are alternative ways of undertaking the Project activities? Your answer is "yes", please explain your ideas as clearly as possible.

Explanation:

- MF approach is very good, only need to improve on support system means - Project should input on to machinery for support to MF farm development on fix farming system, so that LLG can be convince to support MF activities, especially the Post harvest & mills machines and other small farm machineries.
- Project should involve LLGs in target support districts, through training & exchange programs & workshops to enable support system works well.
- MFs are key role players in this Project, therefore, they (MFs) must practically show example to other MFs by: setting MF utilizing improved farming techniques, crop rotation, land cultivation and integrated pest management approach (IPM).

Question 3: Looking at the current status of the Project progress, to what extent do you think the Purpose of the Project that is "Sustainable smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces." will be achieved before the end of the Project term in May 2015?

(4)Yes, to some extent (1) Not much

Explanation:

- Milling fees should be used to sustain operation. It should be paid for MFs on monthly allowance based on outputs per MF.
- Poor road conditions for transportation to milling services may discourage rice farmers from cultivation that may lead to low production.

Question 4: To what extent do you think the Project will contribute to the Overall Goal of the Project that is "Rice farmers and rice production are expanded sustainably in the target provinces." after the Project has achieved the expected Outputs and Purpose of the project?

(5) Yes, to some extent

Explanation:

- Depend on farmer willingness to continue cropping rice and the province/district & LLG priorities to support activities. I premises that, if farmers are not utilizing small machinery or appropriate farming tools and Post-harvest machinery by 2015 & onwards, they may lose interest in rice farming, packaging & marketing program at smallholder level may also increase farming interest to continue.

3. Impact of the Project

Question 5: Have you observed any positive or negative impact so far apart from the expected Outputs of the Project?

(3) Yes (2) Don't know

Explanation:

- Farmers have use paddy/white rice to pay for children school fees, farming made/sales and earn income from own grown rice.

Question 6: There are some important assumptions for the Project to achieve the Project Purpose and Overall Goal that were identified at the beginning of the Project. To what extent do you think each of these assumptions has materialized (occurred) or likely to occur? Please indicate the status of each assumption.

(1) "The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence smallholders' rice production" as one of the core policies."

- 1) Policy has not changed and the fund is available. (1)
- 2) Policy has not changed, but the fund is not sufficiently available. (3)
- 3) Policy has changed. (x)
- 4) Don't know (1)

(2) "Severe outbreak of pest and disease does not occur."

- 1) No severe outbreak does occur. (5)
- 2) Severe outbreak does occur. (x)

(3) "Severe climatic change does not occur."

- 1) No severe climatic change does occur. (2)
- 2) Severe climatic change does occur. (3)

(4) "The C/P staffs of NDAL and target provinces are not transferred to other offices during the Project period."

- 1) No any C/P staff transferred during the Project period. (3)
- 2) Some C/P staff transferred and replaced during the Project period. (x)
- 3) Some C/P staff transferred during the Project period, and no replacement. (x)
- 4) Don't know (2)

4. Sustainability of the Project

Question 7: To what extent do you think the knowledge and skills you will obtain through the JICA Project are likely to continue to improve even after the end of the Project term in 2015?

(1) Yes, very much (3) Yes, to some extent (1) No answer

Question 8: What factors do you think will be major constraints to your work in the future?

Answer:

- Understanding & support from province & LLG, Training for extension planning/management for officers/MFs, Change for farming systems and subsistence to mechanize, Internal coordination within province and national, Participation and support from other stakeholders.
- Break down on milling machinery in with no parts supply back-up system,

Question 9: Finally please write any suggestions or comments to improve the JICA Project for the remaining period.

Answer:

- REU/NDAL/JICA Project team must seriously coordinate training activities within provinces. Allow for exchange visit programs within target provinces, Where it possible allow overseas study trips for officers/farmers, Provide some small farm machinery support to advance MFs. Improve simpler phone to internet communication, NDAL/REU to recruit new officers as C/P in target provinces, JICA experts spend more time with target provinces.
- Project should collaborate with research (NARI) and establish a semi-committee farm model each in target provinces, utilizing machinery. Training or workshops on utilization of rice-by-products for livestock feed and fisheries. NDAL/JICA Project to involve district administration and LLG staff to participate in some workshops/meeting on visit Project sites in other participating provinces to enable understanding and future support to rice program activities.

4 Madang**Answer of the Questionnaire for Counterpart Personnel in targeted Provincial level**

Answer sheets: Total 24 (Madang: 6)

1. Inputs/Efficiency of the Project

Question 1: In order to achieve the expected Outputs and Purpose of the Project, to what extent do you think the inputs below has been appropriate so far?

Project Inputs	Answer
assignment of Japanese Experts	(3) Very much (2) Fair (1) No answer
equipment	(3) Very much (3)Fair
assignment of PNG C/P	(0) Very much (5)Fair (1) No answer
amount of financial assistance (local expense) from Japanese side	(2) Very much (2) Fair (2) Not at all
amount of budget allocated from PNG government (Central as well as Provincial)	<Central Government> (2) Fair (2) Not at all (2) Don't know <Provincial Government>(5) Fair (1) Don't know

- We need to move from upland rice cultivation to irrigated field, and introduce more rice.
- Poor district & LLG visit to MF

2. Effectiveness of the Project

Question 2: In order to achieve the expected Outputs and Purpose of the Project, do you think if there are alternative ways of undertaking the Project activities? Your answer is "yes", please explain your ideas as clearly as possible.

Explanation:

- District counterparts should be involved fully in the Project and monitoring and coordinating the activities.(many)

Question 3: Looking at the current status of the Project progress, to what extent do you think the Purpose of the Project that is "Sustainable smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces." will be achieved before the end of the Project term in May 2015?

(1) Yes, very much (2)Yes, to some extent (2) Not much (1) Don't know

Explanation:

- Provinces are behind a bit in following the calendar activities. Much need to be done by district and LLG consultation.
- Provide necessary incentives to the MFs
- Depend on officers commitment, Cause LLGs are specialize in cash crop, food crop and livestock
- MF approach is OK, but the support system is not effective because MFs are a bit reluctant in doing their job as MF.

Question 4: To what extent do you think the Project will contribute to the Overall Goal of the Project that is "Rice farmers and rice production are expanded sustainably in the target provinces." after the Project has achieved the expected Outputs and Purpose of the project?

(2) Yes, very much (4) Yes, to some extent

Explanation:

- Half of the trained MF has stopped growing rice as well as not conducting FTFA due to no much support given to them by district DAL office. Half of the number of rice farmers also given up may be due to lack of support from the government in terms of moral support and arrangement support.(C/P2)
- Knowledge & skills in the rice cycle is well practice in the rural areas. Rural milling units in operation to boost the very remote area farmers
- It will be achieved if farmers are visited on a daily basis, and support through farming materials.

- Farmers are willing to grow rice but from observation and contacts, the milling part of it is said to be laboring and works.

3. Impact of the Project

Question 5: Have you observed any positive or negative impact so far apart from the expected Outputs of the Project?

(5) Yes (1) No answer

Explanation:

- Those faithful MFs and rice farmers are not spending money on imported rice as well as saving their cash incomes and earning additional cash income from the sales of rice. They have seen the benefit of producing their own rice.
- MFs and their communications are active in rice production; on the other hand there is no communication with officers and delays in reporting.
- New other areas growing, eating and selling own grown rice. More milling units are injected in the rural areas.
- Decline in rice growing because no milling center (transport problem)

Question 6: There are some important assumptions for the Project to achieve the Project Purpose and Overall Goal that were identified at the beginning of the Project. To what extent do you think each of these assumptions has materialized (occurred) or likely to occur? Please indicate the status of each assumption.

(1) “The national and local governments continue to prioritize and fund the present food security policy, particularly “promotion of subsistence smallholders’ rice production” as one of the core policies.”

- 1) Policy has not changed and the fund is available. (1)
- 2) Policy has not changed, but the fund is not sufficiently available. (4)
- 3) Policy has changed. (x)
- 4) Don’t know (1)
- 5) No answer (x)

(2) “Severe outbreak of pest and disease does not occur.”

- 1) No severe outbreak does occur. (5)
- 2) Severe outbreak does occur. (1)

(3) “Severe climatic change does not occur.”

- 1) No severe climatic change does occur. (3)
- 2) Severe climatic change does occur. (3)

(4) “The C/P staffs of NDAL and target provinces are not transferred to other offices during the Project period.”

- 1) No any C/P staff transferred during the Project period. (1)
- 2) Some C/P staff transferred and replaced during the Project period. (4)
- 3) Some C/P staff transferred during the Project period, and no replacement. (x)
- 4) Don’t know (1)
- 5) No answer (x)

4. Sustainability of the Project

Question 7: To what extent do you think the knowledge and skills you will obtain through the JICA Project are likely to continue to improve even after the end of the Project term in 2015?

(4) Yes, very much (1) Yes, to some extent (1) No answer

Question 8: What factors do you think will be major constraints to your work in the future?

Answer:

- Political & administration support from district & LLGs
- The officers in the districts are new to the Project as they were recruited in 2011 & 2012, so they still do not nearly understand the project purpose and concept of the Project.
- Guideline has been a problem as observed and review of guideline has not been done

- readily.(2)MF
- District & LLG support by monitoring and coordinating activities
 - Lack of support from my supervisors (LLG officer), Loose of interest by farmers to daily visit

Question 9: Finally please write any suggestions or comments to improve the JICA Project for the remaining period.

Answer:

- Assist/procure in tractor of implement to assist smallholders to go into rice cultivation (2)
- Start seed mortification
- Strengthening the Project activities at all levels especially at district level for constant consultation with MFs and providing funds for supporting system. Activity planning to make use of DSIP and LLG SIP. Machinery for cultivation and milling service to be improved.
- LLG to make available funds for active MFs and rice farmers to shift into semi-commercial farming systems.

1 Manus

Answer of the Questionnaire for Model Farmers

Answer sheets: Total 48 (Manus: 6)

Question 1: What kinds of supports from JICA Project you received? Please remember and let me know the supported items one by one. (e.g., equipment, inputs, training, etc) during Phase 2 (Since December 2011 to up to now May 2013).

Answer:

- 1 MF training at Maprik WEWAK (2)
- 2 Advance Training, OISCA, RABAUL

Question 2: How do you utilize the above supported items? Please tell me the utilization and/or effects. (Are you likely to meet your expectation according to what you have received under the JICA Project so far?)

Answer: - As a trained rice model farmer, I have gained skills and knowledge which can fully facilitate farmers.

Question 3: Since you received the support from the Project, do you have any change in your rice field and/or in your dairy life?

Answer:

- Yes, I had knowledge to grow rice and I have rice in my house.
- Yes, I save money for my family by cultivate rice.

Question 4: To what extent do you think the relationship with the extension officers (DRDO) has been so far with you?

Answer:

- We have no relationship with the extension officer, even no support. (2)
- The officers are not doing their job and there is no assistance from the DAL office.
- No good relationship. (2)

Question 5: To what extent do you think the relationship with the Provincial officers (Rice Extension Officer, Rice Program Officer, Agricultural Manager) has been so far with you?

Answer:

- The Project needs to be carefully assisted, but no support from officers.
- Lack of communication and lack of cooperation.
- They don't support in anything in rice farming project.
- I have been working by myself for a long time, I don't trust them because they don't show up to my village and work with me, I think those officers doesn't think well about us or our needs.

Question 6: As you are "Model Farmer", what kinds of activities have been carried out last one year? Please let me know the activities one by one.

Answer:

- Awareness training on pest & disease, Rice cycle, Soil improvement, Post harvest, Intercrop and Rice making milling and Windowing.
- Nothing has been carried out.
- I planted rice, and I gave some rice seeds and idea of planting rice, way to look out to rice for some people who came to my house and asked me. Also, I talked about the importance of "Kiser" for those people.

Question 7: Surrounding your rice land or neighboring areas, are there increasing farmers who started rice cultivation last 2 years?

Answer:

- Yes (113 members)
- Many interest and to do farming.
- No, the lost interest for planting rice.

Question 8: If the above No.7 answered "Yes", what are the reason behinds of rice farmers' increasing?

Answer:

- When they plant their own rice, they save money. And they also can sell and earn money locally.
- They have food for consumption and money to save.

Question 9: Are you willing to do a "Model Farmer" continuously hereafter or not? And also please give me a reason.

- Answer: Yes, I am preparing to continue my career as a rice model farmer continuously. I am interesting the presidential election, because of rice.
- Yes, because rice becomes out staple food, and also we may save money instead buying rice form stores.

Question 10: Finally, please tell me any suggestions or requests in relation to the Project.

Answer:

- We MF need financial support to facilitate the Project, Also refresher training and follow up and monitoring on the Project.
- Officer should visit the farmers more often. Farmers need financial assistance from the office to run awareness program around their respective wards/areas. And also needs further training if available.

2 Milne Bay

Answer of the Questionnaire for Model Farmers

Answer sheets: Total 48 (Milne Bay: 4)

Question 1: What kinds of supports from JICA Project you received? Please remember and let me know the supported items one by one. (e.g., equipment, inputs, training, etc) during Phase 2 (Since December 2011 to up to now May 2013).

Answer:

- Supported by training materials, rice seed, booklets, Hand-out.
- 2 bush knives, seeds, gum, boots, scale

Question 2: How do you utilize the above supported items? Please tell me the utilization and/or effects. (Are you likely to meet your expectation according to what you have received under the JICA Project so far?)

Answer:

- Now, I have put in into practical with rice extension and have achieved better results on harvest and production quality.
- The tool helps me to do my work.

Question 3: Since you received the support from the Project, do you have any change in your rice field and/or in your dairy life?

Answer: - Since then, I have being growing rice and helping other farmers.

Question 4: To what extent do you think the relationship with the extension officers (DRDO) has been so far with you?

Answer:

- No visits on the field by any officers or DRDOs.
- Not good

Question 5: To what extent do you think the relationship with the Provincial officers (Rice Extension Officer, Rice Program Officer, Agricultural Manager) has been so far with you?

Answer:

- I am happy and thankful with their agriculture advice, encouragement and hope that they will advise the RDRO to help us more.

Question 6: As you are "Model Farmer", what kinds of activities have been carried out last one year? Please let me know the activities one by one.

Answer:

- I am doing consultations, awareness, training and demonstration, seed distribution and farming.
- Field visit, Seed distribution, Awareness.

Question 7: Surrounding your rice land or neighboring areas, are there increasing farmers who started rice cultivation last 2 years?

Answer:

- Yes, rice farming has spread just covering north Good-enough island, parts of central and south and people are happy.
- Not many.

Question 8: If the above No.7 answered "Yes", what are the reason behinds of rice farmers' increasing?

Answer:

- The reason is to rice consumption and for sale, and farmers would want to go into farming cooperative.

Question 9: Are you willing to do a "Model Farmer" continuously hereafter or not? And also please give me a reason.

- Yes, I can help the PNG cut down in import of rice from overseas and help me save money.
- Yes, rice is my staple food, so I will continue to plant rice.

Question 10: Finally, please tell me any suggestions or requests in relation to the Project.

Answer:

- I strongly want to see; that as MF, I need to be supported by funding activities, because in a remote area or mountainous island having no roads I do most of my activities by walking miles across mountains to visit farmers in the south part of the Island, if need to be paid.
- Support MF with foods/tools to improve rice farming.

3 East Sepik

Answer of the Questionnaire for Model Farmers

Answer sheets: Total 48 (East Sepik: 22)

Question 1: What kinds of supports from JICA Project you received? Please remember and let me know the supported items one by one. (e.g., equipment, inputs, training, etc) during Phase 2 (Since December 2011 to up to now May 2013).

Answer:

- 1 Refreshing training, OISCA, RABAUL, 2012 (3)
- 2 No training during phase 2 (many)
- 3 No support as yet, new model milling center accessible by my field.
- 4 Nil, I myself, I bought one rice mill to my community. (MF since 2003)
- 5 Equipment: milling machinery (rice mill) established at my area & DDAL appoint me to oversee operation. (MF since 2002)
- 6 No direct support but could advance training information received through other MF. (MF since 2006)
- 7 Nil but utilize training gained from phase 1 Project to assist farming. (MF since 2001)

Question 2: How do you utilize the above supported items? Please tell me the utilization and/or effects. (Are you likely to meet your expectation according to what you have received under the JICA Project so far?)

Answer:

- Establish a 5 hectare model farm
- Yes, but due to hilly/mountainous farming land, I cannot some method be fully utilized.
- No support yet (many)
- Only rice support for seedling.
- Only indirect support by DDAL & I assist farmers in milling their rice.

Question 3: Since you received the support from the Project, do you have any change in your rice field and/or in your dairy life?

Answer:

- I plant rice and supplement other diet.
- Not really, but gradually adopting to improve my farming ways.
- I assist farmers and also created rain-fed field, and my family has rice to eat.
- I have a lot of rice available at any time, and improved yield, be able to meet other family it is needed.
- Not yet but could apply new techniques in my field in this cropping season in July- Nov.
- Since 2001, I assisted farmers & the rice production increased, bought one mill and still operation get income & eat my own rice. (MF since 2001)
- I have planted rice 2 to 3 times, but due to transportation problem for mill, quit for some rice.

Question 4: To what extent do you think the relationship with the extension officers (DRDO) has been so far with you?

Answer:

- My DRDO is supportive and he is always assists me and other farmers. he bought a hand tractor with recurrent funds. (many)
- Very good: always work closely with rice officer to implement Project activities. (many)
- Very good and continue to work together in rice development.
- Good, but the distance from village to office is very far.
- Fair, visit officer from time to time

Question 5: To what extent do you think the relationship with the Provincial officers (Rice Extension Officer, Rice Program Officer, Agricultural Manager) has been so far with you?

Answer:

- Very good, but always collaborate while attending programs in Maprik.
- Very good relationship with district (many)
- Same as above (many)

Question 6: As you are "Model Farmer", what kinds of activities have been carried out last one year? Please let me know the activities one by one.

Answer:

- Seed distribution, farmer meetings/awareness, field demos.
- Awareness & consultation on rice farming (many)
- Provide milling service
- Demonstration (cultivation & Post harvest)

Question 7: Surrounding your rice land or neighboring areas, are there increasing farmers who started rice cultivation last 2 years?

Answer:

- Yes, farmers increasing in surrounding villages
- Increase by farmer to farmer contact.
- More than 300 farmers currently
- Not many, but some are interested in 2013 to go into active rice farming.
- Increased 25 farmers
- Steadily increasing with current farmer number of more than 200.
- Farmer increased more than 100.

Question 8: If the above No.7 answered "Yes", what are the reason behinds of rice farmers' increasing?

Answer:

- Farmers eat more rice than any other foods; it is easy to prepare for meal than any other food.
- Rice is now a staple food and can store for long period.
- Save cost on rice purchasing
- Children eat more rice and more demand for rice consumption.

Question 9: Are you willing to do a "Model Farmer" continuously hereafter or not? And also please give me a reason.

- Yes, because if I do not, my farmers may lose interest in smallholder rice farming.
- Rice becomes stable food for consumption and cash crops that will continue.
- Yes, because I want to help my community and my family. (3)
- Village people are applying rice, therefore, I am willing to continue to provide technical/moral support.
- I am willing, but due to my age (older), I am planning to send one of my kids to go for training and take up my work.

Question 10: Finally, please tell me any suggestions or requests in relation to the Project.

Answer:

- Request farming machinery(hand tractor, manual seeder, threshers. etc) & Project vehicles (many)
- Regular consultation by C/P
- I require advance training on rice (soil improvement, etc), Appropriate technology in mechanized farming (rice direct seeder, etc).(many)
- MF exchange program with other participating provinces (3)
- Feeder farmer (stock feed) in order to utilize rice brain (2)
- Training feed formulation (lot of rice brain & require knowhow to make feed)

4 Madang

Answer of the Questionnaire for Model Farmers

Answer sheets: Total 48 (Madang: 16)

Question 1: What kinds of supports from JICA Project you received? Please remember and let me know the supported items one by one. (e.g., equipment, inputs, training, etc) during Phase 2 (Since December 2011 to up to now May 2013).

Answer:

- 1 Training, OISCA, RABAU, 2006 (3) & 2003-2005 (1)
- 2 Only training in Phase 1
- 3 Receiving training since 2007 regarding on awareness, demonstration, seeds.
- 4 No support from JICA
- 5 No assistance was given from any organization

Question 2: How do you utilize the above supported items? Please tell me the utilization and/or effects. (Are you likely to meet your expectation according to what you have received under the JICA Project so far?)

Answer:

- Helping with knowledge of rice to teach other farmers.
- My expectation to increase farm size but shortage of land.
- Increase farm size, continue cultivating each planting seasons.
- I utilize by teaching and trained the new farmers.
- Utilize a whole farming system, I was instructed to 1 hector of land, and had done my activity plan.
- Disseminate the knowledge & skills on rice cycle to other farmers.(many)

Question 3: Since you received the support from the Project, do you have any change in your rice field and/or in your dairy life?

Answer:

- Growing rice for own family consumption
- Not much (many)
- No any change in my dairy life, and I still using shifting cultivation to plan rice and other crops.
- Increase farm size

Question 4: To what extent do you think the relationship with the extension officers (DRDO) has been so far with you?

Answer:

- OK, Fine relationship (many)
- No close monitoring with officers, because too many excuses of fuel and transport problem
- DRDO's in my district are not working closely with MF's and monitoring.

Question 5: To what extent do you think the relationship with the Provincial officers (Rice Extension Officer, Rice Program Officer, Agricultural Manager) has been so far with you?

Answer:

- OK, Fine relationship (many)
- No enough support, many gives to many plan, but no actual implementation.
- Rice extension program is going well between provincial levels, because they are monitoring farmers, collecting MF's report and others.

Question 6: As you are "Model Farmer", what kinds of activities have been carried out last one year? Please let me know the activities one by one.

Answer:

- Awareness, training (help), seed supply (many)
- As MF, the activities had been done like distributing of rice seeds, consultation visit,

- demonstration of threshing, drying, testing of seeds for milling and seeds for planting.
- Only rice seed
- Seed distribution, demos on harvesting, threshing.

Question 7: Surrounding your rice land or neighboring areas, are there increasing farmers who started rice cultivation last 2 years?

Answer:

- No, too many problem issues as like lazy to grow, too many other family commitment. (2)
- Yes last 2 years the cultivation of rice has been so far increasing from 50 % to 70%.
- Rice farmer decreased due to no milling service, not concentrate on rice farming, need a lot of processing and need labour to produce big amounts.
- Only a small group of farmers have shown interests in the last 2 years, but they think its hard work and want a tractor with plough to dig up the land and they will plant.

Question 8: If the above No.7 answered "Yes", what are the reason behinds of rice farmers' increasing?

Answer:

- The price of imported rice was increased.
- This is due to high demand of rice, easy and can last long for own consumption.

Question 9: Are you willing to do a "Model Farmer" continuously hereafter or not? And also please give me a reason.

Answer

- Since farming has been my life and I always happy assisting others.
- Yes, to pass KAS (Knowledge, Attitude, Skills) to other farmers.
- Rice is staple food within my family, and I and my family can cultivate as normal gardening.

Question 10: Finally, please tell me any suggestions or requests in relation to the Project.

Answer:

- Need support from government in terms of knowledge, equipment, officers must work closely with MF to make there a "Model" to other farmers because at the moment, we are just simple farmers like everybody same.
- Support rice machinery(thresher, rice mill, power tiller, etc)
- I suggest JICA support us much longest serving model farmers seek financial assistance from national government to continue into semi-commercial rice farming. The rural people are more interested in money making than food security.
- I have resigned from police this year and I am going back to rice farming to continue in my garden in doing awareness, trainings promoting rice farming in my village, district and province. To work closely with LLG, district, province and national/DAL officers, and other counterparts in food security.
- Request farming machinery (power tiller)
- My labour input limited, so negotiating with nearby Bible training School to assist to increase my farm size and give the school portion of lands to grow their own rice for school consumption.
- To give allowance for MF if possible.
- Assist MF in financially or grant for a bank loan.
- DAL must promote farm tractor with modern technology, not using digging sticks and hoes be discouraged.

6. 合同中間レビュー調査報告書

**JOINT MID-TERM REVIEW REPORT
FOR THE PROJECT ON PROMOTION OF SMALLHOLDER RICE
PRODUCTION
IN THE INDEPENDENT STATE OF PAPUA NEW GUINEA (Phase 2)**

Port Moresby, September 25th, 2013

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I EVALUATION OF THE PROJECT

I-1 Objectives of the Mid-term Review

The Mid-term Review for the Project on Promotion of Smallholder Rice Production (Phase 2) (hereinafter referred to as “the Project”) is conducted to serve the following objectives:

- 1) To find the degree of achievement and implementation process of the Project according to the Project Design Matrix (hereinafter referred to as “the PDM”) and Plan of Operation (hereinafter referred to as “PO”) as shown in Annex 1 and Annex 2 respectively.
- 2) To evaluate the Project according to the five evaluation criteria (relevance, effectiveness, efficiency, impact, and sustainability).
- 3) To identify the promoting factors and impeding factors of achievements of the Project, and to draw lessons learned from the Project.
- 4) To review the project framework and to make recommendations on necessary measures for the successful implementation, if necessary, by Japanese side and Papua New Guinean side for remaining project period; and
- 5) To present the results of the evaluation in form of a Joint Mid-term Review Report (hereinafter referred to as “the Report”)

I-2 Methodology of the Mid-term Review



(1) Joint Review Evaluation

The Project was jointly evaluated by the Papua New Guinean and Japanese Mid-term Review Teams in accordance with the Record of Discussions (hereinafter referred to as “R/D”), the PDM and the PO. The evaluation activities, including report analysis, field surveys, and interviews with staff of relevant institutions, beneficiaries, Japanese experts and other concerned personnel of the Project, were conducted based on the Five Evaluation Criteria described in the following section. The Joint Mid-term Review Team (hereinafter referred to as “the Team”) was composed three (3) members from the Papua New Guinean side and four (4) members from the Japanese side who were not directly involved in the Project implementation.

(2) Five Evaluation Criteria

The evaluation is preceded along with the following five criteria, which are the major points of consideration when assessing development projects.

- 1) **Relevance:** Relevance is to question whether the project purpose and overall goal are still in line with the priority need and concerns at the time of evaluation.
- 2) **Effectiveness:** Effectiveness concerns the extents to which the project purpose has been achieved, or is expected to be achieved, in relation to the outputs produced by the projects.
- 3) **Efficiency:** Efficiency is a productivity of the implementation process: how efficiently the

various inputs were converted into outputs.

- 4) Impact: Impact is any intended and unintended, direct and indirect, positive and negative change that is brought about as a result of the Project.
- 5) Sustainability: Sustainability of the development projects is to question whether the project benefits are likely to continue after the external aid has come to an end.

(3) Sources of Information Used for Review Evaluation

Before commencing the field study in PNG, the Team collected and analyzed existing documents related to the Project as the following information. The Team then prepared an Evaluation Grid which summarized evaluation questions for the Review as shown in Annex 3.

Following sources of information were used for this Review study.

- 1) Project planning documents such as R/D, PDM, Minutes of Meeting (hereinafter referred to as "M/M") and PO
- 2) Bi-annually periodical reports of the Project
- 3) Record of inputs and its utilization
- 4) Project documents on the progress and achievements of the Project
- 5) Interviews and discussions with the Japanese experts and JICA volunteers
- 6) Interviews and discussions with the counterpart personnel, Provincial administrators, Model Farmers (hereinafter referred to as "MF (s)") and other concerned personnel of the Project
- 7) Field visits to the target areas and discussion with the beneficiaries

I-3 Limitations of the Review

There have been the following limitations in this Review study, which may have somewhat influenced the results.

- 1) The Review was conducted in a limited time, thus there may have been any aspects which could not thoroughly be reviewed or analyzed.
- 2) The coverage of the interviewees is also limited to a part of the entire group of relevant personnel and beneficiaries of the Project, which implies the possibility that some findings may be skewed, reflecting the subjective opinions of the particular interviewed individuals.
- 3) Some of the data obtained from the Project are also based on the limited number of samples, which may have influenced the analysis of the tendencies.
- 4) Some of the Team members could not participate in some part of the Review, which created some gaps among individual members in terms of the understanding on and assessment of the achievements of the Project which are derived from field interviews and observations.
- 5) The lack of pre-briefing of the Project details to the mid-term review team on PNG side before

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undertaking the mid-term review may have skewed questionings and outputs from PNG-side of the review team on the review.

I-4 Members of the Joint Mid-term Review Team

The Team members and the role of each member are summarized in Table 1.1. The Papua New Guinean side members were assigned by the commencement of the Mid-term Review.

Table 1.1: Main Roles of Review Members

Assignment	Main roles	Members	
		JICA Side	Papua New Guinea side
Team Leader	(1) Overall Supervision of the Team	Mr. Koji SUMIDA (Senior Advisor to the Director General, JICA)	Mr. Tony Yedu (Senior Monitoring & Evaluation Officer, Monitoring and Evaluation Division, DNP&M)
	(2) Technical Evaluation of the Project		
	(3) Preparing recommendations for improving the Project Implementation		
	(4) Reporting the result to the JCC together with other members on behalf of the Team		
Extension Control	(1) Suggestion of study procedures on the assigned technical fields.	Mr. Koji SUMIDA (Senior Advisor to the Director General, JICA)	Mr. Paul Kil (Acting Director, Compliance and Monitoring and Evaluation, NDAL)
	(2) Data collection including conduct of interviews and focus group discussions with Project counterparts		
	(3) Consolidation and analysis of data collected from Project counterparts and from field surveys on the assigned technical fields.		
	(4) Conduct Examination of the Project achievements and the implementation processes and Evaluation of the Project with five criteria from the technical viewpoints.		
	(5) Suggestion of advices and lessons learned		
	(6) Support other Team members for the preparation of the report to the JCC		
Rice Cultivation	(1) Suggestion of study procedures on the assigned technical fields.	Dr. Tadashi TAKITA (Training Advisor, JICA Tsukuba, JICA)	
	(2) Data collection including conduct of interviews and focus group discussions with Project counterparts		
	(3) Consolidation and analysis of data collected from Project counterparts and from field surveys on the assigned technical fields.		
	(4) Conduct Examination of the Project achievements and the implementation processes and Evaluation of the Project with five criteria from the technical viewpoints		
	(5) Suggestion of advices and lessons learned		
	(6) Support other Team members for the preparation of the report to the JCC		
Evaluation Manage-	(1) Coordination of study activities for the Japanese side	Mr. Kenji KANEKO	Mr. Dan Lyanda (Aid coordinator, JICA)

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ment	(2) Support of other Evaluation Team members for the preparation of the report to the JCC	(Advisor, Paddy Field Based Farming Area Division 1, Rural Development Department, JICA)	Desk, Bilateral Branch, Foreign Aid Division, DNP&M)
Evaluation and Analysis	(1) Preparation of Mid-term Review Plan including Evaluation grid and survey instruments	Mr. Akira MATSUMOTO, (President, A & M Consultant Limited)	
	(2) Data collection including conduct of interviews and focus group discussions with Project counterparts		
	(3) Consolidation and analysis of data collected from Project counterparts and from field surveys		
	(4) Evaluation of the result of the above activities based on five criteria		
	(5) Preparation of draft and final reports and summary sheet		

I-5 Schedule of the Joint Mid-term Review

The Review was conducted from September 7th to September 28th, 2013. The detailed schedule is attached as ANNEX 4.

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II OUTLINES OF THE PROJECT

II-1 Background of the Project

Agriculture sector sustains the livelihood of approximately 80 % of the population in Papua New Guinea (hereinafter referred to as "PNG"). Most of the agricultural products are produced by small-scale farmers cultivating cash crops such as copra, coffee, cacao and so on. PNG used to produce its own food at subsistence level. In recent years, there has been an increase in the demand for imported food such as grains and meat. This is due to increased population growth, urbanization and industrial development, and dietary patters have been changing. In particular, there has been a gradual increase in consumption of rice and it has become a staple food in urban areas as well as rural areas. However, most of the rice requirement is imported to meet the demand for rice consumption. It is estimated that annual rice import stands at 200,000 tons per year valued at more than K400 million. The cost of imported rice is a burden to subsistence farmers.

Under such situation, the National Department for Agriculture and Livestock (NDAL) formulated the National Rice Policy for promoting rice production and the National Food Security Policy, and set up the Rice Extension Unit (REU) in the Food Security Branch (FSB) in NDAL for the promotion of rice cultivation in cooperation with provincial governments.

The technical cooperation project for Promotion of Smallholder Rice Production (hereinafter referred to as "Phase 1") was conducted in East Sepik province and Madang province between 2003 and 2008 contributed:

- 1) to systematize and improve small-scale rice cultivation techniques consisting of the cultivation management of upland rice with low input, the post-harvest utilizing manual rice milling machine, the self-production, the conservation of rice seeds, and the establishment of "rice cycle" as a subject matter to transfer cultivation techniques at smallholder level,
- 2) to introduce 'farmer to farmer extension methods' utilizing MF approach,
- 3) to assign ordinary farmers and to train them to become MFs, and
- 4) to establish the extension services by provincial governments through the development of the support system of MFs, strengthening of public milling service stations and the distribution of rice seeds for small-scale farmers, strengthening of policy implementation and its function through the establishment of REU and formulation of guidelines.

In addition, the capacity development of the staff members of NDAL who are engaged in the promotion of extension services of rice cultivation in terms of planning and monitoring of extension of rice cultivation, and the development of report.

As a result of above-mentioned activities, under the initiative of the target provinces as East Sepik and Madang provinces, the extension system of rice cultivation through the MF approach was established securing their own budget for the promotion of rice cultivation. Thereafter, in 2008 two provinces (Manus and Milne Bay) were added by NDAL as the target provinces for the extension of

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small-scale rice cultivation.

