

パプア・ニューギニア国
小規模稲作振興計画
中間評価調査報告書

平成18年9月
(2006年)

独立行政法人 国際協力機構

農村開発部

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（以下、「PNG」）関係機関との討議議事録（R/D）等に基づき、同国における小規模農家による稲作振興を目的とした技術協力プロジェクト「パプア・ニューギニア小規模稲作振興計画」を、平成15年12月1日から5年間の予定で実施しています。

この度、本プロジェクトの協力開始3年目にあたり、平成18年6月21日から7月13日まで、農村開発部第一グループ水田地帯第三チーム長の田和正裕を団長とする運営指導（中間評価）調査団を現地に派遣し、PNG側と合同で、これまでの活動の達成度を把握するとともに、評価5項目（妥当性、有効性、効率性、インパクト、自立発展性）に基づいた評価を行い、残る協力期間内における活動の方向性や必要経費の確保等について協議しました。

これらの評価結果は、日本国及びPNG双方の調査団による討議を経て、合同評価報告書としてまとめられ、署名を取り交わした上、両国の関係機関に提出されました。

本報告書は、同調査団による協議及び評価結果等を和文に取りまとめたものであり、本プロジェクト、ならびに関連する国際協力の推進に活用されることを願うものです。

終わりに、本調査にあたりご協力とご支援を頂いた内外の関係者各位に厚く御礼申し上げますとともに、当機構の業務に対して、今後とも一層のご支援をお願いする次第です。

平成18年9月

独立行政法人国際協力機構
農村開発部
部長 松田 教男

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写 真

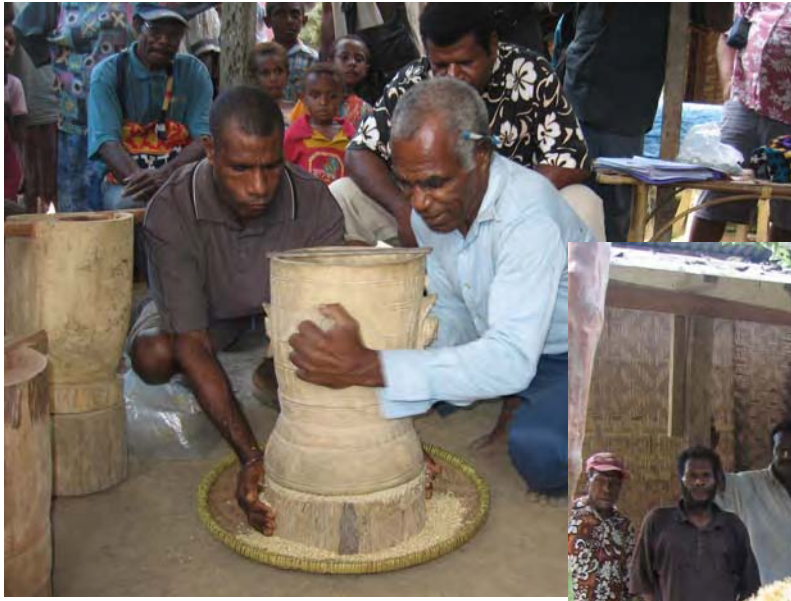
1. モデル農家の圃場（東セピック州マプリック郡）



2. モデル農家の圃場（マダン州スンカール郡）



3. 手動精米の様子



4. 精米所 (モデル精米所：マダン州 No.2 精米所)

A photograph of a handwritten ledger or record book. The page is filled with columns of text and numbers, organized in a table-like format. The handwriting is in blue ink. Some rows are highlighted in pink. The ledger appears to be a record of transactions or production data.

5. モデル農家インタビューの様子（東セピック州マプリック郡）

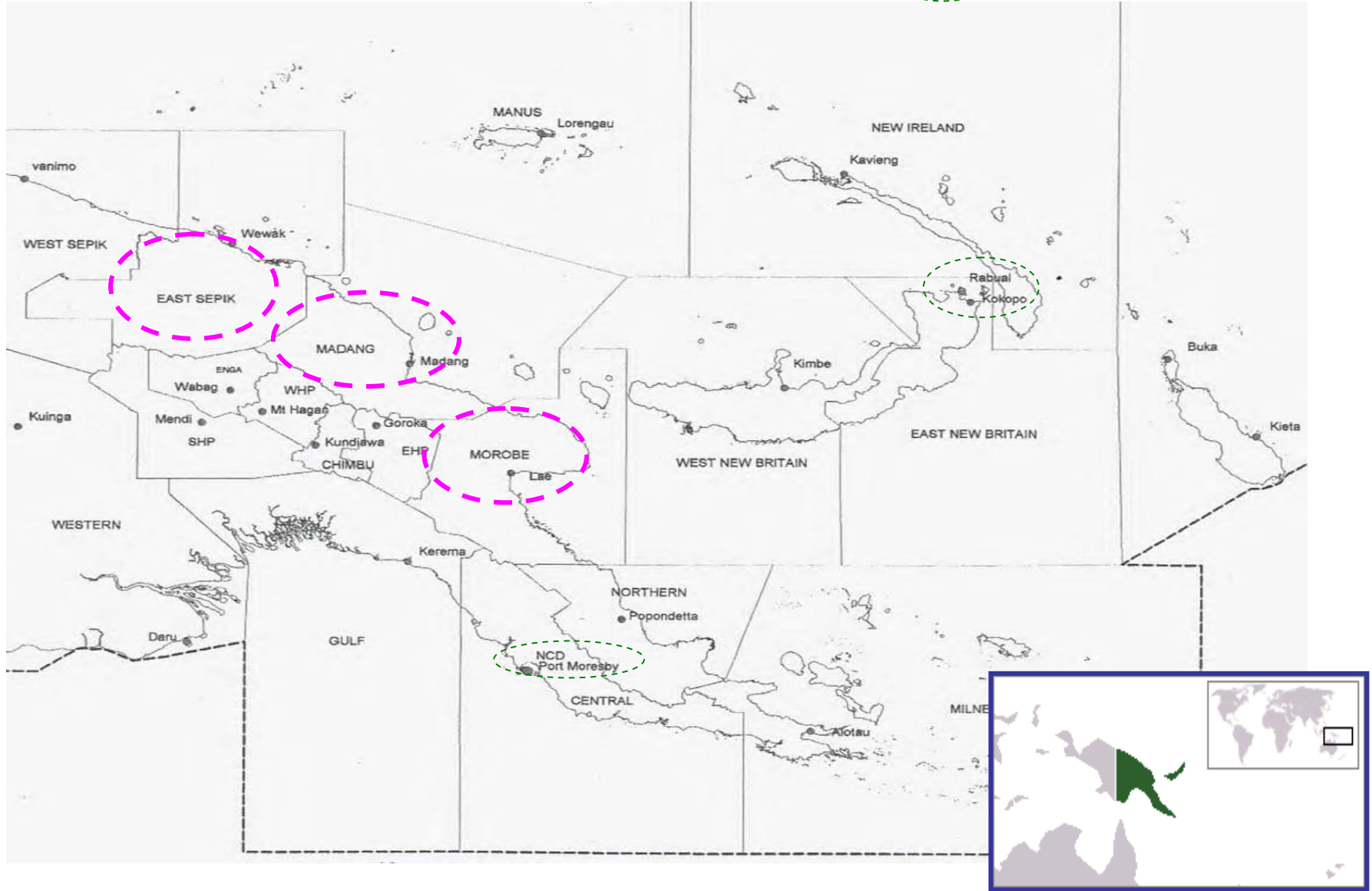


6. モデル農家インタビューの様子（マダン州スンカール郡）



プロジェクト位置図

- プロジェクト対象地域
- プロジェクト関連地域



略 語 表

2KR	2nd Kennedy Round	食料増産援助
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）
FTFEA	Farmer to Farmer Extension Activities	農民から農民への普及活動
FSB	Food Security Branch	食糧安全保障局（農業畜産省内部局）
JCC	Joint Coordination Committee	合同調整委員会
LSMS	Living Standards Measurement Study	世銀による生活水準調査
MF	Model Farmer	モデル農家
MOU	Memorandum of Understanding	確認書
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	最高政策決定審議会
OISCA	The Organizaiton for Industrial, Spiritual and Cultural Advancement-International	オイスカ（日本の国際協力 NGO）
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	討議議事録
ROC	Technical Mission of the Republic of China	台湾技術団
SSSP	Smallholder Support Service Pilot Project	ADB が実施する小規模農家支援パイロット計画

中間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	案件名：小規模稲作振興計画	
分野：農業開発	援助形態：技術協力	
所轄部署：農村開発部第一グループ水田第三チーム	協力金額（評価時点）：0.74 億円 （2006年6月時点、人件費除く）	
協力 期間	(R/D)：2003年12月～2008年12月	先方関係機関：農業畜産省
	(延長)：	日本国側協力機関：無し
	(F/U)：	他の関連協力：
	(E/N)（無償）	
1-1 協力の背景と概要		
<p>近年パプア・ニューギニア独立国（以下、「PNG」）ではコメの消費が伸びており、コメは主食の一つとなるに至ったが、現状では供給のほとんどを海外に依存し、毎年の輸入量は約 15 万 t に達している。このような事情の下で、国家食糧安全保障計画（2000年～2010年）や国内稲作開発政策（2004年～2014年）に見られる様に、食糧安全保障とコメの国産化は同国の主要政策の一つとなり、またこれらの政策に沿って、農業畜産省食糧安全保障課が中心となり、稲作振興に係る計画が策定・実施されてきた。以上の状況にあって、2002年に日本国政府に対し、小規模稲作の自立発展を目指すための技術協力が要請された。</p>		
1-2 協力内容		
(1) 上位目標：対象州において食料安全保障状況が改善される		
(2) プロジェクト目標： モデル農家支援システムを開発適用することにより、自給稲作が小規模農家により営まれる		
(3) 成果		
成果 1：モデル農家が自給稲作技術を取得し他の農家に普及する		
成果 2：モデル農家支援システム及び市場志向的な精米・種子配布サービスが、地方政府により開発・実施される		
成果 3：農業畜産省の政策実施能力と稲作振興モデルを他州に普及する能力が計画省との連携により強化される		
(4) 投入（2006年6月時点）		
日本国側：		
長期専門家派遣	延べ3名、58.7人月 機材供与 1,436万円	
短期専門家派遣	延べ9名、20.2人月 ローカルコスト負担 5,934万円	
研修員受入	計9名	
相手国側：		
カウンターパート（以下、「C/P」）配置	41名 機材 什器備品類	
土地・施設提供 専門家執務室	ローカルコスト負担 278万円	
2. 評価調査団の概要		
調査者	（担当分野：氏名職位）	
	田和 正裕 総括 JICA 農村開発部第一グループ水田第三チーム長	
	寺尾 豊光 評価分析 水産エンジニアリング（株）	
	村田久美子 計画管理 JICA 農村開発部第一グループ水田第三チーム	
調査期間	2006年6月21日～2006年7月13日	
	評価種類：中間評価	

3. 評価結果の概要

3-1 実績の確認

(1) モデル農家の育成

2005年までに合計76名（マダン州60名、東セピック州マプリック郡16名）のモデル農家が育成された。活動を継続しているモデル農家をこの内80%（サンプリングによる推測率）とすると、60名が稲作技術の普及に従事していることになり、旧指標（115名）の52%が達成されたこととなる。但し、プロジェクト終了時になおこの推測率の有効であるか疑問が残るため、見直しを行うこととなった。

(2) モデル農家支援システムの構築

プロジェクト前半では、ワークショップやモデル農家とのコンサルテーションを通じて、郡政府を含む関係者が協議を重ねてきた結果、現実的な支援システムの基礎が構築され、2006年7月現在、「モデル農家支援システムガイドライン」がマダン州で策定・運用が開始されている。東セピック州マプリック郡でも同様のガイドラインを策定中である。

(3) モデル農家による普及活動

モデル農家より指導を受けた小規模農家は、前項(1)に沿った推計を行うと約2,400名（達成率55%）になるが、同様な理由によりこれも見直しを行う。

(4) 研修教材の作成

当初計画されていた7つの内、6つの研修教材とテキスト等が作成されている（一部作成中を含む）。但し、これは稲作に係る基礎的な研修教材やテキスト等ができ上がっただけであり、本成果の活動が終わるものではない。

(5) 広報資料の作成

計画された4点の内、3点が作成済みである。プロジェクト成果ビデオは、プロジェクト終了年に作成予定であるが、現時点までの成果と課題を紹介するものが作られている。完成品も対象者別に理解を促進するために一部改訂を行っている。

(6) 精米機運営

維持管理に問題があったため、供与を予定していた精米機14台に代えて、既存精米所の機能を最大限活用する方針に変更された。選定された郡に設けた「モデル精米所」のマネージャーとオペレーターに対し、基礎的な精米所運営管理研修がJOCV農業機械隊員も協力の上で、今年度実施されている。今後は、同様の研修を増やし、将来的には各精米所の自主運営を目指す。

(7) 種子配布

2006年5月時点では、8人のモデル農家によって114名の非稲作農家に対し123kgの種子が配布された。品種はTCS10、IR10、IR64及びローカル品種。プロジェクトでは種子生産を活性化するために、先進なモデル農家に種子を生産してもらい、それを州・郡政府が購入・配布することを計画している。

3-2 評価結果の要約

(1) 妥当性

本プロジェクトの妥当性は高い。国家食料安全保障プログラム（2000年～2010年）と国内稲作開発政策（2004年～2014年）は農業畜産省により策定され、後に内閣や首相によって承認された。この2つの基本政策は、農業畜産省が全国の小規模農家、関連組織（教育機関と刑務所）及び準企業経営体による稲作を促進するに際して、明確な政策基盤を与えている。

(2) 有効性

本プロジェクトの有効性は中程度または高いと見込まれる。プロジェクト目標の達成は、特にモデル農家支援システムが十分な水準に達する等、指標計測の対象となる3郡の完遂の度合いに依ることになる。これら3郡及び支援システムを導入しようとしている他の郡のC/Pはプロジェクト業務に努力を傾注しているので、終了までに解決すべき最大の障害は、国及び州政府の予算不足と考えられる。

(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あったことを除くと、要員と機材等の投入は概ね予定通りなされたが、モニタリングに見られるモデル農家の追跡状況に示される様に、郡レベルの C/P 31 名がプロジェクトに関与し得た度合いには見過ごせない相違がある。おそらくこの相違は、モデル農家へのアクセスが制約されていることに起因しているものと考えられる。もし日帰りあるいは一泊旅行を可能とする旅費があつてこの問題に対応できるのであれば、遠隔の村落であっても C/P を送ることができたはずである。予算措置が C/P の村落への浸透の程度を決め、またこれがプロジェクトの成否に直接影響することを関係実施機関は認識すべきである。

(4) インパクト

本プロジェクトのインパクトは中程度または高いと見込まれる。プロジェクト目標の場合と同様に、上位目標の達成はモデル農家支援システムが 3 郡以外の残りの 9 郡により受容されるかどうかにより大きく依存することになる。支援システムが無い限り、モデル農家アプローチが首尾良く働かないことは、プロジェクト・チームの農業畜産省 C/P 及び JICA 専門家が強く認識するところとなっている。本プロジェクトの正のインパクトとして、プロジェクトの成功と教訓が PNG の国内稲作開発に係る政策と方向性を決定する上で有用なものとなること、またプロジェクト目標と上位目標の達成は、輸入米に対抗し得る国産米の増産につながる等が挙げられる。

(5) 自立発展性

本プロジェクトの自立発展性は中程度と見込まれる。プロジェクト終了後の段階で便益を維持拡張するためには、農業畜産省が本プロジェクトを一連の国家稲作プログラムに吸収する必要があることは関係要員により認識されている。農家もまた政府支援を継続することの重要性を強く主張している。農業畜産省と州政府一次産業局がプロジェクトにより用いられた実施戦略を採用することが重要と考える。そのためには、農業畜産省は食糧安全保障課に国家稲作プログラムを調整・実施するセクションを設けることで主導的役割を担うことになる。

3-3 効果発現に貢献した要因

(1) 計画内容に関すること

プロジェクト活動の中核部分に対するアプローチとして、本計画に採用された小規模稲作振興モデルは計画の実施を如実に促進したと考えられる。

(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上で C/P の意志は高く、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、ほとんどのモデル農家は本計画における自らの立場と役割をよく理解しており、また村落共同体の生計を改善することに意欲を持っている。

3-4 問題点及び問題を惹起した要因

(1) 計画内容に関すること

2003 年の事前調査の結果として、プロジェクト活動事項は決められたが、プロジェクト対象地域は郡レベルではなく州レベルで選定され、また移転すべき稲作技術が現状を反映する実施可能なプランとしては特定されなかった。これらは実施段階で計画されることとなったので、プロジェクト・チームが直ちに適切な実施体制に入ることは困難であった。