As the extension of rice cultivation expanded, so the rice yield has been decreasing due to the damages caused by the pests and the shortening of fallow period, MFs required taking necessary measures to attend to above-mentioned technical issues.

Due to the lack of information on the MFs' activities in the target provinces of Phase 1, it was necessary to improve the monitoring of the MFs' activities and its support system in order to grasp the actual conditions on the extension of rice cultivation and formulate the administrative measures precisely. In this matter, it was required to improve the MF approach and support system introduced by the Phase 1, and to introduce its approach and supporting system to target provinces newly established.

Although there were strong demands for not only manual rice milling but also the mechanical rice milling in public and private milling service stations, there are many unstable rice milling machines for the operation due to the operation and maintenance of rice milling machines in rural villages. The model public milling service stations were improved and the practical manuals were developed, there are necessity to prepare the technical guidance such as repair of the rice milling machine and its maintenance, and the operation guideline for improving the services introducing appropriate rice milling machines in accordance with the local capacity.

In addition, in regard to the system of the public administration, the extension system of rice cultivation of the central government (NDAL) was established in the Phase 1, the lack of precise statistical data concerning the rice cultivation is obstacle to implement the National Food Security Policy as the next stage. On the other hand, there are some problems such as the lack of coordination between NDAL and local provinces based on the decentralization, and common guidelines for extension, is necessary to strengthen the execution continuously.

Under the circumstances, NDAL has not enough capacity and system to solve the existing problems by one's own efforts due to lack of system and organization to disseminate in the whole country.

Taking into consideration the situation mentioned above, the Government of Papua New Guinea (hereinafter referred to as "GoPNG") requested a technical cooperation project on Promotion of Smallholder Rice Production (hereinafter referred to as "Phase 2") to Japan on July 2007 for the purpose of further extension of small-scale rice cultivation through the MF approach and its expansion.

The Project is being conducted through dispatching two JICA experts (Chief Advisor/Extension Planning Control and Coordinator/ Strengthening of Administration) carrying out supplementary training for staff and MFs in the respective selected provinces, the activities conjunction with the administration of model milling stations (milling service) to identify existing issues and to study the measures necessary for improvement, and baseline survey on nationwide.

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In response to the request made by the GoPNG, the detailed planning survey team was dispatched by JICA to PNG for discussing the framework of the Project from March to April, 2011 and the Project was launched in December in the same year to be implemented until May 2015 for 3.5 years. Since the Project has reached the halfway point, the JICA has determined to conduct a mid-term review from September 8 to September 27, 2013.

II-2 Summary of the Project

- (1) Project Title: The Project on Promotion of Smallholder Rice Production (Phase 2)
- (2) Implementing Organization: Department of Agriculture and Livestock (DAL)
- (3) Project Duration: December 2011 –May 2015 (3.5 years)
- (4) Target Areas (four provinces)
 - East Sepik Province
 - Madang Province
 - Manus Province
 - Milne Bay Province
- (5) Target Group
Smallholders in the target areas
- (6) Overall Goal: Rice farmers and rice production are expanded sustainably in the target provinces.
- (7) Project Purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.
- (8) Outputs
 1. By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system* is improved.
 2. The existing mechanical milling service of public and private milling service station is improved.
 3. Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.

*A “support system” is a local government initiated inputs and services given to MFs to successfully carry out the farmer to farmer extension activities (FTFEA) based on MFs’ plan.

III ACHIEVEMENT AND IMPLEMENTATION PROCESS

III-1 Summary of Inputs

The following is the summary of inputs provided for the Project implementation by the time of the Mid-term Review.

1.1 Inputs from Japanese Government

(1) Dispatch of Japanese Experts

(Long-term)



No	Name of Expert	Field of Expertise	Duration of Assignment
1	Tatsuo FUJITA	Chief Advisor/Extension Planning Control	10/12/2011 - 07/07/2012 18/08/2012 - 12/02/2013
2	Masakazu KANAMOTO	Chief Advisor/Extension Planning Control	07/05/2013 - 03/10/2013 02/11/2013 - 23/12/2013
3	Shigeo WATANABE	Project Coordinator/Reinforcing Administration	22/01/2012 - 19/01/2014

(Short-term)

No	Name of Expert	Field of Expertise	Duration of Assignment
1	Noboru IWANO	Postharvest Technology	05/06/2012 - 22/11/2012
2	Kazunari TSUCHIYA	Soil Science and Plant Nutrition	17/11/2012 - 01/12/2012
3	Masaya MATSUMURA	Insect Pest Control	16/02/2013 - 09/03/2013
4	Noboru IWANO	Postharvest Technology	20/04/2013 - 20/07/2013

(2) Seminars, Workshops or Trainings conducted in Papua New Guinea

No	Name of C/Ps	Field of Expertise	Name of training Course	Duration of Training	
				From	To
1	Mr.Pius NUMBATAI	Coordination of implementation and technical matters in E. Sepik	Advance MF Training	29/11/2012	02/12/2012
2	Ms.Mary LILIH	Coordination of implementation and technical matters in Madang	Advance MF Training	29/11/2012	02/12/2012
3	Mr.Paul BULEI	Coordination of implementation and technical matters in Manus	Advance MF Training	29/11/2012	02/12/2012
4	Mr.Jonathan KAPOILA	Coordination of implementation and technical matters in Milne Bay	Advance MF Training	29/11/2012	02/12/2012



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(3) Provision of Equipment

No	Date of Arrival	Description of Equipment			Q'y
		Item	Manufacture & Model Number	R/P	
1	01/03/12	Laptop Computer	Acer Aspire 3830T	L	1
2	09/03/12	Laptop Computer	Acer TM5760T	L	1
3	01/03/12	Projector	Acer P3251	L	1
4	01/03/12	Laser Printer	HP LaserJet CP2015	L	1
5	14/03/12	Photocopy Machine	Toshiba e-Studio 182	L	1
6	13/07/12	4WD Double-cab Pick-up Truck	Mazda BT-50 4WD	L	1
7	25/07/12	4WD Double-cab Pick-up Truck	Mazda BT-50 4WD	L	1
8	26/07/12	4WD Double-cab Pick-up Truck	Mazda BT-50 4WD	L	1
9	03/11/12	Compact pH Meter	HORIBA B-712	E	1
10	25/02/13	Stereoscopic Microscope	NIKON SMX745	E	1
11	25/02/13	Photo micrographic camera set	SONY NY1S-NEX5NY	E	1
12	11/03/13	Rice Milling Machine w/spare parts	Yanmar YMM20	L	4
13	11/03/13	Rice Milling Machine w/spare parts	Hosokawa MR1900E (w/transformer)	L	2
14	11/03/13	Rice Milling Machine w/spare parts	Hosokawa R1900EN (w/transformer)	L	2
15	23/03/13	Portable Video Camera	Panasonic HDC-HS80	L	1
16	09/05/13	Rice Milling Machine	Hosokawa RC-301 (engine driven)	E	1

*R/P: Route of Procurement (J: From Japan, L: Local, E: With Expert)

(4) JICA Contribution on Expenditure

Budget Item	Budgetary Year			Total Amount
	JFY2011* (Jan-March '12)	JFY2012*	JFY2013* (as of June '13)	
Local activity cost in general	95,997.76	278,175.71	73,730.52	447,903.99
Local activity cost for Adv. MF training		97,923.80		97,923.80
Total	95,997.76	376,099.51	73,730.52	545,827.79

* JFY: Japanese Fiscal Year, April – March

1.2 Inputs from PNG Government

(1) Assignment of Counterpart Officers

No	Name of Counterpart Personnel	Position / Organization	Field of Expertise	Duration of Assignment	
				From	To
1	Mr. Francis DAINK	Deputy Secretary, DAL Project Director	Administration	12/2011	01/2013
				03/2013	05/2013
2	Mr. Mawe GONAPA	Deputy Secretary, DAL Project Director	Administration	01/2013	03/2013
				05/2013	now

3	Mr. Brown KONABE	Director, Food Security Br. Project Manager	Food Security	12/2011	now
4	Mr. Verave GAVALI	Project Coordinator, Rice Extension Unit (REU)	Coordination of implementation	12/2011	now (on sick leave from Aug. '13)
5	Mr. Heai Steven HOKO	Staff, REU	Irrigation, Soil, Training	12/2011	now (Ag. Project Coordinator from Aug.)
6	Ms. Miriam JOHN	Staff, REU	Grain Agronomy, Monitoring	12/2011	now
7	Mr. Brian NIME	Staff, REU	Rice Milling Service	12/2011	11/2012
8	Mr. Godfried SAVI	Advisor, PDAL, Madang Province	Administration and Management in Madang Province	12/2011	now (suspended from Aug. '13)
9	Mr. Edward LIRU	Advisor, PDAL, East Sepik Province	Administration and Management in East Sepik Province	12/2011	07/2012
10	Mr. Kevin Hawan	Advisor, PDAL, East Sepik Province	Administration and Management in East Sepik Province	07/2012	now
11	Mr. Benedict BULUNGOL	Advisor, PDAL, Manus Province	Administration and Management in Manus Province	12/2011	08/2012
12	Mr. John Lale	Advisor, PDAL, Manus Province	Administration and Management in Manus Province	08/2012	now
13	Mr. James DUKS	Advisor, PDAL, Milne Bay Province	Administration and Management in Milne Bay Province	12/2011	now
14	Mr. Mary LILIH	Provincial Food Security Coordinator, Madang	Coordination of implementation and technical matters in Madang	12/2011	now (Ag. PDAL Advisor from Aug.)
15	Mr. Pius NUMBATAI	Provincial Rice Officer, East Sepik	Coordination of implementation and technical matters in E. Sepik	12/2011	now
16	Mr. John MALEMALU	Provincial Food Security Coordinator, Manus	Coordination of implementation and technical matters in Manus	12/2011	10/2012
17	Mr. Paul BULEI	Provincial Rice Officer, Manus	Coordination of implementation and technical matters in Manus	10/2012	now
18	Mr. Jonathan KAPOILA	Provincial Food Security Coordinator, Milne Bay	Coordination of implementation and technical matters in Milne Bay	12/2011	now

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(2) PNG Government Contribution on Expenditure

Central Government Contribution on Expenditure

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Expenditure from NDAL	299,944.00	500,000.00	1,000,000.00	1,799,944.00
Total	299,944.00	500,000.00	1,000,000.00	1,799,944.00

Provincial Government Contribution on Expenditure (EAST SEPIK)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	90,000.00	97,000.00	115,000.00	302,000.00
Total	90,000.00	97,000.00	115,000.00	302,000.00

Provincial Government Contribution on Expenditure (MADANG)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	60,000.00	50,000.00	70,000.00	180,000.00
Total	60,000.00	50,000.00	70,000.00	180,000.00

Provincial Government Contribution on Expenditure (MANUS)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	125,000.00	125,000.00	450,000.00	700,000.00
Total	125,000.00	125,000.00	450,000.00	700,000.00

Provincial Government Contribution on Expenditure (MILNE BAY)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	70,000.00	220,000.00	359,000.00	649,000.00
Total	70,000.00	220,000.00	359,000.00	649,000.00

III-2 Achievement of the Project

2.1 Achievement of the Project

(1) Summary of Activities

The Project Activities have been carried out according to the PDM and PO. A number of achievements have been materialized as a result of the Project planned activities that are to be

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reviewed in due course of this Report. Through the Project implementation, a variety of project documents and products has been materialized as shown in Annex 5.

(2) Achievement of the Outputs

Output 1	By conducting supplementary training for MFs and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.	
	Indicator (PDM Ver. 1.1)	Achievement Level & Prospects
1-1	Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others	•Applicability and feasibility of the improved monitoring plan(s) are under verification.
1-2	Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts	•No district has yet adopted improved monitoring plan.
1-3	Number of the MF who received the supplementary training: 170	•20 MF has received the supplementary training.
1-4	Number of the MF supplementary training that is conducted with local resource persons of the Provinces: 12	•No MF supplementary training has been conducted within the Province. However, basic and upgrading MF training on rice farming techniques has been conducted by initiatives of the respective provincial governments.
1-5	Number of supplemented training modules (units) for MF: 10	• 10 units of training modules* have been created.
1-6	Number of Provincial staff who received the supplementary training: 4	• 4 Provincial staff has received the supplementary training In addition to that, initiatives of respective provincial government, additional training has been conducted.

Overall Achievement and Prospect for Output 1:

- Limited activities for Output 1 have been carried out by the time of the Mid-term Review.
- The achievement level for Output 1 is still low at this stage due to the expansion of the target areas and numbers of stakeholders. MF and also farmer training on rice farming was conducted by the initiatives of some targeted provincial government.
- And, the provincial officers who have received the practical training has started their extension works to MF and surrounding farmers in collaboration with experts and volunteers.
- The monitoring system aims to collect basic data and record on rice situation, and also the system can be utilized to counseling and advise to the smallholder farmers when they faces a range of problem and anxiety. However, the system is not functional yet due to the relationship between extension officers and farmers and weak institutional structure such as province with district/LLG, district/LLG and farmers.

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* Unit title of training modules = Unit 1 (Sharing Experience), Unit 2 (Area Profile and Action Plan), Unit 3 (Rice Variety Selection), Unit 4 (Quality Seed Production), Unit 5 (Soil & Water Management), Unit 6 (Pest Control), Unit 7 (Disease Control), Unit 8 (Postharvest Processing), Unit 9 (Extension Method) and Unit 10 (Evaluation).

Output 2	The existing mechanical milling service of public and private milling service stations is improved.	
	Indicator (PDM Ver. 1.1)	Achievement Level & Prospects
2-1	Number of the machines that are reviewed: 80% or more of functioning ones in the public stations	• 100% of rice milling machine has been reviewed in the public stations.
2-2	At least two kinds of the milling machines are identified for recommendation.	• Three (3) kinds of milling machine have been recommended.
2-3	Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs	• Improvement plan has been tested in 4 target provinces.
2-4	Number of the model milling machines that are delivered and go in service: 8 units	• Four (4) sets of milling machine have been delivered and under testing (Yanmar & Hosokawa).
2-5	Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Madang No.2 in Madang, Hayfield in East Sepik, Tamat Station in Manus, Bubuleta in Milne Bay	• No verification on the volume of paddy rice received, recovery rates and improved milled rice quality.

Overall Achievement and Prospect for Output 2:

- According to the project plan, the existing mechanical milling service was investigated and identified the situation of the services. At the same time, a number of the model milling machines were delivered, so hereafter the milling machine will be set up, and then it is expected to operate and monitor the service.

Output 3	Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.	
	Indicator (PDM Ver. 1.1)	Achievement Level & Prospects
3-1	Accumulated number of the districts that provide information collected: 33 districts from 2012 to 2014	• Total of more than 60 districts in nationwide (All the 17 districts in four target provinces) have been provided the Project information through Provincial Office.
3-2	Accumulated number of the newsletters published: 11	• Five (5) issues of the newsletters have been published.
3-3	Number of active members of the taskforce for the extension service guideline: 6	• Although the members of taskforce were nominated by the Project, the

		taskforce for the extension service guideline has not been set.
3-4	Number of active members of the taskforce for the mechanical milling service guideline: 6	• Although the members of taskforce were nominated by the Project, the taskforce for the mechanical milling service guideline has not been set.

Overall Achievement and Prospect for Output 3:

- A number of newsletters have been published and delivered, however, the guidelines ~~taskforce~~ for the extension service and ~~as well as~~ mechanical milling service has not been produced. ~~guideline has not been set.~~
- The rice policies by REU and Food Security Branch in NDAL have been implemented, but the numbers of human resources who engage in rice promotion are quite limited. Due to the non-existence on the taskforce for the extension service guideline and also mechanical milling service guideline, it has is not started the formulation of new ~~next~~ rice policy and development papers.

(3) Prospect of Achieving the Project Purpose

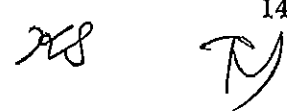
The prospect for the achievement of the Project Purpose is summarized below.

Project Purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.

OVI (PDM Ver. 1.1)	Achievement Level and Prospects
(1) Number of farmers growing rice for their home consumption for the last three years becomes over 15,590 in the four target provinces in 2014/15 season.	• Some basic data is available, but no current and reliable data of agricultural households (farmers) is officially reported from provinces. Based on the results on baseline survey, it may need to reconsider the indicator.
(2) Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved.	• No report yet.
(3) Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more	• Two (2) staff are capable of conducting training on rice farming sufficiently, however, there has been some but available of hands-on practical training in provincial level (provincial and also MFs).
(4) Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees	• No record on the MF training
(5) Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved	• No proper data is available. The milling service is just starting now.
(6) Over 16,000 farmers receive guidance from MF trained by the Project.	• Due to non-recording by farmers, there are no data available at the time on Mid-term Review.

Overall achievement and prospect:

- Since the project activities started in hand less than 2 years, it was not possible to conclude the

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achievement level at this stage since most activities under the Project are still in progress.

- According to the results of questionnaire and interviews with the Project C/Ps, experts and MF members conducted during the review study, most of them had opinion that MF Approach is right way in the PNG, and very adoptable.
- However, its support system in the target provinces was still weak and it has been no report and no data collected due to the ineffective insufficient monitoring system.
- Regarding to the unknown number of rice farmers and rice production due to monitoring and reporting system and method of data collection collect data method, it is should reconsider the system and target.

2.2 Project Implementation Process

The implementation system and structure of DAL are shown in a diagram below.

The Japanese Experts has been closely working with C/P belonging to NDAL and PDAL. Joint Coordination Committee (JCC) has been formed and the JCC meetings were held once a year, in which the progress and planned activities of the Project were shared.

Most problems arisen in relation to the activities have been solved either through daily communications with C/P or JCC meetings. The Team observed a good relationship has been established between Japanese Expert team and PNG C/P officers, however, the relationship between NDAL and PDAL/districts are still weak due to communication difficulties and frequent staff replacement.

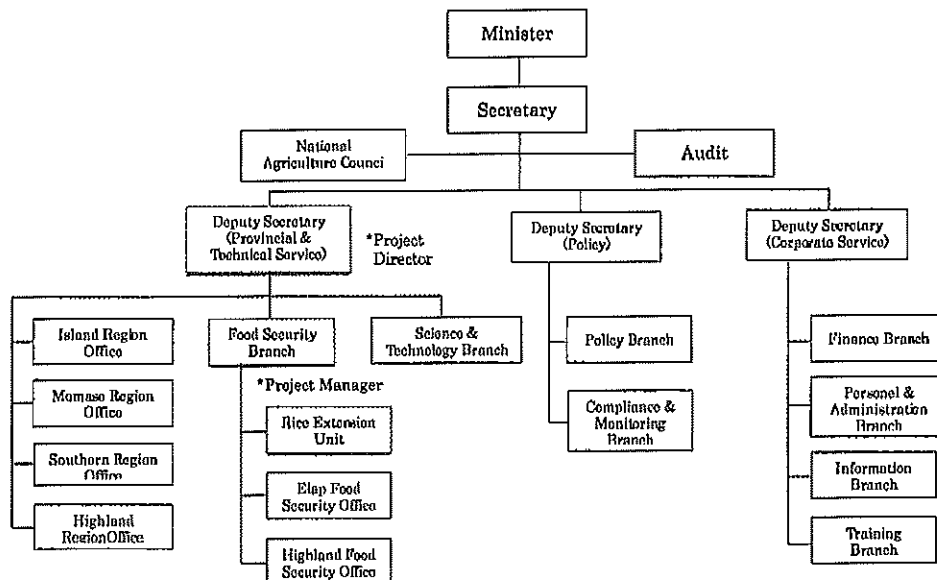


Chart 3.1: Implementation system and structure of DAL

The Project on Promotion of Smallholder Rice Production (Phase 2)
Institutional Framework

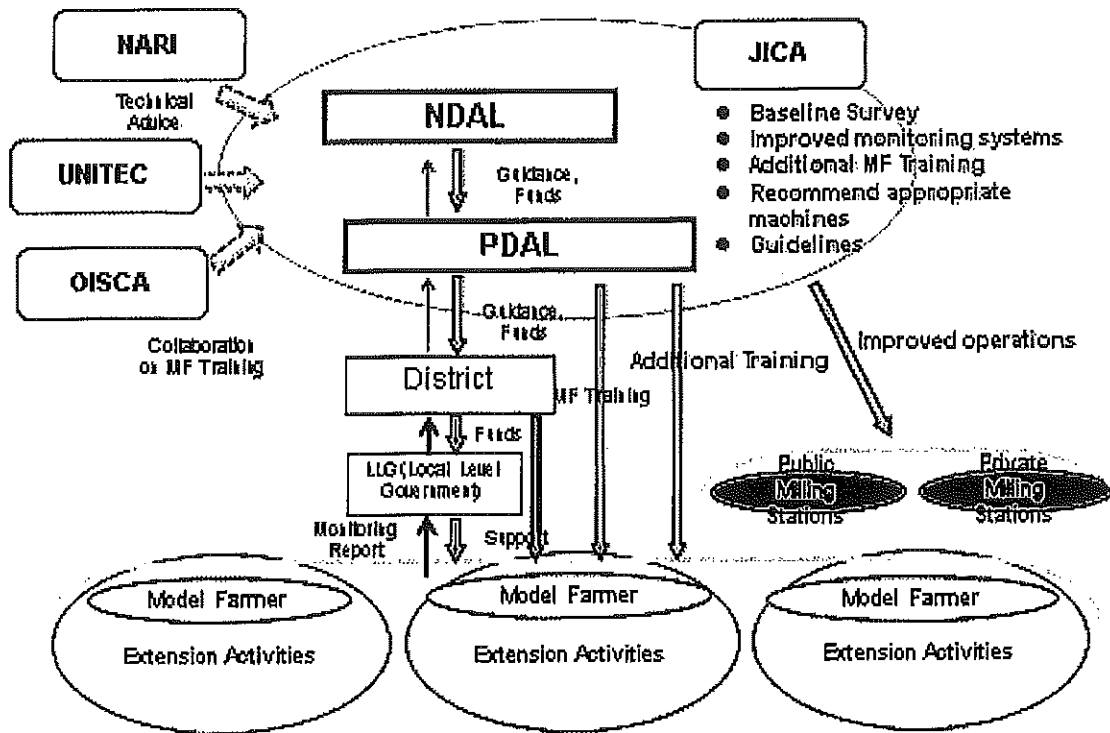


Chart 3.2: Institutional Framework of the Project

IV RESULTS ON REVIEW BY FIVE CRITERIA

Through the Review study, the Team jointly assessed the Project’s relevance, effectiveness, efficiency, impact and sustainability.

IV-1 Relevance

The relevance of the Project is high.

(1) Relevance to policies of the GoPNG

The National Food Security Program (2000-2010) and PNG Rice Development Policy (2004-2014) were prepared by the NDAL and later endorsed by the National Executive Council (NEC) and/or Prime Minister. At present, these two main national policies clearly constitute a fundamental base to promote the domestic rice production by all the smallholders, institutions and semi-commercial entities in the whole country.

Within national food security and rice policy endorsed the concept of total rice self-sufficiency and recognized that rice self-sufficiency as the principle way to achieve food security in PNG.

Toward this strategy and policy, the purpose of the Project is to meet the need of smallholder

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farmers to produce rice locally for self-consumption and better nourishment like other staple foods such as yam, taro, banana etc. and thus to reduce farmers' expenditures on rice and to supplement seasonal food shortage in rural areas. At the national level, increase in self-production and self-consumption of rice will contribute to decrease of expenditures on rice import. Furthermore, practice of rice self-production will provide effective food security measures against possible drastic population increases in the future.

(2) ODA policies of the GoJ (Government of Japan)

One of the three priority areas of the Japan's ODA policy to PNG is "Strengthening of the Foundation of Economic Growth". Within this area, agricultural is one of important issues.

Overall end is the achievement of sustainable economic growth and improvement of the living standard by strengthening basic socio-economic foundation.

Similarity, the Country Program of JICA for PNG also emphasize the "Strengthening of Economic Activities" with a cooperation program on "the improvement of industrial promotion" as one of the priority issues. Therefore, the Project is in conformity to priority assistance subjects of the GoJ, and considered to be quite consistent with the Japanese aid policy and alignment with PNG national policy.

IV-2 Effectiveness

The effectiveness of the Project is predicted moderate at the time on the Mid-term Review.

The smallholder farmers in the target areas, especially MFs in the new provinces under the Project are expected to acquire new skills and knowledge for sustainable rice farming within their own capability and creativity. On the other hand, Provincial governments are expected to provide support systems for the farmers that will enable them to realize sustainable rice farming activity.



At the current stage, the achievement of the Project will depend on substantially on performance by the target areas in each province especially when driving the supporting system for the MF into a sufficient level, and also the MF willingness and confidence for rice farming.

At this moment, the supporting systems at provincial level are very weak, and not yet fully functional as well as farmers are still learning process on rice farming.

Therefore, the Project shall formulate tangible action to tackle these issues pertaining to the farmers as well as the officers in all the level (national/provincial and district/LLG).

IV-3 Efficiency

The efficiency of the Project is predicted moderate at the time on the Mid-term Review.

Inputs of the Project resource which include human resources and equipment were made mostly as expected, with the exception of provision in budget for the Project operation by NDAL and also C/P assignment. Especially, the issues on human resource allocation, the delay of dispatching short-term experts and also the shortage/frequent replacement of the counterpart personnel affected the Project progress.

On the other hand, MFs are key personnel to improve rice cultivation techniques and then disseminate their knowhow and experiences to other surrounding interested farmers. It can be said that the MF approach is relevant and also as very efficient to promote smallholder rice production in the target provinces.

The Project has been struggling of extension method and monitoring system due to weak relationship between farmers and local government/district offices, as well as the shortage of budget and awareness for rice promotion.

IV-4 Impact

(1) Prospects of achieving Overall Goal

The achievement of the Project's Overall Goal, "Rice farmers and rice production are expanded sustainably in the target provinces." it is too early to measure the final progress of the respective outcomes and let alone how much contribution by the Project has been made in terms of sustaining rice farmers and rice production in the target provinces.

However, in the light of this, the Project is expected to continue implementing interventions to support smallholder farmers in the target provinces.

According to the central/provincial office, field interviews and questionnaire survey conducted during the Review, the Team observed that the Project brings several positive changes as mentioned below.

(2) Spill-over Effects

1) Create awareness on rice to farmers/resident people

Not only farmers but also school and church people have interested in rice farming and also to acquire basic knowledge and technique about rice cultivation. Through the MFs and extension officers in respective provinces, resident people has been getting awareness about rice and recognizing the advantage of rice with economic and security reasons (e.g., saving & gain cash, good nourishment, better taste, stock longer time, easy to cook, etc.).

2) Group exercise and joint efforts by smallholder farmers

In the Maprik district, East Sepik Province, MFs hold a monthly meeting spontaneously and

carried out exchange of opinions about rice farming such as milling services and pest management. Moreover, one of the best practices as positive impact, it has observed a farmer group in the district attempted to operate and manage a rice milling machine jointly, and make brand rice package to promote their rice sales.

It is expected that such a farmer's initiatives, organization and information sharing will progress supported by the respective provincial government where staffs are substantial compared with the central government.

In addition, the District officers in the above areas also seem to perform the information and data collection about production and the situation of rice crop using the opportunity for such farmers to gather.

3) Technology adoption by other surrounding farmers

With the leading role by provincial staffs and MFs in Project areas, rice produced not only the farmlands of MFs but also their neighbouring farmers.

Gradually, some of the MFs reported that they had made contacts to the neighbouring farmers with whom they shared experiences on rice cultivation techniques. Some of these surrounding farmers adopted the basic rice techniques which is the practice of the technical package introduced by the Project. It seems that "FTFEA" has been taken place gradually by the means of learning from MFs.

4) Future expectation and contribution through the Project

In the local and remote place of PNG, there are very few cash-earnings opportunities and most farmers are living a life near a self-sufficiency livelihood.

Nowadays, even though the self-sufficient smallholder farmers increases a consumption of the imported rice in which can preserve a long time, and their household economy is pressed, however, it is thought that improving the household economy and also opening the way of cash earnings by sale of surplus rice contributes also to the improvement in their livelihood and food security by the ability of rice to be produced now on one's own account.

Moreover, if promotion of a smallholder rice crop progresses continuously in the state for the Project, it will count upon giving positive impact to the succeeding policy of the "Rice Development Policy" which the present policy will end in 2014.

IV-5 Sustainability

Project sustainability is not likely to be secured at this stage for the following three (3) reasons.

1) Policy aspect

Rice becomes one of the selected food security crops as stated in the national agricultural

development policy, therefore; the GoPNG will continuously support rice cultivation during and after the end of the Project. In addition, under the present circumstances, there is no movement toward still concrete correspondence about the inheritor of the "Rice Development Policy" to be ended in 2014.

2) Organizational and budgetary aspect

Rice Extension Unit (REU) has been installed in Food Security Office, DAL in 2008, but the personnel are very limited and are not fully functioning as an organization. Moreover, while the central government's personnel affairs are very vulnerable, there is a place where excellent talented people are hired newly, and local talented staffs are abundant generally in the provincial governments

On the other hand, the management budget of FSB and the counterpart-fund budget which makes Japan-2KR financial funds are delayed in execution according to the personnel instability of DAL, although the budget from the PNG is fully secured until now, therefore it is needed to be kept continuously.

In order to fully implement and continue the Project activities even after the Project completion, the GoPNG is required to make efforts to provide necessary operational budget and timely disbursement for the continuation of Project activities as well as MOA will need to be signed between DNP&M, NDAL and the four PDALs.

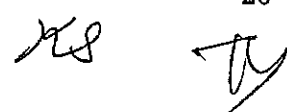
3) Technical aspect

Since the Project started, NDAL and C/P of provincial governments have acquired the ability to guide the fundamental technology about rice farming. However, the field monitoring method is not still established and the supporting system are not functioning yet due to neither record keeping/reporting nor information sharing on rice production's situation. It was assessed that need to tackle the revision of monitoring sheet, being efficient and timely support system in order to improve the technological backup and also the system of accountability.

Finally about the vehicle and equipment introduced by the Project until now, the maintenance and management has been carried out appropriately, and the rice milling machine and the infrastructure will be needed in effective utilization and suitable management from now on.

V CONCLUSIONS

The Project has passed nearly two years since its commencement. The Team conducted mid-term review based on the "New JICA Guidelines for Project Evaluation (June 2010)". Major perspective



of evaluation is relevance; effectiveness (whether the project produces effects as expected), and efficiency is reviewed based on the current status and performance. Relevance is evaluated high because the Project is in line with policies of both GoPNG and GOJ. In addition, MF approach adopted by the Project contributes to produce outputs of the Project. Efficiency of the Project is evaluated moderate due to the delay of the replacement of counterpart personnel of NDAL and assignment of counterpart personnel of PDALs. Effectiveness of the Project is predicted moderate because the MFs in the new target provinces as Milne bay Province and Manus Province are expected to acquire the skills and knowledge necessary for rice farming through the Project.

It may be too early to evaluate the Project impact and sustainability at this stage; however, as for impact of the Project, positive impacts have been shown. For example, the number of smallholder farmers in Maprik District has been increasing through MF approach disseminating rice production to local farmers as well as promoting self-consumption of rice.

The Team observed that the Project activities are being conducted basically according to the original plan, however the Team recognizes that the tangible results are not yet fully produced as expected and sustainable rice farming is still on going, then the Project Purpose will not be achieved without driving more effective supporting & monitoring system for the MFs, and also the willingness and confidence of smallholder farmers by the end of the Project term. The Team also recognizes some issues that need to be tackled in order to make the Project more successful and develop even after the Project has ended.

Taking into consideration both time and budgetary limitations, the Team puts emphasis on the importance of the further strengthening of the Project implementation system of the PNG side at an earlier stage for achieving the Project Purpose satisfactorily at the end of the Project. Reflecting on the Team's recommendations below, the Project activities shall be continuously conducted within the remaining cooperation period.

VI RECOMMENDATIONS

VI-1 Recommendations for the Project

1) Improvement of monitoring system

In order to grasp precisely the current conditions of rice farming introduced by the Project in the respective provinces in a timely manner, the Project is strongly expected to improve the actual monitoring system promoting active involvement of Provincial staff (including Districts and LLGs).

The Team considers that it is urgent to establish appropriate monitoring & reporting system for obtaining information necessary to reflect the activities of the Project. The results on the monitoring should be shared by relevant organizations.

Therefore, the Project needs to take the following actions for securing the sustainability of monitoring system, as well as maintaining its institutional capacity.



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- Ample funding of PDALs for the monitoring activities including support for MFs through workshops and the adequate disbursement of the fund
- Simplification and Modification of the monitoring format based on the recommendations made by provincial officers
- Close communication between officials of NDAL, particularly REU and provincial officers including Districts and LLGs) and their greater initiative for the monitoring

2) Improvement of support for MFs

It is indispensable for the Project to improve the support for MFs in order to expand rice production of smallholders in the target provinces.

The Project should support MFs through the following activities:

- The Project should revise existing manuals on rice production (i.e. countermeasure to rice stem borer and weeding) as well as develop a leaflet on rice production techniques for farmers.
- It is desirable that Provincial DALs encourage MFs to promote extension activities for farmers appreciating their efforts

3) Importance of the support for Smallholders

The introduction of rice farming to smallholders contributes to not only food security but also human security promoting self-consumption and the income generation through the sales of surplus.



Therefore, it is important for both NDAL and PDALs to provide the support for smallholders such as training, and the information related to pest and disease of rice. In addition, a smooth flow of technological information among NDAL, PDALs, Districts, LLGs and smallholder farmers in the target provinces must be established for the purpose of promoting the cultivation of rice.

4) Promotion of technical exchange among the target provinces

The Team believes that East Sepik province will be able to become model province applicable for other provinces in terms of smallholder rice production due to existing good practices and the knowhow accumulated, and strong commitments made by both provincial and district governments.

Therefore, the Team suggested that the Project should transfer good practices and experiences accumulated in East Sepik Province to other target provinces in remaining cooperation period (2014 to 2015).

In addition, the Project needs to promote technical exchange not only among officers but also among farmers in target four provinces in order to generate synergy effects.

5) Technical suggestions on rice farming

(5-1) Pest and disease control

The Team confirmed that stem borer was the most serious pest in field. The Team suggests that short-term expert should be dispatched to identify the species and study the measures to solve the problem. REU in collaboration with four target provinces should conduct a rapid pest and disease survey to determine and identify major and important pests and diseases; based on this the Project can request and invite short-term expert from JICA.

(5-2) Variety

The Team confirmed that there were several varieties cultivating in the farmers' fields, but the Team could not find which variety would be good in each site. The Team suggests that the Project should make a list which shows the characteristics of each variety, especially strong points and weak points should be shown in each variety.

(5-3) Milling machine and rice grain moisture content

The Team confirmed that milling recovery was good in appropriate moisture content of grains. On the other hand, the milling recovery was worst in excessively dried grains. Therefore the training for drying is very important. The Team recommends that the Project should develop a leaflet showing how to dry rice after harvesting. Equipment for measuring the moisture content should be delivered in each milling station if possible.

6) Installation and operation of rice milling machines

Some rice milling machines provided by JICA have not yet installed due to a lack of electric supply facilities and the delay of the construction of rice milling infrastructure.

In order to promote smallholder rice production in the target provinces, it is required for the Project to utilize existing rice milling machines for smallholders. The Project must support PDALs to complete the installation of milling machines and the construction of related infrastructure.

7) Revision of PDM

Based on the results obtained by the baseline survey, the number of the rice growers in the target provinces is less than 3,400. In addition, the number of the rice growers in the Madang Province has been decreasing due to a lack of incentives for smallholder farmers.

Therefore, the indicators on rice farmers in the project purpose and overall goal should be revised reflecting the current data. Moreover the baseline survey should be focused on four target provinces considering both time and budgetary limitations. The revised PDM (version 2.0) is attached in Annex 6.

VI-2 Recommendation for NDAL and PDALs

Assignment of Counterpart personnel for the smooth implementation and the sustainability

Actually NDAL has allocated only two officials who cover the coordination with Provincial governments. The Team considers that the allocation of necessary number of capable counterpart personnel is indispensable to implement the Project smoothly and successfully, and to accomplish the aims of the Project.

NDAL must allocate at least three qualified and enthusiastic counterpart personnel in the fields of post-harvest technology, agronomy, agricultural extension service, and information technology for implementing Project activities effectively. NDAL should retain them over the course of the Project for ensuring the smooth implementation and the sustainability of the Project. Moreover counterpart personnel allocated and to be allocated by NDAL should build close linkages to persons concerned in the target provinces (including Districts and LLGs) for the purpose of maintaining smooth flow of information and data.

On the other hand, Provincial DALs should assign newly the following counterpart personnel for implementing the Project activities in the respective provinces until 4th JCC.

Madang Province should assign two (2) counterpart personnel in the fields of agronomy and agricultural extension service.

East Sepik Province should assign two (2) counterpart personnel as rice officer for Angoram District and Wosera Gawi District.

Manus Province should assign two (2) counterpart personnel as rice officer and agricultural extension service officer.

Milne Bay Province should assign three (3) counterpart personnel (3) as rice officer for Alotau District, Samarai-Murua District and Kiriwina-Goodenough District.


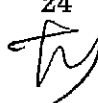
In addition, the signing of MOA between NDAL, DNP&M and the target provinces must be concluded no later than the end of October, 2013.

VII LESSONS LEARNT

1) Baseline survey and monitoring

It takes more than one year to conduct baseline survey due to geographical factors and ability of local surveyor, therefore the indicators setting up on actual PDM are not being reflected on the current conditions.

Furthermore, it should clarify the level of achievements setting up the verifiable indicators based on the baseline survey to be done in the beginning of the Project. Therefore, baseline survey

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should be done in a timely manner for sharing the information on the current conditions and related data among persons concerned with the Project.

2) Development of the farming system according to local conditions

Most farmers who were transferred rice cultivation techniques through MFs are cultivating rice. However, some farmers in the target provinces have quitted to cultivate rice and changed other local cash crops such as cocoa and coffee due to some constraints such as a lack of labor force and rice milling facilities, and the decreased price of rice.

In the project formulation process, the appropriate farming system for smallholders should be considered carefully taking into consideration local conditions and existing farming system adopted by local farmers.

Therefore, it is required to develop farming system suitable for target areas including rice farming to improve the life conditions of smallholders, as well as to develop manuals on rice farming in the respective countries.

3) Partnership with JICA volunteers and coordination with other stakeholders

Several volunteers are being dispatched by JICA to the target provinces of the Project for the purpose of contributing to the community development. The above-mentioned JICA volunteers are disseminating rice farming in their respective communities for supporting self-consumption of rice for local smallholders. Moreover other donors such as Taiwan Technical Mission and China have been providing cooperation for increasing rice production in PNG.

It will be required for the Project to promote partnership with JICA volunteers as well as coordination with other stakeholders engaging in the rice production for more effective and efficient cooperation.

4) Utilization of Local resources

For increasing the efficiency of the Project it is expected to utilize not only Japanese experts but also local consultants as the input of the Japanese side. Moreover local human resources have enough capabilities to attend local needs based on their experiences and background.

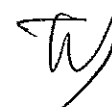
In the implementation process of the cooperation, wide range of human resources including local resources should be considered as input for the Project.

5) Right approach on "Model Farmer"

The Model for smallholder rice promotion using the Farmer To Farmer Extension approach has been developed and promoted in the target provinces by the Project. Most of the MFs and also surrounding smallholder farmers who the Team interviewed and/or were given answer by questionnaire survey are well aware of "MF"s role and its importance, and are highly motivated to



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disseminate rice techniques and also contribute to improve livelihood of their communities. For extending rice farming to farmers in neighboring village or island, it is obvious in PNG that most effective approach is Farmer To Farmer Extension approach which the MFs can share their knowledge to others. In conclusion, it is required to continue the approach in target provinces but also other provinces in PNG. In addition to that, it also needs to define their role and improve support system for MFs.

6) Compiling good practices: Lesson learnt from last experience

During the project implementation, a lot of rice farming stories has been told such as good practice on rice farming as well as smallholder farmers who abandoned rice unfortunately. By compiling the success and constraint factors from the past experiences in what were the reasons behind and how it will be applied or utilized into any other smallholder farmers. There is one of the good cases such as MF meeting, joint group works and rice milling management in Maprik group in East Sepik Province.

7) Importance of collecting data of rice farming and facing issues by smallholder farmers

Under the current situation in the target provinces, data on of smallholder famers and rice production are not reliable and timely available. For effective monitoring and reporting system, data collection and recording is essential.

It is important to collect accurate data of rice farming in order to know the rice situation and also its trend. At the same time on data collection, it had better to capture the problem and questions which most farmers are facing in the ground.

Collecting data and keeping record aim not only to remain as accurate statistics and documentation, but also utilize as analytical works and for better monitoring and planning.

PROJECT DESIGN MATRIX (PDM)

Project Title: The Project on Promotion of Smallholder Rice Production (Phase-2)

Target Provinces: Madang, East Sepik, Manus, Milne Bay Provinces

Project Duration: 3.5 years

Version 1.1

Date: 6th December 2012

Project Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal:</p> <p>Rice farmers and rice production are expanded sustainably in the target provinces.</p>	<p>(1) Number of smallholder (agricultural households) growing rice becomes over 20,000 in the target provinces by 2020.</p> <p>(2) More than 10% of randomly-selected smallholder farmers (agricultural households) in the target provinces produce rice for their home consumption for the last three years, and more than 80% of them have received guidance from the Model Farmers (MF) trained by this Project in 2020.</p> <p>(3) More than 5% of randomly-selected smallholder farmers (more than 50% of rice growers) in the target provinces produce more than 50 kg of paddy rice in 2020.</p> <p>(4) More than 80% of the districts holding the MF adopt and implement the guideline on the extension services for smallholder rice production and on the milling services in 2020.</p>	<p>1) Results of the survey organized by NDAL.</p> <p>2) Results of the survey organized by NDAL.</p>	
<p>Project Purpose:</p> <p>Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.</p>	<p>(1) Number of farmers growing rice becomes over 15,930 in the four target provinces in 2014/15 season.</p> <p>(2) Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved.</p> <p>(3) Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more</p> <p>(4) Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees</p> <p>(5) Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved</p> <p>(6) Over 6,000 farmers receive guidance from MF trained by the Project.</p>	<p>Newsletter, other project documents and record, interviews with the government officers involved, and others</p>	<p>The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence small holder rice production" as one of the core policies.</p>
<p>Outputs:</p> <p>1 By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.</p> <p>2 The existing mechanical milling service of public and private milling service stations is improved.</p> <p>3 Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.</p>	<p>(1) Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others</p> <p>(2) Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts</p> <p>(3) Number of the MF who received the supplementary training: 170</p> <p>(4) Number of the MF supplementary training that is conducted with local resource persons of the Provinces: 12</p> <p>(5) Number of supplemented training modules (units) for MF: 10</p> <p>(6) Number of Provincial staff who received the supplementary training: 20</p> <p>(1) Number of the machines that are reviewed: 80% or more of functioning ones in the public stations</p> <p>(2) At least two kinds of the milling machines are identified for recommendation.</p> <p>(3) Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs</p> <p>(4) Number of the model milling machines that are delivered and go in service: 8 units</p> <p>(5) Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling survey) in milling service at selected public milling stations: Madang No.2 in Madang, Hayfield in East Sepik, Tanet Station in Manus, Babulais in Milne Bay</p> <p>(1) Accumulated number of the districts that provide information collected: 33 Districts from 2012 to 2014</p> <p>(2) Accumulated number of the newsletters published: 11</p> <p>(3) Number of active members of the taskforce for the extension service guideline: 6</p> <p>(4) Number of active members of the taskforce for the mechanical milling service guideline: 6</p>	<p>Newsletter, other project documents and record, interviews with the government officers and farmers involved, and others</p> <p>Newsletter, other project documents and record, interviews with the government officers involved, and others</p> <p>Newsletter, other project documents and record</p>	<p>Severe outbreak of pest and disease does not occur.</p> <p>Severe climatic change does not occur.</p> <p>The OP staff of NDAL and target provinces are not transferred to other offices during the Project period.</p>

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Activities	Inputs	Pre-conditions
<p>1-1 Improvement of the monitoring system: The current Farmer to Farmer Extension (FFFE) by Model Farmer (MF) in the target provinces/districts is reviewed in terms of supporting system.</p> <p>1-2 The improved monitoring plan(s) is developed and finalized through workshops participated by local government officers involved. The improved monitoring plan(s) is implemented in the target provinces/districts.</p> <p>1-3 Supplementary training for MF In areas of soil management, pests/diseases and others, curriculum is developed for conducting supplementary training for MF and Provincial staff (including District and LLG staff).</p> <p>1-4 A plan for supplementary training for MF is developed that includes way to select candidate trainees, exit exam for certifying trainees, outsourcing of trainers, way of training of REU/provincial trainees, etc. and is implemented.</p> <p>2-1 Mechanical milling service: Specifications, capacities and performance of the milling machines and the capacity of staff in the public and private milling stations in the sample target provinces/districts are reviewed and the results are released to all the local governments involved and other stakeholders.</p> <p>2-2 Based on results of the above review, improvement plan(s) for mechanical milling service is drafted that includes recommendations on technical specifications of the milling machine, cost and profit analysis of their operation, recommendations on improving installation of existing machines, and others.</p> <p>2-3 The improvement plan(s) is tried in the target provinces.</p> <p>2-4 The model milling services are demonstrated in selected public milling facilities in at least 4 provinces.</p> <p>2-5 The training on operation of milling machines and management of mechanical milling service center is conducted.</p> <p>3-1 Baseline survey: Baseline survey on nationwide domestic rice production and consumption is conducted in aspect of food security.</p> <p>3-2 Information sharing: By utilizing various chances including the management meeting and issue oriented meeting, relevant information on rice production is collected including local governments' facilities to extend rice production, technical challenges in cultivation and postharvest, market prices of imported and local rice, assistance by donors, and others.</p> <p>3-3 The outcomes from the above 3-1 and 3-2 are compiled in a form of periodical newsletters and released to the other provinces, as well as to relevant government organizations and other stakeholders.</p> <p>3-4 The other provinces are facilitated to develop smallholder rice production through the MF approach.</p> <p>3-5 Guideline on extension services for smallholder rice production: Role of national and local governments for the extension service that include province, district, LLG and ward council are clarified and a proposal for setting up appropriate extension system (single or plural) are prepared.</p> <p>3-6 Guideline on mechanical milling services: The improvement plan for mechanical milling service that is prepared through the activity 2-2 is reviewed for formulating a guideline, and finalized after consultation workshop for the relevant government organizations and/or other process as required.</p>	<p>JICA</p> <p>1) Assignment of Japanese and third country experts:</p> <p>long-term experts : Chief Advisor/Extension Planning and Management, Coordinator/Reinforcing Administration</p> <p>short-term experts : of necessary expertise areas in rice production</p> <p>2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring</p>	<p>Government of Papua New Guinea</p> <p>1) Assignment of officers and staff at NDAL, Provincial DAL, District DAT, and LLGs</p> <p>2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs</p>
		Security situation does not worsen.
		Pre-conditions
		<p>1) The current Expansion Phase is continued by NDAL.</p> <p>2) NDAL receives the development budget for rice programs.</p>

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Activities	FY(PNG)	2011				2012				2013				2014				2015	
	Quarter	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II			
1-1. Improvement of the monitoring system: The current FTFE by MF in the target provinces/districts is reviewed in terms of supporting system for MF, MF's report format, language, ways to submit report, and others.																			
1-2. The improved monitoring plan(s) is developed and finalized through workshops participated by local government officers involved. The improved monitoring plan(s) is implemented in the target provinces/districts.																			
1-3. Supplementary training for MF: In areas of soil management, pest/diseases and others, curriculum is developed for conducting supplementary training for MF.																			
1-4. A plan for supplementary training for MF is developed that includes way to select candidate trainees, exit exam for certifying trainees, outsourcing of trainers, way of training of REU/provincial trainers, etc. and is implemented.																			
2-1. Mechanical milling service: Specifications, capacities and performance of the milling machines and the capacity of staff in the public and private milling stations in the sample target provinces/districts are reviewed and the results are released to all the local governments involved and other stakeholders.																			
2-2. Based on results of the above review, improvement plan(s) for mechanical milling service is drafted that includes recommendations on technical specifications of the milling machine, cost and profit analysis of their operation, recommendations on improving installation of existing machines, and others.																			
2-3. The improvement plan(s) is tried in the target provinces.																			
2-4. The model mechanical milling services are demonstrated in selected public milling facilities in at least 4 provinces.																			
2-5. The training on operation of milling machines and management of mechanical milling service center is conducted.																			
3-1. Baseline survey: Baseline survey on nationwide domestic rice production and consumption is conducted in aspect of food security, security.																			
3-2. Information sharing: By utilizing various chances including the management meeting and issue oriented meeting in provincial level, all relevant information on rice production in the target provinces/districts is collected that includes local governments' facilities to extend rice production, technical challenges in cultivation and postharvest, market prices of imported and local rice, assistance by donors, and others.																			
3-3. The outcomes from the above 3-1 and 3-2 are compiled in a form of periodical newsletters and released to the other provinces, as well as to relevant government organizations and other stakeholders.																			
3-4. The other province are facilitated to develop smallholder rice production through the MF approach.																			
3-5. Guideline on extension services for smallholder rice production: Role of national and local governments for the extension services that include province, district, LLG and ward council are clarified and a proposal for setting up appropriate extension system (single or plural) are prepared.																			
3-6. Guideline on mechanical milling services: The improvement plan for mechanical milling service that is prepared through the activity 2-2 is reviewed for formulating a guideline, and finalized after consultation workshop for the relevant government organizations and/or other process as required.																			
Project evaluation by Japanese Mission team and PNG Government																			

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Evaluation Grid for Mid-term Review for Project on Promotion of Smallholder Rice Production (Phase 2)

(1) Achievement level

Items to be checked	Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods	
Inputs	Inputs from Japanese side	To what extent has the assignment of Japanese Experts been appropriate in terms of timing, number of assignment days, number of experts assigned, and their expertise?	Assignment record of Japanese Experts	Project progress reports, Completion reports
		To what extent has the counterpart training been appropriately undertaken so far in terms of contents, number of courses, timing? (including Seminars, Workshops or Trainings conducted in PNG)	Record on trainings conducted	Project progress reports, Report on trainings
		To what extent has the provision of equipment been appropriate in terms of type and number of equipment procured, and timing of delivery?	List and record of equipment provided	List of equipment provided
		To what extent has the amount of contribution on expenditure (local cost) from JICA side to the Project been appropriate?	Financial record on local cost	Financial reports of Project
	Inputs from PNG side	To what extent has the assignment of counterpart personnel from GoP been appropriate in terms of number of officers assigned and their expertise?	Assignment record of C/P	Project progress reports, Report on trainings
		To what extent has the amount of contribution on expenditure (local cost) from Central and Provincial (EAS, MAD, MAS, MLB) government to the Project been appropriate?	Financial report on budget and disbursement of GoP government	Financial reports of GoP / Provincial government
To what extent has the provision of land, building, office, facility been appropriate?		List of important equipment locally available	Project progress reports, Reports from GoP	
Achievement Level of Outputs	Output 1: By conducting supplementary training for MF and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.	To what extent is the OVI 1-1 "Applicability and feasibility of the Improved monitoring plan(s) in terms of locality of the district administration and others." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
		To what extent is the OVI 1-2 "Number of the districts that adopt the Improved monitoring plan with or without necessary funding: 11 Districts." likely to be achieved?		
		To what extent is the OVI 1-3 "Number of the MF who received the supplementary training: 170." likely to be achieved?		
		To what extent is the OVI 1-4 "Number of the MF supplementary training that is conducted without outsourcing instructors: 12." likely to be achieved?		
		To what extent is the OVI 1-5 "Number of supplemented training modules (units) for MF: 10" likely to be achieved?		
		To what extent is the OVI 1-6 "Number of Provincial staff who received the supplementary training: 20" likely to be achieved?		
	Output 2: The existing mechanical milling service of public and private milling service station is improved.	To what extent is the OVI 2-1 "Number of the machines that are reviewed: 80% or more of functioning ones in the public stations." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
		To what extent is the OVI 2-2 "At least two kinds of the milling machines are identified for recommendation." likely to be achieved?		
		To what extent is the OVI 2-3 "Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs." likely to be achieved?		
		To what extent is the OVI 2-4 "Number of the model milling machines that are delivered and go in service: 8 units." likely to be achieved?		
	Output 3: Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.	To what extent is the OVI 2-5 "Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Madang No.2 in MAD, Hayfield in EAS, Tamat Station in MAS, Bubuleta in MLB." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
		To what extent is the OVI 3-1 "Accumulated number of the districts that provide information collected: 33 Districts from 2012 to 2014." likely to be achieved?		
		To what extent is the OVI 3-2 "Accumulated number of the newsletters published: 11." likely to be achieved?		
		To what extent is the OVI 3-3 "Number of active members of the taskforce for the extension service guideline: 6." likely to be achieved?		
		To what extent is the OVI 3-4 "Number of active members of the taskforce for the mechanical milling service guideline: 6." likely to be achieved?		

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Items to be checked	Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods
Achievement Level of Project Purpose	The extent to which smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.	To what extent is the OVI 1 "Number of farmers growing rice becomes over 15,590 in the four target provinces in 2014/15 season." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved
	To what extent is the OVI 2 "Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved." likely to be achieved?	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys	
	To what extent is the OVI 3 "Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more." likely to be achieved?		
	To what extent is the OVI 4 "Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees." likely to be achieved?		
	To what extent is the OVI 5 "Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved." likely to be achieved?		
To what extent is the OVI 6 "Over 18,000 farmers receive guidance from MF trained by the Project." likely to be achieved?			
Achievement Level of Overall Goal	The extent to which rice farmers & rice production are expanded sustainably in the target provinces.	To what extent is the OVI 1 "Number of smallholder (agricultural households) growing rice becomes over 20,000 in the target provinces by 2020." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved
	To what extent is the OVI 2 "More than 10% of randomly-selected smallholder farmers (agricultural households) in the target provinces produce rice for their home consumption for the last three years, and more than 80% of them have received guidance from the Model Farmers (MF) trained by this Project in 2020." likely to be achieved?	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys	
	To what extent is the OVI 3 "More than 5% of randomly-selected smallholder farmers (more than 50% of rice growers) in the target provinces produce more than 50 kg of paddy rice in 2020." likely to be achieved?		

(2) Implementation Process

Project Implementation Process	Progress of Inputs and Activities	Have the Project inputs/activities been carried out according to the plan agreed on between PNG and Japanese sides?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys
	Project Management System	Have the Project activities been monitored appropriately both by the PNG and Japanese sides throughout the Project term?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Completion reports, Interviews, questionnaire surveys
		Have the Project Design Matrix (PDM) and Plan of Operation (PO) appropriately reviewed?		
		Have Japanese Experts and PNG Counterpart staff adequately communicated with one another to share information regarding the project management and activities?		
		Have regular meetings between the PNG and Japanese sides, or coordination committee meetings sufficiently contributed to solving problems that occurred in the implementation process?		
	Ownership of the Project	Have the Project team and JICA local office sufficiently communicated with each other to share information regarding project management and activities?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys
		Have the PNG staff (Central and Provincial C/Ps) adequately participated in project management and activities?	Financial report on budget and disbursement of PNG government, Opinion of Japanese Experts and PNG C/Ps	Financial reports of PNG government, Interviews, questionnaire surveys
Collaboration with Other Projects	Has the Project adequately collaborated with other projects implemented either by JICA or other donors?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys	
Factors Affecting the Implementation Process	Have restructuring of implementing organizations or reshuffling of the supervisors and C/Ps affected the implementation of the Project?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys	
	Are there unpredictable constraints which have adversely affected the Project implementation process?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys	

EAS= EAST SEPIK, MAD=MADANG, MAS=MANUS, MLB=MILNE BAY

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(3) Evaluation based on Five Evaluation criteria

Items to be checked	Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods	
Relevance	Has the technical cooperation/advice provided under the Project been relevant to the needs of PNG government and targeted Provincial governments?	Development policies of PNG government (e.g., PNG Rice Development Policy 2004-2014) and targeted Provincial governments	Review of policy documents, Interviews and questionnaire survey to Experts and C/Ps	
	Has the technical cooperation/advice provided under the Project been relevant to the needs of the target group?	Opinion of local farmers in target areas	Interviews and questionnaire survey to local farmers in target areas	
	Has the Project purpose been in line with and had higher priority in the national development plan of the PNG and targeted Provincial Governments?	Development policies of PNG and targeted Provincial governments, Opinion of Provincial government officers, Japanese Experts, PNG C/Ps	Review of policy documents, Interviews and questionnaire survey to Provincial government officers in charge, Experts and C/Ps	
	Has the Project been in accordance with the country assistant policy of Japanese Government and JICA for PNG?	Country assistant strategy and policy of Japanese Government and JICA to PNG, Opinion of MOFA officers and JICA staff	Interviews and questionnaire survey to MOFA officers and JICA staff	
	Appropriateness of Project Approach	Has the Project approach ("rice extension services of MF approach and its support system") been appropriate in terms of the development strategy of PNG and targeted Provincial governments?	Development policies of PNG and targeted Provincial governments, Opinion of Provincial government officers, Japanese Experts, PNG C/Ps	Review of policy documents, Interviews and questionnaire survey to Provincial government officers in charge, Experts and C/Ps
		Were the main Project target areas (East Sepik, Madang, Manus, Milne Bay) appropriately selected in accordance with the development strategy of PNG?		
		Was the target group was appropriately selected in accordance with the development strategy of PNG and targeted Provincial government? Are there any appearance the project benefits not only to the target group but also to others, and also is it possible to extend the benefits continuously and broader?		
		Did Japan have comparative advantage in technology (know-how) and experience for supporting the Project?		
	Distribution of Project benefits	Is the Project expenses and benefits likely to be distributed fairly?	Opinion of Japanese Experts and PNG C/Ps, and JICA staff in charge	Interviews and questionnaire survey to Experts and C/Ps
	Effectiveness	Is the Project Purpose ("Sustainable smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.") likely to be achieved by the end of the Project?	Opinion of Japanese Experts and PNG C/Ps, and JICA staff in charge	Annual Rice Report, Interviews and questionnaire survey to Experts and C/Ps
Are the three (3) Outputs effectively contributing to the achievement of Project Purpose?				
Effects of External Factors		Have any other factors part from the Project contributed to the achievement of the Project Purpose?	Opinion of Japanese Experts and PNG C/Ps	Annual Rice Report, Interviews and questionnaire survey to Experts and C/Ps
		Has the assumption from Outputs level to Project Purpose level ("Severe outbreak of pest and disease does not occur.", "Severe climatic change does not occur.", and "The C/P staff of NDAL and target provinces are not transferred to other offices during the Project period.") affected the realization of the Project Purpose? Have any other external factors negatively affected the realization of the Project Purpose?		

Items to be checked	Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods	
Efficiency	Contribution of Activities	Have adequate activities been carried out on time to realize the Project Outputs according to the original plan?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Annual Rice Report, Interviews and questionnaire survey to Experts and C/Ps
	Appropriateness of Inputs by Japanese Side	Was the dispatch of Japanese experts appropriate in terms of number, expertise, length and timing of their assignment?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Was the provision of equipment by the Japanese side appropriate in terms of types, quantity and timing of procurement?		
		Has the training of C/Ps in PNG or Japan appropriately undertaken in terms of number of trainees, contents, length and timing?		
		Have knowledge and skills that the C/Ps obtained through the training been relevant to the Project activities?		
	Appropriateness of Inputs by PNG Side	Has the local cost support by the Japanese side been appropriate in terms of amount, use, and timing of disbursement?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Has the assignment of C/P staff been appropriate in terms of number, position and competency?		
		Have the facilities and equipment provided by the PNG side been appropriate in terms of size, quality and convenience for use?		
	Effects of Important Assumptions	Has the amount of budget for the Project disbursed by the PNG government been appropriate in undertaking the Project activities?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Are there any Important Assumptions that have affected from the activities to outputs of the Project?		
Are there any Important Assumptions that have positively affected the efficiency of the Project?				
Comparative analysis of input costs	Are there any Important Assumptions that have negatively affected the efficiency of the Project?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
	Compared to the related project, the Project purpose and outputs are appropriate to the inputs cost?			
	Compared to the related project, is it likely to achieve the Project purpose in align with the input costs? (Is it any other alternative to achieve more low input costs? And/or is it any higher achievement with the same inputs costs?)			
Impact (prospect)	Are there any linkage and collaboration with other JICA program and/or other donors' cooperation?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
	Probability of Overall Goal to be Achieved			Is the Overall Goal ("Rice farmers and rice production are expanded sustainably in the target provinces.") likely to be realized as a result of the Project?
				Were the Overall Goal and the Project Purpose compatible and set at appropriate levels? (Was there big gap between two levels?)
				Is the assumption from the Project Purpose level to the Overall Goal level ("The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence small holders rice production" as one of the core policies.") likely to be satisfied?
Effects of External Factors	Are there any external factors that may affect the realization of the Overall Goal?	PDM, Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Review of PDM, Interviews and questionnaire survey to Experts and C/Ps	
	Multiplied Effects			Were there any unexpected positive or negative impacts that the Project caused on the relevant government policy, system, socio-economic conditions and technological development?

Items to be checked	Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods	
Sustainability (prospect)	Institutional Aspect	Is Central and targeted Provincial governments likely to have adequate institutional arrangement (policy and system) by which the Outputs achieved through the Project can be sustained after the technical cooperation terminates in May 2015?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
	Financial Aspect	Is Central and targeted Provincial government secure an adequate budget including local costs continuously?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Is Central and targeted Provincial government likely to secure an adequate budget with which the Outputs achieved through the Project can be sustained after the technical cooperation terminates?		
	Organizational Aspect	Is, Central and targeted Provincial government likely to maintain and develop the organizational structure including appropriate staff assignment with which the Outputs achieved through the Project can be sustained after the technical cooperation terminates?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Is it sufficiently secured the ownership of the GoPNG toward the project implementation?		
	Technical Aspect	Is the target group has accepted the knowledge and skills strengthen through the Project and likely to continue to use it?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Are relevant organizations likely to maintain and further develop the implementation capacity after the Project terminates?		
		Is the technical skills and knowhow transferred in target areas likely to be easily disseminated to other areas? And is it considered the function of the mechanism to disseminate the skills and knowhow by the Project team?		
		Is the practice in target areas likely to be disseminated to other areas after the Project terminates?		
	Social /Cultural /Environmental Aspect	Lack of consideration of Women, poor and vulnerable people, is it any likely to hamper the overall sustainability?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
Lack of consideration of environment, is it any likely to hamper the overall sustainability?				
Other constraints factors	Is there any other factors to hamper the overall sustainability?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
Overall Sustainability	Is the Project achievements likely to have a high level of overall sustainability?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
Possible Measurements	Is there any necessary change in terms of activities and inputs of the Project? Is there any necessary change in terms of outputs/project purpose and their target indicators of the Project? What are the other possible measures to further facilitate the Project implementation? Is there any necessary change in terms of the implementation mechanism of the Project?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	

Schedule of the Joint Mid-term Review Team for the Project on promotion of smallholder rice production (Phase 2)

	Date	Day	Leader, Rice Cultivation, Evaluation Management member	Evaluation & Analysis member	Stay-in
1	7/09/13	Sat		11:10 Narita, Tokyo→(SQ 637) 17:20 SINGAPORE/CHANGI 23:25 SINGAPORE/CHANGI(PX393)	
2	8/09/13	Sun		08:00 Arrival to POM, 10:30- Discussion with the Project team	POM
3	9/09/13	Mon		09:00 Courtesy Call to JICA Office 10:30 Courtesy visit to NDAL, discussion and information collection 13:30 DNPM & Kick-off meeting with PNG Evaluation Team	POM
4	10/09/13	Tue		Move to Manus, 8:30 POM→MASI 1:30(PX222) 13:30 Courtesy Call to Provincial Deputy Administrator, Manus 14:30 Visit & interview to MF, 16:30 Visit & observe Rice mill center	Lorengau
5	11/09/13	Wed		08:00 Visit & interview Provincial Agriculture Office, Data collection 09:00 Group interview to MFs& rice farmers at PDAL 13:30 Visit & interview to MF	Lorengau
6	12/09/13	Thu		08:00 Visit & interview PDAL, Data collection Move to POM, 12:00 MAS→POM13:20 (PX291)	POM
7	13/09/13	Fri		Move to Milne Bay, 9:30 POM-ALOTAU10:20 (PX954) 13:30 Courtesy Call & interview to Administrator, Provincial Agriculture Office, Milne Bay 14:30 Visit & interview to MF 16:30 Visit & observe oil palm company field	Alotau
8	14/09/13	Sat		09:00 Visit & interview to MF, 10:30 Visit Provincial extension center 11:30 Visit Rice mill center, 12:30 Interview to PDAL	Alotau
9	15/09/13	Sun	13:15 Narita, Tokyo→(PX 055) 20:45 Arrival to POM	Move to POM, 10:50 ALOTAU→POM11:40 (PX955)	POM
10	16/09/13	Mon	(Public holiday) 10:00 Discussion in a Team Move to Madang, 16:55POM→MAG18:00 (PX112)		Madang
11	17/09/13	Tue		08:00 Courtesy Call to Madang Provincial Administration 10:00 Visit to Model Milling Center 11:30 Visit to farmers in Sein village 14:00 Visit to farmers in Bom village	Madang
12	18/09/13	Wed		11:00 Move to East Sepik, MAG-WWK11:40 (PX126) Move to Maprik by car	Maprik
13	19/09/13	Thu		08:30 Visit to Old Model Milling Center 09:00 Courtesy Call to Maprik District Administration 10:15 Visit to model rice farmers in Hamahop 11:00 Visit to model farmers and rice farmers in Balif Village 12:00 Observe Official Opening Rice Milling Center 14:30 Interview with MFs and Farmers in Solomb village	Maprik
14	20/09/13	Fri		08:30 Visit to Model Milling Center 10:00 Travel back to Wewak by car 13:00 Courtesy Call to East Sepik Provincial DAL 14:00 Courtesy Call to the Office of East Sepik Administration 15:00 Visit to school	Wewak
15	21/09/13	Sat		08:30 Visit to Wewak Town Market 10:00 Visit to rice farmers	Wewak
16	22/09/13	Sun		Move to POM, 10:45WWK-POM12:15 (PX945) PM: Discussion among Japan Review Team & Drafting the Joint Mid-term Review Report	POM
17	23/09/13	Mon		09:00 Courtesy visit to JICA Office, 10:30 Discussion and information collection with DAL PM: Discussion among Japan Review Team & Drafting the Joint Mid-term Review Report 04:00: 1st Joint Mid-term Review Committee (Discussion for drafting the Joint Mid-term Review Report) among Team	POM
18	24/09/13	Tue		10:00 Finalizing the Joint Mid-term Review Report 14:00 2nd J Joint Mid-term Review Committee	POM
19	25/09/13	Wed		AM: Signing of Joint Mid-term Review Report 14:00 Attend 3rd Joint Coordinating Committee & Present the summary of Review Report (signing of M/M)	POM
20	26/09/13	Thu	Report to Embassy & JICA PNG Office	Report to Embassy & JICA PNG Office, 14:25 Departure from POM (PX 392) 18:45 Arrival to SINGAPORE/CHANGI 21:30 Departure form SINGAPORE/CHANGI (SQ 636)	POM
21	27/09/13	Fri	Move to LAE 09:00 POM→09:45 LAE (PX102) Visit National Agricultural Research Institute) NARI Move to POM 18:45 LAE→19:30 POM (PX107) Meeting with JICA experts	05:30 Arrival to Narita, Tokyo	POM
22	28/09/13	Sat		14:00 Departure from POM (PX 054) 19:55 Arrival to Narita, Tokyo	

List of Products

No	Item	Distributed to
F.Y. 2012		
1	Performance Test Report for commonly used brand of rice milling machines in PNG	East Sepik, Madang, Milne Bay, Manus Province
2	Terminal Report on Activities of the short term experts on rice post harvest	East Sepik, Madang, Milne Bay, Manus Province
3	Monitoring & Review_ 2011 & 2012_East Sepik .Prov	JCC members
4	Monitoring Report_ 2012_Madang Province	JCC members
5	Monitoring Report_ 2012_Milne Bay Province	JCC members
6	Monitoring & Review_ 2012_Manus Province	JCC members
7	News Letter PLES RICE NIUS_No1,2,3,4,5	Relevant authorities for the Project
8	Flyer for farmers on Brown Planthopper (BPH)	East Sepik, Madang, Milne Bay, Manus Province
F.Y. 2013		
9	Report of Advanced Model Farmer Training on OISCA (29 Oct. – 2 Nov.)	
10	First Summary Report on the outcome of the Baseline Survey	
11	Technical Manual for Post-harvest Machines	East Sepik, Madang, Milne Bay, Manus Province
12	Terminal Report of Rice Milling Machines for installation and newly developed prototype experiment test (July 2013)	
13	MOA for the Project (before 4 th JCC)	
14	Monitoring & Review Report_ 2013 (Nov 2013 planning)	East Sepik, Madang, Milne Bay, Manus Province

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PROJECT DESIGN MATRIX (PDM)

Project title: The Project on Promotion of Smallholder Rice Production (Phase-2)

Target Provinces: Nangang, East Sepik, Manus, Milne Bay Provinces

Project Duration: 3.5 years

Version 2.0

Date: 25th September 2013

Project Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal: Rice farmers and rice production are expanded sustainably in the target provinces.	(1) Number of smallholder (agricultural households) growing rice becomes over 7,500 in the target provinces by 2020. (2) More than 10% of randomly selected smallholder farmers (agricultural households) in the target provinces produce rice for their home consumption for the last three years, and more than 80% of them have received guidance from the Model Farmers (MF) trained by this Project in 2020. (3) More than 5% of randomly selected smallholder farmers (more than 50% of rice growers) in the target provinces produce more than 50 kg of paddy rice in 2020. (4) More than 80% of the districts holding the MF adopt and implement the guideline on the extension services for smallholder rice production and on the milling services in 2020.	1) Results of the survey organized by NDAL. 2) Results of the survey organized by NDAL.	
Project Purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.	(1) Number of smallholders (agricultural households) growing rice becomes over 5,000 in the four target provinces in 2014/15 season. (2) Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved. (3) Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more. (4) Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees. (5) Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved. (6) Over 10,000 smallholders (agricultural households) receive guidance from MF trained by the Project.	Newsletter, other project documents and record, interviews with the government officers involved, and others.	The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence small holders rice production" as one of the core policies.
Outputs: 1. By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved. 2. The existing mechanical milling service of public and private milling service stations is improved. 3. Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.	(1) Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others. (2) Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts. (3) Number of the MF who received the supplementary training: 170. (4) Number of the MF supplementary training that is conducted with local resource persons of the Provinces: 12. (5) Number of supplemented training modules (units) for MF: 10. (6) Number of Provincial staff who received the supplementary training: 20. (1) Number of the machines that are reviewed: 80% or more of functioning ones in the public stations. (2) At least two kinds of the milling machines are identified for recommendation. (3) Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs. (4) Number of milling machines for model milling stations that are delivered and go in service: 4 sets. (5) Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Mudang No.2 in Mudang, Hayfield in East Sepik, Tumat Station in Manus, Bubuleta in Milne Bay.	Newsletter, other project documents and record, interviews with the government officers and farmers involved, and others. Newsletter, other project documents and record, interviews with the government officers involved, and others. Newsletter, other project documents and record.	Severe outbreak of pest and disease does not occur. Severe climatic change does not occur. The CP staff of NDAL and target provinces are not transferred to other offices during the Project period.