(2) 実施プロセスに関すること

1) 自治政府としての年数がまだ浅いため、当初の段階では、地方政府には農業普及に取り組むための適切かつ十分な予算や要員等のリソース及び手段が無かった。郡行政府によっては未だに無い所もある。また、農家の大多数がアクセスの困難な遠隔地に居住していることから状況は一層困難なものとなっている。

2) プロジェクトが普及すべき稲作は投入を低く抑えることが前提となる技術分野のものである。即ち、農業機械はもとより農薬や肥料の調達を前提とすることができない稲作技術が普及の対象となっている。焼畑稲作技術はほとんどの国で今や行われていないので、灌漑稲作技術の様に技術情報が整理された形で存在しないこともプロジェクト実施上の制約となっている。

3-5 結論

農家対農家普及に基づく小規模稲作振興モデルの構築強化に向けた本プロジェクトの諸活動を高く評価する。本モデルが有効となるためには、農家支援システムが機能し、かつ各レベルの政府機関が現実に適合したリソース投入を全面的に措置することが条件となる。

3-6 提言

州政府は食料安全保障政策を採用すること、また政策実施にあたっては、農業畜産省と連携を保ち、かつ地域社会経済条件に適合した内容で投入リソースを配分すること。

農業畜産省は国内稲作開発政策の下で本プロジェクトを有効に実施するために、国家計画モニタリング省との調整を一層強化し、また州レベルでの同政策の実施促進を行うため、対象州との連携を強めること。

モロベ州のプロジェクト対象地域からの除外、提示した PDM 修正案について今後検討すること。

3-7 教訓

該当無し

3-8 フォローアップ状況

該当無し

中間評価調査結果要約表（英文）

I. Outline of the Project																	
Country : Papua New Guinea																	
Project title : The Project for Promotion of Smallholder Rice Production																	
Issue/Sector : Agriculture Development																	
Cooperation scheme : Technical Cooperation																	
Division in charge: Paddy Field Based Farming Team 3, Group I, Rural Development Dept.																	
Total cost : 73,700,000 JPY (as of June, 2006, excluding personnel cost)																	
Period of Cooperation	(R/D) : December 2003 to December 2008																
	Partner Country's Implementing Organization : National Department of Agriculture and Livestock (NDAL)																
Supporting Organization in Japan : N/A																	
Related Cooperation : N/A																	
<p>1. Background of the Project</p> <p>The consumption of rice has gradually been rising in Papua New Guinea (PNG) and rice is becoming established as one of staple foods in the whole nation. However, most consumption depends on imported rice that reaches around 150,000 tons per year. Food security and domestic rice production has been one of the main national policies in PNG as shown in National Food Security Program (2000-2010) and PNG Domestic Rice Development Policy (2004-2014). In accordance with these policies, the Government of PNG has launched a rice program that is led by Food Security Branch (FSB) in NDAL. In 2002, the Government of PNG made an official request to the Government of Japan to implement a technical cooperation project that would support the national rice policy and contribute to attaining the sustainable rice production by smallholders.</p> <p>2. Project Overview</p> <p>(1) Overall Goal: Food security situation of the target provinces are improved.</p> <p>(2) Project Purpose: Sustainable subsistence rice farming is practiced by smallholders by developing and applying the support system for Model Farmer extension activities.</p> <p>(3) Outputs</p> <ol style="list-style-type: none"> 1. Model farmers conduct "Farmer To Farmer Extension Activities (FTFEA)" through acquiring sustainable subsistence rice farming skills. 2. A support system for Model Farmer Extension Activities and "market oriented" services for milling and seed distribution are developed and implemented by local governments. 3. NDAL's capacities for policy implementation and extension of the Model to other provinces are strengthened in coordination with DNPM. <p>(4) Input as of June 2006</p> <table style="width: 100%; border: none;"> <tr> <td colspan="2">Japanese side :</td> </tr> <tr> <td>Long-term Expert 3 persons (58.7 months)</td> <td>Equipment 14,360,000 JPY</td> </tr> <tr> <td>Short-term Expert 9 persons (20.2 months)</td> <td>Local cost 59,340,000 JPY</td> </tr> <tr> <td>Trainees received 9 persons</td> <td></td> </tr> <tr> <td colspan="2" style="text-align: right;">Total Cost 73,700,000 JPY</td> </tr> <tr> <td colspan="2">Papua New Guinea side :</td> </tr> <tr> <td>Counterpart 41 persons</td> <td>Equipment Office fixtures and fittings</td> </tr> <tr> <td>Land and Facilities Office for the experts</td> <td>Local Cost 2,780,000 JPY</td> </tr> </table>		Japanese side :		Long-term Expert 3 persons (58.7 months)	Equipment 14,360,000 JPY	Short-term Expert 9 persons (20.2 months)	Local cost 59,340,000 JPY	Trainees received 9 persons		Total Cost 73,700,000 JPY		Papua New Guinea side :		Counterpart 41 persons	Equipment Office fixtures and fittings	Land and Facilities Office for the experts	Local Cost 2,780,000 JPY
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Papua New Guinea side :																	
Counterpart 41 persons	Equipment Office fixtures and fittings																
Land and Facilities Office for the experts	Local Cost 2,780,000 JPY																

II. Evaluation Team	
Members of Evaluation Team	1) Mr. Masahiro Tawa, Leader; Team Leader, Paddy Field Based Farming Area Team III, Group I, Rural Development Dept., JICA 2) Mr. Toyomitsu Terao, Evaluation Analysis; Consultant, Fisheries Engineering Co., Ltd. 3) Ms. Kumiko Murata, Planning and Management; Project Officer, Paddy Field Based Farming Area Team III, Group I, Rural Development Dept., JICA
Period of Evaluation	21 June 2006 to 13 July 2006 Type of Evaluation: mid-term evaluation
III. Results of Evaluation	
<p>1. Summary of Evaluation Results</p> <p>(1) Relevance</p> <p>The relevance of the Project is high. The National Food Security Program (2000-2010) and PNG Domestic 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 political base for the NDAL to promote the domestic rice production by all the smallholders, institutions and semi-commercialized entities in the whole country.</p> <p>(2) Effectiveness</p> <p>The effectiveness of the Project is predicted moderate or high. Achievement of the Project purpose will depend substantially on performance by the three districts especially when driving the supporting system for the model farmer (MF) into a sufficient level. The project counterparts in these districts and others that are trying to adopt the supporting system are working hardly with their duties in the Project. The biggest obstacle the Project will have to achieve by the end will be a shortage of the budget provided by the national and provincial governments.</p> <p>(3) Efficiency</p> <p>The efficiency of the Project was moderate in the first half term. Inputs of the project resources that include human power and equipment were made mostly as expected, with the exception of provision in budgets for project operation by NDAL and the provincial governments. Extents to which the 31 district counterparts have been involved in the project activities are largely different, as shown in the coverage of the MF in their monitoring reports. Probably, this difference is caused by constraint of access to the model farmers. However, if such physical constraint could be reduced by providing budgets enough for day or overnight travel, there may have been more deployment of the district counterparts to the distant villages. Hence, it should be noted by all the parties involved that the budgetary measures may largely and directly affect the extent of travel of the counterparts to the villages, and such an extent can definitely affect the performance of the Project.</p> <p>(4) Impacts</p> <p>The impacts of the Project are expected moderate or high. Achievement of the overall goal depends, to a large extent, on the acceptance of the supporting system for the MF by remaining districts in the target provinces, similarly to the Project purpose. It is well recognized by the NCP and the JICA Experts in the Project team that the model farmer approach will not work successfully unless there is a supporting system to support the MF. Regarding positive effects of the Project, it is said that success and lessons generated by the Project will provide a useful input in determining the policies and direction of domestic rice development in the country, and also that achieving the goals will result in increase in local rice production that might compete against imported rice.</p>	

(5) Sustainability

The sustainability of the Project is predicted to be moderate. It is recognized by key personnel involved that the NDAL has to absorb the Project into the national rice programs for sustaining and expanding the project benefits in the post project stage. Also, in interviews with farmers, they strongly insisted on the importance of continuing government assistance to farmers after the project termination. To sustain the project benefits, it is also important that the NDAL and its provincial counterparts organize themselves and adopt the similar implementation strategy used by the Project, and that, to undertake these measures, the NDAL plays a leading role by establishing a unit within the FSB to coordinate and implement the national rice programs.

2. Factors that promoted realization of effects

(1) Factors concerning to Planning

Adoption of the model of smallholders' rice production has been apparently accelerating the Project. The model is an approach to undertake a core of the project activities.

(2) Factors concerning to the Implementation Process

High willingness of the project counterparts in their attitude to perform their duties seems to be one of favoring factors to promote the Project. In addition, most of the model farmers are well aware of their position and role in the model, and are highly motivated to improve livelihood of their communities.

3. Factors that impeded realization of effects

(1) Factors concerning to Planning

Though the project activities were designed at the time of the preliminary study in 2003, the project operation areas were selected only in a level of provinces and not in a level of districts, and rice production technologies that the Project should handle were not identified as feasible plans. Since design of these was left to the implementation stage, the project team could not immediately undertake the appropriate implementation.

(2) Factors concerning to the Implementation Process

1) Local governments had, and have still in case of some districts, neither enough nor appropriate resources and instrument for mechanizing and undertaking extension services for farmers, because of their relatively new status as an independent government. Such constraints are further and largely hardened by a fact that many of the farmers are living in rural areas that are difficult to access either from provincial or district capitals.

2) The Project focuses on low-input technology of rice farming; a technology that is not readily available in a systemized form like irrigated rice farming techniques, since up-land rice farming is not practiced in most other countries.

4. Conclusion

The Project's activities in constructing and strengthening the current model of smallholders' rice production through farmer to farmer extension approach are highly evaluated. Conditions for the effective model will be a workable farmer supporting system that needs to be fully and realistically resourced by the government at all levels.

5. Recommendations

(1) The provincial governments should adopt the Food Security Policy and deploy the necessary resources for its implementation in conformity with local socio-economic conditions with strong linkage to NDAL.

(2) In order to implement the Project effectively under the PNG Domestic Rice Production Development Policy, it is recommended that NDAL should strengthen coordination with Department of National Planning and Monitoring further, and strengthen linkage with the target provinces to implement their part of the policy.

6. Lessons Learned
(Not applicable)

7. Follow-up Situation
(Not applicable)

第1章 中間評価調査の概要

1-1 調査団派遣の経緯と目的

パプア・ニューギニア独立国（以下、「PNG」）では、都市部のみならず農村部においてもコメを主食として摂取する食習慣が定着しつつある。しかしながら、消費のほとんどをオーストラリア国やタイ国からの輸入米に依存しており、輸入量は年間約15万tに達すると推計されている。

この様な状況下、PNG政府は食料安全保障の観点から稲作振興を優先課題と位置付け、農家による小規模自給稲作のためのプログラムを策定し、農業畜産省食糧安全局（Food Security Branch）を中心に全国17州で事業を展開中である。

独立行政法人国際協力機構（以下、「JICA」）は、これまで専門家・JOCV派遣・機材供与等の面でPNGの小規模稲作振興に対する協力を実施してきた。2002年度には在外開発調査を実施し、マスタープラン「小規模稲作振興計画」を策定した。これを基に、小規模農家への稲作技術の普及と定着が課題となっていることから、PNG政府より小規模農家をターゲットとした稲作技術の普及と稲作技術サービス体制の強化を目的とする技術協力プロジェクトの要請が提出された。

係る要請に対し、事前評価調査を実施した結果、2003年11月に討議議事録（R/D）が締結され、2003年12月1日より5年間のプロジェクトが開始された。

米食の習慣が定着しつつあるといっても、限られた地域へ100年前によく稲作が紹介され、焼畑による主食の根菜類や、サゴ椰子、バナナ等の栽培技術と大きく異なる種子作物栽培はまだまだ新しいものであった。水田は無く、役畜も存在しない。焼畑と狩猟採種を中心として、孤立した小集団による営みを非常に長い時間継続してきた結果、地域社会における技術的蓄積が非常に希薄なものとなっていた。行政においても、稲作栽培技術開発や人材養成は皆無に等しく、慢性的な財政不足で人員が不足し、行政による普及体制も非常に脆弱であった。事業運営管理能力も低く、事業企画や実施結果に関する情報収集や整理は求められていなかった。地方においては、稲作に関するデータは全く無く、行政官はデータ収集の意義すら理解していない状況であった。

係る状況において実施されてきた本プロジェクトでは、稲作を継続的に実施する農家を増やすことを目的として、プロジェクト以前に既に始められていた農家に対する陸稲栽培研修をベースに、その研修を受けた農家が研修終了後に地元へ帰って周辺農家に稲作の普及を行うという「モデル農家による農民から農民への普及（＝モデル農家アプローチ）」を基本とすることとなった。研修を受ける農民（＝モデル農家候補者）を選抜するのは、地方行政である。また、研修は、ラバウルにあるOISCAに委託し、プロジェクトと共同作業により陸稲栽培と収穫後処理、種子の確保等に関する適正技術に基づいた研修事業を企画・実施してきた。また、モデル農家による普及活動を持続的に行うためには、モデル農家に対して行政による物心両面の支援が必要であり、行政による支援策を制度化する必要があった。そこで、稲作を根付かせるために「モデル農家アプローチと行政による支援システム構築」をプロジェクトの柱とした。

この柱以外に、精米機による精米サービスと、新規農家が稲作を始めるのに必要な種子配布サービスの確立に取り組んできた。そして、情報収集の必要性すら意識されていなかった行政官に対して、基本情報を収集し、統一的な書式の報告書を作成するというモニタリングシステムの確立にも取り組んできた。

今般、活動の折り返し地点を迎えたことから、これまでの活動の実施状況を把握するとともに、

評価 5 項目（妥当性、有効性、効率性、インパクト、自立発展性）の観点から総合的に評価を行い、今後のプロジェクト活動のために必要な方策を提言することを目的として中間評価調査団を派遣した。

1-2 調査団員の構成

担当	氏名	所属
総括	田和 正裕	JICA 農村開発部第一 G 水田第三 T チーム長
評価分析	寺尾 豊光	水産エンジニアリング株式会社 技術主任部員
計画管理	村田 久美子	JICA 農村開発部第一 G 水田第三 T

1-3 調査期間

調査はコンサルタントの先行調査期間を含め、2006年6月21日（水）～翌7月13日（木）の23日間で行われた。この内、7月3日～11日は、PNG側評価団員が加わった形で行われた。

全 体：平成18年6月21日（水）～7月13日（木）（23日間）

評価分析：平成18年6月21日（水）～7月13日（木）（23日間）

総括/計画管理：平成18年7月1日（土）～7月13日（木）（13日間）

日順	月 日	調 査 工 程
1	6/21 (水)	20:55 成田発 (JL5141) 【評価分析団員】
2	6/22 (木)	05:25 ケアンズ着 06:45 ケアンズ発 (CG101) → 08:55 ポートモレスビー着
～	～	
10	6/30 (金)	<先行現地調査> - アンケートの回収 - C/P 及び専門家インタビュー - モデル農家及びコンタクト農家インタビュー - 圃場、精米所の視察 - OISCA 研修所視察、荏原所長インタビュー - JOCV 農業機械 浜中隊員インタビュー - モロベ州 CP からの聞き取り調査 - ROC、FAO、ADB からの聞き取り調査
11	7/1 (土)	21:25 成田発 (QF060) 【総括、計画管理】
12	7/2 (日)	05:55 ケアンズ着 12:00 ケアンズ発 (PX093) → 13:25 ポートモレスビー着 専門家打合せ
13	7/3 (月)	PNG 事務所打合せ 農業畜産省、国家計画モニタリング省表敬 第一回合同評価委員会 - 評価手法、考え方の説明、日程の確認等 NDAL からの聞き取り及び協議 - C/P による成果発表、運営改善に係る協議 ADB からの聞き取り
14	7/4 (火)	マダン及び東セピック州における現場調査 - マダン No.2 精米所の視察 - Hayfield 精米所の視察 - マプリック郡関係者からの聞き取り
15	7/5 (水)	東セピック州マプリック郡における現場調査 - モデル農家インタビュー - 圃場の視察
16	7/6 (木)	マダン州スンカール郡及びマダン郡における現場調査 - 州 C/P による成果発表、質疑応答 - 圃場の視察