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Activities:	Inputs:		
<p>1-1 Improvement of the monitoring system: The current Farmer to Farmer Extension (FIFE) by Model Farmer (MF) in the target provinces/districts is reviewed in terms of supporting system.</p> <p>1-2 The improved monitoring plan(s) is developed and finalized through workshops participated by local government officers involved. The improved monitoring plan(s) is implemented in the target provinces/districts.</p> <p>1-3 Supplementary training for MF In areas of soil management, pest/diseases and others, curriculum is developed for conducting supplementary training for MF and Provincial staff (including District and LLG staff).</p> <p>1-4 A plan for supplementary training for MF is developed that includes way to select candidate trainees, exit exam for certifying trainees, outsourcing of trainers, way of training of REU/provincial trainers, etc. and is implemented.</p> <p>2-1 Mechanical milling service: Specifications, capacities and performance of the milling machines and the capacity of staff in the public and private milling stations in the sample target provinces/districts are reviewed and the results are released to all the local governments involved and other stakeholders.</p> <p>2-2 Based on results of the above review, improvement plan(s) for mechanical milling service is drafted that includes recommendations on technical specifications of the milling machine, cost and profit analysis of their operation, recommendations on improving installation of existing machines, and others.</p> <p>2-3 The improvement plan(s) is tried in the target provinces.</p> <p>2-4 The model milling services are demonstrated in selected public milling facilities in at least 4 provinces.</p> <p>2-5 The training on operation of milling machines and management of mechanical milling service center is conducted.</p> <p>3-1 Baseline survey: Baseline survey on domestic rice production and consumption in the target provinces is conducted in aspect of food security.</p> <p>3-2 Information sharing: By utilizing various chances including the management meeting and issue oriented meeting, relevant information on rice production is collected including local governments' facilities to extend rice production, technical challenges in cultivation and postharvest, market prices of imported and local rice, assistance by donors, and others.</p> <p>3-3 The outcomes from the above 3-1 and 3-2 are compiled in a form of periodical newsletters and released to the other provinces, as well as to relevant government organizations and other stakeholders.</p> <p>3-4 The other provinces are facilitated to develop smallholder rice production through the MF approach.</p> <p>3-5 Guideline on extension services for smallholder rice production: Role of national and local governments for the extension service that include province, district, LLG and ward council are clarified and a proposal for setting up appropriate extension system (single or plural) are prepared.</p> <p>3-6 Guideline on mechanical milling services: The improvement plan for mechanical milling service that is prepared through the activity 2-2 is reviewed for formulating a guideline, and finalized after consultation workshop for the relevant government organizations and/or other process as required.</p>	<p>JICA</p> <p>1) Assignment of Japanese and third country experts:</p> <p>Long-term experts : Chief Advisor/Extension Planning and Management Coordinator/Reinforcing Administration</p> <p>Short-term experts : of necessary expertise areas in rice production</p> <p>2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring</p>	<p>Government of Papua New Guinea</p> <p>1) Assignment of officers and staff at NDAL, Provincial DAL, District DAL and LLGs</p> <p>2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs</p>	<p>Security situation does not worsen.</p> <hr/> <p style="text-align: center;">Pre-conditions</p> <p>1) The current Expansion Phase is continued by NDAL.</p> <p>2) NDAL receives the development budget for rice program.</p>

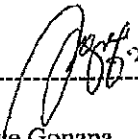
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SMALLHOLDER RICE PRODUCTION PROJECT PHASE II

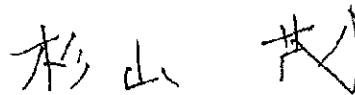
Date: 25th September 2013

Agreement

We, the undersigned who are members of the 3rd Joint Coordination Committee for the Project on Smallholder Rice Production Phase II, hereby Confirm and Agree to the attached Minutes of Meeting.



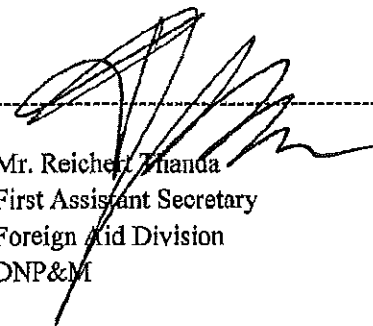
Mr. Mawe Gonapa
Acting Deputy Secretary/ Project Director
Department of Agriculture and Livestock



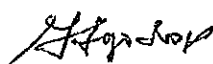
Mr. Shigeru Sugiyama
Chief Representative
JICA Papua New Guinea Office



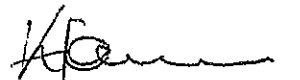
Mr. Brown Konabe
Project Manager – Director of Food Security Branch
Department of Agriculture and Livestock



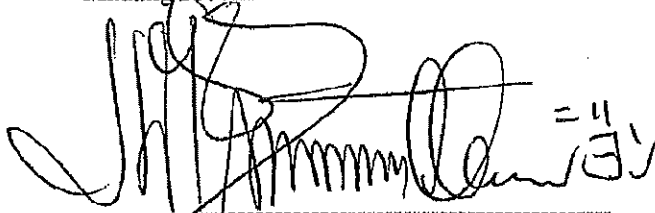
Mr. Reicher Tianda
First Assistant Secretary
Foreign Aid Division
DNP&M



Mr. Ganei Agodop
Deputy Administrator
Corporate & Technical Services
Madang Provincial Administration
Madang Province



Mr. Kevin Hawan
Acting Provincial Agriculture Advisor
PDAL, East Sepik Province



Mr. John Lale Helepet
Acting Executive Manager
PDAL, Manus Province



Mr. James Duks
Provincial Agriculture Advisor
PDAL, Milne Bay Province



Promotion of Smallholder Rice Production Project – Phase Two

Date: 25th day of September, 2013

We, the undersigned who are members of the Third (3rd) Joint Coordination Committee for the Promotion of Smallholder Rice Production Project Phase II, hereby CONFIRM and AGREE to the attached Minutes of the Meeting:


1. Members of the JCC agreed to accept the report of the Joint Mid-Term Review on the Project on Promotion of the Smallholder Rice Production in The Independent State of Papua New Guinea conducted between 7th to the 28th day of September, 2013 that contains *inter alia* the following as shown in Annex 1:
 - (1) Achievements and Implementation Process of the Project;
 - (2) Results of the Mid-Term Review by Five Criteria of 'Relevance', 'Effectiveness', 'Efficiency', 'Impact', and 'Sustainability'; and the
 - (3) Recommendations.
2. Members of the JCC agreed and confirmed that the Project Design Matrix (PDM), which was revised as a result of the Mid-Term Review to change the:
 - (1) Verifiable Indication (1) of the Overall Goal of the Project: Number of Smallholder (agricultural households) growing rice become over '7,500', a reduction from 20,000, in the target province by 2020 as shown in Annex 2.
 - (2) Project Purpose Verifiable Indicator (1) Number of 'farmers' changed to 'smallholders (agricultural household)' growing rice becomes over '5,000', a reduction from '15,000', in the target provinces in 2014/2015 season.
 - (3) Project Purpose Verifiable Indicator (6) Over the '10,000 smallholder (agricultural households)', changed from 'over 16,000 farmers', receive guidance from MF trained by the Project.
 - (4) Output 2 Verifiable Indicator (4) from 'Number of model milling machines' that are delivered and go in service: 8 units' is changed to 'Number of milling machines for model milling station that are delivered and go into service: 4 sets'.
 - (5) Output 3 Verifiable Indicator (1) that the changes be: Number of districts that provide information collected to NDAL/REU in accordance with the format to be developed: 17 districts', from 33 districts from 2012 to 2014.
 - (6) Change the Activities 3-1 that become: 'Baseline Survey on domestic rice production and consumption in the target provinces is conducted in aspect of food security.
 - (7) Improve the monitoring system through active involvement of the provincial staff, including the districts and LLGs of each target provinces East Sepik, Madang, Manus and Milne Bay.
 - (8) Following actions for securing the sustainability of the monitoring system and as well as maintaining its institutional capacity:

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- i. Ample or adequate funding from Provincial and districts for the monitoring activities including the support system for Model Farmers through workshops and the adequate and timely disbursement of fund;
 - ii. Simplification and modification of the monitoring format developed under the project as recommended by each target province; and
 - iii. Improve communication between official between the NDAL, particularly the REU and provincial offices and districts and LLGs with the aim to have greater initiatives for monitoring.
- (9) The Project will support MFs in promoting and expanding rice production activities through smallholder extension in the target provinces by provisioning of :
- i. Extension manuals and leaflets on rice production, with particular emphasis on extension notes on how to control and avoid rice pests (stem-borers, rice bugs and weeding); and
 - ii. PDAL to offer means and ways to encourage MFs to promote rice production through the extension activities in appreciation for their efforts.
- (10) The Project, through DAL, PDAL, Districts and LLGs, provide support to smallholder rice farmers through improved and smooth flow of technological information that will enhance their ability to enhanced rice production in their respective communities.
- (11) That East Sepik is becoming a model province that other provinces can draw lessons from due to its successes in existing good practices and accumulated know-how, particularly in Maprik district. Therefore, members of the JCC agreed that through the Project, good practices and experiences from Maprik district be transferred to other provinces in the remaining period of the project term in 2014 to 2015. This includes technical exchanges between officer of district and farmers with that of other provinces and districts.
- (12) NDAL and Provincial DAL will address the manpower issues as outlined in the MTR report Recommendations;
- (13) REU will consult with the Target Provinces to sign the MOA as recommended by MTR Report;
- (14) PNG side to respond to with an Action Plan to the address by MTR Recommendation by before the next JCC Meeting.

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**MINUTES OF MEETING
ON
THE MID-TERM REVIEW
FOR
THE PROJECT FOR PROMOTION OF SMALLHOLDER RICE PRODUCTION
IN THE INDEPENDENT STATE OF PAPUA NEW GUINEA**

The Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Mid-Term Review team (hereinafter referred to as "the Japanese Team"), headed by Mr. Koji Sumida, Senior Advisor to the Director General at Rural Development Department, JICA, to the Independent State of Papua New Guinea (hereinafter referred to as "PNG") from September 7th to 28th, 2013, for the purpose of conducting the Mid-Term Review for the Project for Promotion of Smallholder Rice Production (hereinafter referred to as "the Project") in accordance with the Record of Discussions on the Project.

The Joint Mid-term Review Team, which consists of members from the Japanese Team and the PNG Mid-Term Review Team (hereinafter referred to as "the PNG Team"), headed by Mr. Tony Yedu, Senior Monitoring & Evaluation Officer, Monitoring and Evaluation Division, DNP&M, was jointly organized for the purpose of conducting the Joint Mid-Term Review and preparing necessary recommendations to the respective governments.

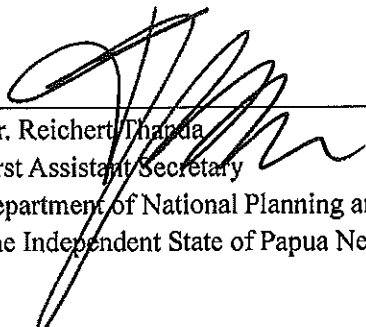
After the intensive study and analysis of the activities and achievements of the Project, the Joint Mid-Term Review Team prepared the Joint Mid-Term Review Report (hereinafter referred to as "the Report"), which was presented to the Project's Joint Coordinating Committee (hereinafter referred to as "the JCC") meeting.

The JCC accepted the Report and agreed to recommend to the respective governments the matters referred to in the Report attached hereto.

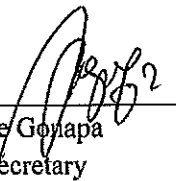
Port Moresby, 25th September, 2013

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Mr. Koji Sumida
Team Leader
Japanese Mid-Term Review Team
Japan International Cooperation Agency
Japan



Mr. Reichert Thapada
First Assistant Secretary
Department of National Planning and Monitoring
The Independent State of Papua New Guinea



Mr. Mawe Goyapa
Deputy Secretary
National Department of Agriculture and Livestock
The Independent State of Papua New Guinea

The Attached Document

1. The Joint Mid-Term Review Team presented the Report shown in the ANNEX 1 to the JCC.
2. The both sides reviewed the progress of the project activities, and endorsed the tentative plan of operation in 2014 and the present results of year 2013.
3. The both sides agreed to adopt the revised Project Design Matrix (hereinafter referred to as "PDM") Version 2.0 shown in the ANNEX 2.
 - 1) Objectively Verifiable Indicators for (1) of Overall Goal was amended as "Number of smallholders (agricultural households) growing rice become over 7,500 in the target provinces by 2020", based on the results of baseline survey taking into consideration potential rice farmers and rice farmers to stop to cultivating rice.
 - 2) Objectively Verifiable Indicator for (1) of Project Purpose was amended as "Number of smallholders (agricultural households) growing rice for their home consumption becomes over 5,000 in the four (4) target provinces in 2014/15 season", based on the results of baseline survey taking into consideration potential rice farmers and rice farmers to stop to cultivating rice.
 - 3) Objectively Verifiable Indicator for (6) of Project Purpose was amended as "Over 10,000 smallholders (agricultural households) receive guidance from MF trained by the Project", based on the number of MFs in the target provinces and their activities.
 - 4) Objectively Verifiable Indicator for (4) of Output 2 was amended as "Number of the milling machines for model milling stations that are delivered and go in service: 4 sets", due to the current conditions of the target provinces.
 - 5) Objectively Verifiable Indicator for (1) of Output 3 was amended as "Number of the districts that provide information collected to NDAL(REU) in accordance with the format to be developed: 17 districts", for describing it more appropriately.

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- 6) The activities 3-1 Baseline survey was amended as “Baseline survey on rice production and consumption in the target provinces is conducted in aspect of food security” due to time and budgetary limitations.

ANNEX 1: Joint Mid-Term Review Report

ANNEX 2: Revised PDM (ver. 2.0)

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**JOINT MID-TERM REVIEW REPORT
FOR THE PROJECT ON PROMOTION OF SMALLHOLDER RICE
PRODUCTION
IN THE INDEPENDENT STATE OF PAPUA NEW GUINEA (Phase 2)**

Port Moresby, September 25th, 2013

角 田 幸 司

Mr. Koji Sumida

Team Leader

Japanese Mid-Term Review Team

Japan International Cooperation Agency



Mr. Tony Yedu

Team Leader

PNG Mid-Term Review Team

Department of National Planning &
Monitoring

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Annex 1	Project Design Matrix (PDM) (Version 1.1)
Annex 2	Plan of Operation (PO)
Annex 3	Evaluation Grid
Annex 4	Schedule of the Joint Mid-term Review Team
Annex 5	List of Products
Annex 6	Project Design Matrix (PDM) (Version 2.0)

I EVALUATION OF THE PROJECT

I-1 Objectives of the Mid-term Review

The Mid-term Review for the Project on Promotion of Smallholder Rice Production (Phase 2) (hereinafter referred to as “the Project”) is conducted to serve the following objectives:

- 1) To find the degree of achievement and implementation process of the Project according to the Project Design Matrix (hereinafter referred to as “the PDM”) and Plan of Operation (hereinafter referred to as “PO”) as shown in Annex 1 and Annex 2 respectively.
- 2) To evaluate the Project according to the five evaluation criteria (relevance, effectiveness, efficiency, impact, and sustainability).
- 3) To identify the promoting factors and impeding factors of achievements of the Project, and to draw lessons learned from the Project.
- 4) To review the project framework and to make recommendations on necessary measures for the successful implementation, if necessary, by Japanese side and Papua New Guinean side for remaining project period; and
- 5) To present the results of the evaluation in form of a Joint Mid-term Review Report (hereinafter referred to as “the Report”)

I-2 Methodology of the Mid-term Review

(1) Joint Review Evaluation

The Project was jointly evaluated by the Papua New Guinean and Japanese Mid-term Review Teams in accordance with the Record of Discussions (hereinafter referred to as “R/D”), the PDM and the PO. The evaluation activities, including report analysis, field surveys, and interviews with staff of relevant institutions, beneficiaries, Japanese experts and other concerned personnel of the Project, were conducted based on the Five Evaluation Criteria described in the following section. The Joint Mid-term Review Team (hereinafter referred to as “the Team”) was composed three (3) members from the Papua New Guinean side and four (4) members from the Japanese side who were not directly involved in the Project implementation.

(2) Five Evaluation Criteria

The evaluation is preceded along with the following five criteria, which are the major points of consideration when assessing development projects.

- 1) **Relevance:** Relevance is to question whether the project purpose and overall goal are still in line with the priority need and concerns at the time of evaluation.
- 2) **Effectiveness:** Effectiveness concerns the extents to which the project purpose has been achieved, or is expected to be achieved, in relation to the outputs produced by the projects.
- 3) **Efficiency:** Efficiency is a productivity of the implementation process: how efficiently the

various inputs were converted into outputs.

- 4) Impact: Impact is any intended and unintended, direct and indirect, positive and negative change that is brought about as a result of the Project.
- 5) Sustainability: Sustainability of the development projects is to question whether the project benefits are likely to continue after the external aid has come to an end.

(3) Sources of Information Used for Review Evaluation

Before commencing the field study in PNG, the Team collected and analyzed existing documents related to the Project as the following information. The Team then prepared an Evaluation Grid which summarized evaluation questions for the Review as shown in Annex 3.

Following sources of information were used for this Review study.

- 1) Project planning documents such as R/D, PDM, Minutes of Meeting (hereinafter referred to as "M/M") and PO
- 2) Bi-annually periodical reports of the Project
- 3) Record of inputs and its utilization
- 4) Project documents on the progress and achievements of the Project
- 5) Interviews and discussions with the Japanese experts and JICA volunteers
- 6) Interviews and discussions with the counterpart personnel, Provincial administrators, Model Farmers (hereinafter referred to as "MF (s)") and other concerned personnel of the Project
- 7) Field visits to the target areas and discussion with the beneficiaries

I-3 Limitations of the Review

There have been the following limitations in this Review study, which may have somewhat influenced the results.

- 1) The Review was conducted in a limited time, thus there may have been any aspects which could not thoroughly be reviewed or analyzed.
- 2) The coverage of the interviewees is also limited to a part of the entire group of relevant personnel and beneficiaries of the Project, which implies the possibility that some findings may be skewed, reflecting the subjective opinions of the particular interviewed individuals.
- 3) Some of the data obtained from the Project are also based on the limited number of samples, which may have influenced the analysis of the tendencies.
- 4) Some of the Team members could not participate in some part of the Review, which created some gaps among individual members in terms of the understanding on and assessment of the achievements of the Project which are derived from field interviews and observations.
- 5) The lack of pre-briefing of the Project details to the mid-term review team on PNG side before

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undertaking the mid-term review may have skewed questionings and outputs from PNG-side of the review team on the review.

I-4 Members of the Joint Mid-term Review Team

The Team members and the role of each member are summarized in Table 1.1. The Papua New Guinean side members were assigned by the commencement of the Mid-term Review.

Table 1.1: Main Roles of Review Members

Assignment	Main roles	Members	
		JICA Side	Papua New Guinea side
Team Leader	(1) Overall Supervision of the Team	Mr. Koji SUMIDA (Senior Advisor to the Director General, JICA)	Mr. Tony Yedu (Senior Monitoring & Evaluation Officer, Monitoring and Evaluation Division, DNP&M)
	(2) Technical Evaluation of the Project		
	(3) Preparing recommendations for improving the Project Implementation		
	(4) Reporting the result to the JCC together with other members on behalf of the Team		
Extension Control	(1) Suggestion of study procedures on the assigned technical fields.	Mr. Koji SUMIDA (Senior Advisor to the Director General, JICA)	Mr. Paul Kil (Acting Director, Compliance and Monitoring and Evaluation, NDAL)
	(2) Data collection including conduct of interviews and focus group discussions with Project counterparts		
	(3) Consolidation and analysis of data collected from Project counterparts and from field surveys on the assigned technical fields.		
	(4) Conduct Examination of the Project achievements and the implementation processes and Evaluation of the Project with five criteria from the technical viewpoints		
	(5) Suggestion of advices and lessons learned		
	(6) Support other Team members for the preparation of the report to the JCC		
Rice Cultivation	(1) Suggestion of study procedures on the assigned technical fields.	Dr. Tadashi TAKITA (Training Advisor, JICA Tsukuba, JICA)	
	(2) Data collection including conduct of interviews and focus group discussions with Project counterparts		
	(3) Consolidation and analysis of data collected from Project counterparts and from field surveys on the assigned technical fields.		
	(4) Conduct Examination of the Project achievements and the implementation processes and Evaluation of the Project with five criteria from the technical viewpoints		
	(5) Suggestion of advices and lessons learned		
	(6) Support other Team members for the preparation of the report to the JCC		
Evaluation Manage-	(1) Coordination of study activities for the Japanese side	Mr. Kenji KANEKO	Mr. Dan Lyanda (Aid coordinator, JICA)

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ment	(2) Support of other Evaluation Team members for the preparation of the report to the JCC	(Advisor, Paddy Field Based Farming Area Division 1, Rural Development Department, JICA)	Desk, Bilateral Branch, Foreign Aid Division, DNP&M)
Evaluation and Analysis	(1) Preparation of Mid-term Review Plan including Evaluation grid and survey instruments	Mr. Akira MATSUMOTO, (President, A & M Consultant Limited)	
	(2) Data collection including conduct of interviews and focus group discussions with Project counterparts		
	(3) Consolidation and analysis of data collected from Project counterparts and from field surveys		
	(4) Evaluation of the result of the above activities based on five criteria		
	(5) Preparation of draft and final reports and summary sheet		

I-5 Schedule of the Joint Mid-term Review

The Review was conducted from September 7th to September 28th, 2013. The detailed schedule is attached as ANNEX 4.

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II OUTLINES OF THE PROJECT

II-1 Background of the Project

Agriculture sector sustains the livelihood of approximately 80 % of the population in Papua New Guinea (hereinafter referred to as "PNG"). Most of the agricultural products are produced by small-scale farmers cultivating cash crops such as copra, coffee, cacao and so on. PNG used to produce its own food at subsistence level. In recent years, there has been an increase in the demand for imported food such as grains and meat. This is due to increased population growth, urbanization and industrial development, and dietary patters have been changing. In particular, there has been a gradual increase in consumption of rice and it has become a staple food in urban areas as well as rural areas. However, most of the rice requirement is imported to meet the demand for rice consumption. It is estimated that annual rice import stands at 200,000 tons per year valued at more than K400 million. The cost of imported rice is a burden to subsistence farmers.

Under such situation, the National Department for Agriculture and Livestock (NDAL) formulated the National Rice Policy for promoting rice production and the National Food Security Policy, and set up the Rice Extension Unit (REU) in the Food Security Branch (FSB) in NDAL for the promotion of rice cultivation in cooperation with provincial governments.

The technical cooperation project for Promotion of Smallholder Rice Production (hereinafter referred to as "Phase 1") was conducted in East Sepik province and Madang province between 2003 and 2008 contributed:

- 1) to systematize and improve small-scale rice cultivation techniques consisting of the cultivation management of upland rice with low input, the post-harvest utilizing manual rice milling machine, the self-production, the conservation of rice seeds, and the establishment of "rice cycle" as a subject matter to transfer cultivation techniques at smallholder level,
- 2) to introduce 'farmer to farmer extension methods' utilizing MF approach,
- 3) to assign ordinary farmers and to train them to become MFs, and
- 4) to establish the extension services by provincial governments through the development of the support system of MFs, strengthening of public milling service stations and the distribution of rice seeds for small-scale farmers, strengthening of policy implementation and its function through the establishment of REU and formulation of guidelines.

In addition, the capacity development of the staff members of NDAL who are engaged in the promotion of extension services of rice cultivation in terms of planning and monitoring of extension of rice cultivation, and the development of report.

As a result of above-mentioned activities, under the initiative of the target provinces as East Sepik and Madang provinces, the extension system of rice cultivation through the MF approach was established securing their own budget for the promotion of rice cultivation. Thereafter, in 2008 two provinces (Manus and Milne Bay) were added by NDAL as the target provinces for the extension of

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small-scale rice cultivation.

As the extension of rice cultivation expanded, so the rice yield has been decreasing due to the damages caused by the pests and the shortening of fallow period, MFs required taking necessary measures to attend to above-mentioned technical issues.

Due to the lack of information on the MFs' activities in the target provinces of Phase 1, it was necessary to improve the monitoring of the MFs' activities and its support system in order to grasp the actual conditions on the extension of rice cultivation and formulate the administrative measures precisely. In this matter, it was required to improve the MF approach and support system introduced by the Phase 1, and to introduce its approach and supporting system to target provinces newly established.



Although there were strong demands for not only manual rice milling but also the mechanical rice milling in public and private milling service stations, there are many unstable rice milling machines for the operation due to the operation and maintenance of rice milling machines in rural villages. The model public milling service stations were improved and the practical manuals were developed, there are necessity to prepare the technical guidance such as repair of the rice milling machine and its maintenance, and the operation guideline for improving the services introducing appropriate rice milling machines in accordance with the local capacity.

In addition, in regard to the system of the public administration, the extension system of rice cultivation of the central government (NDAL) was established in the Phase 1, the lack of precise statistical data concerning the rice cultivation is obstacle to implement the National Food Security Policy as the next stage. On the other hand, there are some problems such as the lack of coordination between NDAL and local provinces based on the decentralization, and common guidelines for extension, is necessary to strengthen the execution continuously.

Under the circumstances, NDAL has not enough capacity and system to solve the existing problems by one's own efforts due to lack of system and organization to disseminate in the whole country.

Taking into consideration the situation mentioned above, the Government of Papua New Guinea (hereinafter referred to as "GoPNG") requested a technical cooperation project on Promotion of Smallholder Rice Production (hereinafter referred to as "Phase 2") to Japan on July 2007 for the purpose of further extension of small-scale rice cultivation through the MF approach and its expansion.

The Project is being conducted through dispatching two JICA experts (Chief Advisor/Extension Planning Control and Coordinator/ Strengthening of Administration) carrying out supplementary training for staff and MFs in the respective selected provinces, the activities conjunction with the administration of model milling stations (milling service) to identify existing issues and to study the measures necessary for improvement, and baseline survey on nationwide.


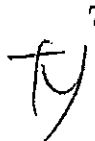
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In response to the request made by the GoPNG, the detailed planning survey team was dispatched by JICA to PNG for discussing the framework of the Project from March to April, 2011 and the Project was launched in December in the same year to be implemented until May 2015 for 3.5 years. Since the Project has reached the halfway point, the JICA has determined to conduct a mid-term review from September 8 to September 27, 2013.

II-2 Summary of the Project

- (1) Project Title: The Project on Promotion of Smallholder Rice Production (Phase 2)
- (2) Implementing Organization: Department of Agriculture and Livestock (DAL)
- (3) Project Duration: December 2011 –May 2015 (3.5 years)
- (4) Target Areas (four provinces)
 - East Sepik Province
 - Madang Province
 - Manus Province
 - Milne Bay Province
- (5) Target Group
Smallholders in the target areas
- (6) Overall Goal: Rice farmers and rice production are expanded sustainably in the target provinces.
- (7) Project Purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.
- (8) Outputs
 1. By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system* is improved.
 2. The existing mechanical milling service of public and private milling service station is improved.
 3. Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.

*A “support system” is a local government initiated inputs and services given to MFs to successfully carry out the farmer to farmer extension activities (FTFEA) based on MFs’ plan.

III ACHIEVEMENT AND IMPLEMENTATION PROCESS

III-1 Summary of Inputs

The following is the summary of inputs provided for the Project implementation by the time of the Mid-term Review.