		- モデル農家インタビュー
17	7/7 (金)	PDMに係る協議 (日本国側) PDMを理解するワークショップ (PNG側)
18	7/8 (土)	評価レポート (案) 及び改訂 PDM (案) の作成
19	7/9 (日)	評価レポート (案) 及び改訂 PDM (案) の修正 PCMワークショップ準備
20	7/10 (月)	PCMワークショップ - 改訂 PDM (案) の協議、最終化 第二回合同評価委員会 - 評価レポート (案) の確認及び協議
21	7/11 (火)	評価レポートの署名 合同調整委員会 (JCC) 会議 - 評価レポートの発表 - 提言に係る協議 - ミニッツ署名
22	7/12 (水)	- 専門家打合せ - 在 PNG 日本国大使館報告 - JICA 事務所報告
23	7/13 (木)	09:25 ポートモレスビー発 (QF384) → 10:50 ケアーズ着 12:10 ケアーズ発 (QF167) → 18:45 成田着

1-4 主要面談者

所属先	氏名	職位
国家計画モニタリング省 Department of National Planning and Monitoring	Mr. Karl Sopol Mr. Roland Katak Ms. Jenny Tumun Mr. Koichi Okabe	Acting Director, Aid-Coordination Assistant Director for Bilateral Branch Aid-Coordination Officer (Japan/JICA) Project Formulation Advisor
農業畜産省 Department of Agriculture and Livestock	Mr. Anton Benjamin Mr. Francis Daink Mr. Brown Konabe Mr. Verave Gavali Mr. Steven Hoko Ms. Mariam John Mr. Patrick Oa	Secretary Acting/Deputy Secretary Project Director/Manager Project Coordinator Project Officer Project Officer Project Officer
マダン州 Agriculture and Livestock Branch	Mr. Ganei Agodop Ms. Mary Lilih Mr. Godfried Savi	Provincial Agriculture Advisor Provincial Food Crops Officer Provincial Rice Officer
マダン州マダン郡 Madang District Government	Mr. Tapul Waltubol Mr. Godfried Agabara	Program Manager District Rice Officer
マダン州スンカール郡 Sumkar District Government	Mr. Jimmy Sekum	Sumgilbar LLG Manager
東セピック州 Provincial Department of Primary Industry	Mr. Edward Liru Mr. Pius Numbatai	Provincial Agriculture Advisor Provincial Rice Officer
東セピック州マプリック郡 Maprik District Government	Mr. Phillip Gura Mr. Philemon Minilistik	District Rice Officer District Rice Officer
モロベ州 Morobe Provincial Department of Primary Industry	Mr. Geoving Bilong Mr. Amos Buieba	Provincial Agriculture Advisor Provincial Rice Officer

台湾技術団 Technical Mission of the Republic of China (ROC)	Mr. Sun Chen-Hwa Mr. Felix, M.F. Song	Acting Team Leader Agriculture Machine Expert
アジア開発銀行 Asian Development Bank (ADB)	Mr. Steven H. van der Tak Mr. Sammuel B. Lahis	Country Director for Papua New Guinea Resident Mission Project Coordinator, Office of the Smallholder Support Service Pilot Project
国連食糧農業機関 FAO Regional Programme for Food Security in the Pacific Island Countries	Larry Hernandez, Noel A. Armada Oliver C. Patlingrao	Team Leader for Mission in Papua New Guinea Fishery/Aquaculture Expert Animal Production Expert
プロジェクト 長期派遣専門家	中山 一三 片渕 将太 池添 正嗣	チーフアドバイザー／普及計画 業務調整／教材作成支援 研修計画
在 PNG 日本国大使館	花形 莞司 大川 幸樹	特命全権大使 一等書記官
JICA PNG 事務所	喜多村 祐介 池田 俊一郎	事務所長 所員

1-5 プロジェクト概要

中間評価開始時点でのPDMに基づくプロジェクト概要は次の通り。当中間評価前後で、PDMは改定された。改定箇所については第3章 3-4-1において解説する。改定後のPDMについても付属資料3として添付する。

サイト	マダン州、モロベ州、東セピック州	
協力期間	2003年12月1日～2008年11月30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	1) 小規模農家による自給的稲作農法が、対象地域及び周辺で取り入れられ継続する。 2) 対象地域及び周辺において、小規模農家によるコメの生産が増大する。
	プロジェクト目標	対象州で小規模農家による持続可能な自給的稲作農業が確立する。
	成果	1) 小規模農家が持続可能な自給的稲作の技術を習得する。 2) 支援サービスが稲作農家に行き届く。
	活動	1-1 農家及び自治体等の職員に技術研修を行う 1-2 研修を受けた農家の巡回指導を行う 1-3 農家向けの教材を改善・配布する 1-4 モデル農家が周辺の農家に技術を指導する 1-5 モデル農家による周辺農家への普及活動 (Farmer-to-Farmer Extension) を支援する 1-6 モデル農家の活動をモニタリングする 2-1 精米サービスを確立し、維持する 2-2 種子配布を含めた他の稲作農家支援サービスを確立する 2-3 小規模農家による農業形態の変化 (焼畑含む) をモニタリングする

第2章 中間評価の方法

2-1 合同評価手法

中間評価は、日本国側メンバー（調査団員3名）と PNG 側メンバーで合同評価委員会を構成し、現在までの活動内容やその成果・効果等について、「改訂版 JICA 事業評価ガイドライン」に沿って評価5項目の観点から評価した。また、その結果を踏まえ、プロジェクト実施上の問題点、PDM の見直しを含め、今後のプロジェクト活動のあり方について協議し、合同中間評価報告書にまとめた。

2-2 合同評価調査メンバー

PNG側評価メンバーは次の通り。

<i>Name</i>	<i>Title/Field</i>	<i>Occupation</i>
Mr. Noel GETI	Team Member	Principle Aid Coordinator, Asia & Others, Bilateral Branch, Aid Policy & Coordination Directorate (APCD) , Department of National Planning and Monitoring
Ms. Betty NIME URI	Team Member	Monitoring Officer, Renewable Resource Desk, Development Monitoring and Evaluation Division (DMED) , Department of National Planning and Monitoring
Mr. George MOSUSU	Team Member	Director of Compliance, Monitoring and Evaluation, National Department of Agriculture and Livestock

第3章 プロジェクトの達成状況

3-1 投入実績

3-1-1 日本国側投入

プロジェクトが開始されてから2006年6月末までに、延べ3名の長期専門家（チーフアドバイザー、チーフアドバイザー（後任）/普及/研修、業務調整/教材作成支援）が派遣されている。投入人月数は計58.7カ月であった。また2006年6月以降からは長期専門家（研修）が1名追加された。2006年6月末までに派遣された短期専門家は9名（計12回派遣）であった。派遣分野は、支援システム、ガイドライン策定、農家調査、プロジェクト運営、精米機、ロールプレイングゲーム及び稲作技術で、合計人月数は20.2カ月であった。加えて、第3国専門家（インドネシア国）を精米の分野で2回派遣した（付属資料5参照）。

カウンターパート（以下、「C/P」）9名に対して本邦研修が実施された。分野は稲作政策（2名）、農業普及計画管理（5名）及び収穫後処理（2名）であった。

期間中に事務備品、電話ファクシミリ及び車輛3台が供与され、農業畜産省、マダン州及び東セピック州に配置された。加えて研修教材作成用の視聴覚機器が調達され、C/Pによって適宜使用されている。2003～2005年度における機材調達費用は合計358,911K（≒14,356千円）¹であった。以上の供与機材の保守管理状況は良く、活用状況も概ね良好である（付属資料7参照）。

2003～2005年度の期間中のローカルコストは合計1,483,498K（≒59,340千円）であった。費用負担の対象となったプロジェクト活動の中で、在ラバウルOISCA研修センターとの業務契約により実施された一連のモデル農家及び普及担当行政官等に対する稲作研修に456,973K（≒18,279千円）（ローカルコストの31%）を要した（付属資料8参照）。

3-1-2 PNG側投入

2006年7月現在、41名のC/Pが国、州及び郡のレベルでプロジェクト活動に従事している。この中で、郡レベルのC/P31名がプロジェクト活動に関与したその度合いは幾分異なっていると見られる。この相違は州郡政府の要員及び予算面での組織能力の違いや、州都からの交通面あるいは通信面でのアクセス条件に深く影響されている様である。

マダン州及び東セピック州が取りまとめた郡レベルのモニタリングの原記録（モニタリング様式6号）によると、両州の計12郡全てが稲種子の調達と配布に係る活動を報告している。しかしながら、モデル農家の普及活動（モニタリング様式8号）について見ると、マダン州6郡の内4郡が20名のモデル農家の活動を報告（2006年上半期）し、東セピック州6郡の内5郡が15名のモデル農家の活動を報告（2005年下半期のモニタリングによる。2006年上半期分は未入手）した状況にあり、モデル農家育成計画に基づく普及対象農家の捕捉率から見たモニタリングは完全ではない（付属資料10参照）。

2004年度と2005年度において、農業畜産省、マダン州及び東セピック州はプロジェクト運営のために合計232,970Kを支出した。2005年度はプロジェクトへの国家予算の手当ては当初なされなかった。年度途中で他から流用があり、支出は可能となったが、該当の予算科目はゼロ査

¹ 1キナ=40円で計算。

定のままであったと言われる。今年度 2006 年には 369,000K の予算配賦があった。前年度以前と比較し予算額は増大したが、計画額より少なく、農業畜産省はなお不十分と考えている。

3-2 成果の達成状況

ここでは、PDM（2005 年 1 月改訂版）に基づき、プロジェクト前半の活動による成果を記載する。但し、PDM 及びその指標は本中間評価調査団により、更に修正案が提示された（PDM の変遷については、「3-4 PDM の検証」を参照）。

成果 1：小規模農家が持続的自給稲作技術を修得する。

(1) モデル農家の育成

指標：『成果を図る対象地域』において、広報活動、種子配布、技術提供及び指導、研修、圃場の紹介等を行うモデル農家が 2008 年までに 115 名となる。

プロジェクト開始以前の 2001 年から 2005 年までに合計 76 名（マダン州 60 名、東セピック州マプリック郡 16 名）のモデル農家が、OISCA 研修を通じて育成された。この数値を当初 PDM の指標計算式に当てはめると、約 60 名（76 名×80%）のモデル農家が活動を継続していると予測できる。即ち、旧指標（115 名）に対し 52%が達成されていることとなる（英文合同評価報告書では「マプリック郡 17 名」としているが、これは誤りであるため、ここでは正しい数「16 名」を用いた）。

しかしながら、活動を継続しているモデル農家数の計算式の設定にはサンプル数が少なく、プロジェクト終了時になお同計算式が有効であるか否か疑問が残るため、より多くのサンプルを採取した上で計算式を見直すこととなった。従って、新しい PDM では新たな指標が設定されるが、現状では対象地域内で、予定通りの成果が出ているといえる。

OISCA 研修には、過去 2 年で、農家のみならず、行政官、教員、NGO スタッフといった人材も合計 28 名参加したことは特筆すべきであろう。行政官の育成は、行政官が稲作を理解しそのサイクルを学ぶことで、モデル農家支援、政策策定及びプロジェクト終了後も事業を持続することに貢献する。教員や NGO スタッフも他者へ伝達する役目を負うことからモデル農家と同じ普及効果が得られる。特に、教員は多くの生徒に伝達することで将来の農家へ伝達する役目を負う。

また、同研修では、本プロジェクトで作成したテキストを活用している。更に、モデル農家の意欲や意識を高めるために、同研修にモデル農家セッションを導入し、プロジェクト活動の理解を促進している。

(2) モデル農家支援システムの構築

指標 2：『成果を図る対象地域』において、州政府が 7 種類/年のモデル農家支援活動を行う。

プロジェクト開始時より、プロジェクト活動を持続させるためには、モデル農家が行う活動を行政が支援する仕組みの必要性が確認されてきた。このため、プロジェクト前半では、ワークショップやモデル農家とのコンサルテーションを通じて、郡政府も含む関係者が協議を重ねてきた結果、現実的な支援システムの基礎が構築され、2006 年 7 月現在、「モデル農家支援システムガイドライン」がマダン州で策定・運用が開始されている。東セピック州マブ

リック郡でも同様のガイドラインを策定中である。

他方、本指標で示す「7 種類/年の活動」は意味することが不明瞭であり、モデル農家支援システムは一つのパッケージとして取り扱われるべきであることから、本指標は別途改訂することとした。

(3) モデル農家による普及活動

指標 3：2008 年まで『成果を図る対象地域』において、モデル農家より指導を受けた小規模農家が 4,400 名になる。

本章(1)にて記述した通り、マダン州及び東セピック州マプリック郡においてモデル農家が 76 名育成されたことを計算式にあてはめると、2,432 名 (76 名×80%×コンタクト農家 40 名) と予測することができる (達成率 55%) が、本指標も同様に計算式を再考する必要がある。

(4) 研修教材の作成

指標 4：2008 年までに以下の教材、テキストが NDAL により作成される。

(1) 稲作基礎技術、(2) 精米機管理、(3) 圃場整備、種播き、稲刈り、収穫、収穫後処理に係る紙芝居、(4) 冊子タイプの紙芝居、(5) 稲作に係る農家研修用のカリキュラム及び研修教材、(6) 稲作基礎技術のビデオテープ教材、(7) 精米機管理のビデオテープ教材

2006 年 3 月までに、以下の研修教材やテキスト等を作成・配布した。

- ①稲作基礎技術に係る研修教材：栽培、雑草処理、収穫、収穫後処理の紙芝居、冊子及びビデオテープ教材
- ②精米機管理に係る冊子及びビデオテープ教材
- ③木製摺り臼製作に係るマニュアル及びビデオテープ教材

更に、次の研修教材やテキスト等を作成中である。

- ①種子生産及び保存に係る冊子と紙芝居
- ②焼畑農業のメリットとデメリットに関する冊子
- ③農具の歴史に係る冊子
- ④陸稲及び水稲に係る冊子
- ⑤インドネシア国の鍛冶屋に係るビデオテープ教材
- ⑥インドネシア国における稲作の紹介ビデオテープ教材
- ⑦病虫害管理に係る冊子

作成中を含めると、当初計画されていた 7 つの内、6 つの研修教材とテキスト等が作成されている。但し、これは稲作に係る基礎的な研修教材やテキスト等ができ上がっただけである。今後、これらの教材やテキスト等は各 C/P によって使用され、更に改訂されていくこととなる。

(5) 広報資料の作成

指標 5：2008 年までに以下の広報資料が NDAL によって作成される。

- (1) プロジェクト紹介ビデオテープ、(2) プロジェクト紹介冊子、(3) プロジェクト成果のビデオテープ、(4) 稲作ポスター

2006 年 7 月までに、次の広報資料を作成した。

- ①プロジェクト紹介ビデオテープ
②プロジェクト紹介冊子
③マダン州及び東セピック州マプリック郡の稲作ポスター

プロジェクト成果ビデオはプロジェクト終了年に作成予定であるが、他は作成されており達成度は高い。しかしながら、プロジェクト紹介ビデオも対象者によってより分かり易くなる様に改訂しており、現時点でのプロジェクト成果及び課題に係る紹介ビデオも作成中である。

成果 2：稲作農家に対する支援サービスが提供される。

(6) 精米機運営

指標 1：『成果を図る対象地域』において、3 年以上運営している精米機が 2008 年で 14 台である。

プロジェクトは、開始当初、対象地域に精米機 14 台を供与する計画であった。しかし、プロジェクトの進捗に連れ、多くの精米機が過去に政治家等から供与されたにも係わらず、運営管理不足により放置されている状況が確認されるようになった。原因は、精米所を運営する上で最低限必要な管理（収支決算や精米量の記録及び日常的なメンテナンスや壊れた際の修理といった精米機の取扱い）が実施されておらず、更に、精米機を稼働させる運営費が無いことであることが分かった。係る状況では、いくら精米機を供与しても活用される見込みがなく、また、機械に頼る安易な姿勢を助長する懸念があった。

このため、2005 年 1 月の第 2 回 JCC 会議において、「できることを自分で行う」姿勢を目指すべく、精米機に関しては次の運営方針が新たに打ち出され、PDM 上の位置付けや指標も併せて変更された（PDM、2005 年 1 月改訂版）。

- a) 既存精米所の機能を最大限活用する。各郡に「モデル精米所」を設置する。（マダン州：No.2 精米所、東セピック州マプリック郡：Hayfield 精米所）
b) マダン州 No.2 精米所は精米に係る研修センター機能を付す。
c) モバイル精米サービスを強化する。
d) 木製摺り臼の利用を促進する。
e) 上記活動の成果は 2006 年末に見直すこととする。

既に精米所のマネージャーとオペレーターに対し、基礎的な精米所運営管理研修が JOCV 農業機械隊員の協力の下、今年度実施されている。今後は、同様の研修を増やし、将来的には各精米所の自主運営を目指す。

(7) 種子配布

指標 2 : 2008 年までに『成果を図る対象地域』において、伝統又は選定された品種の種子が 0.5kg ずつ、4,800 戸の非稲作農家に配布される。

2006 年 5 月時点では、8 人のモデル農家によって 114 名の非稲作農家に対し 123kg の種子が配布された。品種は TCS10、IR10、IR64 及びローカル品種であった。また、マダン州では ROC (台湾技術団) により 498 戸の非稲作農家に対し種子配布がされた (量の記録は無い)。

但し、ROC が生産・配布する種子の多くは発芽率が低く、モデル農家が種子の配布を受けた農家に稲作技術を移転しても、それらの種子が発芽しないことから、彼等にとって大きな意欲阻害要因となっている。

プロジェクトでは種子生産を活性化するために、先進的なモデル農家に種子を生産してもらい、それを州・郡政府が購入・配布することを計画している。

3-3 その他活動の達成状況

指標には表れていないものの、プロジェクトでは、モデル農家アプローチ (Farmer to Farmer Extension Activities : FTFA) を強化するために次の活動を行ってきており、実績として記載したい。これらの活動は、1) モデル農家の役割について意識を高めること及び 2) 適性稲作技術・知識を維持することに貢献する活動として要約することができる。

(1) 巡回指導

プロジェクト開始以前より蓄積されてきた経験と初年度に行った聞き取りを基に、毎年、OISCA 講師による巡回指導を実施してきた。また、インドネシア国から派遣した第三国専門家ヤヤット氏 (2005 年 2 月～4 月及び 2006 年 2 月～4 月)、小田島短期派遣専門家 (2006 年 2 月～4 月) による巡回講習も行った。

ヤヤット第三国専門家は巡回指導の中で、インドネシア国において『キセル』と呼ばれる木製摺り臼を農家に紹介した。木製摺り臼は少ない材料とお金で農民自身が製作できることから、特に遠隔地に住居し精米所までのアクセスが悪い農家にとっては利点が多く、評判が良い。周囲の期待に伴い、プロジェクトでも同精米機の導入・普及を積極的に行うようになった。更に、東セピック州アングラム郡では、この木製摺り臼の生産・販売の動きもあり、木製摺り臼の普及とそれに伴う稲作の普及が期待されている。

(2) モデル農家再研修

2005 年には、マダン州の自発的な企画・実施によって州内 5 郡から 50 名のモデル農家に対し再研修が行われた。内容としては、キセルや農具、紙芝居 (稲作基礎技術) の作製方法を研修し、技術の再確認が行われた。同研修はモデル農家の意識向上につながり、行政が行う各種モデル農家支援活動の中でもモラル・サポートとして位置づけることが可能である。

(3) 技術交流 (国内視察旅行)

2005 年及び 2006 年には、東セピック州のモデル農家及び行政官がマダン州に行き、マダン州で行っている稲作を視察するという技術交流が行われた。国土の広い PNG では、隣の州でも、その生活、民族、言語等が異なっており、元来移動の機会が非常に限られている PNG 人

にとっては異文化に接することと同等である。技術交流では、自分と違った農法を営む農家を視察し、意見交換をすることで、自身の農法の見直し、稲作に対する生産意欲を高める効果があった。

(4) インドネシア国への視察旅行

伝統的に稲作を栽培してきたインドネシア国を訪問し、その伝統農法や収穫後処理技術を学ぶために、同国西ジャワ州スパン区へ合計 3 回の視察旅行を実施した。同地域はヤヤット第三国専門家の居住地及び勤務地である。モデル農家を中心とした 23 名の参加者は、地元にある材料や資源を最大限に生かしつつ長年にわたり継続・開発してきた同国の稲作栽培技術を視察することで、自国でも自身が可能な範囲で稲作を栽培できるヒントや自信を得ることができた。本視察旅行は技術紹介程度であるものの、そのインパクトは大きく、モデル農家の意識を高める上で有効な活動であった。

3-4 PDM の検証

本項では、合同評価報告書では詳述されていない当初 PDM、ならびに 2005 年 1 月に改訂された PDM に関する情報を、特に追加的に以下に説明する。

3-4-1 PDM の変遷

(1) 当初 PDM

2003 年 11 月に R/D が署名された時点の PDM を付属資料 1 (1) に示した。

(2) PDM (2005.1 改訂版)

当初 PDM は、その後、2005 年 1 月に開催された第 2 回 JCC にて改訂された。同 PDM を同じく付属資料 1 (2) に示した (合同評価報告書にも添付)。

なお、前述の通り、本中間評価調査は PDM (2005 年 1 月改訂版) を用いて行った。

主な改訂のポイントは以下の通りである。

- ①プロジェクトの対象地域は、モロベ州、マダン州、東セピック州の 3 州で変更無いが、「成果を図る対象地域」という考え方を導入し、これをマダン州及び東セピック州マプリック郡とした (PDM の左上部に記載)。
- ②上位目標、プロジェクト目標、成果について、当初 PDM では指標の中で数値目標が示されていなかったが、これを数値化した。数値目標の変更についての比較 (当初 PDM (2003 年 11 月) と 2005 年 1 月改訂版 PDM) は下表の通りである。

PDM 比較表：当初 PDM（2003 年 11 月）と改訂版 PDM（2005 年 1 月）

Narrative Summary (変更無し)	Verifiable Indicators (当初 PDM、2003 年 11 月)	Verifiable Indicators (PDM、2005 年 1 月改訂版)
<p>Overall Goal Subsistence rice farming by smallholders is adopted and sustained in the target and surrounding provinces. Rice production by smallholders is increased in the target and surrounding provinces</p>	<p>Number of subsistence smallholders who grow rice in the country by province</p> <p>Quantity of milled rice in the target and surrounding provinces</p>	<p>Number of subsistence smallholders growing rice becomes 5,100 Farmers in surrounding provinces.</p> <p>Quantity of paddy brought into milling machines becomes 305 ton in surrounding provinces.</p>
<p>Project Purpose Sustainable subsistence rice farming by smallholders is established in the target provinces.</p>	<p>1) number of subsistence smallholders who grow rice under the guidance of model farmers in the target provinces</p> <p>2) Number of farmers who are continuously growing rice 2 years or more in the target provinces</p> <p>3) Quantity of rice milled by milling machines in the target provinces</p>	<p>1) 3,470 smallholders continuously growing rice for 2 years or more in "target area to measure achievement" by the year 2008.</p> <p>2) Quantity of paddy brought into milling machines increased to 191 ton in "target area to measure achievement" by the year 2008.</p>
<p>Outputs Sustainable subsistence rice farming skills are acquired by smallholders.</p>	<p>1) Number of Model Farmers who practice rice cultivation skills introduced into his/her rice farming in the target provinces</p> <p>2) Number of model farmers who conduct extension activities at least three times in one year in the target provinces</p> <p>3) Number of farmers in the target provinces who obtained information from model farmers</p>	<p>1) 115 farmers are trained as a model farmer conducting awareness campaign, seed distribution, guidance and advices, field consultation, training, demonstration farms or other activities to other farmers in "target area to measure achievement" by the year 2008.</p> <p>2) Provincial DPI(DAL) collaborating with districts turn to annually implements 7 types of activities to support model farmers in "target area to measure achievement" by the year 2008.</p> <p>3) Number of smallholders who obtained guidance by model farmers increases to 4,400 farmers in "target area to measure achievement" by the year 2008.</p> <p>4) NDAL develops following instruction or training materials by the year 2008: (1) Booklet on Basic Rice Farming, (2) Booklet on Milling Machine management,</p>

<p>Support services become accessible to rice farmers.</p>	<p>1) Number of operating rice mills in the target provinces and number of broken rice mills in total in the last 5 years</p> <p>2) Quantity of seeds distributed to farmers through DPIs in the target provinces</p> <p>3) Number of spots to access services</p>	<p>(3) "Kamishibai ", i.e. Picture Story, composed of "Land preparation", "Sowing", "Cropping Management", "Harvesting" and "Post Harvesting",</p> <p>(4) Booklet type of "Kamishibai",</p> <p>(5) Curriculum and Training materials on farmer training in rice crop,</p> <p>(6) Video tape on Basic Rice Farming,</p> <p>(7) Video tape on Milling Machine management</p> <p>5) NDAL develops following publicity materials by the year 2008:</p> <p>(1) Video tape on Project Introduction ,</p> <p>(2) Booklet on Project Introduction,</p> <p>(3) Video tape on Project Output,</p> <p>(4) Poster on rice crop</p> <p>1) Number of milling machines still operating for more than 3 years increases to 14 machines in "target area to measure achievement" by the year 2008.</p> <p>2) 0.5kg seed of traditional varieties or selected varieties is distributed to 4,800 non-rice farmers respectively by way of direct provision by LGs and/or through Model Farmers in "target area to measure achievement" by the year 2008.</p>
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3-4-2 PDM の修正案

合同評価調査の結果を踏まえて、合同評価調査団より提案された PDM の修正案を、付属資料 1 (3) に示した。

本修正案は、合同評価の結果を報告した第 4 回 JCC (2006 年 7 月 11 日開催) にて関係者の基本的な賛同を得た。2006 年 12 月に予定されている第 5 回 JCC にて合意されるべく、今後、関係機関の間で最終調整が行われる予定である。

修正案の主なポイントは以下の通りである。

①上位目標

(変更案) Food security situation of the target provinces are improved.

PNG 政府の上位計画である国家食糧安全保障プログラムや国内稲作開発政策との整合性の観点から、上位目標を 食糧安全保障が達成される とした。

②プロジェクト目標

(変更案) Sustainable subsistence rice farming is practiced by smallholders by developing and applying the support system for Model Farmer extension activities.

モデル農家アプローチを用いることにより、持続的自給稲作が小規模農家により実施されることとした(2005年1月改訂版PDMでは、「持続的自給稲作システムが確立される」としている)。

③成果1

(変更案) Model farmers conduct "Farmer To Farmer Extension Activities (FTFEA)" through acquiring sustainable subsistence rice farming skills.

プロジェクト目標を達成するため、モデル農家が農家から農家への普及活動を行うことができることを成果1とした。(2005年1月改訂版PDMでは、「小規模農家が持続的自給稲作技術を習得する」としている。)

④成果2

(変更案) A support system for Model Farmer Extension Activities and "market oriented" services for milling and seed distribution are developed and implemented by local governments.

プロジェクト目標を達成するため、モデル農家アプローチにかかる支援が地方政府により実施されることを成果2とした(2005年1月改訂版PDMから、支援の対象がモデル農家アプローチの普及であり、その実施者が地方政府であることを強調した)。

⑤成果3

(変更案) NDAL's capacities for policy implementation and extension of the Model to other provinces are strengthened in coordination with DNPM.

プロジェクト目標を達成するため、成果3「モデル農家アプローチの政策実施及び普及に関するNDALの能力が強化される」を追加することとした。

⑥指標

上記変更に応じて、見直しすることとした。

⑦プロジェクト対象地域

プロジェクト対象地域からモロベ州を除外することとした(詳細は3-4-3に後述する通り)。更に、「成果を図る対象地域」をマダン州のマダン郡とスンカール郡及び東セピック州マプリック郡とした。

3-4-3 モロベ州の取り扱い

2005年4月に関係機関により署名された確認書(MOU)に示される様に、モロベ州における本計画の実施は予定通り進捗していない。これは、同州でアジア開発銀行が実施中の小規模農家支援パイロット計画(Smallholder Support Service Pilot Project; SSSPP)と普及戦略が整合しな

いことに起因している。SSSPP は、本プロジェクトに先立ち 2000 年に開始され、当初は 2005 年までの 5 年間を実施期間としていたが、計画支出額を完遂するために 2 年間延長されている。このような状況にあって、本プロジェクトではモロベ州に対する活動は四半期毎の指導に限定される状態で現在に至った。

活動を限定した主な理由は、両計画とも同様な普及方法（農家対農家普及）を持つが、普及戦略や基本コンセプトが異なることにある。SSSPP は普及に契約報酬を支払うが、本プロジェクトではその様な報酬は認めていない。このため両者が並存すると、現場レベル、特にモデル農家に混乱を生じざるを得ない。

他の理由として、モロベ州では ADB のみならず FAO、台湾及び EU 等、複数の援助機関が類似の計画を実施中または実施を予定していることがある。これは同州では歴史的背景及び立地条件から農業セクターに対する援助の実施が比較的容易なためであろうと考えられる。結果として、本プロジェクトでは C/P の高レベルの関与を必要としているが、州政府の要員が十分に対応できない状況が発生する可能性が高い。人的資源の限界は、プロジェクトにとっては制約となるし、モロベ州政府にとっては重荷となる。

これまでの努力にも係わらず、以上の状況は変わらないまま経過し、プロジェクトによる四半期毎の指導は専ら教材の供与に留まり、事後の活動を適切にモニターすることができない状況となっている。

本プロジェクトは既にマダン州と東セピック州において活動基礎を構築しており、現在は郡レベルに活動の焦点を置いている段階にある。投入の効率化を図るために、この 2 州に集中すべきことは明らかである。

以上の見地から、本プロジェクトは、モロベ州を対象州から除外し、マダン州と東セピック州に集中すべきと考え、「第 6 章 提言」に盛り込んだ。

3-5 実施プロセス

3-5-1 プロジェクトの基本的アプローチ

本プロジェクトの小規模稲作振興モデルは、以下のコンポーネントから構成されている。モデル農家による稲作普及と州・郡政府によるモデル農家支援は、本モデルの根幹を成す主要なコンポーネントと位置付けられる。

(1) 主要コンポーネント

1) モデル農家による稲作普及：モデル農家育成のための稲作基礎技術の研修は、これまで主に OISCA 研修センターで行われてきた。この研修は 2007 年以降、州政府による研修で代替される計画である。

2) モデル農家支援：モデル農家支援システムは公式なガイドラインの下で州政府によって運営され、普及活動がモデル農家に過大な負担を強いない様に、必要な交通実費、食料費及び教材等の財務的な支援をすることを目的としている。財源は州政府により予算に組み込まれる。合同評価チームがモデル農家と面談したところ、特筆すべき事としては、モデル農家は、自らの求めてられている立場についての自覚があり、彼らのコミュニティーをより良いものにすべく、やる気に満ちていた。普及活動のために、近隣の農村まで、数日間の貴重な時間をかける事もいとわない様子であった。

(2) 関連活動

以下の活動は全ての郡で実施されておらず、全体としてはなお準備段階にある。本格実施は、州政府あるいは郡政府がイニシアチブを取って、これらの活動に着手することが前提となる。

- 1) 精米機施設運営：マダン州と東セピック州では一部地域で機械精米機による精米が州政府、郡政府あるいは他の組織によって実施されている。プロジェクトでは、両州各1カ所の公営精米機施設をモデルとして、これらを対象に施設運営と機械の保守管理の支援を行ってきた。例えば、籾摺りロールのウレタン製ライニングの交換をラエ市の工場に依頼して行っている。これは、精米機交換部品の再生を可能とする国内ソースの開発として位置付けられる。
- 2) 種子配布：稲作振興に係る国家プログラムの1つとして、中央政府と州政府により農家に対し稲種子が配布されている。長年の間、台湾農業技術団が種子を政府に供給してきた。これに対し、プロジェクトは種子配布のモニタリングを支援している。また、モデル農家も種子供給者としての役割を果たしている。

3-5-2 プロジェクト実施対象地域

本プロジェクトには、普及活動を行うモデル農家が居住する村落の全てがプロジェクト対象地域であるという特徴がある。稲作技術の試験圃場や展示圃場が無いという点も特徴であろう。これは焼畑の特徴に起因している。耕作地を移転することを常態とする焼畑農業では、数年以上同じ圃場で耕作を続けることは実態に即していない。この様な事情にあるので、モデル農家の普及活動やプロジェクトによる現場指導の際には、必要に応じモデル農家の耕作地を試験や展示に使うことになる。

3-5-3 活動進捗状況に見られる差異

小規模稲作振興モデルの実施進捗状況には郡によって相違が見られる。モデル農家に対する稲作基礎研修は、郡毎のモデル農家数に大小はあるが、対象州であるマダン州と東セピック州の全12郡について実施されてきた。マダン州では郡間のモデル農家数を均一化する動きも見られる。しかしながら前述の通り、モデル農家普及活動のモニタリング捕捉率には郡によって大きな違いがある。最近マダン州マダン郡とスンカール郡でモデル農家支援システムの運用が開始された。東セピック州マプリック郡でも実施準備が進んでいる。この3郡を除く他の9郡では、支援システム導入に備える動きは報告されていない。

第4章 評価結果

今回の調査は中間評価であることから、5項目の評価基準の内、特に妥当性と効率性に重点を置く評価を行った。併せて他の基準による評価も行い、これらを実際の結論に反映した。