1.1 Inputs from Japanese Government

(1) Dispatch of Japanese Experts

(Long-term)



No	Name of Expert	Field of Expertise	Duration of Assignment
1	Tatsuo FUJITA	Chief Advisor/Extension Planning Control	10/12/2011 - 07/07/2012 18/08/2012 - 12/02/2013
2	Masakazu KANAMOTO	Chief Advisor/Extension Planning Control	07/05/2013 - 03/10/2013 02/11/2013 - 23/12/2013
3	Shigeo WATANABE	Project Coordinator/Reinforcing Administration	22/01/2012 - 19/01/2014

(Short-term)

No	Name of Expert	Field of Expertise	Duration of Assignment
1	Noboru IWANO	Postharvest Technology	05/06/2012 - 22/11/2012
2	Kazunari TSUCHIYA	Soil Science and Plant Nutrition	17/11/2012 - 01/12/2012
3	Masaya MATSUMURA	Insect Pest Control	16/02/2013 - 09/03/2013
4	Noboru IWANO	Postharvest Technology	20/04/2013 - 20/07/2013

(2) Seminars, Workshops or Trainings conducted in Papua New Guinea

No	Name of C/Ps	Field of Expertise	Name of training Course	Duration of Training	
				From	To
1	Mr.Pius NUMBATAI	Coordination of implementation and technical matters in E. Sepik	Advance MF Training	29/11/2012	02/12/2012
2	Ms.Mary LILIH	Coordination of implementation and technical matters in Madang	Advance MF Training	29/11/2012	02/12/2012
3	Mr.Paul BULEI	Coordination of implementation and technical matters in Manus	Advance MF Training	29/11/2012	02/12/2012
4	Mr.Jonathan KAPOILA	Coordination of implementation and technical matters in Milne Bay	Advance MF Training	29/11/2012	02/12/2012



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(3) Provision of Equipment

No	Date of Arrival	Description of Equipment			Q'y
		Item	Manufacture & Model Number	R/P	
1	01/03/12	Laptop Computer	Acer Aspire 3830T	L	1
2	09/03/12	Laptop Computer	Acer TM5760T	L	1
3	01/03/12	Projector	Acer P3251	L	1
4	01/03/12	Laser Printer	HP LaserJet CP2015	L	1
5	14/03/12	Photocopy Machine	Toshiba e-Studio 182	L	1
6	13/07/12	4WD Double-cab Pick-up Truck	Mazda BT-50 4WD	L	1
7	25/07/12	4WD Double-cab Pick-up Truck	Mazda BT-50 4WD	L	1
8	26/07/12	4WD Double-cab Pick-up Truck	Mazda BT-50 4WD	L	1
9	03/11/12	Compact pH Meter	HORIBA B-712	E	1
10	25/02/13	Stereoscopic Microscope	NIKON SMX745	E	1
11	25/02/13	Photo micrographic camera set	SONY NY1S-NEX5NY	E	1
12	11/03/13	Rice Milling Machine w/spare parts	Yanmar YMM20	L	4
13	11/03/13	Rice Milling Machine w/spare parts	Hosokawa MR1900E (w/transformer)	L	2
14	11/03/13	Rice Milling Machine w/spare parts	Hosokawa R1900EN (w/transformer)	L	2
15	23/03/13	Portable Video Camera	Panasonic HDC-HS80	L	1
16	09/05/13	Rice Milling Machine	Hosokawa RC-301 (engine driven)	E	1

*R/P: Route of Procurement (J: From Japan, L: Local, E: With Expert)

(4) JICA Contribution on Expenditure

Budget Item	Budgetary Year			Total Amount
	JFY2011* (Jan-March '12)	JFY2012*	JFY2013* (as of June '13)	
Local activity cost in general	95,997.76	278,175.71	73,730.52	447,903.99
Local activity cost for Adv. MF training		97,923.80		97,923.80
Total	95,997.76	376,099.51	73,730.52	545,827.79

* JFY: Japanese Fiscal Year, April – March

1.2 Inputs from PNG Government

(1) Assignment of Counterpart Officers

No	Name of Counterpart Personnel	Position / Organization	Field of Expertise	Duration of Assignment	
				From	To
1	Mr. Francis DAINK	Deputy Secretary, DAL Project Director	Administration	12/2011	01/2013
				03/2013	05/2013
2	Mr. Mawe GONAPA	Deputy Secretary, DAL Project Director	Administration	01/2013	03/2013
				05/2013	now

3	Mr. Brown KONABE	Director, Food Security Br. Project Manager	Food Security	12/2011	now
4	Mr. Verave GAVALI	Project Coordinator, Rice Extension Unit (REU)	Coordination of implementation	12/2011	now (on sick leave from Aug. '13)
5	Mr. Heai Steven HOKO	Staff, REU	Irrigation, Soil, Training	12/2011	now (Ag. Project Coordinator from Aug.)
6	Ms. Miriam JOHN	Staff, REU	Grain Agronomy, Monitoring	12/2011	now
7	Mr. Brian NIME	Staff, REU	Rice Milling Service	12/2011	11/2012
8	Mr. Godfied SAVI	Advisor, PDAL, Madang Province	Administration and Management in Madang Province	12/2011	now (suspended from Aug '13)
9	Mr. Edward LIRU	Advisor, PDAL, East Sepik Province	Administration and Management in East Sepik Province	12/2011	07/2012
10	Mr. Kevin Hawan	Advisor, PDAL, East Sepik Province	Administration and Management in East Sepik Province	07/2012	now
11	Mr. Benedict BULUNGOL	Advisor, PDAL, Manus Province	Administration and Management in Manus Province	12/2011	08/2012
12	Mr. John Lale	Advisor, PDAL, Manus Province	Administration and Management in Manus Province	08/2012	now
13	Mr. James DUKS	Advisor, PDAL, Milne Bay Province	Administration and Management in Milne Bay Province	12/2011	now
14	Mr. Mary LILIH	Provincial Food Security Coordinator, Madang	Coordination of implementation and technical matters in Madang	12/2011	now (Ag. PDAL Advisor from Aug.)
15	Mr. Pius NUMBATAI	Provincial Rice Officer, East Sepik	Coordination of implementation and technical matters in E. Sepik	12/2011	now
16	Mr. John MALEMALU	Provincial Food Security Coordinator, Manus	Coordination of implementation and technical matters in Manus	12/2011	10/2012
17	Mr. Paul BULEI	Provincial Rice Officer, Manus	Coordination of implementation and technical matters in Manus	10/2012	now
18	Mr. Jonathan KAPOILA	Provincial Food Security Coordinator, Milne Bay	Coordination of implementation and technical matters in Milne Bay	12/2011	now

(2) PNG Government Contribution on Expenditure

Central Government Contribution on Expenditure

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Expenditure from NDAL	299,944.00	500,000.00	1,000,000.00	1,799,944.00
Total	299,944.00	500,000.00	1,000,000.00	1,799,944.00

Provincial Government Contribution on Expenditure (EAST SEPIK)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	90,000.00	97,000.00	115,000.00	302,000.00
Total	90,000.00	97,000.00	115,000.00	302,000.00

Provincial Government Contribution on Expenditure (MADANG)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	60,000.00	50,000.00	70,000.00	180,000.00
Total	60,000.00	50,000.00	70,000.00	180,000.00

Provincial Government Contribution on Expenditure (MANUS)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	125,000.00	125,000.00	450,000.00	700,000.00
Total	125,000.00	125,000.00	450,000.00	700,000.00

Provincial Government Contribution on Expenditure (MILNE BAY)

Unit: Kina

Budget Item	Budgetary Year			Total Amount
	FY2011	FY2012	FY2013 <plan>	
Working expenditure of Province	70,000.00	220,000.00	359,000.00	649,000.00
Total	70,000.00	220,000.00	359,000.00	649,000.00

III-2 Achievement of the Project

2.1 Achievement of the Project

(1) Summary of Activities

The Project Activities have been carried out according to the PDM and PO. A number of achievements have been materialized as a result of the Project planned activities that are to be

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reviewed in due course of this Report. Through the Project implementation, a variety of project documents and products has been materialized as shown in Annex 5.

(2) Achievement of the Outputs

Output 1	By conducting supplementary training for MFs and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.	
	Indicator (PDM Ver. 1.1)	Achievement Level & Prospects
1-1	Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others	•Applicability and feasibility of the improved monitoring plan(s) are under verification.
1-2	Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts	•No district has yet adopted improved monitoring plan.
1-3	Number of the MF who received the supplementary training: 170	•20 MF has received the supplementary training.
1-4	Number of the MF supplementary training that is conducted with local resource persons of the Provinces: 12	•No MF supplementary training has been conducted within the Province. However, basic and upgrading MF training on rice farming techniques has been conducted by initiatives of the respective provincial governments.
1-5	Number of supplemented training modules (units) for MF: 10	• 10 units of training modules* have been created.
1-6	Number of Provincial staff who received the supplementary training: 4	• 4 Provincial staff has received the supplementary training In addition to that, initiatives of respective provincial government, additional training has been conducted.

Overall Achievement and Prospect for Output 1:

- Limited activities for Output 1 have been carried out by the time of the Mid-term Review.
- The achievement level for Output 1 is still low at this stage due to the expansion of the target areas and numbers of stakeholders. MF and also farmer training on rice farming was conducted by the initiatives of some targeted provincial government.
- And, the provincial officers who have received the practical training has started their extension works to MF and surrounding farmers in collaboration with experts and volunteers.
- The monitoring system aims to collect basic data and record on rice situation, and also the system can be utilized to counseling and advise to the smallholder farmers when they faces a range of problem and anxiety. However, the system is not functional yet due to the relationship between extension officers and farmers and weak institutional structure such as province with district/LLG, district/LLG and farmers.

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* Unit title of training modules = Unit 1 (Sharing Experience), Unit 2 (Area Profile and Action Plan), Unit 3 (Rice Variety Selection), Unit 4 (Quality Seed Production), Unit 5 (Soil & Water Management), Unit 6 (Pest Control), Unit 7 (Disease Control), Unit 8 (Postharvest Processing), Unit 9 (Extension Method) and Unit 10 (Evaluation).

Output 2	The existing mechanical milling service of public and private milling service stations is improved.	
	Indicator (PDM Ver. 1.1)	Achievement Level & Prospects
2-1	Number of the machines that are reviewed: 80% or more of functioning ones in the public stations	• 100% of rice milling machine has been reviewed in the public stations.
2-2	At least two kinds of the milling machines are identified for recommendation.	• Three (3) kinds of milling machine have been recommended.
2-3	Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs	• Improvement plan has been tested in 4 target provinces.
2-4	Number of the model milling machines that are delivered and go in service: 8 units	• Four (4) sets of milling machine have been delivered and under testing (Yanmar & Hosokawa).
2-5	Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Madang No.2 in Madang, Hayfield in East Sepik, Tamat Station in Manus, Bubuleta in Milne Bay	• No verification on the volume of paddy rice received, recovery rates and improved milled rice quality.

Overall Achievement and Prospect for Output 2:

- According to the project plan, the existing mechanical milling service was investigated and identified the situation of the services. At the same time, a number of the model milling machines were delivered, so hereafter the milling machine will be set up, and then it is expected to operate and monitor the service.

Output 3	Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.	
	Indicator (PDM Ver. 1.1)	Achievement Level & Prospects
3-1	Accumulated number of the districts that provide information collected: 33 districts from 2012 to 2014	• Total of more than 60 districts in nationwide (All the 17 districts in four target provinces) have been provided the Project information through Provincial Office.
3-2	Accumulated number of the newsletters published: 11	• Five (5) issues of the newsletters have been published.
3-3	Number of active members of the taskforce for the extension service guideline: 6	• Although the members of taskforce were nominated by the Project, the

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		taskforce for the extension service guideline has not been set.
3-4	Number of active members of the taskforce for the mechanical milling service guideline: 6	• Although the members of taskforce were nominated by the Project, the taskforce for the mechanical milling service guideline has not been set.

Overall Achievement and Prospect for Output 3:

- A number of newsletters have been published and delivered, however, the guidelines taskforce for the extension service and as well as mechanical milling service has not been produced. ~~guideline has not been set.~~
- The rice policies by REU and Food Security Branch in NDAL have been implemented, but the numbers of human resources who engage in rice promotion are quite limited. Due to the non-existence on the taskforce for the extension service guideline and also mechanical milling service guideline, it has is not started the formulation of new ~~next~~ rice policy and development papers.

(3) Prospect of Achieving the Project Purpose

The prospect for the achievement of the Project Purpose is summarized below.

Project Purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.

OVI (PDM Ver. 1.1)	Achievement Level and Prospects
(1) Number of farmers growing rice for their home consumption for the last three years becomes over 15,590 in the four target provinces in 2014/15 season.	• Some basic data is available, but no current and reliable data of agricultural households (farmers) is officially reported from provinces. Based on the results on baseline survey, it may need to reconsider the indicator.
(2) Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved.	• No report yet.
(3) Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more	• Two (2) staff are capable of conducting training on rice farming sufficiently, however, there has been some but available of hands-on practical training in provincial level (provincial and also MFs).
(4) Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees	• No record on the MF training
(5) Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved	• No proper data is available. The milling service is just starting now.
(6) Over 16,000 farmers receive guidance from MF trained by the Project.	• Due to non-recording by farmers, there are no data available at the time on Mid-term Review.

Overall achievement and prospect:

- Since the project activities started in hand less than 2 years, it was not possible to conclude the

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achievement level at this stage since most activities under the Project are still in progress.

- According to the results of questionnaire and interviews with the Project C/Ps, experts and MF members conducted during the review study, most of them had opinion that MF Approach is right way in the PNG, and very adoptable.
- However, its support system in the target provinces was still weak and it has been no report and no data collected due to the ineffective ~~insufficient~~ monitoring system.
- Regarding to the unknown number of rice farmers and rice production due to monitoring and reporting system and method of data collection ~~collect data method~~, it is should reconsider the system and target.

2.2 Project Implementation Process

The implementation system and structure of DAL are shown in a diagram below.

The Japanese Experts has been closely working with C/P belonging to NDAL and PDAL. Joint Coordination Committee (JCC) has been formed and the JCC meetings were held once a year, in which the progress and planned activities of the Project were shared.

Most problems arisen in relation to the activities have been solved either through daily communications with C/P or JCC meetings. The Team observed a good relationship has been established between Japanese Expert team and PNG C/P officers, however, the relationship between NDAL and PDAL/districts are still weak due to communication difficulties and frequent staff replacement.

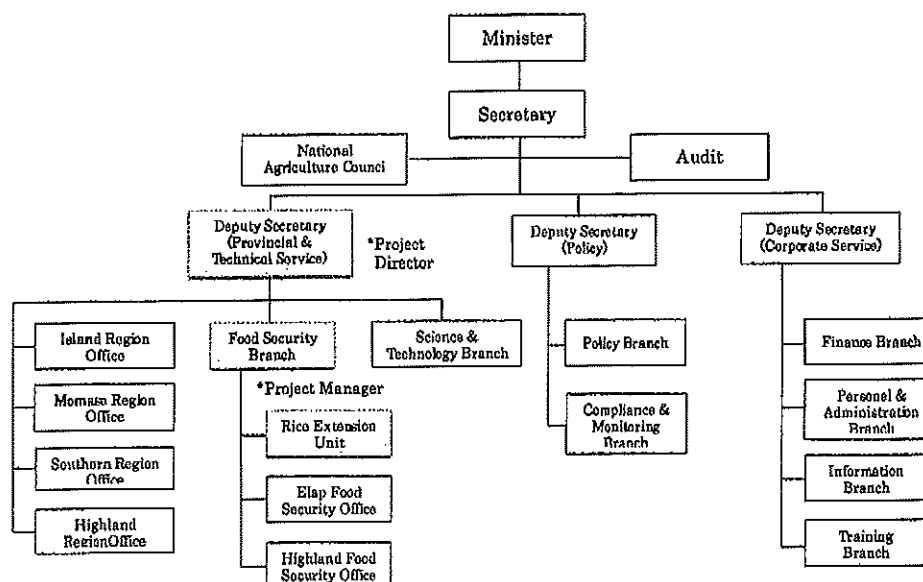


Chart 3.1: Implementation system and structure of DAL

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The Project on Promotion of Smallholder Rice Production (Phase2)
Institutional Framework

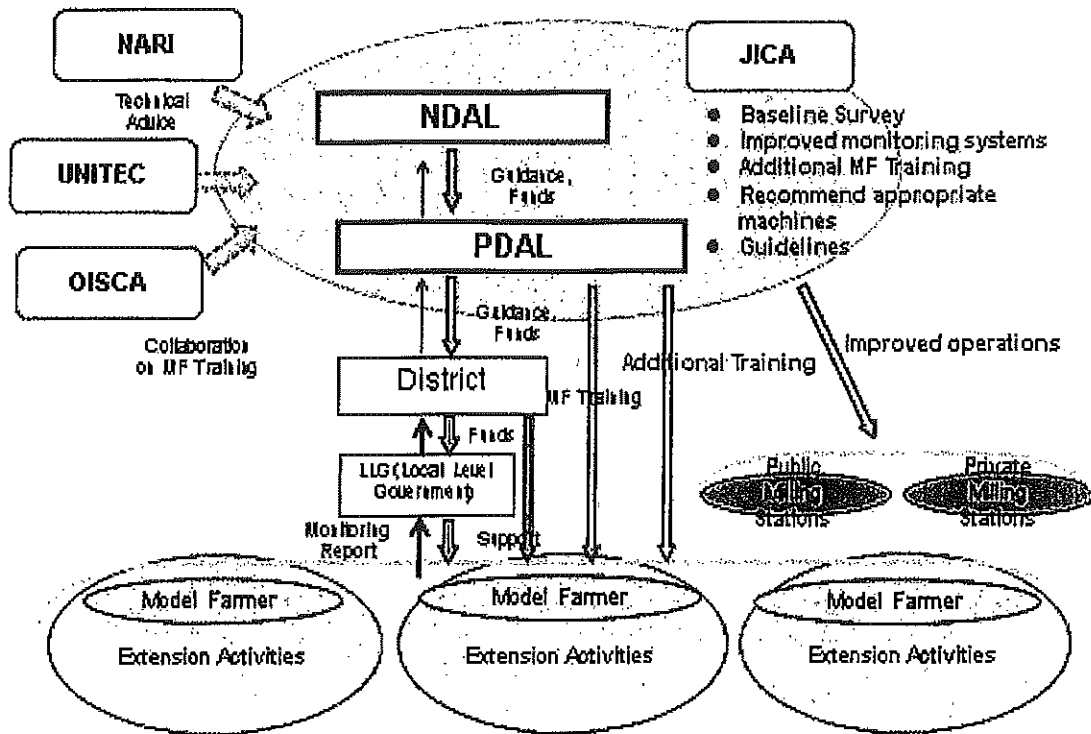


Chart 3.2: Institutional Framework of the Project

IV RESULTS ON REVIEW BY FIVE CRITERIA

Through the Review study, the Team jointly assessed the Project's relevance, effectiveness, efficiency, impact and sustainability.

IV-1 Relevance

The relevance of the Project is high.

(1) Relevance to policies of the GoPNG

The National Food Security Program (2000-2010) and PNG Rice Development Policy (2004-2014) were prepared by the NDAL and later endorsed by the National Executive Council (NEC) and/or Prime Minister. At present, these two main national policies clearly constitute a fundamental base to promote the domestic rice production by all the smallholders, institutions and semi-commercial entities in the whole country.

Within national food security and rice policy endorsed the concept of total rice self-sufficiency and recognized that rice self-sufficiency as the principle way to achieve food security in PNG.

Toward this strategy and policy, the purpose of the Project is to meet the need of smallholder

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farmers to produce rice locally for self-consumption and better nourishment like other staple foods such as yam, taro, banana etc. and thus to reduce farmers' expenditures on rice and to supplement seasonal food shortage in rural areas. At the national level, increase in self-production and self-consumption of rice will contribute to decrease of expenditures on rice import. Furthermore, practice of rice self-production will provide effective food security measures against possible drastic population increases in the future.

(2) ODA policies of the GoJ (Government of Japan)

One of the three priority areas of the Japan's ODA policy to PNG is "Strengthening of the Foundation of Economic Growth". Within this area, agricultural is one of important issues.

Overall end is the achievement of sustainable economic growth and improvement of the living standard by strengthening basic socio-economic foundation.

Similarity, the Country Program of JICA for PNG also emphasize the "Strengthening of Economic Activities" with a cooperation program on "the improvement of industrial promotion" as one of the priority issues. Therefore, the Project is in conformity to priority assistance subjects of the GoJ, and considered to be quite consistent with the Japanese aid policy and alignment with PNG national policy.

IV-2 Effectiveness

The effectiveness of the Project is predicted moderate at the time on the Mid-term Review.

The smallholder farmers in the target areas, especially MFs in the new provinces under the Project are expected to acquire new skills and knowledge for sustainable rice farming within their own capability and creativity. On the other hand, Provincial governments are expected to provide support systems for the farmers that will enable them to realize sustainable rice farming activity.


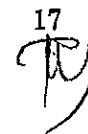
At the current stage, the achievement of the Project will depend on substantially on performance by the target areas in each province especially when driving the supporting system for the MF into a sufficient level, and also the MF willingness and confidence for rice farming.

At this moment, the supporting systems at provincial level are very weak, and not yet fully functional as well as farmers are still learning process on rice farming.

Therefore, the Project shall formulate tangible action to tackle these issues pertaining to the farmers as well as the officers in all the level (national/provincial and district/LLG).

IV-3 Efficiency

The efficiency of the Project is predicted moderate at the time on the Mid-term Review.

Inputs of the Project resource which include human resources and equipment were made mostly as expected, with the exception of provision in budget for the Project operation by NDAL and also C/P assignment. Especially, the issues on human resource allocation, the delay of dispatching short-term experts and also the shortage/frequent replacement of the counterpart personnel affected the Project progress.

On the other hand, MFs are key personnel to improve rice cultivation techniques and then disseminate their knowhow and experiences to other surrounding interested farmers. It can be said that the MF approach is relevant and also as very efficient to promote smallholder rice production in the target provinces.

The Project has been struggling of extension method and monitoring system due to weak relationship between farmers and local government/district offices, as well as the shortage of budget and awareness for rice promotion.

IV-4 Impact

(1) Prospects of achieving Overall Goal

The achievement of the Project's Overall Goal, "Rice farmers and rice production are expanded sustainably in the target provinces." it is too early to measure the final progress of the respective outcomes and let alone how much contribution by the Project has been made in terms of sustaining rice farmers and rice production in the target provinces.

However, in the light of this, the Project is expected to continue implementing interventions to support smallholder farmers in the target provinces.

According to the central/provincial office, field interviews and questionnaire survey conducted during the Review, the Team observed that the Project brings several positive changes as mentioned below.

(2) Spill-over Effects

1) Create awareness on rice to farmers/resident people

Not only farmers but also school and church people have interested in rice farming and also to acquire basic knowledge and technique about rice cultivation. Through the MFs and extension officers in respective provinces, resident people has been getting awareness about rice and recognizing the advantage of rice with economic and security reasons (e.g., saving & gain cash, good nourishment, better taste, stock longer time, easy to cook, etc.).

2) Group exercise and joint efforts by smallholder farmers

In the Maprik district, East Sepik Province, MFs hold a monthly meeting spontaneously and

carried out exchange of opinions about rice farming such as milling services and pest management. Moreover, one of the best practices as positive impact, it has observed a farmer group in the district attempted to operate and manage a rice milling machine jointly, and make brand rice package to promote their rice sales.

It is expected that such a farmer's initiatives, organization and information sharing will progress supported by the respective provincial government where staffs are substantial compared with the central government.

In addition, the District officers in the above areas also seem to perform the information and data collection about production and the situation of rice crop using the opportunity for such farmers to gather.

3) Technology adoption by other surrounding farmers

With the leading role by provincial staffs and MFs in Project areas, rice produced not only the farmlands of MFs but also their neighbouring farmers.

Gradually, some of the MFs reported that they had made contacts to the neighbouring farmers with whom they shared experiences on rice cultivation techniques. Some of these surrounding farmers adopted the basic rice techniques which is the practice of the technical package introduced by the Project. It seems that "FTFEA" has been taken place gradually by the means of learning from MFs.

4) Future expectation and contribution through the Project

In the local and remote place of PNG, there are very few cash-earnings opportunities and most farmers are living a life near a self-sufficiency livelihood.

Nowadays, even though the self-sufficient smallholder farmers increases a consumption of the imported rice in which can preserve a long time, and their household economy is pressed, however, it is thought that improving the household economy and also opening the way of cash earnings by sale of surplus rice contributes also to the improvement in their livelihood and food security by the ability of rice to be produced now on one's own account.

Moreover, if promotion of a smallholder rice crop progresses continuously in the state for the Project, it will count upon giving positive impact to the succeeding policy of the "Rice Development Policy" which the present policy will end in 2014.

IV-5 Sustainability

Project sustainability is not likely to be secured at this stage for the following three (3) reasons.

1) Policy aspect

Rice becomes one of the selected food security crops as stated in the national agricultural

development policy, therefore; the GoPNG will continuously support rice cultivation during and after the end of the Project. In addition, under the present circumstances, there is no movement toward still concrete correspondence about the inheritor of the "Rice Development Policy" to be ended in 2014.

2) Organizational and budgetary aspect

Rice Extension Unit (REU) has been installed in Food Security Office, DAL in 2008, but the personnel are very limited and are not fully functioning as an organization. Moreover, while the central government's personnel affairs are very vulnerable, there is a place where excellent talented people are hired newly, and local talented staffs are abundant generally in the provincial governments

On the other hand, the management budget of FSB and the counterpart-fund budget which makes Japan-2KR financial funds are delayed in execution according to the personnel instability of DAL, although the budget from the PNG is fully secured until now, therefore it is needed to be kept continuously.

In order to fully implement and continue the Project activities even after the Project completion, the GoPNG is required to make efforts to provide necessary operational budget and timely disbursement for the continuation of Project activities as well as MOA will need to be signed between DNP&M, NDAL and the four PDALs.

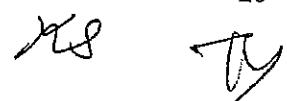
3) Technical aspect

Since the Project started, NDAL and C/P of provincial governments have acquired the ability to guide the fundamental technology about rice farming. However, the field monitoring method is not still established and the supporting system are not functioning yet due to neither record keeping/reporting nor information sharing on rice production's situation. It was assessed that need to tackle the revision of monitoring sheet, being efficient and timely support system in order to improve the technological backup and also the system of accountability.

Finally about the vehicle and equipment introduced by the Project until now, the maintenance and management has been carried out appropriately, and the rice milling machine and the infrastructure will be needed in effective utilization and suitable management from now on.

V CONCLUSIONS

The Project has passed nearly two years since its commencement. The Team conducted mid-term review based on the "New JICA Guidelines for Project Evaluation (June 2010)". Major perspective



of evaluation is relevance; effectiveness (whether the project produces effects as expected), and efficiency is reviewed based on the current status and performance. Relevance is evaluated high because the Project is in line with policies of both GoPNG and GOJ. In addition, MF approach adopted by the Project contributes to produce outputs of the Project. Efficiency of the Project is evaluated moderate due to the delay of the replacement of counterpart personnel of NDAL and assignment of counterpart personnel of PDALs. Effectiveness of the Project is predicted moderate because the MFs in the new target provinces as Milne bay Province and Manus Province are expected to acquire the skills and knowledge necessary for rice farming through the Project.

It may be too early to evaluate the Project impact and sustainability at this stage; however, as for impact of the Project, positive impacts have been shown. For example, the number of smallholder farmers in Maprik District has been increasing through MF approach disseminating rice production to local farmers as well as promoting self-consumption of rice.

The Team observed that the Project activities are being conducted basically according to the original plan, however the Team recognizes that the tangible results are not yet fully produced as expected and sustainable rice farming is still on going, then the Project Purpose will not be achieved without driving more effective supporting & monitoring system for the MFs, and also the willingness and confidence of smallholder farmers by the end of the Project term. The Team also recognizes some issues that need to be tackled in order to make the Project more successful and develop even after the Project has ended.

Taking into consideration both time and budgetary limitations, the Team puts emphasis on the importance of the further strengthening of the Project implementation system of the PNG side at an earlier stage for achieving the Project Purpose satisfactorily at the end of the Project. Reflecting on the Team's recommendations below, the Project activities shall be continuously conducted within the remaining cooperation period.

VI RECOMMENDATIONS

VI-1 Recommendations for the Project

1) Improvement of monitoring system

In order to grasp precisely the current conditions of rice farming introduced by the Project in the respective provinces in a timely manner, the Project is strongly expected to improve the actual monitoring system promoting active involvement of Provincial staff (including Districts and LLGs).

The Team considers that it is urgent to establish appropriate monitoring & reporting system for obtaining information necessary to reflect the activities of the Project. The results on the monitoring should be shared by relevant organizations.

Therefore, the Project needs to take the following actions for securing the sustainability of monitoring system, as well as maintaining its institutional capacity.

- Ample funding of PDALs for the monitoring activities including support for MFs through workshops and the adequate disbursement of the fund
- Simplification and Modification of the monitoring format based on the recommendations made by provincial officers
- Close communication between officials of NDAL, particularly REU and provincial officers including Districts and LLGs) and their greater initiative for the monitoring

2) Improvement of support for MFs

It is indispensable for the Project to improve the support for MFs in order to expand rice production of smallholders in the target provinces.

The Project should support MFs through the following activities:

- The Project should revise existing manuals on rice production (i.e. countermeasure to rice stem borer and weeding) as well as develop a leaflet on rice production techniques for farmers.
- It is desirable that Provincial DALs encourage MFs to promote extension activities for farmers appreciating their efforts

3) Importance of the support for Smallholders

The introduction of rice farming to smallholders contributes to not only food security but also human security promoting self-consumption and the income generation through the sales of surplus.



Therefore, it is important for both NDAL and PDALs to provide the support for smallholders such as training, and the information related to pest and disease of rice. In addition, a smooth flow of technological information among NDAL, PDALs, Districts, LLGs and smallholder farmers in the target provinces must be established for the purpose of promoting the cultivation of rice.

4) Promotion of technical exchange among the target provinces

The Team believes that East Sepik province will be able to become model province applicable for other provinces in terms of smallholder rice production due to existing good practices and the knowhow accumulated, and strong commitments made by both provincial and district governments.

Therefore, the Team suggested that the Project should transfer good practices and experiences accumulated in East Sepik Province to other target provinces in remaining cooperation period (2014 to 2015).

In addition, the Project needs to promote technical exchange not only among officers but also among farmers in target four provinces in order to generate synergy effects.

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5) Technical suggestions on rice farming

(5-1) Pest and disease control

The Team confirmed that stem borer was the most serious pest in field. The Team suggests that short-term expert should be dispatched to identify the species and study the measures to solve the problem. REU in collaboration with four target provinces should conduct a rapid pest and disease survey to determine and identify major and important pests and disease; based on this the Project can request and invite short-term expert from JICA.

(5-2) Variety

The Team confirmed that there were several varieties cultivating in the farmers' fields, but the Team could not find which variety would be good in each site. The Team suggests that the Project should make a list which shows the characteristics of each variety, especially strong points and weak points should be shown in each variety.

(5-3) Milling machine and rice grain moisture content

The Team confirmed that milling recovery was good in appropriate moisture content of grains. On the other hand, the milling recovery was worst in excessively dried grains. Therefore the training for drying is very important. The Team recommends that the Project should develop a leaflet showing how to dry rice after harvesting. Equipment for measuring the moisture content should be delivered in each milling station if possible.

6) Installation and operation of rice milling machines

Some rice milling machines provided by JICA have not yet installed due to a lack of electric supply facilities and the delay of the construction of rice milling infrastructure.

In order to promote smallholder rice production in the target provinces, it is required for the Project to utilize existing rice milling machines for smallholders. The Project must support PDALs to complete the installation of milling machines and the construction of related infrastructure.

7) Revision of PDM

Based on the results obtained by the baseline survey, the number of the rice growers in the target provinces is less than 3,400. In addition, the number of the rice growers in the Madang Province has been decreasing due to a lack of incentives for smallholder farmers.

Therefore, the indicators on rice farmers in the project purpose and overall goal should be revised reflecting the current data. Moreover the baseline survey should be focused on four target provinces considering both time and budgetary limitations. The revised PDM (version 2.0) is attached in Annex 6.

VI-2 Recommendation for NDAL and PDALs

Assignment of Counterpart personnel for the smooth implementation and the sustainability

Actually NDAL has allocated only two officials who cover the coordination with Provincial governments. The Team considers that the allocation of necessary number of capable counterpart personnel is indispensable to implement the Project smoothly and successfully, and to accomplish the aims of the Project.

NDAL must allocate at least three qualified and enthusiastic counterpart personnel in the fields of post-harvest technology, agronomy, agricultural extension service, and information technology for implementing Project activities effectively. NDAL should retain them over the course of the Project for ensuring the smooth implementation and the sustainability of the Project. Moreover counterpart personnel allocated and to be allocated by NDAL should build close linkages to persons concerned in the target provinces (including Districts and LLGs) for the purpose of maintaining smooth flow of information and data.

On the other hand, Provincial DALs should assign newly the following counterpart personnel for implementing the Project activities in the respective provinces until 4th JCC.

Madang Province should assign two (2) counterpart personnel in the fields of agronomy and agricultural extension service.

East Sepik Province should assign two (2) counterpart personnel as rice officer for Angoram District and Wosera Gawi District.

Manus Province should assign two (2) counterpart personnel as rice officer and agricultural extension service officer.

Milne Bay Province should assign three (3) counterpart personnel (3) as rice officer for Alotau District, Samarai-Murua District and Kiriwina-Goodenough District.


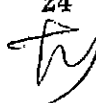
In addition, the signing of MOA between NDAL, DNP&M and the target provinces must be concluded no later than the end of October, 2013.

VII LESSONS LEARNT

1) Baseline survey and monitoring

It takes more than one year to conduct baseline survey due to geographical factors and ability of local surveyor, therefore the indicators setting up on actual PDM are not being reflected on the current conditions.

Furthermore, it should clarify the level of achievements setting up the verifiable indicators based on the baseline survey to be done in the beginning of the Project. Therefore, baseline survey

 
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should be done in a timely manner for sharing the information on the current conditions and related data among persons concerned with the Project.

2) Development of the farming system according to local conditions

Most farmers who were transferred rice cultivation techniques through MFs are cultivating rice. However, some farmers in the target provinces have quitted to cultivate rice and changed other local cash crops such as cocoa and coffee due to some constraints such as a lack of labor force and rice milling facilities, and the decreased price of rice.

In the project formulation process, the appropriate farming system for smallholders should be considered carefully taking into consideration local conditions and existing farming system adopted by local farmers.

Therefore, it is required to develop farming system suitable for target areas including rice farming to improve the life conditions of smallholders, as well as to develop manuals on rice farming in the respective countries.

3) Partnership with JICA volunteers and coordination with other stakeholders

Several volunteers are being dispatched by JICA to the target provinces of the Project for the purpose of contributing to the community development. The above-mentioned JICA volunteers are disseminating rice farming in their respective communities for supporting self-consumption of rice for local smallholders. Moreover other donors such as Taiwan Technical Mission and China have been providing cooperation for increasing rice production in PNG.