4-1 妥当性

本プロジェクトの妥当性は高い。国家食糧安全保障プログラム（2000年～2010年）と国内稲作開発政策（2004年～2014年）は農業畜産省により策定され、後に内閣（NEC）や首相によって承認された。この二つの基本政策は、農業畜産省が全国の小規模農家、関連組織（教育機関と刑務所）及び半商業稲作農家による稲作を促進するに際して、明確な政策基盤を与えている。しかしながら、中期開発戦略（2005年～2010年）に示される7件の歳出優先課題には、食糧安全保障や国産米供給促進は含まれていない。おそらく、このような優先順位上の扱いが国内稲作開発政策の促進を妨げる主たる原因になっている様である。これはまた、農業畜産省の当初計画に反して整合性のある予算化や措置額が不十分である原因ともなっている。

PNGの食糧安全保障は引続き憂慮すべきレベルにある。年々増加する人口は、特に焼畑農業が伝統的に行われている地方村落において、環境限界を超える水準に迫っている。国内稲作を開発する必要性はこれまでの類似計画等で繰り返し指摘されている。主食品としてのコメは、保存期間が長いこと、成育が速いこと、また同国においては需要が高まっていること、輸入代替となること等から重要である。マクロ経済条件のいずれの見地から見ても、国内稲作開発政策の重要性が低下する様な状況にはない。

稲作は他の作物よりも労力投下を必要とするので、コーヒーやカカオ豆等の換金作物で収入を得て、コメを買う方が経済効率の上で良いとする意見が今なお見られる。農業畜産省が国内稲作開発政策で既に指摘している様に、現代にあつては、途上国産の輸出向け一次産品は国際市場では極めて無防備な状態が続いており、安定収入を期待できるものではなく、輸出向け換金作物への過度の依存は農家の生計を保障するとは言えない。

本プロジェクトの直接裨益者である農家のニーズに関しては、世帯レベルのコメの消費に着目した。1996年とデータは古いですが、世界銀行がPNGで生活水準調査（Living Standards Measurement Study : LSMS）を行っているのので、これを参照する。この調査では世帯消費がKina（現地通貨）換算で示されている。マダン州と東セピック州を通じた世帯平均では、ヤム、タロ等、数種類ある主食消費の内19%をコメが占めている。これは、100年程前に同国に導入されて以来、コメは主食の一つとしての位置を占めるに至っていることを示すものと言える。農家レベルの自給が可能であるにも係わらず、未だに供給源を海外に依存していることが問題と言えよう。

4-2 有効性

本プロジェクトの有効性は中程度または高いと見込まれる。プロジェクト目標の達成は、特にモデル農家支援システムが十分な水準に達する等、PDM修正案で提案されている指標計測の対象となる3郡の完遂の度合いに依ることになる。これら3郡及び支援システムを導入しようとしている他の郡のC/Pはプロジェクト業務に努力を傾注しているので、終了までに解決すべき最大の障害は、国及び州政府の予算不足と考えられる。

4-3 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あったことを除くと、要員と機材等の投入は概ね予定どおり成されたが、モデル農家モニタリング捕捉率に見られるように、郡レベルの C/P 31 名がプロジェクトに関与し得た度合いには見過ごせない相違がある。おそらくこの相違はモデル農家へのアクセスが制約されていることに起因しているものと考えられる。もし日帰りあるいは一泊旅行を可能とする旅費があつてこの問題に対応できるのであれば、遠隔の村落であつても C/P を送ることができたはずである。従つて、予算措置が C/P の村落への浸透の程度を決め、またこれがプロジェクトの成否に直接影響することを関係実施機関は認識すべきであろう。

PDM 修正案では、マダン州及び東セピック州 12 郡の中で 3 郡だけが郡レベルの達成指標の測定対象に選定することとしている。これは全数調査に基づく評価が短期間では困難であると言う技術的な理由によるものであつて、当然ながら、今後の後半期間のプロジェクト対象地域がこれら 3 郡に限定されることを意味するものではない。前半期間と同様に、モデル農家の研修やモニタリングを含む主たる活動は全 12 郡を対象に継続される。2008 年に予定される終了時評価では、プロジェクト達成に対する貢献の見地から、後半期間と同様に前半期間の投入量についても評価が行われる。今後 2 年間でモニタリング捕捉率に改善が見られないと、相当する投入の超過、即ち投入資源の実質的損失が結果とし生じることになる。

4-4 インパクト

本プロジェクトのインパクトは中程度または高いと見込まれる。プロジェクト目標の場合と同様に、上位目標の達成はモデル農家支援システムが 3 郡以外の残りの 9 郡により受容されるかどうか大きく依存することになる。支援システムが無い限り、モデル農家アプローチが首尾良く働かないことは、プロジェクトチームの農業畜産省 C/P 及び JICA 専門家が強く認識するところとなっている。

本プロジェクトの正のインパクトとして、プロジェクトの成功と教訓が PNG の国内稲作開発に係る政策と方向性を決定する上で有用なものとなること、またプロジェクト目標と上位目標の達成は、輸入米に対抗し得る国産米の増産に貢献すること等が挙げられる。

4-5 自立発展性

本プロジェクトの自立発展性は中程度と見込まれる。プロジェクト終了後の段階で便益を維持拡張するためには、農業畜産省が本プロジェクトを一連の国家稲作プログラムに吸収する必要があることは関係要員により認識されている。農家もまた政府支援を継続することの重要性を強く主張している。農業畜産省と州政府一次産業局 (DPI) がプロジェクトにより用いられた実施戦略を採用することが重要と考える。そのためには、農業畜産省は FSB 内に国家稲作プログラムを調整・実施するセクションを設けることで主導的役割を担うことになる。加えて、この調整セクションは、病虫害対策、品質規格に係る法令順守、プロジェクト管理、モニタリング及び評価等の課題に対処する上で技術能力を備えることが求められる。ここで言う米穀の品質規格とは精米にビタミン類を添加することを義務付ける国内法規を指す。現状では自給米に対する本規格の適用は事実上見過ごされている。

以上の様な組織強化は、中央政府による予算措置で後押しされる必要があるだろう。その意味で、本プロジェクトの自立発展性は終了後の段階で十分に予算が取得できるか否かに大きく依存すると言える。

なお、国家計画モニタリング省評価委員の意見によれば、予算面で不安を残さないためには、食糧安全保障と国内稲作開発を進める上で策定すべき政策、実施計画及び戦略は、明確かつ詳細な記述により、中央及び地方政府の各段階において整合性と統合性を持つべきであること、各政府の実施分担は明確な区切りを持ち、また、現実的な予算計画及び要員等のリソース投入に係る各政府のコミットメントを伴って示される必要があるとしている。

第5章 結論

本プロジェクトには当初から解決すべき基本課題が二つあった。これらは稲作普及を目指す上でプロジェクトの運営に多大な影響を与えるものであるが、改訂前後の PDM だけでその所在や内容を捉えることは容易ではない。本評価ではこの二つの要因を考慮した。

一つは、本プロジェクトには、実効ある制度が無い状態から、普及システムを地方村落レベルにおいて作り上げる必要があったことである。地方政府は、自治政府としての年数がまだ浅いため、当初の段階では、農業普及に取り組むための適切かつ十分なリソースと手立てが無かった。郡行政府によっては未だに無いところもある。この制約条件は、農家の大多数がアクセスの困難な遠隔地に居住することから一層困難なものとなっている。

もう一つは、プロジェクトが普及すべき稲作は投入を低く抑えることが前提となる技術分野であることが挙げられる。即ち、農業機械はもとより農薬や肥料の調達を前提とすることができない稲作技術が対象となっている。焼畑稲作技術は、現在ではほとんどの国で行われていないので、灌漑稲作技術のように技術情報を整理された形で利用することができない。

プロジェクトの前半期間を通して、農家対農家普及アプローチ (FTFEA) が対象 2 州に適用され、またモデル農家のモニタリングやワークショップにより試験された。最小コストによる普及事業の有り様が検証され (OISCA 研修を除外する必要はあるが)、その実施可能性が成功裡に提示された。これらの活動の中で、特にモデル農家レベルでモニタリングを可能とするに至ったことを高く評価するべきである。

しかしながら、モデル農家アプローチの実施は、なおも州・郡レベルの C/P 個々の努力に依存するところが大きく、現状では郡によって本アプローチを完全なものとするところがないところがある。この現状が続くと、プロジェクト目標の達成に影響を与えかねない。従って、プロジェクト目標の達成を図る上でより確固とした手法を用いることが必要と考える。中間評価調査の前の段階では、目標実現の広がりを示す達成指標が与えられていなかった。例えば、稲作農家が 500 世帯になったとしても、周辺の一般農家が 1,000 世帯であるか、あるいは 5,000 世帯であるかによって、その意味合いは全く異なる。その様な曖昧さを除くために、少なくとも今回導入したモデル農家支援システムを採用するに至った郡の数を示す達成指標は、2006 年 12 月の JCC で採用されるべきと考える。

本プロジェクトは、焼畑稲作において普及システムの構築を図ってきた。システム構築途上の様々な活動を通じて、関連行政機関の要員の能力が強化され、また普及システムも財務的に実行可能なものが追求された。プロジェクトの持つ意義の一つを正しく理解するためには、実施プロセスの一つとして、そのような普及システム自体 (即ち、稲作技術以外に対しても稼動し得る一般的な普及システム) の構築があったことを俎上に載せるべきと考える。このプロセスに係る投入と達成を積極的に評価したい。

同時に、稲作農家に対し、どの様な技術課題が優先的に普及されるべきであるか配慮が求められる。OISCA の研修等により、相当数のモデル農家が稲作の基本技術について研修を受けた。これに加え、対 C/P 質問票の回答に見られる様に、虫害、地方条件に合った適正品種及び土質管理等を含む技術課題が注視されてきており、この様な技術課題を普及対象技術に含めることを政府行政官は検討してきている。プロジェクトでも、虫害防除のための低投入技術を特定すべく努力

が払われており、然るべき段階で実施に向けた討議が行われる予定である。

以上から、本調査は農家対農家普及に基づく小規模稲作振興モデルの構築強化に向けた本プロジェクトの諸活動を高く評価するものである。本モデルが有効となるためには、農家支援システムが機能し、かつ各レベルの政府機関により必要なリソースが全面的かつ実際に措置されることが条件となることを付記したい。

第6章 提言

本プロジェクトを効率的に実施する上で、以下を提言する。

6-1 プロジェクトの実施及び調整

- マダン州と東セピック州に専念するためにもプロジェクトの対象州からモロベ州を除くことを強く勧める。
- PDM 修正案（付属資料 1（3））に示される達成指標を更に検討し、2006 年 12 月の合同調整委員会（JCC）で達成指標として設定することが求められる。
- 援助の重複を避けるため、計画省は同一セクターの援助機関に対し、調整を強化するべきである。
- 各レベルの政府機関に対して、適正で、かつ一貫した予算配布が確保されるべきである。

6-2 マダン州と東セピック州政府

- 食糧安全保障政策を採用すること、またその実施にあたっては、農業畜産省と連携を保ち、かつ地域社会経済条件に適合した内容で必要なリソースを配分すること。
- 上記を進める上で、本プロジェクトの小規模稲作振興モデルを適用できる州下の全郡において、モデルの実施促進に必要な予算等の措置を整えること。
- 稲作開発が本格実施されていない郡に対して、モデル農家候補の選定とモデル農家支援システムの導入を進めること。

6-3 農業畜産省

- 国内稲作開発政策の下で本プロジェクトを有効に実施するために、計画省との調整を一層強化し、また州レベルでの同政策の実施促進を行うため、対象 2 州との連携を強める様に提言する。
- 国内稲作開発のために、FSB 内に公式な組織として稲作調整ユニットを設けることを提言する。
- 農業畜産省 C/P に適切な労働環境、特に（地方からの転勤者に対する）住居を早期に整える様に提言する。

6-4 プロジェクトチーム

言語障壁を低める手立てを整えるべきである。方策としては、プロジェクトチーム・メンバー間、特に地方政府 C/P と専門家間の接触時間を一層多くすること等が挙げられる。質問書の回答には、意思疎通に誤解が生じることが時折あると指摘されている。専門家同様に C/P にとっても英語は第二外国語であるとする意見も見られた。

第7章 団長所感

(1) 現況

PNG では、過去に稲作が導入されているものの、ごく限られた地域を除けば全く新しい作物であった。このため、今なお、同国の稲作をとりまく状況は、一部のドナーやNGOの活動を除き、栽培に関する調査研究や技術普及体制、人材育成がほとんど行われていないか、行われていたとしても低レベルに留まっている状況である。

一方で、コメは毎年15万t～36万t程度を輸入しており、都市部を中心にコメの消費者数の増大が顕著になっており、同国のいくつかある主食の中でも重要な位置を占めてきている。

本件協力は、協力が開始されて2年半が過ぎた現在の段階においても既に一定の成果を生み出しており、農村部の人口増加率が高く、季節的な食料不足が一部発生している同国における食糧安全保障政策にとって重要な協力となっている。政府（国、州、郡）から農家（モデル農家、コンタクト農家、一般農家）までプロジェクトのインパクトは一定程度既に及んでいることを確認できた。

(2) 関係者の取り組み

現在、専門家チームの真摯な取り組みによるプロジェクト活動の結果、農民レベルから政府高官レベルに至るまでプロジェクトの意義について理解が進んでおり、非常に真摯な取り組みを行っている。

(3) 政策の継続性

農民からは、プロジェクトが生み出す成果に高い評価と期待が寄せられている。一方で、将来、本協力が終了した後において支援が途絶えることに不安を持っている。元々政府と農民との信頼関係が脆弱であったところを、本件協力で信頼関係がようやく醸成されてきており、PNG政府により支援が頓挫するようなこととなれば、今後の同国の食糧安全保障に関する政策実施上の大きな負のインパクトを生じる恐れがあり、注意を要する。

この為、本件協力により生み出された正のインパクトが持続するためにPNG政府（中央政府から郡政府まで）の政策の一貫性及び継続性が重要と考える。

(4) 成果の拡大

プロジェクトの効率性をより一層高めるためにも、国、州、郡の各レベルにおいてプロジェクトの成果を波及していくことが望まれる。

また、プロジェクトの効率性をより一層高めるためにも、プロジェクトの成果は活動対象となる州や郡だけでなく他の地域にも及ぶこと（スケール・アップ）が重要である。

そのためには、中央から州、郡政府の各レベルにおいて食糧安全保障、稲作振興に係る政策を明確に位置付け、策定するとともに様々なレベルとリンクージュをとっていくことが重要である。

(5) ドナー間の調整

農業畜産省に対し、FAO、ADB、ROC 等のドナーや NGO が活動しており、活動内容や規模も様々であるが、今後、モロベ州で見られた ADB との重複等、類似した事態が生じない様な調整が必要である。基本的には援助の窓口機能を担う計画省や、実施機関である農業畜産省の責任の下で調整されるべきであるが、被援助国側の調整能力が乏しい場合は、ドナー間で調整する必要があるため、プロジェクト専門家もしくは JICA 事務所が定期的な会合を持つことも一案である。

(6) その他（本計画におけるアプローチの妥当性）

本プロジェクト開始前の本件協力をとりまく環境は、行政組織機能の脆弱性、政府と農民の信頼関係の希薄さ、農家から行政に至るまでの人的資源の不足が特徴であった。

本件の様なプロジェクトでは、各受益層においてプロジェクトの有効性についての理解を促し、各レベルの関係者のプロジェクト実施に係るモチベーションを高め、維持しつつ、協力相手のプロジェクト実施環境の整備状況や能力開発の状況を見極めながら事業を実施することが肝要である。この為、通常は事前調査段階で決定されるプロジェクト実施の計画や達成目標の詳細、具体的な評価指標はプロジェクトの実施過程で決められることが適切であり、本件協力が選択したアプローチは妥当性があると考ええる。

(7) 今後の対応

今後本協力が成果を更に発揮し、その効果を拡大していくためには、次の取り組みも検討する必要がある。

1) 人材開発、研究開発、普及体制の充実（国レベル）

農民の活動に対しての支援体制が弱く、技術力も低レベルである。これを充実させることにより、更に稲作の振興が期待できる。

2) 持続性を維持するための財源確保（2KR 見返り資金の活用、連携）

プロジェクト活動の結果、モデル農家アプローチや支援システムは軌道に乗りつつあるが、関係者のモチベーションは高いものの組織能力・人材育成・政策制度が充実し、安定的に事業を進めて行くには更に時間が必要と思われる。当面の政策や事業の継続性を確保する上で、同国の各政府レベルにおける予算措置が、小規模ながらも継続的に行われることが必要不可欠である（同国の財政基盤も脆弱であるため、少額でも 2KR の見返り資金の活用による運営基金の設置も有効と考えられる）。

3) 協力隊事業との連携

本件協力は中央から州、郡政府、農民レベルまでの政策の一貫性が求められ、各層の連携が重要であるが、その点において関係する協力隊事業（シニアボランティアを含む）との連携が相乗効果を生み出すことが可能であると思われる。

4) プログラム化の必要性

同国の食糧安全保障政策に寄与するという重要で、かつ大きな課題についての取り組みであるが、これら取り組み成果をより確実なものにし、更に拡大していくためには関係者のモチベ

ーションを維持しつつ、組織能力・人材育成・政策制度の充実化を図ることが必要である。

その為には当該プロジェクトの投入のみならず、内外の様々な援助リソースを包括的に活用しながら効率的、かつ効果的進めていく必要があり、プログラムとしてのアプローチをとることが肝要であると思われる。

付 属 資 料

1. PDM

- (1) 当初 PDM (2003 年 11 月、R/D 署名時)
- (2) PDM 2005 年 1 月改訂版
- (3) PDM 2006 年 7 月修正案

2. ミニッツ (DNPM、NDAL、JICA)

3. ミニッツ (NDAL、JICA)

4. 合同評価レポート

5. 専門家投入実績

6. C/P 配置/本邦研修実績

7. 機材供与実績

8. ローカルコスト負担実績

9. モデル農家研修受講者リスト

10. モニターされたモデル農家数

11. プロジェクト対象郡へのアクセス状況

12. 質問書に対する農業畜産省の回答

13. 質問書に対する州農業畜産部の回答

14. アンケート調査結果

PROJECT DESIGN MATRIX**Project title: Promotion of Smallholder Rice Production Project****Target Area: Morobe Province, Madang Province, East Sepik Province****Date of preparation: November, , 2003****Implementation period: 5 years****Target group: subsistent smallholders who grow rice**

Narrative Summary	Verifiable Indicators ^{*1}	Means of Verification	Important Assumptions
Overall Goal Subsistence rice farming by smallholders is adopted and sustained in the target and surrounding provinces. Rice production by smallholders is increased in the target and surrounding provinces	Number of subsistence smallholders who grow rice in the country by province Quantity of milled rice in the target and surrounding provinces	Reports by PDPIs and NDAL Reports by PDPIs and NDAL	
Project Purpose Sustainable subsistence rice farming by smallholders is established in the target provinces.	1) number of subsistence smallholders who grow rice under the guidance of model farmers in the target provinces 2) Number of farmers who are continuously growing rice 2 years or more in the target 3) Quantity of rice milled by milling machines in the target provinces	1) Reports by DPIs 2) Reports by DPIs 3) Reports by DPIs	1. PNG government sticks to the food security 2. The central government allocates development budget smoothly. 3. Market price of rice is stable
Outputs 1 Sustainable subsistence rice farming skills are acquired by smallholders. 2 Support services become accessible to rice farmers.	1) Number of Model Farmers who practice rice cultivation skills introduced into his/her rice farming in the target provinces 2) Number of model farmers who conduct extension activities at least three times in one year in the target provinces 3) Number of farmers in the target provinces who obtained information from model farmers 1) Number of operating rice mills in the target provinces and number of broken rice mills in total in the last 5 years 2) Quantity of seeds distributed to farmers through DPIs in the target provinces 3) Number of spots to access services	1) Reports by DPIs 2) Reports by DPIs 1) Reports by DPIs 2) Reports by NDAL & DPIs	1. Outbreak of pest and disease does not occur. 2. There is not severe climatic change (drought).
Activities 1-1 Train farmers and officers in relevant skills of rice production. (DAL, DPI) 1-2 Conduct field consultation for the trained farmers. (DAL, DPI, District, LLG) 1-3 Improve and distribute instruction materials to farmers. (DAL) 1-4 Conduct farmer to farmer extension activities (Model Farmers) 1-5 Support extension activities of Model Farmers. (DAL, DPI, District, LLG) 1-6 Monitor Model Farmers' activities. (DPI, District, LLG) 2-1 Establish and maintain milling service system. (DAL, DPI) 2-2 Establish other service systems to support rice farmers, including seed distribution (DAL, DPI) 2-3 Monitor change in farming system among smallholders. (DAL)	Inputs JICA Assignment of Japanese and third country experts long-term experts Chief Advisor/Training Coordinator/ Extension Promotion short-term experts Necessary fields in rice production Provision of equipment Rice milling machines Other agricultural machines and tools Equipment necessary for training and monitoring Training / Study Trip of PNG personnel connected to the Project In Japan In third countries Support of funds for activities Training Instruction materials	Papua New Guinean side Assignment of staff at NDAL, DPI, Districts, and LLGs Budget for operation of the project by NDAL, Provinces, Districts and LLGs Provision of equipment Sureness of seeds	Pre-conditions 1. Farmers are keen to engage subsistence rice 2. NDAL receives PIP (development budget) allocation for rice program

*1 The indicators are provisional

DAL:Dept. of Agriculture & livestock

DPI: Primary Industries Division

LLG: Local Level Government

Revised Verifiable Indicators & Means of Verification in the "PROJECT DESIGN MATRIX"
Project title: Promotion of Smallholder Rice Production Project
Target Province: Morobe Province, Madang Province, East Sepik Province
Target Area to measure achievement are Madang Province and Maprik District in East Sepik Province

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal Subsistence rice farming by smallholders is adopted and sustained in the target and surrounding provinces. Rice production by smallholders is increased in the target and surrounding provinces</p>	<p>Number of subsistence smallholders growing rice becomes 5,100 Farmers in surrounding provinces. Quantity of paddy brought into milling machines becomes 305 ton in surrounding provinces.</p>	<p>NDAL Annual Report compiled based on questioners distributed to related organization in surrounding provinces NDAL Annual Report compiled based on questioners distributed to related organization in surrounding provinces</p>	
<p>Project Purpose Sustainable subsistence rice farming by smallholders is established in the target provinces.</p>	<p>1) 3,470 smallholders continuously growing rice for 2 years or more in "target area to measure achievement" by the year 2008. 2) Quantity of paddy brought into milling machines increased to 191 ton in "target area to measure achievement" by the year 2008.</p>	<p>1)-1. Half Term Reports by Madang PDPI, ESP DAL & Maprik District compiled based on results of interviews with Model Farmers 1)-2. Half Term Reports on milling machines made by Madang PDPI, ESP DAL & Maprik District 2) Half Term Reports on milling machines made by Madang PDPI, ESP DAL & Maprik District</p>	<p>1. PNG government sticks to the food security policy. 2. The central government allocates development budget smoothly. 3. Market price of rice is stable</p>
<p>Outputs 1 Sustainable subsistence rice farming skills are acquired by smallholders. 2 Support services become accessible to rice farmers.</p>	<p>1) 115 farmers are trained as a model farmer conducting awareness campaign, seed distribution, guidance and advices, field consultation, training, demonstration farms or other activities to other farmers in "target area to measure achievement" by the year 2008. 2) Provincial DPI(DAL) collaborating with districts turn to annually implements 7 types of activities to support model farmers in "target area to measure achievement" by the year 2008. 3) Number of smallholders who obtained guidance by model farmers increases to 4,400 farmers in "target area to measure achievement" by the year 2008. 4) NDAL develops following instruction or training materials by the year 2008: (1) Booklet on Basic Rice Farming, (2) Booklet on Milling Machine management, (3) "Kamishibai", i.e. Picture Story, composed of "Land preparation", "Sowing", "Cropping Management", "Harvesting" and "Post Harvesting", (4) Booklet type of "Kamishibai", (5) Curriculum and Training materials on farmer training in rice crop, (6) Video tape on Basic Rice Farming, (7) Video tape on Milling Machine management 5) NDAL develops following publicity materials by the year 2008: (1) Video tape on Project Introduction, (2) Booklet on Project Introduction, (3) Video tape on Project Output, (4) Poster on rice crop 1) Number of milling machines still operating for more than 3 years increases to 14 machines in "target area to measure achievement" by the year 2008. 2) 0.5kg seed of traditional varieties or selected varieties is distributed to 4,800 non-rice farmers respectively by way of direct provision by LGs and/or through Model Farmers in "target area to measure achievement" by the year 2008.</p>	<p>1) Half Term Reports by Madang PDPI, ESP DAL & Maprik District compiled based on results of interviews with Model Farmers 2) Half Term Reports by Madang PDPI, ESP DAL & Maprik District 3)-1. Half Term Reports by Madang PDPI, ESP DAL & Maprik District compiled based on results of interviews with Model Farmers 3)-2. Half Term Reports on milling machines made by Madang PDPI, ESP DAL & Maprik District 4) Instruction Materials and Training Materials acknowledged by NDAL 5) Publicity Materials acknowledged by NDAL 1) Half Term Reports by Madang PDPI, ESP DAL & Maprik District 2) Half Term Reports by Madang PDPI, ESP DAL & Maprik District</p>	<p>1. Outbreak of pest and disease does not occur. 2. There is not severe climatic change (drought).</p>
<p>Activities 1-1 Train farmers and officers in relevant skills of rice production. (DAL, DPI) 1-2 Conduct field consultation for the trained farmers. (DAL, DPI, District, LLG) 1-3 Improve and distribute instruction materials to farmers. (DAL) 1-4 Conduct farmer to farmer extension activities (Model Farmers) 1-5 Support extension activities of Model Farmers. (DAL, DPI, District) 1-6 Monitor Model Farmers' activities. (DPI, District, LLG) 2-1 Establish and maintain milling service system. (DAL, DPI) 2-2 Establish other service systems to support rice farmers, including seed distribution (DAL, DPI) 2-3 Monitor change in farming system among smallholders. (DAL)</p>	<p>JICA Assignment of Japanese and third country experts long-term experts Chief Advisor/Training Coordinator/ Extension Promotion short-term experts Necessary fields in rice production Provision of equipment Rice milling machines Other agricultural machines and tools Equipment necessary for training and monitoring Training / Study Trip of PNG personnel connected to the Project In Japan In third countries Support of funds for activities Training Instruction materials</p>	<p>Inputs Papua New Guinean side Assignment of staff at NDAL, DPI, Districts, and LLGs Budget for operation of the project by NDAL, Provinces, Districts and LLGs Provision of equipment Sureness of seeds</p>	<p>Pre-conditions 1. Farmers are keen to engage subsistence rice cultivation. 2. NDAL receives PIP (development budget) allocation for rice program</p>

NDAL: Dept. of Agriculture & livestock
 ESP DAL: Dept. of Agriculture, Livestock and Wildlife in East Sepik
 DPI: Primary Industries Division
 LLG: Local Level Government

Implementation period: 5 years
 Target group: subsistent smallholders who want to grow rice

Date of preparation: July 11, 2006 in POM

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal: Food security situation of the target provinces are improved.</p>	<p>(1)Subsistence smallholders growing rice becomes XXX farmers in Madang Province and XXX in East Sepik Province respectively by the year 2013. (2)All 6 districts in Madang Province and 3 districts (Maprik, Angoram and Wewak) in East Sepik Province adopts the established supporting system for model farmer's extension activities.</p>	<p>(1) Half Term Reports by Madang PDAL & Madang District & Sumkar District and East Sepik PDAL & Maprik District compiled based on Model Farmer's report (2) Guidelines endorsed by Provinces</p>	
<p>Project Purpose: Sustainable subsistence rice farming is practiced by smallholders by developing and applying the support system for Model Farmer extension activities.</p>	<p>(1)Subsistence smallholders growing rice becomes 580 farmers in Madang and Sumkar Districts and 400 in Maprik District respectively by the year 2008.</p>	<p>(1) Half Term Reports by Madang PDAL & Madang District & Sumkar District and East Sepik PDAL & Maprik District compiled based on Model Farmer's report</p>	<p>*PNG government sticks on the present food security policy, particularly "promotion of subsistence small holders rice production" as one of the three policy pillars. *PNG government allocate necessary development budget continuously for the policy. *Food Security policy is adopted in target provinces</p>
<p>Outputs: 1 Model farmers conduct "Farmer To Farmer Extension Activities (FTFEA)" through acquiring sustainable subsistence rice farming skills. 2 A support system for Model Farmer Extension Activities and "market oriented" services for milling and seed distribution are developed and implemented by local governments. 3 NDAL's capacities for policy implementation and extension of the Model to other provinces are strengthened in coordination with DNP.</p>	<p>(1) NDAL develops the following instruction and training materials by the year 2008: 1) Booklet on Basic Rice Farming including manual milling, 2) "Kamishibai", i.e. Picture Story, composed of "Planting", "Weeding", "Harvesting", "Milling" and "Seed Production & Storage", 3) Booklet type of "Kamishibar", 4) Video tape on Basic Rice Farming, 5) Video tape how to make manual mill (2) 25 farmers in Maprik District, 12 farmers in Sumkar District & 25 farmers in Madang District are trained as a Model Farmer to conduct awareness campaigns, distribute seeds, give guidance through field consultations and training, demonstrate on-farms and other activities to other farmers by the year 2008. (3) "General Information on Brush-up training for Model Farmer" is developed by Madang and East Sepik provincial DALs respectively (4) "General Information on Farmer training to become Model Farmer" is developed by Madang and East Sepik provincial DALs respectively (1) XXXkina for depreciation is annually saved by Madang No.2 Model Milling Centre and XXXkina for Hayfield Model Milling Centre, respectively, starting year 200X. (2) Guideline and Manual to operate and manage milling service of station type and mobile type is made by Madang Provincial DAL and Maprik District DAL (3) NDAL develops following instruction or training materials by the year 2008: 1) Booklet on Milling Machine management, 2) Video tape on Milling Machine management (4) General Information on training on operation of milling machine and management of milling service developed by Madang and East Sepik provincial DAL and Maprik DAL respectively. (5) X schools in Madang Province and X schools in East Sepik Province has collaborated with the project with a performance report. (6) Number of students who learn basic rice farming and post harvest (7) Guideline on supporting system for model farmer's extension activities is endorsed by the Provincial Administration in Madang and East Sepik Province (8) Madang Province, Madang District and Sumkar District annually allocates at least XXXkina to implement "the supporting system for model farmer's extension activities", East sepik Province and Maprik District annually allocate at least XXXkina to implement "the supporting system for model farmer's extension activities" (9) Smallholders who obtained guidance by Model Farmers becomes XXX farmers in Madang District and Sumkar District in Madang Province, and XXX farmers in Maprik District in East Sepik Province respectively, by the year 2008. (10) XXXkg of seeds annually produced and distributed by Madang Provincial DAL, Madang Dist, Sumkar Dist, and Maprik District, respectively, starting FY 200X (11) Amount of the provincial budget allocated to the project in Madang Province and East Sepik Province (12) 9 C/P personnel's in Madang Province, Madang District and Sumkar District and 7 C/P personnel's in East Sepik Province, Maprik District allocated to the project for the purpose. (1) NDAL forms a extension unit which is composed of at least five members under Food Security Branch (2) NDAL develops following instruction or training materials by the year 2008: 1) Guideline and Manual to form "Model for promotion of Smallholder Rice Production", 2) Promotion video tape on "Model for promotion of Smallholder Rice Production" (3) Amount of the National budget allocated to Promotion of Smallholder Rice Production.</p>	<p>(1) Instruction Materials acknowledged by NDAL (2) Half Term Reports by Madang PDAL & Madang District & Sumkar District and East Sepik PDAL & Maprik District compiled based on Model Farmer's report (3) General Information's made by Provinces (4) General Information's made by Provinces (1) Half Term Reports by Madang PDAL and ESP DAL & Maprik District (2) Guidelines and Manuals issued by Madang Provincial DAL and East Sepik Provincial DAL & Maprik District DAL (3) Instruction Materials acknowledged by NDAL (4) General Information issued by Madang Provincial DAL and East Sepik Provincial DAL & Maprik District DAL (5) Half Term Reports by Madang PDAL and East Sepik PDAL (6) Provincial Half term Reports attaching with each report by Institution (7) Guidelines endorsed by Provinces (8) Half Term Reports by Madang PDAL & Madang District & Sumkar District and East Sepik PDAL & Maprik District compiled based on Model Farmer's report (9) Half Term Reports by Madang PDAL & Madang District & Sumkar District and East Sepik PDAL & Maprik District compiled based on Model Farmer's report (10) Half Term Reports by Madang PDAL & Madang District & Sumkar District, East Sepik PDAL & Maprik District (11) Half Term Reports by Madang PDAL and East Sepik PDAL (12) Letter issued by Madang PDAL and East Sepik PDAL (1) Letter issued by NDAL (2) Guideline and Manual and Video tape acknowledged by NDAL (3) Half Term Report by NDAL</p>	<p>*Severe outbreak of pest and disease does not occur. *Severe climatic change does not occur. *Security situation does not worsen. *Farmers do not concentrate on a certain cash crop</p>
<p>Activities: 1-1 To prepare extension methods and materials for "Farmer To Farmer Extension Activities (FTFEA)" 1-2 To develop the capacity of model farmers. 1-3 To conduct extension activities by model farmers. 2-1 To develop and promote an economically viable mechanical milling service model. 2-2 To develop and promote a mobile mechanical milling service model. 2-3 To extend collaboration with education institutions for rice farming extension. 2-4 To improve seed distribution service 2-5 To develop a supporting system for Model Farmer's extension activities. 2-6 To introduce a monitoring system. 3-1 To form a extension coordination unit under the Food Security Branch in NDAL. 3-2 To strengthen the administrative capacity of NDAL including coordination with relevant agencies. 3-3 To develop an extension model of small holder's rice production. 3-4 To conduct trial activities to extend the Model to other provinces. 3-5 To monitor all the activities implemented under the project.</p>	<p>Inputs JICA Assignment of Japanese and third country experts long-term experts : Chief Advisor, Coordinator, Extension, Training, "Information Education and Communication" short-term experts : Necessary fields in rice production Provision of equipment: Rice Milling Machine, Other necessary agricultural machines and tools, Equipment necessary for training and monitoring Training / Study Trip of PNG personnel connected to the Project In Japan, In third country Support of funds for activities Training, Instruction materials</p>	<p>Papua New Guinean side Assignment of staff at NDAL, Provincial DAL, District DAL and LLGs Budget for operation of the project by NDAL, Provinces, Districts and LLGs Provision of equipment</p>	<p>Pre-conditions 1. Farmers are keen to engage subsistence rice farming. 2. NDAL receives PIP (development budget) allocation for rice program</p>

**MINUTES OF MEETING ON
THE MID-TERM EVALUATION OF
THE JAPANESE TECHNICAL COOPERATION FOR
THE PROJECT FOR
PROMOTION OF SMALLHOLDER RICE PRODUCTION
IN PAPUA NEW GUINEA**

The Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Mid-Term Evaluation Team, headed by Mr. Masahiro TAWA, to the Independent State of Papua New Guinea from 2 to 13 July 2006, for the purpose of conducting the mid-term evaluation for the Project for Promotion of Smallholder Rice Production in Papua New Guinea (hereinafter referred to as "the Project").