It will be required for the Project to promote partnership with JICA volunteers as well as coordination with other stakeholders engaging in the rice production for more effective and efficient cooperation.

4) Utilization of Local resources

For increasing the efficiency of the Project it is expected to utilize not only Japanese experts but also local consultants as the input of the Japanese side. Moreover local human resources have enough capabilities to attend local needs based on their experiences and background.

In the implementation process of the cooperation, wide range of human resources including local resources should be considered as input for the Project.

5) Right approach on "Model Farmer"

The Model for smallholder rice promotion using the Farmer To Farmer Extension approach has been developed and promoted in the target provinces by the Project. Most of the MFs and also surrounding smallholder farmers who the Team interviewed and/or were given answer by questionnaire survey are well aware of "MF"s role and its importance, and are highly motivated to

disseminate rice techniques and also contribute to improve livelihood of their communities. For extending rice farming to farmers in neighboring village or island, it is obvious in PNG that most effective approach is Farmer To Farmer Extension approach which the MFs can share their knowledge to others. In conclusion, it is required to continue the approach in target provinces but also other provinces in PNG. In addition to that, it also needs to define their role and improve support system for MFs.

6) Compiling good practices: Lesson learnt from last experience

During the project implementation, a lot of rice farming stories has been told such as good practice on rice farming as well as smallholder farmers who abandoned rice unfortunately. By compiling the success and constraint factors from the past experiences in what were the reasons behind and how it will be applied or utilized into any other smallholder farmers. There is one of the good cases such as MF meeting, joint group works and rice milling management in Maprik group in East Sepik Province.

7) Importance of collecting data of rice farming and facing issues by smallholder farmers

Under the current situation in the target provinces, data on of smallholder famers and rice production are not reliable and timely available. For effective monitoring and reporting system, data collection and recording is essential.

It is important to collect accurate data of rice farming in order to know the rice situation and also its trend. At the same time on data collection, it had better to capture the problem and questions which most farmers are facing in the ground.

Collecting data and keeping record aim not only to remain as accurate statistics and documentation, but also utilize as analytical works and for better monitoring and planning.

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PROJECT DESIGN MATRIX (PDM)

Project title: The Project on Promotion of Smallholder Rice Production (P4w-2)
 Target Provinces: Madang, East Sepik, Manus, Milne Bay Provinces
 Project Duration: 3.5 years

Version 1.1
 Date: 6th December 2012

Project Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal: Rice farmers and rice production are expanded sustainably in the target provinces.</p>	<p>(1) Number of smallholder (agricultural households) growing rice becomes over 20,000 in the target provinces by 2020. (2) More than 10% of randomly-selected smallholder farmers (agricultural households) in the target provinces produce rice for their home consumption for the last three years, and more than 80% of them have received guidance from the Model Farmers (MF) trained by this Project in 2020. (3) More than 5% of randomly-selected smallholder farmers (more than 50% of rice growers) in the target provinces produce more than 50 kg of paddy rice in 2020. (4) More than 80% of the districts holding the MF adopt and implement the guideline on the extension services for smallholder rice production and on the milling services in 2020.</p>	<p>1) Results of the survey organized by NDAL 2) Results of the survey organized by NDAL</p>	
<p>Project Purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.</p>	<p>(1) Number of farmers growing rice becomes over 15,590 in the four target provinces in 2014/15 season. (2) Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved. (3) Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more (4) Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees (5) Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved (6) Over 6,000 farmers receive guidance from MF trained by the Project.</p>	<p>Newsletter, other project documents and record, interviews with the government officers involved, and others</p>	<p>The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence smallholders rice production" as one of the core policies.</p>
<p>Outputs: 1 By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved. 2 The existing mechanical milling service of public and private milling service stations is improved. 3 Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.</p>	<p>(1) Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others (2) Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts (3) Number of the MF who received the supplementary training: 170 (4) Number of the MF supplementary training that is conducted with local resource persons of the Provinces: 12 (5) Number of supplemented training modules (units) for MF: 10 (6) Number of Provincial staff who received the supplementary training: 20 (1) Number of the machines that are reviewed: 80% or more of functioning ones in the public stations (2) At least two kinds of the milling machines are identified for recommendation. (3) Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs (4) Number of the model milling machines that are delivered and go in service: 8 units (5) Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Madang No.2 in Madang, Hayfield in East Sepik, Tanat Station in Manus, Bubulera in Milne Bay (1) Accumulated number of the districts that provide information collected: 33 Districts from 2012 to 2014 (2) Accumulated number of the newsletters published: 11 (3) Number of active members of the taskforce for the extension service guideline: 6 (4) Number of active members of the taskforce for the mechanical milling service guideline: 6</p>	<p>Newsletter, other project documents and record, interviews with the government officers and farmers involved, and others Newsletter, other project documents and record, interviews with the government officers involved, and others Newsletter, other project documents and record</p>	<p>Severe outbreak of pest and disease does not occur. Severe climatic change does not occur. The C/P staff of NDAL and target provinces are not transferred to other offices during the Project period.</p>

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Activities:	Inputs		Security situation does not worsen.
1-1 Improvement of the monitoring system: The current Farmer to Farmer Extension (FFFE) by Model Farmer (MF) in the target provinces/districts is reviewed in terms of supporting system.	JICA	Government of Papua New Guinea	Security situation does not worsen.
1-2 The improved monitoring plan(s) is developed and finalized through workshops participated by local government officers involved. The improved monitoring plan(s) is implemented in the target provinces/districts.	1) Assignment of Japanese and third country experts:	1) Assignment of officers and staff at NDAL, Provincial DAL, District DAL and LLGs	Security situation does not worsen.
1-3 Supplementary training for MF In areas of soil management, pest/diseases and others, curriculum is developed for conducting supplementary training for MF and Provincial staff (including District and LLG staff).	Long-term experts : Chief Advisor/Extension Planning and Management, Coordinator/Reinforcing Administration	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
1-4 A plan for supplementary training for MF is developed that includes way to select candidate trainees, exit exam for certifying trainees, outsourcing of trainers, way of training of REU/provincial trainers, etc. and is implemented.	short-term experts : of necessary expertise areas in rice production	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
2-1 Mechanical milling service: Specifications, capacities and performance of the milling machines and the capacity of staff in the public and private milling stations in the sample target provinces/districts are reviewed and the results are released to all the local governments involved and other stakeholders.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
2-2 Based on results of the above review, improvement plan(s) for mechanical milling service is drafted that includes recommendations on technical specifications of the milling machine, cost and profit analysis of their operation, recommendations on improving installation of existing machines, and others.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
2-3 The improvement plan(s) is tried in the target provinces.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
2-4 The model milling services are demonstrated in selected public milling facilities in at least 4 provinces.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
2-5 The training on operation of milling machines and management of mechanical milling service center is conducted.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
3-1 Baseline survey: Baseline survey on nationwide domestic rice production and consumption is conducted in aspect of food security.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
3-2 Information sharing: By utilizing various chances including the management meeting and issue oriented meeting, relevant information on rice production is collected including local governments' facilities to extend rice production, technical challenges in cultivation and postharvest, market prices of imported and local rice, assistance by donors, and others.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
3-3 The outcomes from the above 3-1 and 3-2 are compiled in a form of periodical newsletters and released to the other provinces, as well as to relevant government organizations and other stakeholders.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
3-4 The other province are facilitated to develop smallholder rice production through the MF approach.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
3-5 Guideline on extension services for smallholder rice production: Role of national and local governments for the extension service that include province, district, LLG and ward council are clarified and a proposal for setting up appropriate extension system (single or plural) are prepared.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.
3-6 Guideline on mechanical milling services: The improvement plan for mechanical milling service that is prepared through the activity 2-2 is reviewed for formulating a guideline, and finalized after consultation workshop for the relevant government organizations and/or other process as required.	2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring	2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs	Security situation does not worsen.

Pre-conditions

- 1) The current Expansion Phase is continued by NDAL.
- 2) NDAL receives the development budget for rice programs.

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Activities	FY(PNG) Quarter	2011				2012				2013				2014				2015	
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV		
1-1. Improvement of the monitoring system: The current FTPE by MF in the target provinces/districts is reviewed in terms of supporting system for MF, MF's report format, language, ways to submit report, and others.																			
1-2. The improved monitoring plan(s) is developed and finalized through workshops participated by local government officers involved. The improved monitoring plan(s) is implemented in the target provinces/districts.																			
1-3. Supplementary training for MF: In areas of soil management, pest/diseases and others, curriculum is developed for conducting supplementary training for MF.																			
1-4. A plan for supplementary training for MF is developed that includes way to select candidate trainees, exit exam for certifying trainees, outsourcing of trainers, way of training of REU/provincial trainers, etc. and is implemented.																			
2-1. Mechanical milling service: Specifications, capacities and performance of the milling machines and the capacity of staff in the public and private milling stations in the sample target provinces/districts are reviewed and the results are released to all the local governments involved and other stakeholders.																			
2-2. Based on results of the above review, improvement plan(s) for mechanical milling service is drafted that includes recommendations on technical specifications of the milling machine, cost and profit analysis of their operation, recommendations on improving installation of existing machines, and others.																			
2-3. The improvement plan(s) is tried in the target provinces.																			
2-4. The model mechanical milling services are demonstrated in selected public milling facilities in at least 4 provinces.																			
2-5. The training on operation of milling machines and management of mechanical milling service center is conducted.																			
3-1. Baseline survey: Baseline survey on nationwide domestic rice production and consumption is conducted in aspect of food security, security.																			
3-2. Information sharing: By utilizing various chances including the management meeting and issue oriented meeting in provincial level, all relevant information on rice production in the target provinces/districts is collected that includes local governments' facilities to extend rice production, technical challenges in cultivation and postharvest, market prices of imported and local rice, assistance by donors, and others.																			
3-3. The outcomes from the above 3-1 and 3-2 are compiled in a form of periodical newsletters and released to the other provinces, as well as to relevant government organizations and other stakeholders.																			
3-4. The other province are facilitated to develop smallholder rice production through the MF approach.																			
3-5. Guideline on extension services for smallholder rice production: Role of national and local governments for the extension service that include province, district, LLG and ward council are clarified and a proposal for setting up appropriate extension system (single or plural) are prepared.																			
3-6. Guideline on mechanical milling services: The improvement plan for mechanical milling service that is prepared through the activity 2-2 is reviewed for formulating a guideline, and finalized after consultation workshop for the relevant government organizations and/or other process as required.																			
Project Evaluation by JICA and PNG Government																			

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Evaluation Grid for Mid-term Review for Project on Promotion of Smallholder Rice Production (Phase 2)

(1) Achievement level

Items to be checked		Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods
Inputs	Inputs from Japanese side	To what extent has the assignment of Japanese Experts been appropriate in terms of timing, number of assignment days, number of experts assigned, and their expertise?	Assignment record of Japanese Experts	Project progress reports, Completion reports
		To what extent has the counterpart training been appropriately undertaken so far in terms of contents, number of courses, timing? (including Seminars, Workshops or Trainings conducted in PNG)	Record on trainings conducted	Project progress reports, Report on trainings
		To what extent has the provision of equipment been appropriate in terms of type and number of equipment procured, and timing of delivery?	List and record of equipment provided	List of equipment provided
		To what extent has the amount of contribution on expenditure (local cost) from JICA side to the Project been appropriate?	Financial record on local cost	Financial reports of Project
	Inputs from PNG side	To what extent has the assignment of counterpart personnel from GoP been appropriate in terms of number of officers assigned and their expertise?	Assignment record of C/P	Project progress reports, Report on trainings
		To what extent has the amount of contribution on expenditure (local cost) from Central and Provincial (EAS, MAD, MAS, MLE) government to the Project been appropriate?	Financial report on budget and disbursement of GoP government	Financial reports of GoP / Provincial government
To what extent has the provision of land, building, office, facility been appropriate?		List of important equipment locally available	Project progress reports, Reports from GoP	
Achievement Level of Outputs	Output 1: By conducting supplementary training for MF and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.	To what extent is the OVI 1-1 "Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
		To what extent is the OVI 1-2 "Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts." likely to be achieved?		
		To what extent is the OVI 1-3 "Number of the MF who received the supplementary training: 170." likely to be achieved?		
		To what extent is the OVI 1-4 "Number of the MF supplementary training that is conducted without outsourcing instructors: 12." likely to be achieved?		
		To what extent is the OVI 1-5 "Number of supplemented training modules (units) for MF: 10" likely to be achieved?		
		To what extent is the OVI 1-6 "Number of Provincial staff who received the supplementary training: 20" likely to be achieved?		
	Output 2: The existing mechanical milling service of public and private milling service station is improved.	To what extent is the OVI 2-1 "Number of the machines that are reviewed: 80% or more of functioning ones in the public stations." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
		To what extent is the OVI 2-2 "At least two kinds of the milling machines are identified for recommendation." likely to be achieved?		
		To what extent is the OVI 2-3 "Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs." likely to be achieved?		
		To what extent is the OVI 2-4 "Number of the model milling machines that are delivered and go in service: 8 units." likely to be achieved?		
		To what extent is the OVI 2-5 "Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Madang No.2 in MAD, Hayfield in EAS, Tarnat Station in MAS, Bubulela in MLE." likely to be achieved?		
	Output 3: Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.	To what extent is the OVI 3-1 "Accumulated number of the districts that provide information collected: 33 Districts from 2012 to 2014." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
		To what extent is the OVI 3-2 "Accumulated number of the newsletters published: 11." likely to be achieved?		
		To what extent is the OVI 3-3 "Number of active members of the taskforce for the extension service guideline: 6." likely to be achieved?		
		To what extent is the OVI 3-4 "Number of active members of the taskforce for the mechanical milling service guideline: 6." likely to be achieved?		

Items to be Checked	Evaluation Objectives	Necessary Data and Information	Information Sources and Data Collection Methods	
Achievement Level of Project Purpose	The extent to which smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.	To what extent is the OVI 1 "Number of farmers growing rice becomes over 15,590 in the four target provinces in 2014/15 season." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
	To what extent is the OVI 2 "Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved." likely to be achieved?			
	To what extent is the OVI 3 "Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more." likely to be achieved?			
	To what extent is the OVI 4 "Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees." likely to be achieved?			
	To what extent is the OVI 5 "Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved." likely to be achieved?			
	To what extent is the OVI 6 "Over 16,000 farmers receive guidance from MF trained by the Project." likely to be achieved?			
Achievement Level of Overall Goal	The extent to which rice farmers & rice production are expanded sustainably in the target provinces.	To what extent is the OVI 1 "Number of smallholder (agricultural households) growing rice becomes over 20,000 in the target provinces by 2020." likely to be achieved?	NDAL Documents, Sample survey, Record on Project activities, Opinion of Japanese Experts and PNG C/Ps and farmers involved	Baseline survey report, Annual Rice Report, Newsletter, Project progress reports, Monitoring plan(s), Supplementary training reports, Interviews, questionnaire surveys
		To what extent is the OVI 2 "More than 10% of randomly-selected smallholder farmers (agricultural households) in the target provinces produce rice for their home consumption for the last three years, and more than 80% of them have received guidance from the Model Farmers (MF) trained by this Project in 2020." likely to be achieved?		
		To what extent is the OVI 3 "More than 5% of randomly-selected smallholder farmers (more than 50% of rice growers) in the target provinces produce more than 50 kg of paddy rice in 2020." likely to be achieved?		

(2) Implementation Process

Project Implementation Process	Progress of Inputs and Activities	Have the Project inputs/activities been carried out according to the plan agreed on between PNG and Japanese sides?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys
	Project Management System	Have the Project activities been monitored appropriately both by the PNG and Japanese sides throughout the Project term?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Completion reports, Interviews, questionnaire surveys
		Have the Project Design Matrix (PDM) and Plan of Operation (PO) appropriately reviewed?		
		Have Japanese Experts and PNG Counterpart staff adequately communicated with one another to share information regarding the project management and activities?		
		Have regular meetings between the PNG and Japanese sides, or coordination committee meetings sufficiently contributed to solving problems that occurred in the implementation process?		
	Ownership of the Project	Have the Project team and JICA local office sufficiently communicated with each other to share information regarding project management and activities?		
		Have the PNG staff (Central and Provincial C/Ps) adequately participated in project management and activities?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys
	Collaboration with Other Projects	Has the PNG Government allocated a sufficient budget for the Project activities?	Financial report on budget and disbursement of PNG government, Opinion of Japanese Experts and PNG C/Ps	Financial reports of PNG government, Interviews, questionnaire surveys
Has the Project adequately collaborated with other projects implemented either by JICA or other donors?		Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys	
Factors Affecting the Implementation Process	Have restructuring of implementing organizations or reshuffling of the supervisors and C/Ps affected the implementation of the Project?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys	
	Are there unpredictable constraints which have adversely affected the Project implementation process?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews, questionnaire surveys	

EAS= EAST SEPIK, MAD=MADANG, MAS=MANUS, MLS=MILNE BAY

(3) Evaluation based on Five Evaluation criteria

Items to be checked	Evaluation Question	Necessary Data and Information	Information Sources and Data Collection Methods	
Relevance	Relevance to Local Needs, Policies, Priority	Has the technical cooperation/advice provided under the Project been relevant to the needs of PNG government and targeted Provincial governments?	Development policies of PNG government (e.g., PNG Rice Development Policy 2004-2014) and targeted Provincial governments	Review of policy documents, Interviews and questionnaire survey to Experts and C/Ps
		Has the technical cooperation/advice provided under the Project been relevant to the needs of the target group?	Opinion of local farmers in target areas	Interviews and questionnaire survey to local farmers in target areas
		Has the Project purpose been in line with and had higher priority in the national development plan of the PNG and targeted Provincial Governments?	Development policies of PNG and targeted Provincial governments, Opinion of Provincial government officers, Japanese Experts, PNG C/Ps	Review of policy documents, Interviews and questionnaire survey to Provincial government officers in charge, Experts and C/Ps
		Has the Project been in accordance with the country assistant policy of Japanese Government and JICA for PNG?	Country assistant strategy and policy of Japanese Government and JICA to PNG, Opinion of MOFA officers and JICA staff	Interviews and questionnaire survey to MOFA officers and JICA staff
	Appropriateness of Project Approach	Has the Project approach ("rice extension services of MF approach and its support system") been appropriate in terms of the development strategy of PNG and targeted Provincial governments?	Development policies of PNG and targeted Provincial governments, Opinion of Provincial government officers, Japanese Experts, PNG C/Ps	Review of policy documents, Interviews and questionnaire survey to Provincial government officers in charge, Experts and C/Ps
		Were the main Project target areas (East Sepik, Madang, Manus, Milne Bay) appropriately selected in accordance with the development strategy of PNG?		
		Was the target group was appropriately selected in accordance with the development strategy of PNG and targeted Provincial government? Are there any appearance the project benefits not only to the target group but also to others, and also is it possible to extend the benefits continuously and broader?		
		Did Japan have comparative advantage in technology (know-how) and experience for supporting the Project?		
	Distribution of Project benefits	Is the Project expenses and benefits likely to be distributed fairly?	Opinion of Japanese Experts and PNG C/Ps, and JICA staff in charge	Interviews and questionnaire survey to Experts and C/Ps
	Effectiveness	Achievement level of Project Purpose	Is the Project Purpose ("Sustainable smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.") likely to be achieved by the end of the Project?	Opinion of Japanese Experts and PNG C/Ps, and JICA staff in charge
Are the three (3) Outputs effectively contributing to the achievement of Project Purpose?				
Effects of External Factors		Have any other factors part from the Project contributed to the achievement of the Project Purpose?	Opinion of Japanese Experts and PNG C/Ps	Annual Rice Report, Interviews and questionnaire survey to Experts and C/Ps
		Has the assumption from Outputs level to Project Purpose level ("Severe outbreak of pest and disease does not occur.", "Severe climatic change does not occur.", and "The C/P staff of NDAL and target provinces are not transferred to other offices during the Project period.") affected the realization of the Project Purpose? Have any other external factors negatively affected the realization of the Project Purpose?		

Items to be checked		Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods
Efficiency	Contribution of Activities	Have adequate activities been carried out on time to realize the Project Outputs according to the original plan?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Annual Rice Report, Interviews and questionnaire survey to Experts and C/Ps
	Appropriateness of Inputs by Japanese Side	Was the dispatch of Japanese experts appropriate in terms of number, expertise, length and timing of their assignment?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Was the provision of equipment by the Japanese side appropriate in terms of types, quantity and timing of procurement?		
		Has the training of C/Ps in PNG or Japan appropriately undertaken in terms of number of trainees, contents, length and timing?		
		Have knowledge and skills that the C/Ps obtained through the training been relevant to the Project activities?		
	Has the local cost support by the Japanese side been appropriate in terms of amount, use, and timing of disbursement?			
	Appropriateness of Inputs by PNG Side	Has the assignment of C/P staff been appropriate in terms of number, position and competency?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
Have the facilities and equipment provided by the PNG side been appropriate in terms of size, quality and convenience for use?				
Has the amount of budget for the Project disbursed by the PNG government been appropriate in undertaking the Project activities?				
Effects of Important Assumptions	Are there any Important Assumptions that have affected from the activities to outputs of the Project?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
	Are there any Important Assumptions that have positively affected the efficiency of the Project?			
	Are there any Important Assumptions that have negatively affected the efficiency of the Project?			
Comparative analysis of input costs	Compared to the related project, the Project purpose and outputs are appropriate to the inputs cost?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, interviews and questionnaire survey to Experts and C/Ps	
	Compared to the related project, is it likely to achieve the Project purpose in align with the input costs? (Is it any other alternative to achieve more low input costs? And/or is it any higher achievement with the same inputs costs?)			
	Are there any linkage and collaboration with other JICA program and/or other donors' cooperation?			
Impact (prospect)	Probability of Overall Goal to be Achieved	Is the Overall Goal ("Rice farmers and rice production are expanded sustainably in the target provinces.") likely to be realized as a result of the Project?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
	Effects of External Factors	Were the Overall Goal and the Project Purpose compatible and set at appropriate levels? (Was there big gap between two levels?)	PDM, Opinion of Japanese Experts and PNG C/Ps	Review of PDM, Interviews and questionnaire survey to Experts and C/Ps
		Is the assumption from the Project Purpose level to the Overall Goal level ("The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence small holders rice production" as one of the core policies.") likely to be satisfied?	PDM, Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Review of PDM, Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Are there any external factors that may affect the realization of the Overall Goal?		
Multiplied Effects	Were there any unexpected positive or negative impacts that the Project caused on the relevant government policy, system, socio-economic conditions and technological development?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	

Items to be checked	Evaluation Questions	Necessary Data and Information	Information Sources and Data Collection Methods	
Sustainability (prospect)	Institutional Aspect	Is Central and targeted Provincial governments likely to have adequate institutional arrangement (policy and system) by which the Outputs achieved through the Project can be sustained after the technical cooperation terminates in May 2015?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
	Financial Aspect	Is Central and targeted Provincial government secure an adequate budget including local costs continuously?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Is Central and targeted Provincial government likely to secure an adequate budget with which the Outputs achieved through the Project can be sustained after the technical cooperation terminates?		
	Organizational Aspect	Is Central and targeted Provincial government likely to maintain and develop the organizational structure including appropriate staff assignment with which the Outputs achieved through the Project can be sustained after the technical cooperation terminates?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Is it sufficiently secured the ownership of the GoPNG toward the project implementation?		
	Technical Aspect	Is the target group has accepted the knowledge and skills strengthen through the Project and likely to continue to use it?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps
		Are relevant organizations likely to maintain and further develop the implementation capacity after the Project terminates?		
		Is the technical skills and knowhow transferred in target areas likely to be easily disseminated to other areas? And is it considered the function of the mechanism to disseminate the skills and knowhow by the Project team?		
Is the practice in target areas likely to be disseminated to other areas after the Project terminates?				
Social /Cultural /Environmental Aspect	Lack of consideration of Women, poor and vulnerable people, is it any likely to hamper the overall sustainability?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
	Lack of consideration of environment, is it any likely to hamper the overall sustainability?			
Other constraints factors	Is there any other factors to hamper the overall sustainability?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
Overall Sustainability	Is the Project achievements likely to have a high level of overall sustainability?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	
Possible Measurements	Is there any necessary change in terms of activities and inputs of the Project? Is there any necessary change in terms of outputs/project purpose and their target indicators of the Project? What are the other possible measures to further facilitate the Project implementation? Is there any necessary change in terms of the implementation mechanism of the Project?	Record on project activities, Opinion of Japanese Experts and PNG C/Ps	Project progress reports, Interviews and questionnaire survey to Experts and C/Ps	

Schedule of the Joint Mid-term Review Team for the Project on promotion of smallholder rice production (Phase 2)

	Date	Day	Leader, Rice Cultivation, Evaluation Management member	Evaluation & Analysis member	Stay-in
1	7/09/13	Sat		11:10 Narita, Tokyo→(SQ 637) 17:20 SINGAPORE/CHANGI 23:25 SINGAPORE/CHANGI(PX393)	
2	8/09/13	Sun		08:00 Arrival to POM, 10:30- Discussion with the Project team	POM
3	9/09/13	Mon		09:00 Courtesy Call to JICA Office 10:30 Courtesy visit to NDAL, discussion and information collection 13:30 DNP& Kick-off meeting with PNG Evaluation Team	POM
4	10/09/13	Tue		Move to Manus, 8:30 POM→MAS11:30(PX222) 13:30 Courtesy Call to Provincial Deputy Administrator, Manus 14:30 Visit & interview to MF, 16:30 Visit & observe Rice mill center	Lorengau
5	11/09/13	Wed		08:00 Visit & interview Provincial Agriculture Office, Data collection 09:00 Group interview to MFs& rice farmers at PDAL 13:30 Visit & interview to MF	Lorengau
6	12/09/13	Thu		08:00 Visit & Interview PDAL, Data collection Move to POM, 12:00 MAS→POM13:20 (PX291)	POM
7	13/09/13	Fri		Move to Milne Bay, 9:30 POM-ALOTAU10:20 (PX954) 13:30 Courtesy Call & interview to Administrator, Provincial Agriculture Office, Milne Bay 14:30 Visit & interview to MF 16:30 Visit & observe oil palm company field	Alotau
8	14/09/13	Sat		09:00 Visit & interview to MF, 10:30 Visit Provincial extension center 11:30 Visit Rice mill center, 12:30 Interview to PDAL	Alotau
9	15/09/13	Sun	13:15 Narita, Tokyo→(PX 055) 20:45 Arrival to POM	Move to POM, 10:50 ALOTAU→POM11:40 (PX955)	POM
10	16/09/13	Mon	(Public holiday) 10:00 Discussion in a Team Move to Madang, 16:55POM→MAG18:00 (PX112)		Madang
11	17/09/13	Tue		08:00 Courtesy Call to Madang Provincial Administration 10:00 Visit to Model Milling Center 11:30 Visit to farmers in Sein village 14:00 Visit to farmers in Bom village	Madang
12	18/09/13	Wed		11:00 Move to East Sepik, MAG-WWK11:40 (PX126) Move to Maprik by car	Maprik
13	19/09/13	Thu		08:30 Visit to Old Model Milling Center 09:00 Courtesy Call to Maprik District Administration 10:15 Visit to model rice farmers in Hamahop 11:00 Visit to model farmers and rice farmers in Balif Village 12:00 Observe Official Opening Rice Milling Center 14:30 Interview with MFs and Farmers in Solomb village	Maprik
14	20/09/13	Fri		08:30 Visit to Model Milling Center 10:00 Travel back to Wewak by car 13:00 Courtesy Call to East Sepik Provincial DAL 14:00 Courtesy Call to the Office of East Sepik Administration 15:00 Visit to school	Wewak
15	21/09/13	Sat		08:30 Visit to Wewak Town Market 10:00 Visit to rice farmers	Wewak
16	22/09/13	Sun		Move to POM, 10:45WWK-POM12:15 (PX945) PM: Discussion among Japan Review Team & Drafting the Joint Mid-term Review Report	POM
17	23/09/13	Mon		09:00 Courtesy visit to JICA Office, 10:30 Discussion and information collection with DAL PM: Discussion among Japan Review Team & Drafting the Joint Mid-term Review Report 04:00: 1st Joint Mid-term Review Committee (Discussion for drafting the Joint Mid-term Review Report) among Team	POM
18	24/09/13	Tue		10:00 Finalizing the Joint Mid-term Review Report 14:00 2nd J Joint Mid-term Review Committee	POM
19	25/09/13	Wed		AM: Signing of Joint Mid-term Review Report 14:00 Attend 3rd Joint Coordinating Committee & Present the summary of Review Report (signing of M/M)	POM
20	26/09/13	Thu	Report to Embassy & JICA PNG Office	Report to Embassy & JICA PNG Office, 14:25 Departure from POM (PX 392) 18:45 Arrival to SINGAPORE/CHANGI 21:30 Departure from SINGAPORE/CHANGI (SQ 636)	POM
21	27/09/13	Fri	Move to LAE 09:00 POM→09:45 LAE (PX102) Visit National Agricultural Research Institute) NARI Move to POM 18:45 LAE→19:30 POM (PX107) Meeting with JICA experts	05:30 Arrival to Narita, Tokyo	POM
22	28/09/13	Sat		14:00 Departure from POM (PX 054) 19:55 Arrival to Narita, Tokyo	

List of Products

No	Item	Distributed to
F.Y. 2012		
1	Performance Test Report for commonly used brand of rice milling machines in PNG	East Sepik, Madang, Milne Bay, Manus Province
2	Terminal Report on Activities of the short term experts on rice post harvest	East Sepik, Madang, Milne Bay, Manus Province
3	Monitoring & Review_ 2011 & 2012_ East Sepik .Prov	JCC members
4	Monitoring Report_ 2012_ Madang Province	JCC members
5	Monitoring Report_ 2012_ Milne Bay Province	JCC members
6	Monitoring & Review_ 2012_ Manus Province	JCC members
7	News Letter PLES RICE NIUS_ No1,2,3,4,5	Relevant authorities for the Project
8	Flyer for farmers on Brown Planthopper (BPH)	East Sepik, Madang, Milne Bay, Manus Province
F.Y. 2013		
9	Report of Advanced Model Farmer Training on OISCA (29 Oct. – 2 Nov.)	
10	First Summary Report on the outcome of the Baseline Survey	
11	Technical Manual for Post-harvest Machines	East Sepik, Madang, Milne Bay, Manus Province
12	Terminal Report of Rice Milling Machines for installation and newly developed prototype experiment test (July 2013)	
13	MOA for the Project (before 4 th JCC)	
14	Monitoring & Review Report_ 2013 (Nov 2013 planning)	East Sepik, Madang, Milne Bay, Manus Province

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PROJECT DESIGN MATRIX (PDM)

Project Title: The Project on Promotion of Smallholder Rice Production (Phase-2)

Target Provinces: Madang, East Sepik, Manus, Milne Bay Provinces

Project Duration: 5.5 years

Version 2.0

Date: 25th September 2013

Project Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal:</p> <p>Rice farmers and rice production are expanded sustainably in the target provinces.</p>	<p>(1) Number of smallholder (agricultural households) growing rice becomes over 7,500 in the target provinces by 2020.</p> <p>(2) More than 10% of randomly selected smallholder farmers (agricultural households) in the target provinces produce rice for their home consumption for the last three years, and more than 80% of them have received guidance from the Model Farmers (MF) trained by this Project in 2020.</p> <p>(3) More than 5% of randomly selected smallholder farmers (more than 50% of rice growers) in the target provinces produce more than 50 kg of paddy rice in 2020.</p> <p>(4) More than 80% of the districts holding the MF adopt and implement the guideline on the extension services for smallholder rice production and on the milling services in 2020.</p>	<p>1) Results of the survey organized by NDAL</p> <p>2) Results of the survey organized by NDAL</p>	
<p>Project Purpose:</p> <p>Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.</p>	<p>(1) Number of smallholder (agricultural households) growing rice becomes over 5,000 in the first target provinces in 2014/15 season.</p> <p>(2) Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved.</p> <p>(3) Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more</p> <p>(4) Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainees</p> <p>(5) Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved</p> <p>(6) Over 10,000 smallholders (agricultural households) receive guidance from MF trained by the Project.</p>	<p>Newsletter, other project documents and record, interviews with the government officers involved, and others</p>	<p>The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence small holders rice production" as one of the core policies.</p>
<p>Outputs:</p> <p>1. By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.</p> <p>2. The existing mechanical milling service of public and private milling service stations is improved.</p> <p>3. Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.</p>	<p>(1) Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others</p> <p>(2) Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts</p> <p>(3) Number of the MF who received the supplementary training: 170</p> <p>(4) Number of the MF supplementary training that is conducted with local resource persons of the Provinces: 12</p> <p>(5) Number of supplemented training modules (units) for MF: 10</p> <p>(6) Number of Provincial staff who received the supplementary training: 20</p> <p>(1) Number of the machines that are reviewed: 80% or more of functioning ones in the public stations</p> <p>(2) At least two kinds of the milling machines are identified for recommendation.</p> <p>(3) Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs</p> <p>(4) Number of milling machines for model milling stations that are delivered and go in service: 1 sets</p> <p>(5) Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Madang No.2 in Madang, Hayfield in East Sepik, Tamot Station in Manus, Bubeleta in Milne Bay</p> <p>(1) Number of the districts that provide information collected by REU (REU) in accordance with the grant to be developed: 17 districts</p> <p>(2) Accumulated number of the newsletters published: 11</p> <p>(3) Number of active members of the taskforce for the extension service guideline: 6</p> <p>(4) Number of active members of the taskforce for the mechanical milling service guideline: 6</p>	<p>Newsletter, other project documents and record, interviews with the government officers and farmers involved, and others</p> <p>Newsletter, other project documents and record, interviews with the government officers involved, and others</p> <p>Newsletter, other project documents and record</p>	<p>Severe outbreak of pest and disease does not occur.</p> <p>Severe climatic change does not occur.</p> <p>The C/P staff of NDAL and target provinces are not transferred to other offices during the Project period.</p>