The Joint Evaluation Team, which consisted of members from JICA and members from the Government of Papua New Guinea, was jointly organized for the mid-term evaluation of the Project and prepared necessary recommendations to the respective governments.

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

Major issues pointed out in the Report were discussed at the JCC and was agreed to recommend to their respective governments attached hereto.

Port Moresby, 12 July 2006



Masahiro Tawa
Leader
Japanese Mid-Term Evaluation Team
Japan International Cooperation Agency
Japan



Ulato Avei
Deputy Secretary
Department of National Planning and Monitoring
Papua New Guinea

Anton Benjamin
Secretary
National Department of Agriculture and
Livestock
Papua New Guinea



ATTACHED DOCUMENT

The authorities concerned agreed with the following measures to be taken based on the recommendations made by the Team;

- The Project will take course of actions to exclude Morobe Province as one of its target provinces, based on the decision of the Minutes of Meeting between the Mid-Term Evaluation Team and NDAL.
- The Project will revise the PDM as recommended. It will further examine the indicators which will be identified at the 5th JCC Meeting, scheduled December 2006.
- The NDAL will revitalize and strengthen its aid coordination function as a channel to Aid Coordination Unit of DNPM and participate in donor coordination meetings and consultations to strengthen its coordination function between donors in the same sector to avoid duplication.
- All levels of the government will make best effort to secure adequate and consistent allocation of budget.
- The Provincial governments will adopt the Food Security Policy and drive for a strong linkage with NDAL by formulating a Provincial Food Security Committee in Madang and East Sepik respectively by the end of year 2007.
- Provinces, Districts and LLGs will make effort to secure funding of support to FTFEA in current model districts and support other districts.
- The Provincial governments will introduce the guidelines for the MF supporting system to other districts according to the schedule made by the Project.
- The NDAL has made a proposal to formulate a rice coordinating unit in order to strengthen their function in promoting rice production at the national level, which is subject to further discussion and consultation with JICA Experts, DAL and DPM.
- The NDAL will look at alternative ways of addressing the recommendation for appropriate working environments for its officers such as providing accommodation.
- The Project Team will facilitate communication within the Project to lower the language barrier.

ANNEX: Copy of the Minutes of Meeting on the 4th Joint Coordination Committee

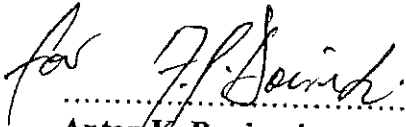
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DAL-JICA SMALLHOLDER RICE PRODUCTION PROJECT

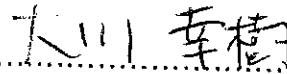
Date: July 11, 2006

Agreement

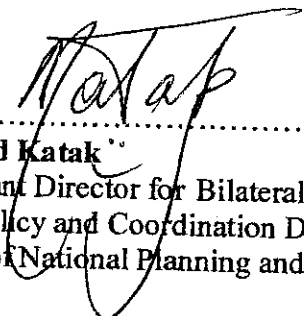
We, the undersigned, who are members of the 4th Joint Coordination Committee (JCC) on the 'DAL-JICA Smallholder Rice Production Project' hereby Confirm and Agree as attached 'Minutes of Meeting'



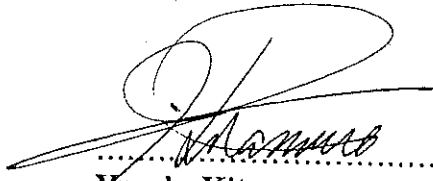
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Anton K. Benjamin
Secretary,
Department Agriculture and Livestock



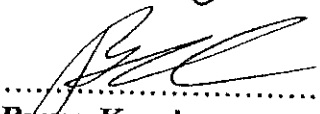
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Koki Okawa
First Secretary, Embassy of Japan




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Roland Katak
Assistant Director for Bilateral Branch
Aid/Policy and Coordination Directorate
Dept. of National Planning and Monitoring



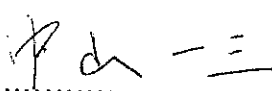
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Yusuke Kitamura
Resident Representative of JICA in PNG




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Brown Konabe
Project Director/Manager
Department of Agriculture and Livestock



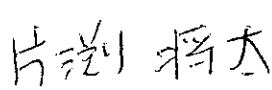
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Ganei Agodop
Provincial Agriculture Advisor
Madang



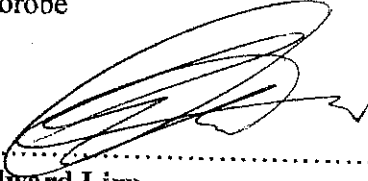
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Ichizo Nakayama
Chief Advisor to the JICA Expert Team/
JICA Expert on Extension



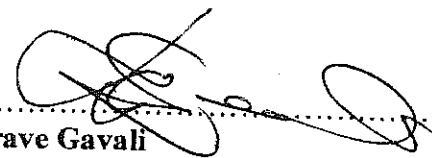
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Geovjing Bilong
Provincial Agriculture Advisor
Morobe



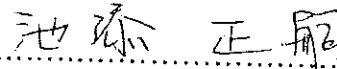
.....
Shota Katafuchi
Coordinator to the JICA Expert Team/
JICA Expert on Information, Education and
Communication



.....
Edward Liru
Provincial Agriculture Advisor
East Sepik



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Verave Gavali
Project Coordinator
Department of Agriculture and Livestock



.....
Masatsugu Ikezoe
JICA Expert on Training

July 11, 2006

Followings points discussed and confirmed by the members of JCC;

1. For Project Coordination and Implementation in General

- (1) It is strongly recommended that the Project exclude Morobe Province as one of its target provinces.

NDAL, DNPM and JICA will take course of actions based on the decision of the Minutes of Meeting Between The Japanese Mid-Term Evaluation Team And The National Department Of Agriculture And Livestock (NDAL) Of The Government Of Papua New Guinea On The Technical Cooperation For The Project On Promotion Of Smallholder Rice Production In Papua New Guinea

- (2) The revised PDM is attached in this report for further consideration of its indicators by the Project. A new set of indicators should be set at the JCC meeting in December 2006.

The Project will revise the PDM as recommended. It will further examine the indicators which will be identified at the 5th JCC Meeting, scheduled December 2006.

- (3) Coordination between donors in the same sector to avoid duplication should be strengthened by DNPM.

NDAL to revitalize and strengthen its Aid Coordination unit as a channel to the Aid Coordination Unit of DNPM and participate in donor coordination meetings and consultations

- (4) Adequate and consistent budget allocation should be secured at all levels of the government.

All levels of the government will make an effort to secure adequate and consistent allocation of budget.

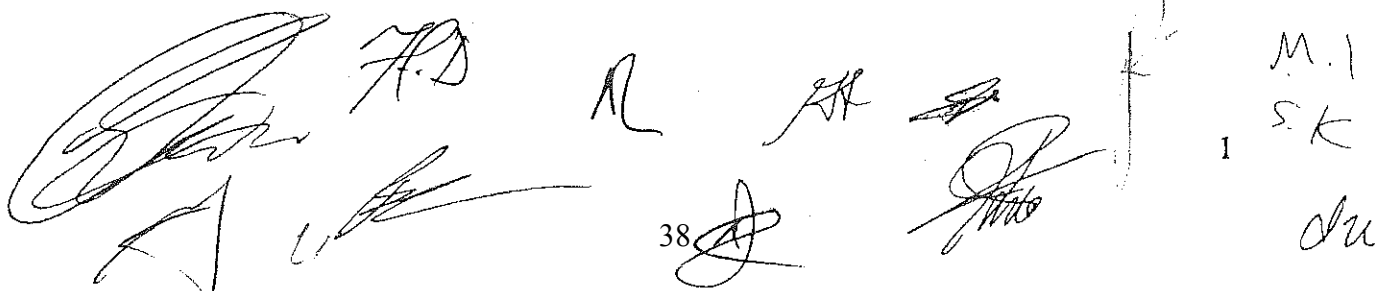
2. For Madang and East Sepik Province:

- (1) To adopt the Food Security Policy and deploy the necessary resources for its implementation in conformity with local socio-economic conditions with strong linkage to NDAL.

- Target : Formulation of Provincial Food Security Committee in Madang and East Sepik respectively by the end of year 2007
- Action: 1) Learn from existing committees in Chimbu, Manus and Milne Bay by NDAL 2) Awareness activities, 3) Making action plans

- (2) Among the above actions, to facilitate necessary finance and other measures to promote the Model for Smallholders Rice Promotion using FTFEA in the all the districts where implementation of the Model is applicable.

Provinces, Districts and LLGs make effort to secure funding to support FTFEA in current model districts and support other districts.

A collection of handwritten signatures and initials in black ink, including a large signature on the left, several smaller initials in the center, and the initials 'M.I', 'S.K', and 'du' on the right. A circled '5' is also visible.

- (3) To extend the selection of MF candidates and introduce the guideline for the MF supporting system to other districts where development of rice production has not fully commenced yet.

The selection of MF candidates to all districts is currently ongoing. Introduction of the guideline for the MF supporting system to other districts will be done according to the schedule made by the Project.

3. For the NDAL:

- (1) In order to implement the Project effectively under the PNG Domestic Rice Production Development Policy, it is recommended to strengthen coordination with the DNPM further, and to strengthen linkage with target provinces to implement their part of the policy.

NDAL and DNPM have a coordination system in place through quarterly meeting proposed by NDAL.

- (2) It is recommended to formulate a rice coordinating unit for the promotion of rice in particular, within the FSB.

Proposal has been made by FSB subject for further discussion and consultation with JICA Expert, DAL and DPM.

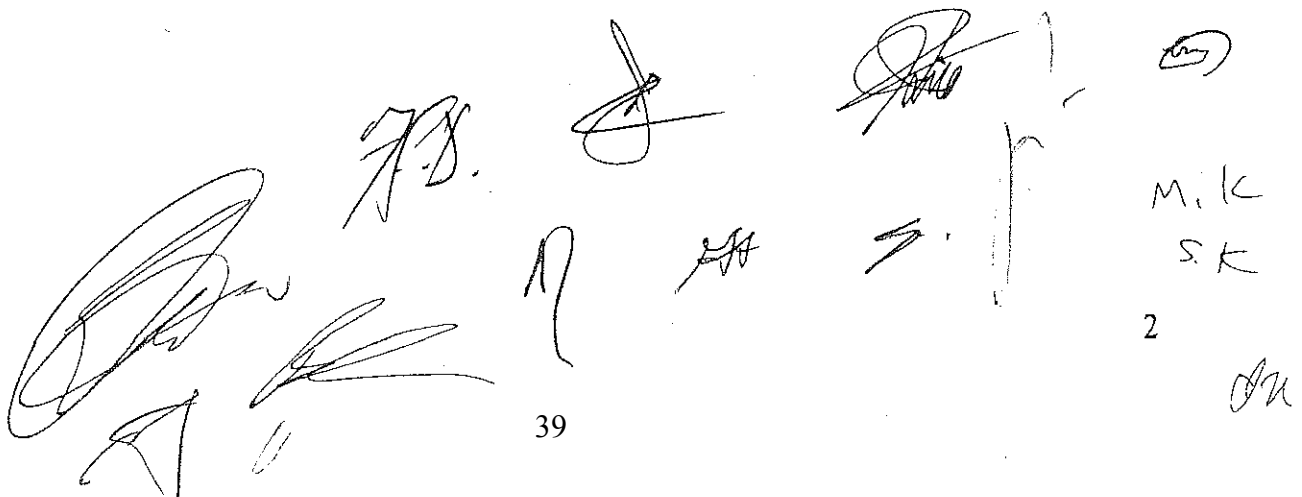
- (3) It is recommended to facilitate at the earliest opportunity, necessary measures for providing the NCP with appropriate working environments, especially with accommodation.

DAL to look at alternative ways of addressing the issue

4. For the Project Team:

- (1) Measures to lower the language barrier should be facilitated, for an example, increasing contact hours among the project team (especially between LG counterparts and Japanese Experts). Although occasional misunderstandings during communications was indicated in the questionnaire, pointing out that English is the second language to the project counterparts and the MF, as well as to the JICA experts.

The Project Team will facilitate communication within the Project.



Handwritten signatures and initials are present at the bottom of the page. On the right side, there are initials 'M.K', 'S.K', and '2'. At the bottom right, there is a signature that appears to be 'J.K'. The page number '39' is centered at the bottom.

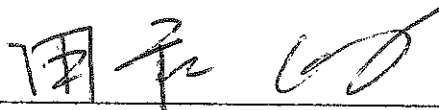
**MINUTES OF MEETING BETWEEN
THE JAPANESE MID-TERM EVALUATION TEAM
AND
THE NATIONAL DEPARTMENT
OF AGRICULTURE AND LIVESTOCK (NDAL)
OF
THE GOVERNMENT OF PAPUA NEW GUINEA
ON
THE TECHNICAL COOPERATION FOR
THE PROJECT OF
PROMOTION OF SMALLHOLDER RICE PRODUCTION
IN PAPUA NEW GUINEA**

The Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Mid-Term Evaluation Team (hereinafter referred to as "the Team"), headed by Mr. Masahiro TAWA, to the Independent State of Papua New Guinea from 2 to 13 July 2006, for the purpose of conducting the joint mid-term evaluation for the Project for Promotion of Smallholder Rice Production in Papua New Guinea (hereinafter referred to as "the Project").

During its stay in Papua New Guinea, the Team exchanged views and opinions with the authorities concerned in the Government of Papua New Guinea through a series of meetings and field observations in relation to the Project.

As a result of the above, both parties have reached common understandings concerning the matters in the documents attached hereto.

Port Moresby, July 11 2006



Masahiro Tawa
Leader
Japanese Mid-Term Evaluation Team
Japan International Cooperation Agency
Japan



Anton Benjamin
Secretary
National Department of Agriculture and
Livestock
Papua New Guinea

ATTACHED DOCUMENT

1. Background

As recorded in the Memorandum of Understanding signed on April 2005 between concerned authorities, the implementation of the Project in Morobe Province had not proceeded as planned due to conflicting approaches on extension support with other projects already proceeding in the province.

It was agreed in the Memorandum that the Project's activities in Morobe Province will be limited to quarterly consultations by JICA Experts and for further arrangements to be discussed at the time of the Mid-Term Evaluation of the Project.

Hence, the Mid-Term Evaluation Team undertook interviews, field observations, a series of discussions with parties concerned, and examined the situation concerning this issue.

2. Recommendation from the Mid-Term Evaluation Team

The Team concluded that it is strongly recommended for the Project to exclude Morobe Province as one of its target provinces. Details are for referral in the Mid-Term Evaluation Report.

The recommendation was discussed at the Joint Coordinating Committee which led to the same conclusion.

The recommendation was also recognized by Mr. Anton Benjamin, Secretary of the National Department of Agriculture and Livestock (hereinafter referred to as "NDAL"), during final discussions with the Team.