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Activities:	Inputs		
<p>1-1 Improvement of the monitoring system: The current Farmer to Farmer Extension (FIFE) by Model Farmer (MF) in the target provinces/districts is reviewed in terms of supporting system.</p> <p>1-2 The improved monitoring plan(s) is developed and finalized through workshops participated by local government officers involved. The improved monitoring plan(s) is implemented in the target provinces/districts.</p> <p>1-3 Supplementary training for MF In areas of soil management, pest/diseases and others, curriculum is developed for conducting supplementary training for MF and Provincial staff (including District and LLG staff).</p> <p>1-4 A plan for supplementary training for MF is developed that includes way to select candidate trainees, exit exam for certifying trainees, outsourcing of trainers, way of training of REU/provincial trainers, etc. and is implemented.</p> <p>2-1 Mechanical milling service: Specifications, capacities and performance of the milling machines and the capacity of staff in the public and private milling stations in the sample target provinces/districts are reviewed and the results are released to all the local governments involved and other stakeholders.</p> <p>2-2 Based on results of the above review, improvement plan(s) for mechanical milling service is drafted that includes recommendations on technical specifications of the milling machine, cost and profit analysis of their operation, recommendations on improving installation of existing machines, and others.</p> <p>2-3 The improvement plan(s) is tried in the target provinces.</p> <p>2-4 The model milling services are demonstrated in selected public milling facilities in at least 4 provinces.</p> <p>2-5 The training on operation of milling machines and management of mechanical milling service center is conducted.</p>	<p>JICA</p> <p>1) Assignment of Japanese and third country experts:</p> <p>Long-term experts : Chief Advisor/Extension Planning and Management Coordinator/Reinforcing Administration</p> <p>Short-term experts : of necessary expertise areas in rice production</p> <p>2) Provision of equipment: Model rice milling machine and other equipment necessary for training and monitoring</p>	<p>Government of Papua New Guinea</p> <p>1) Assignment of officers and staff at NDAL, Provincial DAL, District DAL and LLGs</p> <p>2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs</p>	<p>Security situation does not worsen.</p>
<p>3-1 Baseline survey: Baseline survey on domestic rice production and consumption in the target provinces is conducted in aspect of food security.</p> <p>3-2 Information sharing: By utilizing various chances including the management meeting and issue oriented meeting, relevant information on rice production is collected including local governments' facilities to extend rice production, technical challenges in cultivation and postharvest, market prices of imported and local rice, assistance by donors, and others.</p> <p>3-3 The outcomes from the above 3-1 and 3-2 are compiled in a form of periodical newsletters and released to the other provinces, as well as to relevant government organizations and other stakeholders.</p> <p>3-4 The other province are facilitated to develop smallholder rice production through the MF approach.</p> <p>3-5 Guideline on extension services for smallholder rice production: Role of national and local governments for the extension service that include province, district, LLG and ward council are clarified and a proposal for setting up appropriate extension system (single or plural) are prepared.</p> <p>3-6 Guideline on mechanical milling services: The improvement plan for mechanical milling service that is prepared through the activity 2-2 is reviewed for formulating a guideline, and finalized after consultation workshop for the relevant government organizations and/or other process as required.</p>			<p style="text-align: center;">Pre-conditions</p> <p>1) The current Expansion Phase is continued by NDAL.</p> <p>2) NDAL receives the development budget for rice programs.</p>

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PROJECT DESIGN MATRIX (PDM)

Project Title: The Project on Extension of Smallholder Rice Production (Phase-2)

Target Provinces: Madang, East Sepik, Manus, Milne Bay Provinces

Project Duration: 3.5 years

Version: 2.0

Date: 29th September 2013

Project Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal: Rice farmers and rice production are expanded sustainably in the target provinces.</p>	<p>(1) Number of smallholder (agricultural households) growing rice becomes over 7,500 in the target provinces by 2020. (2) More than 10% of randomly-selected smallholder farmers (agricultural households) in the target provinces produce rice for their home consumption for the last three years, and more than 80% of them have received guidance from the Model Farmers (MF) trained by this Project in 2020. (3) More than 8% of randomly-selected smallholder farmers (more than 60% of rice growers) in the target provinces produce more than 50 kg of paddy rice in 2020. (4) More than 80% of the districts holding the MF adopt and implement the guideline on the extension services for smallholder rice production and on the milling services in 2020.</p>	<p>1) Results of the survey organized by NDAL 2) Results of the survey organized by NDAL</p>	
<p>Project Purpose: Smallholder rice farming is extended by applying and improving the Model Farmer (MF) Approach and its support system in the target provinces.</p>	<p>(1) Number of smallholders (agricultural households) growing rice becomes over 5,000 in the four target provinces in 2014/15 season. (2) Number of the districts or LLG that implement the improved monitoring plan: 80% or more of all the districts involved. (3) Number of the REU and provincial trainers capable of conducting the MF supplementary training: 10 persons or more. (4) Number of the MF who can pass the exit exam of the supplementary training: 80% or more of all the trainers. (5) Number of the districts or LLG that implement the improvement plan(s) for mechanical milling service: 80% or more of all the districts involved. (6) Over 10,000 smallholders (agricultural households) receive guidance from MF trained by the Project.</p>	<p>Newsletter, other project documents and record, interviews with the government officers involved, and others</p>	<p>The national and local governments continue to prioritize and fund the present food security policy, particularly "promotion of subsistence small holder rice production" as one of the core policies.</p>
<p>Outputs:</p> <p>1 By conducting supplementary training for MF and Provincial staff, and improving the monitoring system, the implementation structure of rice extension services of MF approach and its support system is improved.</p> <p>2 The existing mechanical milling service of public and private milling service stations is improved.</p> <p>3 Implementation of the rice policies by Rice Extension Unit (REU) and Food Security Branch in NDAL is strengthened.</p>	<p>(1) Applicability and feasibility of the improved monitoring plan(s) in terms of locality of the district administration and others (2) Number of the districts that adopt the improved monitoring plan with or without necessary funding: 11 Districts (3) Number of the MF who received the supplementary training: 170 (4) Number of the MF supplementary training that is conducted with local resource persons of the Provinces: 12 (5) Number of supplemented training modules (units) for MF: 10 (6) Number of Provincial staff who received the supplementary training: 20</p> <p>(1) Number of the machines that are reviewed: 80% or more of functioning ones in the public stations (2) At least two kinds of the milling machines are identified for recommendations. (3) Applicability of the improvement plan(s) for mechanical milling service to locally different volumes of milling needs (4) Number of milling machines for manual milling stations that are delivered and go in service: 4 sets (5) Volume of paddy rice received, recovery rates and improved milled rice quality (percentage of complete grains in total milled grains, measured by sampling surveys) in milling service at selected public milling stations: Madang No.2 in Madang, Hayfield in East Sepik, Tarnat Station in Manus, Babuleta in Milne Bay</p> <p>(1) Number of the districts that provide information collected to NDAL (REU) in accordance with the format to be developed: 17 districts (2) Accumulated number of the newsletters published: 11 (3) Number of active members of the taskforce for the extension service guideline: 6 (4) Number of active members of the taskforce for the mechanical milling service guideline: 6</p>	<p>Newsletter, other project documents and record, interviews with the government officers and farmers involved, and others</p> <p>Newsletter, other project documents and record, interviews with the government officers involved, and others</p> <p>Newsletter, other project documents and record</p>	<p>Severe outbreak of pest and disease does not occur. Severe climatic change does not occur. The C/P staff of NDAL and target provinces are not transferred to other offices during the Project period.</p>

MPS

Activities:	Inputs		
<p>1-1 Improvement of the monitoring system: The current Farmer to Farmer Extension (FTEE) by Model Farmer (MF) in the target provinces/districts is reviewed in terms of supporting system.</p> <p>1-2 The improved monitoring plan(s) is developed and finalized through workshops participated by local government officers involved. The improved monitoring plan(s) is implemented in the target provinces/districts.</p> <p>1-3 Supplementary training for MF In areas of soil management, pest/diseases and others, curriculum is developed for conducting supplementary training for MF and Provincial staff (including District and LLG staff).</p> <p>1-4 A plan for supplementary training for MF is developed that includes way to select candidate trainees, exit exam for certifying trainees, outsourcing of trainers, way of training of REU/provincial trainers, etc. and is implemented.</p> <p>2-1 Mechanical milling service: Specifications, capacities and performance of the milling machines and the capacity of staff in the public and private milling stations in the sample target provinces/districts are reviewed and the results are released to all the local governments involved and other stakeholders.</p> <p>2-2 Based on results of the above review, improvement plan(s) for mechanical milling service is drafted that includes recommendations on technical specifications of the milling machine, cost and profit analysis of their operation, recommendations on improving installation of existing machines, and others.</p> <p>2-3 The improvement plan(s) is tried in the target provinces.</p> <p>2-4 The model milling services are demonstrated in selected public milling facilities in at least 4 provinces.</p> <p>2-5 The training on operation of milling machines and management of mechanical milling service center is conducted.</p>	<p>MICA</p> <p>1) Assignment of Japanese and third country experts</p> <p>Long-term experts : Chief Advisor/Extension Planning and Management, Coordinator/Reinforcing Administration</p> <p>Short-term experts : of necessary expertise areas in rice production</p> <p>2) Provision of equipment: Model rice milling machines and other equipment necessary for training and monitoring</p>	<p>Government of Papua New Guinea</p> <p>1) Assignment of officers and staff at NDAL, Provincial DAL, District DAL and LLGs</p> <p>2) Budget for operation of the project by NDAL, Provinces, Districts and LLGs</p>	<p>Security situation does not worsen.</p>
<p>3-1 Baseline survey: Baseline survey on domestic rice production and consumption in the target provinces is conducted in aspect of food security.</p> <p>3-2 Information sharing: By utilizing various chances including the management meeting and issue oriented meeting, relevant information on rice production is collected including local governments' facilities to extend rice production, technical challenges in cultivation and postharvest, market prices of imported and local rice, assistance by donors, and others.</p> <p>3-3 The outcomes from the above 3-1 and 3-2 are compiled in a form of periodical newsletters and released to the other provinces, as well as to relevant government organizations and other stakeholders.</p> <p>3-4 The other province are facilitated to develop smallholder rice production through the MF approach.</p> <p>3-5 Guideline on extension services for smallholder rice production: Role of national and local governments for the extension service that include province, district, LLG and ward council are clarified and a proposal for setting up appropriate extension system (single or plural) are prepared.</p> <p>3-6 Guideline on mechanical milling services: The improvement plan for mechanical milling service that is prepared through the activity 2-2 is reviewed for formulating a guideline, and finalized after consultation workshop for the relevant government organizations and/or other process as required.</p>			<p style="text-align: center;">Pre-conditions</p> <p>1) The current Expansion Phase is continued by NDAL.</p> <p>2) NDAL receives the development budget for rice programs.</p>

MAGSOPCA



Didimag

A quarterly newsmagazine

Volume: 36 Nos. 1-2 *Growing the Economy through Agriculture* January - June 2008

NATIONAL AGRICULTURE DEVELOPMENT PLAN

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Growing Papua New Guinea's Future

FOREWORD

Since my government took office in 2002, we have deliberately introduced a number of key policy initiatives, strategies and plans to develop our nation. These include the Medium Term Development Strategy 2005 – 2010, Agriculture Investment Incentives and Subsidies (Green Revolution) Policy 2003, the National Education Plan 2005 - 2014, the National Transport Development Plan 2006 – 2010 and the National Strategic Plan on HIV/AIDS 2006 -2010 and National Lands Development Program. I am pleased that my government, has for the first time since our independence, developed the National Agriculture Development Plan (NADP) 2007-2016.



Grand Chief Sir Michael T Somare
Prime Minister

Agriculture is the back bone, foundation of our rural economy and heart of the nation. It produces all the food for subsistence and provides a base for employment and income generation for over 82% of the population. My government, recognizing that agriculture has enormous potential and will continue to play an important role in sustaining the basic livelihood of our people, has developed this National Agriculture Development Plan (NADP) as a blue print to guide our future directions in agriculture and rural development.

The NADP has created a platform for the local, district, provincial and national governments, and the private sector to venture into strategic partnerships with land owners and other stakeholders to utilize the available land, resources and technology in all 89 districts. This would enable the vast majority of the rural population to participate actively in the economic development of this nation and thereby guarantee food security and improved livelihood for all the citizens of Papua New Guinea.

The NADP will address the issues relating to economic inequality and poverty among the rural communities by promoting smallholder agriculture development, in tandem with medium to large scale commercial agricultural enterprises which will provide the framework to mobilize the rural poor to utilize their customary lands productively and invest in income generating activities. This would eventually enable them to work their way out of poverty and social inequality and spread the benefits across the wider community. It proposes a number of redistributive reform packages that would assist to unleash the productive potential of the rural population and contribute in achieving the Millennium Development Goals and the 5% national economic growth envisaged in the MTDS.

The enormous economic potential of the agriculture sector will be realized through proper management and implementation of the NADP. As a renewable resource, it will continue to support the future generations on a sustainable basis when non-renewable resources; oil, gas and minerals have declined or been depleted. The cost-benefit analysis of the plan reflects high economic returns, besides the social benefits to the rural communities. It is projected that revenue from the agriculture sector is capable of financing 40% of the national budget.

Greater integration of activities and linkages of Central Agencies, provincial and local level governments, donor partners, non-government organizations, private sector and others are absolutely necessary for the successful implementation of NADP. It must be emphasized that implementing agriculture development, under the framework of NADP, serves as the precursor for rural development that will eventually lead to establishment of transport, utilities, schools, health centres and other economic and social infrastructures. The overall success of future agriculture development will depend on its integration and partnership with other sector agencies

EXECUTIVE SUMMARY

In September 2001, the National Executive Council (NEC) directed the National Department of Agriculture and Livestock (NDAL) to develop a medium term National Agriculture Development Plan (NADP). Accordingly, NDAL, having consulted all stakeholders and the wider community within the agriculture sector, formulated the plan with technical and financial assistance from the GEPNG and the Food and Agriculture Organization (FAO) of the United Nations under the Technical Cooperation Program (TCP No. 3003A).

The vision of NADP is sustainable transformation of the country's agriculture sector into a vibrant and productive economic sector that contributes to economic growth, social wellbeing, national food security and poverty alleviation.

The Mission of NADP is to enhance and improve the quality of life for over 87% of the rural population in 89 districts and 19 provinces; through increased productivity, sustainable and quality production coupled with integrated planning and environmental sustainable management.

The overall goal of NADP is to stimulate economic growth in the agriculture sector in all districts through the development of a well coordinated planning and implementation that are interactive, and effective, involving the full participation of the stakeholders, which promotes food security, income generation and poverty alleviation.

The objectives of NADP are;

- To reduce costs of production and improve quality of agricultural produce for both domestic and international markets
- To increase income earning opportunities of those dependent on agriculture.
- To allocate resources based on priority areas
- To ensure that development is socially, economically, and environmentally sustainable
- To improve the recognition of women's contributions to rural industries and increase opportunities for women's decision making in agriculture

The eight priority areas in NADP are;

(1) Agriculture research, extension, information and training;

The research, extension, information and training sub-components, aim at providing appropriate technology packages, backed up by extension information and human resources capacity building for farmers to effectively participate economically in agriculture activities in their respective communities. Out comes include; improved technology packages and delivery systems, increased knowledge and skills of farmers and extension agents, and efficient market intelligence networks.

(2) Food and horticultural crops development;

The food and horticultural crops sub-component will promote economic production of food and horticultural crops, for domestic consumption and for exports in crops that PNG has competitive advantage. Down stream processing will be promoted for value addition. Out comes include; increased production of local food crops and vegetables, establishment of efficient marketing systems, downstream procession and value adding facilities, reduction of imports (rice), increased income, employment and improved nutritional status, livelihood of rural households.

(3) Tree and industrial crops development;

The tree and industrial crops sector aims at mobilizing the population in the various production areas, to increase on the productivity and production of the various crops. This will be achieved through; rehabilitation of plantations, planting of new plantations / farms, promotion of nucleus estates where feasible, organizing farmers into cooperatives for production and marketing purposes, promote access to credit and markets and encourage down stream processing where feasible.

The tree crop sector will continue to play an increasing role in income and revenue generation for the country. Out comes include; increased production, productivity, and marketing systems, generate export earning opportunities, improved employment and income of smallholders and contribute to increased GDP.

(4) Livestock, apiculture and aquaculture development;

The main aim of this component is to promote livestock, apiculture and aquaculture production for import replacement and to provide affordable nutritious food to Papua New Guineans.

This would entail rehabilitation of breeding centers; introduction of improved breeds, promotion of small and large livestock, and draught and pack animals for cultivation and transport. Out comes include; revitalized livestock industry, increased domestic livestock production, create employment and generate income, improved protein supplement, enhanced nutritional status, and contribute to import replacement.

(5) Spice and minor crops development;

Spices and minor crops that are economically sustainable will be promoted as alternative export crops; through capacity building, supply of quality planting materials and post harvest quality management/control and improved marketing opportunities. Out comes include; revitalized spice industry, increased production, and improved processing and marketing systems.

(6) Gender, social and HIV/AIDS related issues;

It is recognized that women's contribution to the well being of society is essential in agriculture production in PNG. The Gender social and HIV/AIDS sub component goals are; to promote equal participation of women in all aspects of agriculture and livestock development, so as to improve the status of women through economic development, and also to ensure that, gender, social and HIV/AIDS are mainstreamed in all agriculture development programs. Women would be empowered through training, skills development and small credit scheme in the production, processing and marketing of agricultural products. Out comes include; empowered participation of women in all aspects of agriculture development, and gender, social and HIV/AIDS mainstreamed in the agriculture sector.

(7) Regulatory and technical services;

The regulatory and technical services include agricultural quarantine, land use planning and development and Codex and food safety.

The Quarantine component is to preserve and protect the animals, plants and fish from exotic pests, diseases and weeds in the interest of national, social and economic development, and also to facilitate international trade through export and import risk analysis and quality assurance systems and thereby contributing to the Government's export driven economic recovery policy. Outcomes include; improved surveillance and intelligence systems on exotic pests and diseases, improved quality control and assurance on import and export products, improved human resource capacities. The Land use planning and development component will develop sustainable land resource plans for the provinces, enhance geographical presentation of land resources and maps, and improve land resource inventory and database management. Outcomes include: improved land use planning, management and technical capacity.

Codex will promote against contaminated food and protect consumer's health, facilitate international trade by eliminating trade barriers and develop food standards and food policies in compliance with Codex requirements. Outcomes include; improved food safety standards and consumer health,

(8) NADP management and coordination.

A management structure for the overall coordination and monitoring of the implementation of the NADP to ensure that the programs and projects are successfully implemented within the time frame and allocated resources/budgets have been outlined. The current funding level to the agriculture sector has been reviewed and an indicative budget for development activities has been proposed. Outcomes include; well coordinated planning, management and monitoring of the sector through NADP.

The successful implementation of this plan hinges on the commitment of all players and the resources allocated at all levels (national, provincial and district). The targeted private sector investment programs are; rice, wheat, cattle, feed for domestic animal production, cashew, cassava, noni, jatropha, sago, spices, downstream processing, through the nucleus and out grower production systems.

Most of this plan will be implemented in the districts and likely to be affected by factors that are external to the sector. Hence, NADP will form part of the Medium Term Development Strategy (MTDS) 2005 – 2010 which forms the overall national strategic framework for economic and social development.

The estimated total budget required for the implementation of NADP for the period 2007 – 2016 is **K1,198 million**. The total projected revenue from the various components for the period 2007 – 2016 would be **K22,000 million**. The breakup is; Tree crop sector **K10,547 million**, Food and Horticulture crops **K553.3 million**, Spice and minor crops **K61.9 million**, Livestock, aquaculture and apiculture **K208.5 million**, **The output (revenue) to input (budget) is highly positive and needs to be supported.**

In addition, the value of food and horticultural crops that are not marketed but produced and consumed/utilized by households is estimated at **K5 billion** annually.

The major source of funding will be the national government. Other anticipated funding sources are bilateral and multilateral donor agencies and the private sector investment, particularly in the tree crop sector where further development is linked to Clean Development Mechanism Policies. Provincial government's commitment and counterpart funding is crucial to support those programs that will be implemented in the respective provinces. It is encouraging to note that under the new Provincial Finance Management Plan the derivation grants will be utilized for agriculture development in the districts.

1. INTRODUCTION

Agriculture has been the economic backbone of Papua New Guinea (PNG) for a long time, and will continue to be for many years to come, by providing food, income and employment to the vast majority of the rural population. Increased revenue from the mineral and energy sector in recent years have not significantly contributed to the improvement of the standard of living of the rural communities.

Over the last decade, agriculture sector growth was averaging only around 1% while the population growth was averaging 2.7%. The slow growth of the sector has adversely affected most of the rural families that depend exclusively on agriculture for their livelihood. With the exception of oil palm, agriculture industries were either stagnant or have had a negative growth. However, the situation has improved marginally over the last two years, primarily due to higher prices for the agricultural commodities in the world market.

Absence of a National Agriculture Development Plan (NADP), fragmented nature of the sector and inconsistent and/or low allocation of public funds has been identified as the major factors contributing to the poor performance of the sector. To rectify this, the National Department of Agriculture and Livestock (NDAL), in line with the Government's policy direction, and having consulted all the stakeholders within the sector and the wider community, formulated the NADP volume 1 with technical and financial assistance from the Food and Agriculture Organization (FAO) of the United Nations (Technical Cooperation/Developing Country Program No. 3003A). The NADP volume 1 highlighted among others, the general and specific issues affecting each of the sub-sectors and suggests a number of strategic interventions and approaches to address them to achieve an enhanced and sustainable growth of the agriculture sector.

2. FORMULATION OF NADP IMPLEMENTATION PLAN

Any agricultural development plan without an operational framework will be incomplete and of no practical value. Therefore, the National Agriculture Development (Implementation) Plan 2007-2016 (NADP Vol. 2) was developed. It consists of a Narrative Summary, Implementation Framework, Implementation Schedule, and Budget Schedule for each of the key priority areas that have been identified in NADP volume 1. The key priority areas are:

- (1) Agriculture research, extension, information and training;
- (2) Food and horticultural crops development;
- (3) Tree and industrial crops development;
- (4) Livestock, apiculture and aquaculture development;
- (5) Spice and minor crops development;
- (6) Gender, social and HIV/AIDS related issues;
- (7) Regulatory and technical services; and
- (8) NADP management and coordination.

A draft plan of volume 2 was prepared by NDAL and presented to the Commodity Boards, Research Organizations, Universities, Provinces, Donor Agencies, other Line Departments, Non-governmental Organizations, Private sector, and other relevant agencies and institutions at a formal workshop, and individually to other agencies, and their views and comments were included as appropriate in the draft plan. Most of the planned activities will be implemented in the provinces and districts.

3. DEVELOPMENT IMPLICATIONS OF NADP ON PROVINCES AND DISTRICTS

The bulk of the population resides in the villages and towns in the districts, and depends on agriculture, forestry and fisheries for their livelihood. As most agricultural activities occur in the rural districts, a revitalized agriculture sector will create additional income-earning opportunities for the people living in the districts to improve their living standards. This would eventually contribute towards reducing unemployment, poverty, law and order and urban drift in the provinces.

The NADP calls on the Government to empower the rural population through the development of economically sustainable programs in agriculture. PNG has a large number of crop and livestock species that are well adapted to the different agro-ecological conditions in the country (Table 1) that can be successfully utilized to produce food and wealth. The sub-sector agencies have expressed their support to promote agriculture in the respective districts to realize the goals that have been set for each of the sub-

sector and thus, contributing to the overall development of the agriculture sector in PNG and the national economy.

Table 1: List of Crops and Livestock that are adapted to different agro-ecological environments in PNG

Type of Crop/ Livestock	Altitude Range (m.a.s.l.)	Provinces
Sweet potato	0 – 1,500	All provinces
Banana	0 – 1,200	Central, Morobe, East New Britain, Madang
Cassava	0 – 1,000	All provinces
Taro	0 – 1,500	Madang, East Sepik, Western, West New Britain, New Ireland
Sago	0 – 600	All 14 coastal provinces
Yam	0 – 1,200	All provinces
Rice, Maize and Other cereals	0 – 1,200	Central, Morobe, East New Britain, Bougainville, New Ireland, Madang, East Sepik, Eastern, Chimbu, Western Highlands
Wheat	> 1,600	Eastern, Chimbu, Western, Enga
Coconut	0 – 600	All 14 coastal provinces
Cocoa	0 – 600	East New Britain, Bougainville, New Ireland, West New Britain, Manus, Madang, Morobe, East Sepik, West Sepik, Oro, Milne Bay, Central, Gulf
Coffee	0 – 1,800	Western Highlands, Eastern Highlands, Morobe, Simbu, East Sepik, Enga, Southern Highlands.
Oil palm	0 – 300	West New Britain, New Ireland, Milne Bay, Oro, Sandaun
Rubber	0 – 600	Western, Central, Gulf, Oro, East Sepik, West Sepik, Sandaun, Manus, New Ireland
Vanilla	0 – 600	East Sepik, Central, Morobe, Manus, Sandaun, New Ireland, Madang, East and West New Britain
Cardamom	0 – 1,700	East New Britain, Simbu, Oro, Morobe
Chilli	0 – 1,500	Western Highlands, Enga, Southern Highlands
Black pepper	0 – 1,200	East New Britain
Ginger	0 – 1,500	Eastern Highlands, Simbu, Madang, Oro, Morobe, East New Britain, West New Britain
Turmeric	0 – 1,500	Central, West New Britain, East New Britain, Oro, Morobe, Madang, Eastern Highlands, Simbu, East Sepik
Pyrethrum	> 1,500	Western Highlands, Enga
Floriculture	0 – 2,000	All provinces
Noni	0 – 600	East New Britain, Bougainville, New Ireland, West New Britain, Manus, Madang, Morobe, East Sepik, West Sepik, Oro, Milne Bay, Central, Gulf
Large ruminants (cattle)	0 – 2,000	Eastern Highlands, Southern Highlands, East Sepik, Sandaun, Morobe, Madang, New Ireland, East New Britain, West New Britain, Bougainville, Central, Milne Bay, Gulf, Oro, Western
Small ruminants (sheep and goats)	0 – 2,000	Eastern Highlands, Southern Highlands, East Sepik, Sandaun, Morobe, Madang, New Ireland, East New Britain, West New Britain, Bougainville, Central, Milne Bay, Gulf, Oro, Western

Source: NADP Volume 1.

m.a.s.l.- metres above sea level

4. AGRICULTURE RESEARCH, EXTENSION, INFORMATION AND TRAINING

4.1 AGRICULTURE RESEARCH

4.1.1 Background

Role of Research

Agriculture Research plays a crucial role and serves as a catalytic factor in agriculture development through technical innovations. It must be viewed as a long-term investment with socio-economic benefits accruing to smallholder families.

In PNG, agriculture research is currently aimed at increasing productivity and production of staple food crops, cash crops, livestock, and efficient use and management of resources. Research plays a critical role in generating new information and technology most needed by various stakeholders in the agriculture sector including; farmers, extension personnel, decision makers, planners and scientists. Research recognises that farmers are not only the primary clients but also as an important resource of traditional knowledge.

Objectives 1 to 6 are directly related to agriculture research programmes that are conducted at various institutions, focusing on enhancing and sustaining high crop yields and livestock productivity through improved husbandry practices, using improved crop varieties and livestock breeds and sound management of soil and water resources. Impact assessments are necessary to verify the degree of success of adoption by farmers of the technologies released.

Institutional Strengthening

The Government recognises that the people will continue to drive the economy through meaningful participation in agriculture development activities. Rural farmers need to be equipped with various technical and practical skills to successfully invest and manage the new agriculture enterprises for income generation. It is therefore important that Papua New Guinean scientists and technicians are trained to undertake appropriate research to develop new agricultural technologies for adoption by smallholder farmers in the districts. The agriculture research scientists and technicians will continue to collaborate with provincial and district agriculture officers to disseminate appropriate technologies to the farmers for improving the productivity and sustainable use of resources.

Competent professional staffs are also required to provide administrative and financial services in the research institutions and other national agencies. The research organisations need to develop and maintain management systems and standards to foster good working environments.

All research institutes and other government agencies have essential infrastructure and facilities. These facilities should be maintained and where necessary upgraded or replaced to ensure that they remain in good condition to carry out the research programs.

Adequate funding must be continued over the medium term to research institutions and government agencies to support their institutional strengthening programs.

4.1.2 Goal

To promote innovative agriculture development through improved agriculture technologies, information and knowledge by undertaking applied and adaptive agricultural research and transfer the developed technologies to the agriculture stakeholders.

4.1.3 Objectives and Strategies

Objective 1: To develop effective delivery systems of research outcomes and information to farming communities and conduct impact assessment studies.

Strategies

- Determine research priorities and develop research program plans.
- Identify and assess constraints to production and marketing.
- Conduct evaluation of existing and improved technologies.
- Impact assessment of improved agriculture technologies on rural communities.
- Assess technology transfer and adoption in rural communities.
- Monitor and review current research activities undertaken by the different research institutions.

Objective 2: To improve and sustain productivity and production of agricultural crops.

Strategies

- Determine research priorities and develop research program plans.
- Assess crop varieties for various agro-ecological systems.
- Develop effective management systems for controlling crop pest and diseases.
- Evaluate crop varieties resistant to pests and diseases.
- Evaluate crop varieties resistant to harsh environmental conditions.
- Introduction, adaptation and evaluation of new crops and crop varieties.
- Determine financial returns on commercialisation of indigenous crops.

Objective 3: To improve the genetic potential of crops in PNG

Strategies

- Improving productivity of crops through genetic improvement.
- Improve planting material and production practices.

Objective 4: To conserve, manage, utilize and sustain natural resources, including genetic diversity

Strategies

- Management of soils fertility and soils moisture.
- Developing suitable agriculture technologies for atolls.
- Improving/sustaining crop production under extreme conditions.
- Conserving, managing and utilizing crop and animal genetic resources.

Objective 5: To improve livestock productivity and production at the farm level

Strategies:

- Developing improved animal feeding systems.
- Improving productivity of small meat animals.
- Develop suitable livestock management practices for smallholders.

Objective 6: To increase and sustain crop production through sustainable plant protection

Strategies

- Develop affordable management and control methods for crop pest and diseases.
- Develop biological control methods for exotic plant pests and diseases.

- Develop appropriate biology and loss assessment technics of pests and diseases.

Objective 7: To develop appropriate post harvest technologies for agricultural crops

Strategies

- Product quality improvement and monitoring programmes.
- Preserving and processing of agricultural crop by-products.
- Research on value added products (bio-fuel, coir fibre, charcoal, animal feed, medical product, food products).

Objective 8: To identify and establish market research to improve farmer income from domestic and international markets

Strategies

- Conduct supply and demand analysis for various commodities.
- Access market information for smallholder farmers.
- Undertake market chain analysis.
- Undertake studies on international market advantage on PNG crops.
- Develop a model farm budget for smallholders.
- Establishment of organic certification body to develop PNG organic certification protocols and system.

Objective 9: To strengthen institutional capacity of research institutions and infrastructure and facilities

Strategies

- Establish inventory and databases for institutional assets.
- Develop sound administrative and financial management systems.
- Promote good work ethics and governance.
- Identify and match training needs for farmers and institute staff.
- Establish career development plans and programs for institution staff.
- Human resource development through formal, workplace and cadetship programs.
- Develop, replace and maintain infrastructure, facilities, and equipments.
- Establish a national agriculture training coordination committee.
- Institutional strengthening for existing agriculture colleges at Mount Hagen and Sepik.

Objective 10: To strengthen collaboration amongst research institutions, provincial extension officers, commodity boards, other stakeholders

Strategies

- Establish a National Agriculture Research Systems (NARS) group Council.
- Conduct peer reviews at each research institutions.
- Develop and strengthen coordination and networking among the key stakeholders.
- Establish research boundaries based on priorities among the stakeholders.

4.1.4 Activities/Schedules

Each of the above strategies is related to appropriate identified activities that are aimed to achieve the overall objective of the program spread over ten years (2007-2016) as per the attached implementation schedule and budget (Appendices 1 – 8).

4.1.5 Locations

The executing agencies of agriculture research are strategically located in the main agro-ecological zones throughout the country. There are four agro-ecological zones in the country, namely: dry lowlands, wet lowlands (including mainland and islands), mainland highlands and high-altitude highlands. The priority setting of research projects and activities are determined and guided by the policy guidelines and mandates established by the government.

Coffee research under Coffee Research Institute (CRI) is situated in Aiyura, Eastern Highlands Province, serving the coffee growers, bulk of them from the highlands and also serving coffee growers in the lowlands. The tree crops research on oil palm, cocoa and coconut is conducted in the lowland areas and are concentrated in the Southern, Mamose and New Guinea Islands regions of the country. Oil Palm Research Association (OPRA) station is located in Kimbe, West New Britain Province (WNBP); Cocoa and Coconut Institute (CCI) is based at Tavilo for cocoa research programs while coconut research programs are located at Murnas in Madang; and NARI has research stations located at Kerevat in East New Britain Province (ENBP), Bubia in Morobe Province, Aiyura in Eastern Highlands Province, Tambul in Western Highland Province and Laloki in Central Province.

4.1.6 Partners / Agencies

The following partners and agencies play crucial roles in addressing research and technical services: National Agricultural Research Institute (NARI), Coffee Research Institute (CRI), Oil Palm Research Association (OPRA), Cocoa and Coconut Research Institute (CCRI), Livestock development Corporation (LDC), National Department of Agriculture and Livestock (NDAL), PNG University of technology (Unitech), University Of Vudal, University of PNG, Fresh Produce Development Agencies (FPDA), Provincial Divisions of Agriculture & Livestock (PDAL), Department of National Planning and Monitoring (DNPM), Department of Treasury, Non Government Organisations (NGOs), and National Agriculture Quarantine and Inspection Authority (NAQIA).

4.1.7 Budget

Planning Period 2007 - 2016

The total budget for ten years (2007 – 2016) for research in the sector is K148 million and the break-up is:

Programs	Kina (Million)
1. Oil Palm Research	8.32
2. Cocoa and Coconut Research	49.36
3. Basic Research on Fresh Produce	12.78
4. Coffee Research	19.82
5. Food Crops and Livestock Research	57.72
TOTAL	148.00

4.1.8 Expected Outcomes

- (1) Increased income for smallholder farmers in rural communities.
- (2) Increased formal employment and self-employment opportunities, especially for women and youths in the districts.
- (3) Increased earnings or savings of foreign exchange through export and import replacements resulting in increased national economy growth at a target of 5% per annum.

- (4) Improved nutrition and food security through access to high quality foods and food products, leading to a range of health benefits including the combat of health threatening diseases.
- (5) Increased opportunities for people living in areas less endowed with natural resources, remote, marginalised, environmentally fragile or so far neglected in rural development strategies.
- (6) Capacity of smallholders to manage agricultural and natural resources in rural communities improved.

4.2 AGRICULTURE EXTENSION

4.2.1 Background

Under the provincial government reform the provincial agriculture extension function was decentralized to the provinces. This arrangement has not delivered the anticipated results in promoting the growth of agriculture based industries and active participation of farmers in agriculture development in the provinces. The performance of provincial agriculture extension has been affected by the following major factors:

- Inadequate funding by National Government;
- Ineffective delivery systems in the provinces due to non-existence or poor transport infrastructure and facilities;
- Poor planning and coordination of limited resources and poor linkages to national programmes and available donor support;
- Insufficient technical capacity; and
- Lack of market information and access.

Based on the experience of the provinces, it is believed that the existing agriculture extension delivery system can be improved and sustained if it can be strengthened by the provision of adequate funding and other essential resources under the NADP. A pilot project on extension delivery systems [refer to SSSPP and FPDA reports] demonstrated that productivity at the smallholder level improved significantly when extension support services were made available to them. Therefore, if sufficient funding support is given to the provinces with well planned extension projects, they will be able to respond and deliver effective extension services on a regular basis, to help resurrect the interest of the farmers. This development will promote, strengthen and consolidate agriculture as the basis for rural development and economic growth.

4.2.2 Goal

To promote sustainable agriculture development, through the application of improved agricultural technologies, transfer of information, knowledge and skills to farmers.

4.2.3 Objectives and Strategies

Objective 1: To establish effective agriculture extension delivery systems in the provinces.

Strategies

- Review existing agriculture extension systems in each province and propose innovative ways of improving the current extension organisational structure.
- Establish effective co-ordination and management systems for agriculture support services in the provinces and districts.
- Review the technical capacity of existing provincial extension officers and upgrade their skills through appropriate training programs.

- Improve collaboration and communication linkages of provinces with NDAL, commodity boards, research institutions and other stakeholders.
- Establish provincial resource centres to act as technology and skills transfer centres for farmers.
- Undertake an inventory of transport infrastructure in each district and incorporate in provincial agricultural plans.

Objective 2: To facilitate national agriculture survey in the districts.

Strategies

- Work with NDAL to develop appropriate agriculture survey forms / formats to be used in 2008.
- Conduct awareness program on the national agriculture survey in the Wards for each district in 2007.
- Identify the resource requirements for conducting the national agriculture survey in each district per province and submit reports to NDAL.

Objective 3: To facilitate the establishment of agriculture marketing network in the provinces.

Strategies

- Identify the needs of farming communities and develop appropriate smallholder agriculture enterprises for income generation.
- Identify model smallholder farmers to act as facilitators for farmers training programs in the Districts and Wards.
- Assess the existing marketing facilities and identify best options of establishing viable market outlets for smallholder farmers.
- Assess the options to establish smallholder marketing cooperatives in the districts.
- Identify suitable funding sources to fund the smallholder marketing cooperatives.

4.2.4 Activities/Schedules

Each of the above strategies is related to appropriate identified activities that are aimed to achieve the overall objective of the program in ten years (2007-2016) as per the attached implementation schedule and budget (Appendices 9 –11).

4.2.5 Locations

Agriculture extension and training programs are currently undertaken in the 19 provinces and 89 districts in the country. Provincial governments and district administrations will take the lead in addressing the extension problems in the districts and work with agriculture sector stakeholders to improve the existing extension system.

4.2.6 Partners / Agencies

Provincial Division of Agriculture & Livestock, District Division of Agriculture & Livestock, Local Level Governments (DDAL), Community Based Organisations (CBOs), Non Government Organisations, Donors; FAO, ADB, JICA, AusAID, ROC [Taiwan], PROG, Commodity Industries, Local Collaborators; NADL, NARI, NAQIA, FPDA, Universities, Department of National Planning and Monitoring, Office of Rural Development (ORD).

4.2.7 Budget Requirements

Planning Period 2007 – 2016

The budget required for revitalising the provincial extension services in PNG over the next ten years (2007 - 2016) is K58 million and the break up is provided below:

Programs	Kina (Million)
1. Outsourcing extension	29.90
2. Improve capacity of provincial extension officers	7.70
3. Improve collaboration and communication with stakeholders	9.00
4. Establish provincial resource centres	12.20
6. Coordination and management of agriculture support services	3.80
Total	58.00

4.2.8 Expected Outcomes

- (1) Nineteen provincial resource centres developed and established.
- (2) At least 25 % of provincial agriculture staff trained to upgrade their technical skills.
- (3) At least 50 % increase in farmer contact from present level.
- (4) At least 50% improvement in networking with smallholder farmers.
- (5) Skills of farmers in various agriculture enterprises improved by at least 60% in each district.
- (6) Farmer contact by extension officers increased by 50% in 2016.
- (7) Increased income earning opportunities for rural families through the development of agriculture enterprises.
- (8) Rural communities appreciate food security and poverty alleviation issues and agree to address these two issues in the village communities.
- (9) Reduction in social problems and urban drift as income generation activities increase in the districts.
- (10) Increased internal revenue for provincial government from agriculture projects.
- (11) Innovative agriculture extension and market services provided to smallholder farmers
- (12) Innovative extension services leads to 10 – 20 % increase in the production of coffee, cocoa and coconut commodities.

4.3. AGRICULTURE INFORMATION AND STATISTICS

4.3.1. Background

Agriculture is the back bone of Papua New Guinea and 82% of citizen over 10 years old and above living in private dwelling are employed in agriculture [National Statistics Office [NSO] 2000 Census report]. Over the years since independence, the agriculture sector's contribution to GDP has declined from a high of 36% in 1977 to 23.9% in 1999, and rose marginally to 26% in 2004 /2005.

One of the factors that contributed to the decline in agricultural productivity and production is the lack of knowledge, which is a consequence of unavailability and/or lack of information to the majority of the rural and agricultural community in PNG. This shortage of information on up to date or current agricultural packages has been made even more profound as a result of; reduction in extension staff and poor quality of the extension delivery system. These have resulted in reduced agricultural productivity and output.

Planners, managers, researchers and policy makers should have access to up-to-date and reliable information to make well-informed decisions. Agriculturists and extension specialists in the field need to be updated on new technologies, innovations and knowledge so that they, in turn, can transfer them on to the farmers. Farmers also need reliable and up to date information on farming activities, marketing information, trade and consumer preferences to make appropriate decisions on which agriculture activities or enterprises they should invest in for income generation.

Unfortunately, the existing agriculture information system is fragmented and outdated. The NDAL agriculture library located in Port Moresby needs to be rehabilitated. The data and information on agriculture profile of provinces and districts, currently located in the Land Use Section of NDAL, needs to be updated and made user friendly. NDAL conducted the last national agriculture survey in 1963 due to manpower shortage in the provinces and lack of adequate funding.

NDAL and the Sector Agencies realise that information, and therefore knowledge, is an essential key in agriculture development. A dynamic agriculture information system must be established to address the sector needs:

Adequate funding is solicited to support agricultural publication, information and mass communication systems in the country. This includes; the production of Farming Notes, Rural Development Series Handbook, Technical Bulletins, Newsletters, the Harvest and PNG Journal of Agriculture, Forestry and Fisheries, provision of library services to the agricultural communities. New areas are to contribute to the National Information and Communication Technologies (NICT) network, design / host and provide web-services to Sector Agencies, to promote the establishment of National Agricultural Information Systems (NAIS) that links sector agencies library data – bases and to establish the Question and Answer network (QAS) that links all sector agencies and farmers nationwide, and to conduct the much delayed National Agricultural Census that is overdue since the 1963 Census.

4.3.2. Goal

To provide appropriate, relevant and timely information to the agricultural sector for increased productivity and production of the agricultural industries and for a better livelihood of the population.

4.3.3. Objectives and Strategies

Objective 1: To coordinate relevant and appropriate agricultural information production and dissemination to the sector.

Strategy

- Revive the National Agricultural Information Network [NAIN] to coordinate and review information.

Objective 2: To produce and disseminate relevant agricultural information for sector use.

Strategies

- Rehabilitate and upgrade NDAL Print shop, machinery and equipment.
- Conduct workshops and seminars to update / produce agricultural information.
- Publish and disseminate agricultural information in print form.
- Produce and provide relevant information in electronic and audio-visual forms.
- Partnership with broadcasting agencies in disseminating agricultural information.

Objective 3: To host sector agricultural web-page for timely and relevant information dissemination nationally / internationally.

Strategies

- Design, host and launch sector agricultural web-page that links all sector agencies.
- Participate effectively in the national ICT network.

Objective 4: To coordinate the establishment and management of District Agricultural Information Centers nation wide.

Strategy

- Establish District agricultural information centers.

Objective 5: To improve on Library related information systems to serve sector needs.

Strategies

- Host an updated library to serve the sector information needs.
- Promote sector agencies partnership in library database updating [NAIS].
- Promote sector agencies collaboration in the QAS [Question and Answer] network.

Objective 6: To develop Human resources in agricultural information development / management.

Strategy

- Develop and improve staff skills in information technologies.

Objective 7: To update the 1963 database on Agricultural information for effective current and future agricultural planning.

Strategy

- Conduct National Agricultural Census.

4.3.4. Activities and Schedules

The necessary activities are planned to address the objectives and strategies, and to achieve the necessary results in the ten years period (Appendices 12 – 14).

4.3.5. Locations

The activities would be directed from the NDAL-Headquarters in Port Moresby with the support of Sector Agencies across the country. Thus information dissemination will be national, covering all regions, provinces, districts and Agricultural Sector Agencies.

4.3.6. Partners

Agricultural Agencies, Universities, Agricultural Scientists, Extension staff and Farm Households in PNG. Others are international and national, Partners such as FAO, ACIAR, ACNARS, AusAID, JICA, DNPM, DoF, DoT, Donors, NGO's, GBO's, the Private Sector and other Government Departments

4.3.7. Budget

Planning Period 2007 – 2016

The total budget for ten years (2007 – 2016) for agriculture information and statistics is K30.4 million and the break up is;

Components	Kina (Million)
1. National Agricultural Information Networking Activities	0.33
2. Rehabilitation of Printers, machinery and equipment	2.70
3. Production and dissemination in print, electronically and Radio	2.04
4. Sector agricultural web-page & ICT related	0.72
5. District Agricultural Information Centers nation wide	10.60
6. Library , NAIS and QAS networking systems	1.07
7. Human resources and Skills Development	0.51
8. National Agricultural Census	12.43
Total	30.40

4.3.8. Expected Outcome

- (1) A coordinated National Agricultural Information Network [NAIN] in place.
- (2) NDAL Print shop, machinery and equipment rehabilitated and upgraded to meet sector printing needs.
- (3) Workshops and seminars conducted to update / produce agricultural information.
- (4) Relevant agricultural information produced and disseminated in print, audio-visual and other electronic forms on timely basis.
- (5) Partnership with Broadcasting agencies established for disseminating agricultural information nationally.
- (6) Sector agricultural web-page in operation for timely and relevant information dissemination nationally / internationally.
- (7) Agriculture Sector Participated effectively in the national ICT network.
- (8) The establishment and management of District Agricultural Information Centers nation wide are coordinated.
- (9) Relevant information to District Resource Centers provided regularly and on timely basis.
- (10) Library related information systems improved to serve sector needs.
- (11) Sector agencies partnership in library database updating [NAIS] developed and operational.
- (12) Sector agencies network in the QAS [Question and Answer Systems] developed and operational.
- (13) Sector Human resources developed in agricultural information development /management.
- (14) National agricultural database, statistics /information updated through National Agricultural Census, for better planning in the future.
- (15) Improved awareness and knowledge by the agricultural communities as a result of timely and relevant information production and dissemination.
- (16) Improved awareness in agriculture contributed to increased productivity and production in the country.

4.4. HUMAN RESOURCES DEVELOPMENT AND TRAINING

4.4.1. Background

"Nations have been developed on borrowed ideas, borrowed money and technology on continuous basis. But no country in the world has progressed and prospered beyond its infancy stage on sustained borrowed human capital. Human resource is one form of capital, and information is another. Those who invest early and heavily on research and development and on building its own institutional capacities and developing its own cadre of skilled human resource capital are leaders in the world".

The role of agriculture is changing and becoming technically advanced and progressive. We are no longer on our own with subsistence existence but active participants of an emerging global economic community. To be competitive in the global economic community, empowerment of farmers with updated information, and technical and management skills has become a necessity for reducing cost, improving efficiency, and maximizing production and productivity. Farmers need to be creative and competent to meet the new challenges facing the agricultural sector.

Human resource development and training is a long-term investment and is central to sustainable economic development and the well being of any nation. It must therefore be promoted as an integral part of any developmental initiative. Expert advice, donor funding assistance, establishing programs and projects for development are of limited use if the people who directly benefit from such assistance are not adequately trained to take up the challenges.

The training function which has been one of NDAL's prime responsibilities over the years has become ineffective with the disintegration of agricultural institutions, yet the demands of the sector for effective HRD and training programs remain and continue to increase. HRD and training program in this context imply interventions at various levels that entail agricultural trainers, workers, and the farmers. Whilst it can be said that Agriculture Education and Training has evolved to the satisfaction of many, as judged by transfer of NDAL institutions to the Office of the Higher Education (OHE) over the last decade, a thorough analysis is still required to evaluate the impact of HRD and training interventions at all levels within the sector. It is envisaged that the FER of the sector will identify the constraints and suggest solutions to address any deficiencies.

However, over the years agricultural sector's human resource development has become increasingly fragmented and uncoordinated to the extent that, planning and coordination amongst sub-sectors and various training institutions including NGOs run training institutions are disjointed and lacked coherence. Consequently, investment in training and human resource development was undertaken in almost total isolation of the agricultural sector human resource needs. In the absence of the National Agricultural Sector Human Resource Development and Training Plan, coordination of resource assistance is distorted, resulting in an unpredictable availability for disposal. Therefore, it is suggested that under NADP a National Agriculture Training Council (NATC) be established for planning and coordinating Agriculture Training for the sector. All relevant agencies and private sector partners involved in providing human resource development programs for the agricultural sector will become members of the governing council, and will participate in the development and evaluation of the curriculum that are been taught in all vocational schools, colleges and universities and assess the linkages that need to be in place for accreditations to be effected and implemented at all levels of training.

Institutional Strengthening / Farmer Training Centres

Young people involved in agriculture require adequate training to deal with the complex local agricultural issues. Participation of smallholder farmers in the cash economy underlines the importance of agricultural training to be geared to their specific needs. This requires a new radical thinking on specialized skills based training that should be conducted out-door. Mechanisms and methods for deploying of mobile training units need to be developed to take classroom-based training to the districts and communities to facilitate specific training needs of the district-based extension officers and farmers.

Under this plan a determined strategy is to revitalize the farmer training schools/ centers in each province of the country. Training will target both rural and urban youths in crops and livestock husbandry and management, business management, operation and maintenance of small machines, etc and must be adequately resourced through the training institutions and regional establishments. It is envisaged that this training program will also facilitate and coordinate with the relevant collaborating line agencies such as the National Training Council, to select farmers or youths from the provinces to undergo farmer training or Technical Intern Training programs in overseas under the existing bilateral arrangements, who will upon return after 2-3 years will have secured /saved sufficient funds to start up their own agro-businesses.

Collaborative programs with research and training institutions for both in-country and overseas training, through twinning arrangements, will also be fostered in order to enhance new knowledge, skills and experience of nationals. The cadetship scheme will also be re-introduced to allow for a systematic flow of competent staff to replace outgoing retired or retrenched staff in the provinces and districts. This will be encompassed in the career development programs which will be coordinated under the training plans.

The proposed plan requires substantial budgetary support in renovating old institutional assets including farm building, dormitories, classrooms and other essential infrastructure at HAC / LISTC / SAC / NARI and the Provincial Farmer Training Centers.

4.4.2. Goal

To raise the capacity of the human resources at all levels to boost productivity, profitability and sustainability within the agricultural sector, through Human Resources Development and Training programs at all levels.

4.4.3. Objectives and Strategies

Objective 1: To improve coordination and monitoring of the sector's training programs.

Strategies:

- Establish a National Agricultural Training Council (NATC) to coordinate and monitor sector's training programs.
- Strengthen collaboration and linkages with all training providers, donors and line agencies.

Objective 2: To improve and strengthen human resource development in the agricultural Sector.

Strategy:

- Coordinate and facilitate training programs in collaboration with training providers, donors and line agencies within the provinces, district and/or overseas.

Objective 3 : To improve and renovate institutional infrastructure and facilities.

Strategy:

- Develop, maintain and renovate infrastructures and facilities in existing agricultural colleges, tertiary institution research station and the farmer training centers in all provinces and districts.

4.4.4. Activities /Schedules

Each of the above strategies is related to appropriate identified activities that are aimed to achieve the overall goal of the program spread over ten years (2007-2016) as per the attached implementation schedule and budget (Appendices 15 – 17).

4.4.5. Locations

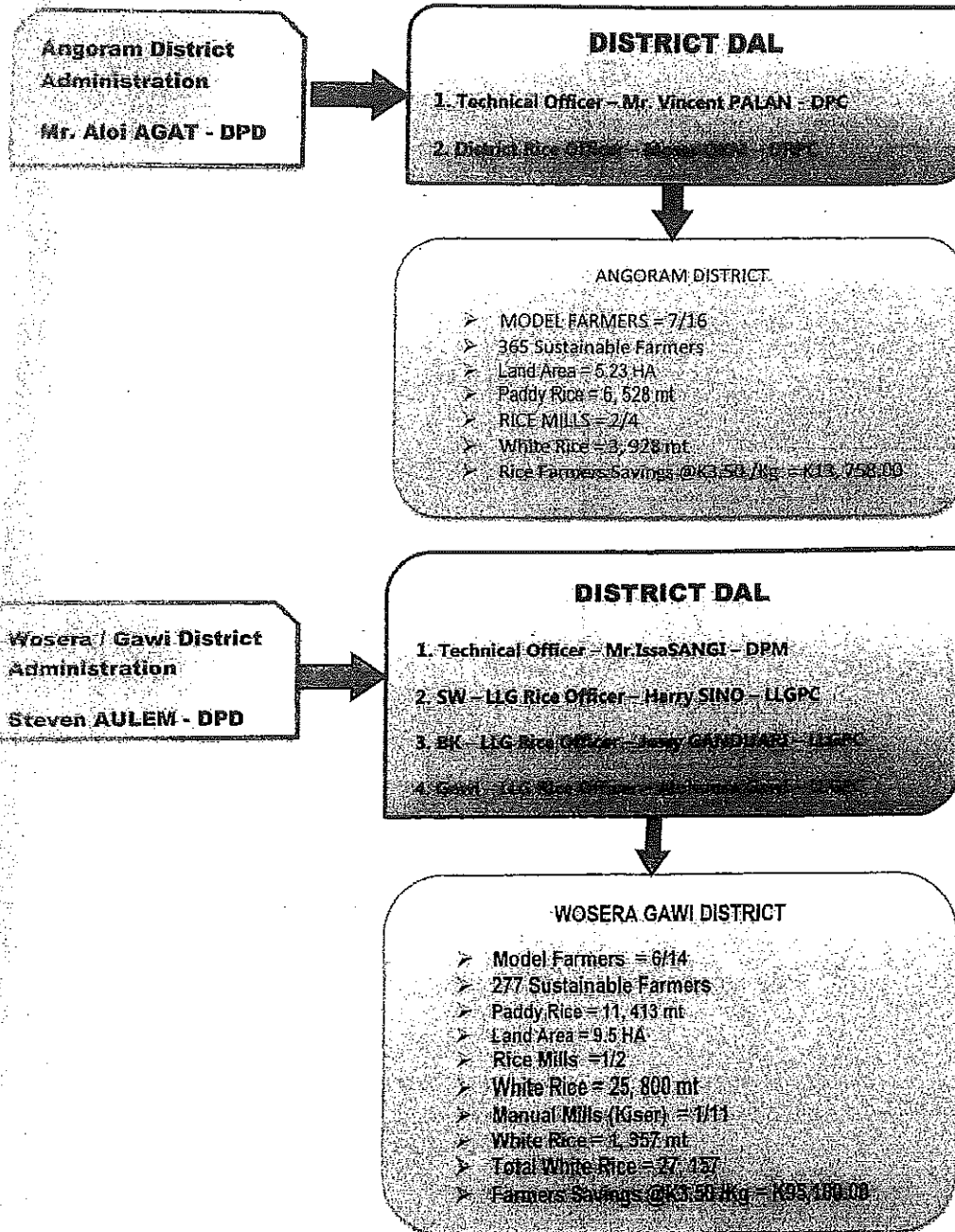
The training institutions that are managed and administered by the NDAL and the OHE are strategically located in the four main regions, namely Highlands Agricultural College in the Highlands, LISTC in Lae, Sepik Agricultural College (SAC) at Maprik in the East Sepik Province and University of Vudai Oro campus in Popondetta, and the main Vudai campus in the East New Britain Province, University of Technology in Lae and the University of Goroka in the Eastern Highlands.

Farmer training centers are also located in most of the provinces, which have over the years become defunct due to lack of resources. Other church and private run agricultural centers such as the 12-mile Farmer Training Center in Port Moresby, Pacific Adventist University (PAU), Sonoma Adventist College in Rabual, Banz in the Western Highlands, St. Benedicts in Madang and the Evangelical Lutheran College in Lae are other private run organizations that are instrumental in farmer training programs. They will be linked and become partners in the implementation of the sector human resource development programs.

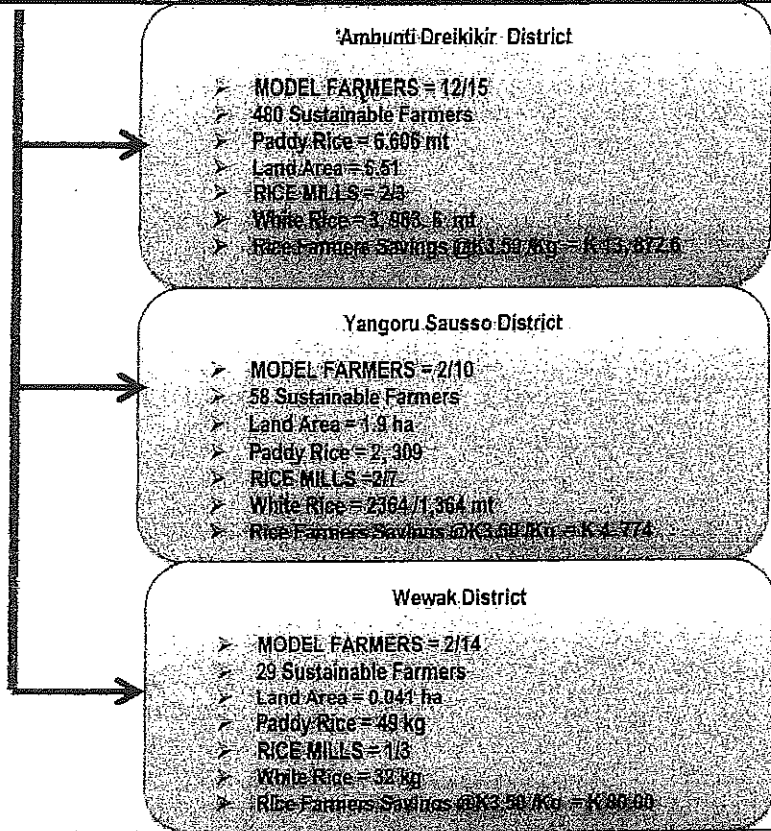
4.4.6. Partners / Agencies

The following partners and agencies play crucial role in addressing human resource development and training for the agricultural sector: NDAL, PDAL, OHE, UoV, UoT, UOG, DWU, Private run organizations: Banz, St. Benedicts, Sonoma, Pacific Adventist University (PAU), Evangelical Lutheran Church, NARI, NAQIA, Donors agencies including – JICA, AUSAID, NZAID, ROC, UNDP and other line agencies : Department of national Planning, Department of Community Development, Department of labour, National Training Council and other NGO's : Hope world wide, City Mission, Children's Fund, World Vision, Salvation Army, Christian Leadership Training Centre (CLTC) ... etc.

EXTENSION PROGRAMS AND RESULTS



OTHER THREE DISTRICTS
WEWAK, YANGORU SAUSSO & AMBUNTI DREIKIKIR



EAST SEPIK PROVINCE	
> Model Farmers = 45/143 (146 - 3 x Deceased)	<i>reported</i> / <i>not reported</i>
> Sustainable Farmers = 3,397	<i>2 t</i>
> Total Area = 139.45 ha	
> Total Paddy Rice = 173, 895 mt	
> Rice Mills = 12/33	
> White Rice = 138, 625 mt	
> Manual Mills (Kiser) = 1/11	
> White Rice = 1, 357 mt	
> Total White Rice = 139, 982	
> Farmers Savings @K3.50 /Kg = K 489, 937.00 (K 490,000)	

4.4.7. Budget**Planning period 2007 – 2016**

The ten years budget for human resource development and training in the sector is K27.835 million and the break-up is:

Programs	Kina (Million)
1. Training management and coordination	0.110
2. Institutional Strengthening and linkages	0.775
3. Capacity Building and Human resource development/ Capital formation	5.150
4. Institutional infrastructure maintenance	21.800
Total	27.835

4.4.8. Expected Outcomes

- (1) National Agricultural Training Council established and operational by 2007.
- (2) Linkages and collaboration strengthened between all agricultural training providers.
- (3) Training plans are developed by 2007 onwards.
- (4) Training information disseminated annually.
- (5) At least 5,000 staff and farmers trained annually.
- (6) At least 30-40% of trainees are women.
- (7) At least 20 staff on bid for overseas training annually.
- (8) Refresher courses conducted annually.
- (9) Training and Trainee database established and updated regularly.
- (10) All existing college and farmer training centers fully renovated and functional.

5. FOOD AND HORTICULTURAL CROPS DEVELOPMENT**5.1 RICE AND WHEAT DEVELOPMENT****5.1.1 Domestic Rice Development**

Rice was introduced into PNG almost one hundred years ago and is now cultivated as smallholder crop in almost all Provinces. Major production areas are; Bereina in Central, Maprik in East Sepik Province; Nuku in Sandaun Province; Madang; Finschafen and Markham valley in Morobe Province; Warangoi in East New Britain Province (ENBP); New Ireland and Highlands Provinces

After 100 years, the country still lacks a well established domestic rice industry due to a number of major constraints given below:

- Shortage of trained manpower specializing in rice production which includes scientists, extension officers and farmers.
- Rice farmers have inadequate access to quality rice seeds.

- Rice farmers have limited access to suitable rice processing and other cultivation machinery and tools.
- Rice farmers have inadequate access to rice extension, technical and credit support services.
- Poor road infrastructure hampers farmers' access to rice production technologies, resources, and information and support services.
- Rice farmers do not have access to organized domestic markets.
- Insufficient funding from National Government to support the implementation of rice development programs.
- Poor coordination of rice development programs by implementing agencies.

Domestic rice production increased from about 500 tons in 1998 to over 20,000 tons in 2005 and projected to increase at rate of 20 to 30% per annum over the next ten years.

Rice has become an important staple food in PNG. Per capita consumption is about 30kg, but in some cities it can be as high as 100 kg. PNG imports most of its rice from Australia to meet the high demand for rice in the country. This demand is expected to increase with the increase in population. Since 1985 annual rice imports fluctuated between 120,000 and 170,000 tonnes annually, except in 1997 when it exceeded over 200,000 tons due to drought and the Aitape tsunami disaster that affected local food production. Import volumes declined from 160,000 tonnes in 1998 to 144,000 tons in 2002, but thereafter increased progressively to 170,000 tonnes in 2005.

CIF value of imports in recent years has increased from about K80 million in 1995 to over K216 million in 2002. This dramatic increase, despite a decline in import volume, is attributed primarily to the devaluation of Kina. The present total retail market value of imported rice exceeds K300 million per annum.

5.1.2 Goal

To establish a sustainable domestic rice industry to enhance food security, generate income for smallholders and reduce rice imports by increasing annual domestic production from 20,000 to 60,000 by 2016.

5.1.3 Objectives and Strategies

Objective 1: To ensure that rice farmers have access to appropriate resources, technology, skills and support services to empower them to engage in sustainable rice production.

Strategies

- Facilitate rice farmer's access to adequate good quality rice seeds, milling machines and other associated machines, tools and other essential materials.
- Provide suitable training, extension and information support for rice farmers.
- Facilitate establishment of suitable marketing system for rice.
- Facilitate rice farmers to access suitable micro-credit services.
- Facilitate rice farmers to access adequate land resources necessary for sustainable rice cultivation.

Objective 2: To promote rice production in educational and correctional institutions.

Strategies

- Develop appropriate rice production courses to be taught in primary and secondary schools, vocational centres and tertiary institutions and correctional institutions.

- Facilitate access to adequate good quality rice seeds, milling machines and other associated machines, tools and other essential materials by educational institutions.
- Provide suitable training, extension and information support to educational institutions and correctional institutions.
- Assist educational and correctional institutions in marketing their rice.
- Facilitate access to suitable credit services by educational and correctional institutions.
- Facilitate access to adequate land resources necessary for sustainable rice cultivation by educational and correctional institutions.

Objective 3: To promote and assist commercial rice production.

Strategies

- Encourage local and foreign investors to undertake commercial rice cultivation.
- Identify and mobilize lands that are suitable for commercial rice production
- Establish a joint venture mechanism with landowners, investors and government to undertake commercial rice production.
- Facilitate implementation of commercial projects
- Continuously monitor progress.

5.1.4 Activities/Schedules:

Each of the above strategies is related to appropriate identified activities that aim to achieve the overall goal of the program in ten years (2007-2016) as per the attached implementation schedules and budget (Appendices 18 – 20).

5.1.5 Locations

Commercial Rice production will be implemented in selected provinces while smallholder and institutional rice development program will be implemented throughout the country.

5.1.6 Partners/Agencies

The main collaborating agencies are: ROC Taiwan; PRC China; JICA; Trukai; OISCA; UOT; DNPM; NARI; Provincial Administrations; University of Vudal; DNPM; DoE; CIS Private Sector and NGOs.

5.1.7 Budget

Planning period 2007 - 2016

Programmes	Kina (Millions)
1. Smallholder rice development.	16.5
2. Institutional rice development.	14.0
3. Commercial rice development	16.1
Total	46.6

5.1.6 Expected Outcomes

- (1) Farmers have better access to suitable rice production inputs (e.g. quality rice seeds, farm machinery and other essential tools, irrigation technologies) and improved agronomic practices.
- (2) Suitably trained Rice farmers and agricultural extension officers.
- (3) Improved access to road and market infrastructure, credit, technical and extension services.
- (4) Farmers adopt and practice sustainable and environmentally safe cultivation methods in rice production.
- (5) Improved coordination and management of domestic rice development programs.
- (6) Commercial rice production successfully implemented.
- (7) Production increased from 20,000 to 60,000 tons by 2016.

6.2 DOMESTIC WHEAT DEVELOPMENT

6.2.1 Background

There is a high demand for wheat flour in PNG and its consumption is increasing at a faster rate compared to rice. Wheat imports ranges from 104,000 tons in 1990 to 150,000 tonnes in 2005. The per capita consumption is similar to that of the rice at 30 kg.

Current local wheat production in the highlands provinces of Simbu, EHP and Enga is estimated at 100 tons. Due to its high demand, there is a need to encourage local wheat production for household food security in the high altitude areas where rice cannot be grown and to reduce wheat imports.

Major constraints in domestic wheat production include:

- Shortage of trained manpower specialized in wheat production that includes scientists, extension officers and farmers.
- Inadequate supply of good quality wheat seeds available to farmers.
- Farmers have either limited or no access to suitable wheat milling machines and other necessary machinery and tools.
- Farmers have either limited or no access to extension, technical and credit support services.
- Poor road networks in the production area make it difficult for farmers to access wheat production technologies, resources, information and support services.
- Insufficient funding from National Government for domestic wheat promotion.

5.2.2 Goal

To promote domestic wheat production in PNG to enhance household food security, generate income and reduce wheat flour imports.

5.2.3 Objectives and Strategies

Objective 1: To develop smallholder based domestic wheat industry.