3. Further Measures To Be Taken

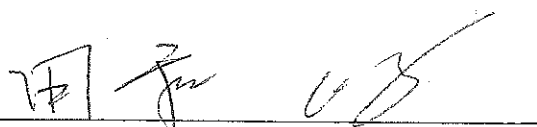
It was agreed by both parties that the NDAL, DNPM and JICA through its Resident Representative in Papua New Guinea shall, after further discussions with concerned parties including the Morobe Provincial Government, finalize the agreement in documentation. It is noted that NDAL will be the responsible authority in coordinating and progressing this procedure.



MID-TERM EVALUATION REPORT
ON THE PROJECT FOR
PROMOTION OF SMALLHOLDER RICE PRODUCTION
IN PAPUA NEW GUINEA

Port Moresby, JULY 11th, 2006

JAPAN – PAPUA NEW GUINEA
JOINT MID-TERM EVALUATION COMMITTEE



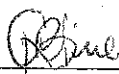
Masahiro Tawa
Leader
Japanese Mid-Term Evaluation Team
Japan International Cooperation Agency



Noel Geti
Team Member
Papua New Guinean side
Mid-Term Evaluation Team
Department of National Planning and Monitoring



George Mosusu
Team Member
Papua New Guinean side
Mid-Term Evaluation Team
National Department of Agriculture and
Livestock



Betty Nime Uri
Team Member
Papua New Guinean side
Mid-Term Evaluation Team
Department of National Planning and Monitoring

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ANNEXES

1. PDM

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
APO	Annual Plan of Operation
DNPM	Department of National Planning and Monitoring
DPI	Department of Primary Industry
EOJ	Embassy of Japan
FSB	Food Security Branch
FTFEA	Farmer to Farmer Extension Approach
GOJ	Government of Japan
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
LG	Local Government
MF	Model Farmer
MOU	Memorandum of Understanding
NCP	National Counterparts
NDAL	National Department of Agriculture and Livestock
PDAL	Provincial Department of Agriculture and Livestock
PDM	Project Design Matrix
PNG	Papua New Guinea
R/D	Record of Discussion
ROC	Republic of China (Taiwan) Mission in PNG

1. OUTLINE OF THE PROJECT

1-1. Background of the Project

The consumption of rice has gradually been rising in Papua New Guinea (PNG) and is becoming established as a staple food, not only in urban areas, but also in the rural villages. However, most consumption depends on imported rice from other countries such as Australia and Thailand. It is estimated that the amount of the import reaches about 150,000 tons per year.

Under such situation, the PNG government has realized the necessity of food security and endorsed the National Rice Policy in 1998, and furthermore, the National Food Security Program in 2002, which recognizes rice and grain as one of the 14 components necessary for food security. In accordance with these policies, the PNG government has launched a program for small-scale self-sufficient rice production in 17 states nationwide which is led by the Food Security Branch (FSB) within the National Department for Agriculture and Livestock (NDAL).

In the past, JICA has cooperated on the promotion of small-scale rice farming in PNG by dispatching experts, JOCV (volunteers), and grant aid for machines. In 2002, a development study funded by the Government of Japan (GOJ) formulated a master plan in which interventions to realize increased smallholder rice productions was proposed. Following the proposals and recommendations from the plan, the Government of PNG made an official request to the GOJ to implement a technical cooperation project that would support the national rice policy and thus contribute to attaining the sustainability in smallholder rice production systems.

In response to the request, JICA, as the implementing agency of Japanese technical cooperation, dispatched the Preparatory Study Team in July 2003 to assess the proposal and tentative framework of the project. In November 2003, the Record of Discussions (R/D) for the Project for Promotion of Smallholder Rice Production (the Project) was signed between the Papua New Guinean authorities and the Resident Representative of JICA. The Project commenced on December 2003 for the five year period which will be completed in December 2008.

1-2. Summary of the Project

The grand design of the project is drawn in PDM (refer to ANNEX 1). Its summary is as follows:

1. Overall Goal	1) Subsistence rice farming by smallholders is adopted and sustained in the target and surrounding provinces. 2) Rice production by smallholders is increased in the target and surrounding provinces
2. Project Purpose	Sustainable subsistence rice farming by smallholders is established in the target provinces.
3. Outputs	1) Sustainable subsistence rice farming skills are acquired by smallholders. 2) Support services become accessible to rice farmers.

2. EVALUATION OF THE PROJECT

2-1. Objectives

Evaluation was performed with the following purpose:

- 1) To evaluate the level of achievement, overall effects and strategies of the Project based on the R/D, PDM and APO;
- 2) To evaluate the Project in terms of the five criteria mentioned below;
- 3) To make recommendations to the related organizations concerning the activities to be implemented during the rest of the project period and after the completion of the Project.

2-2. Methods

2-2-1. Joint Evaluation

The Project was jointly evaluated by Japanese and PNG sides (hereinafter referred to as “the Joint Evaluation Team”) using the five evaluation criteria. The Joint Evaluation Team was composed of three members from each side who were not directly involved in the Project implementation. The activities included in the evaluation are report analysis, field survey, a series of discussions and interviews with officials, staff, beneficiaries and project personnel.

2-2-2. Five Evaluation Criteria

The evaluation was conducted based on the five criteria listed below:

1) Relevance

Relevance measures the extent to which the Project is consistent with the priorities and policies of the target group, recipients and donor.

2) Effectiveness

Effectiveness measures the extent to which the activities achieve its purpose, or whether this can be expected to happen on the basis of the outputs.

3) Efficiency

Efficiency measures the output – qualitative and quantitative – in relation to the inputs. This generally requires comparing alternative approaches to achieving the same outputs in order to see whether the most efficient process has been used.

4) Impact

Impact indicates whether the Project has had effects on its surroundings in terms of technical, economic and socio-cultural, institutional, and environmental factors.

5) Sustainability

Sustainability measures the extent to which the objectives of the Project will continue to be accomplished after the completion of the Project, in other words, the extent to which the groups affected by the Project intend to and/or are able to take charge by themselves to continue accomplishing its objectives.

2-3. Members of the Joint Evaluation Team

1) The Japanese Side

No.	Name	Title/Field	Occupation
1	Mr. Masahiro TAWA	Leader	Team leader, Paddy Field Based Farming Team 3, Group I (Paddy Field Based Farming Area), Rural Development Department, Japan International Cooperation Agency (JICA)
2	Mr. Toyomitsu TERAO	Evaluation Analysis	Consultant, Fisheries Engineering Co., Ltd.
3	Ms. Kumiko MURATA	Planning and Management	Project Officer, Paddy Field Based Farming Team 3, Group I (Paddy Field Based Farming Area), Rural Development Department, Japan International Cooperation Agency (JICA)

2) The PNG Side

No.	Name	Title/Field	Occupation
1	Mr. Noel GETI	Team Member	Principle Aid Coordinator, Asia & Others, Bilateral Branch, Aid Policy & Coordination Directorate (APCD), Department of National Planning and Monitoring
2	Ms. Betty NIME URI	Team Member	Monitoring Officer, Renewable Resource Desk, Development Monitoring and Evaluation Division (DMED), Department of National Planning and Monitoring
3	Mr. George MOSUSU	Rural Development	Director of Compliance, Monitoring and Evaluation, National Department of Agriculture and Livestock

2-4. Schedule of the evaluation

The Joint Evaluation Team worked for nine days from 3 to 11 July 2006 in Port Moresby and project sites for carrying out the following activities:

Date		Activities
3 Jul	Mon	First Evaluation Committee Meeting - Confirmation of the evaluation schedule, methods and procedure Meeting with NDAL - Counterparts' presentation about progress
4 Jul	Tue	Field survey in Madang and East Sepik -Observation of Madang No.2 Milling Centre -Observation of Hayfield Milling Centre
5 Jul	Wed	Field survey in Maprik, East Sepik -Interview with Model Farmer -Observation of rice field
6 Jul	Thu	Field survey in Madang and Sumkar, Madang -Counterparts' presentation about progress -Observation of rice field -Interview with Model Farmer
7 Jul	Fri	Internal meeting on PDM
8 Jul	Sat	Preparation of PCM Workshop and Draft Report
9 Jul	Sun	Preparation of PCM Workshop and Draft Report
10 Jul	Mon	PCM Workshop - Finalization of the PDM Second Evaluation Committee Meeting - Finalization of the Evaluation Report - Signing of the Report
11 Jul	Tue	Joint Coordinating Committee Meeting - Presentation of the Report - Signing of minutes

3. ACHIEVEMENTS OF THE PROJECT

3-1. Achievement of Inputs

3-1-1. Japanese Side

From the initial stage of the Project to end of June 2006, a total of three long-term experts from JICA (Chief Advisor/Extension/Training, Coordinator/IEC) have engaged in the Project for 58.7 months. Since June 2006, a long-term expert has been additionally assigned for a field of Training. Nine short-term experts dispatched were in this term, for various field of expertise that covered Support System, Guideline Planning, Farmer Survey, Project Operation, Milling Machine, Role Play Game and Rice Culture, and they have worked for 20.2 months in total.

Training in Japan has been conducted for nine project counterparts. Fields of training were Rice Policy (2 persons), Agricultural Extension/Planning and Management (5 persons), and Post Harvest Rice Processing (2 persons).

Equipment and materials supplied by JICA were office equipment, telephone facsimiles and three transport vehicles. These were delivered to NDAL, Madang and East Sepik Province. In addition, audiovisual equipment for making training materials was supplied and has been used by the project counterparts where needed. The total cost in FY2003 to 2005 is 358,911K. It was reported that all of the equipment is maintained in good conditions and most are well utilized.

In the term FY2003 to 2005, JICA disbursed a total of 1,483,498K for the local activity costs. Among the activities, a series of training contracted with OISCA has cost 456,973K (31%). 70 candidate model farmers (MF) were sent from Madang and East Sepik Province to OISCA Eco-Tech Training Center in the last two years.

3-1-2. Papua New Guinean Side

As of July 2006, 41 counterparts are working with the Project in the national, provincial and district level. An extent to which the 31 district counterparts could be involved in the project activities seems to be different, probably deeply depending on institutional capabilities of their district office that includes human and finance resources and/or its geographical access from the provincial capital. According to records of the monitoring reports submitted by the districts, in both provinces, all its six districts have reported on seed purchase and distribution.

Regarding monitoring on the MF, however, four districts in Madang Province could report on activities of 20 model farmers in the first half term in 2006. Five districts in East Sepik Province could report on activities of 15 model farmers in the last half term in 2005. These figures may be contrasted with number of model farmers trained in the last two years that is totaled as 36 in Madang and 34 in East Sepik.

But at the same time, it should be noted that throughout this study, a high willingness of the project counterparts in their attitude to perform their duties was observed repeatedly. They appear also to be eager, in an invisible but appreciable manner, to absorb any knowledge and information relative to their profession.

In FY2004 and 2005, NDAL, Madang and East Sepik Province disbursed the amount of 232,970K in total for the project operation. Presently in FY2006, NDAL has allocated 369,000K budget for the project. Although the budget was increased for the present fiscal year, NDAL felt it is still insufficient as the amount is less than planned.

3-2. Achievement of Outputs

The achievement levels of planned outputs from the viewpoint of indicators are as followed, but note that most indicators will be changed as described in the next section:

Output 1: Sustainable subsistence rice farming skills are acquired by smallholders.

Indicator: 1) 115 farmers are trained as a model farmer conducting awareness campaign, seed distribution, guidance and advices, field consultation, training, demonstration farms or other activities to other farmers in "target area to measure achievement" by the year 2008.

A total of 77 farmers (60 farmers in Madang Province, 17 farmers in Maprik District) have been trained at OISCA as Model Farmers up to year 2005. Out of the 77 MFs, it is estimated that 61 MFs (77 MFs X 80%) are active in Farmer To Farmer Extension Activities (FTFEA).

This means over half (60%) of achievement goals have been achieved already. But the calculation formula for the total number of active MFs is needed for further examination due to its present insufficient number of samples. Thus, a new indicator will be set in the new PDM but can be said that this area is achieved as planned so far.

Regarding the OISCA Training, it should be mentioned that in addition to the model farmers, government officers, teachers and NGO staffs were trained in OISCA as well, a total of 28 persons in the last two years. The training for rice farming in OISCA is based on the textbooks developed by the project. The training of officers will contribute for the sustainability of the Project Model, and training to teachers and NGO staff will have the same effect as training MFs; to enhance dissemination to students, furthermore farmers in the area.

Furthermore, a Model Farmer Session was added to the course by the Project request to enhance the MFs motivation and awareness of his/her role as a MF.

Indicator: 2) Provincial DPI (DAL) collaborating with districts turn to annually implements 7 types of activities to support model farmers in "target area to measure achievement" by the year 2008.

Since the beginning of the Project, measures to sustain the Project activities have been discussed many times and a need for a government support system for MF activities was identified. In the first half term, a basis for a workable and predictable system to meet farmers' needs was built through numerous workshops and consultation with MFs modulated by the local governments.

As of July 2006, a guideline for the "Model Farmer Support System" has been adopted and started in Madang Province. A guideline for Maprik district has been drafted as well.

However, "the number of types of activity" as indicated in this indicator lacks definition and should be treated as a package, thus, will be modified in the new PDM.

Indicator: 3) Number of smallholders who obtained guidance by model farmers increases to 4,400 farmers in "target area to measure achievement" by the year 2008.

The total number of Contact Farmers (Farmers who were trained by MFs) can be estimated to be 2,464 (=77 MFs X 80% X 40 Contact Farmers) at present, but as mentioned earlier, the calculation formula is opt for further examination.

Indicator: 4) NDAL develops following instruction or training materials by the year 2008:

(1) Booklet on Basic Rice Farming, (2) Booklet on Milling Machine management, (3) "Kamishibai ", i.e. Picture Story, composed of "Land preparation", "Sowing", "Cropping Management", "Harvesting" and "Post Harvesting", (4) Booklet type of "Kamishibai", (5) Curriculum and Training materials on farmer training in rice crop, (6) Video tape on Basic Rice Farming, (7) Video tape on Milling Machine management

As of March 2006, the following Instruction and/or training materials have been produced;

- (1) Basic Rice Farming training materials: "Kamishibai" on Cultivation, Weeding, Harvesting, and Post Harvesting, Booklet type of "Kamishibai", Booklet on Basic Rice Farming and Video tape.
- (2) Booklet and video tape on milling machine management.
- (3) Manual and video tape on making a manual mill.

The following instruction and/or training materials are under composition;

- (4) Booklet and "kamishibai" on production and preservation of seeds.
- (5) Booklet on the merits and de-merits of slash-and-burn farming.
- (6) Booklet on the history of farming tools.
- (7) Booklet on upland farming to low-land farming.
- (8) Video on Black Smith in Indonesia.
- (9) Video on introduction of Rice farming in Indonesia.
- (10) Booklet on pest control.

Although some booklets are still under composition, 6 out of 7 instruction and/or training materials planned at the beginning of the Project have already been made. But this does not mean most of the indicator has been achieved yet, because this only means the basis for a series of instruction and teaching materials has been prepared. These materials are subject for revision by provincial, district and national counterparts during the later half of the Project.

Indicator: 5) NDAL develops following publicity materials by the year 2008:

(1) Video tape on Project Introduction , (2) Booklet on Project Introduction, (3) Video tape on Project Output, (4) Poster on rice crop

As of July 2006, the following publicity materials are made;

- (1) Video tape on Project Introduction
- (2) Booklet on Project Introduction
- (3) Poster on rice crop for Madang Province and East Sepik District

The video tape on Project Outputs will be made during the last year of the project and can be concluded that most activities as indicated have been achieved. In addition, another video tape on present outputs and issues of the Project is in making.

Output 2: Support services become accessible to rice farmers.

Indicator: 1) Number of milling machines still operating for more than 3 years increases to 14 machines in "target area to measure achievement" by the year 2008.

Initially, it was planned that the Project will grant 14 machines to the target areas under the assumption that the limited availability of milling machines was one of the reasons behind the amount of rice production. But as the Project progressed, it was recognized that the grant of milling machines would not boost rice production, but rather hinder it due to low operation and management abilities (including absence of operational costs) and a mind-set that relies heavily on machines. Hence, it was agreed by all JCC Members at the end of 2005 that the Project will change the direction of milling as the following and a new indicator will be set accordingly;

- a) Maintain and put maximum use of existing rice mills: Develop model milling centers in each province; Hayfield Milling Centre for East Sepik Province and Madang DPI No.2 Milling Center for Madang Province.
- b) Madang DPI No.2 Milling Center will also develop as a training center for milling.
- c) Further develop a mobile milling service.
- d) Demonstrate and promote manual milling.
- e) Promote and maintain the above activities and review the results at the end of 2006

Under the agreement, a definition of the model milling centers has been defined.

A training course on basic management and operation has been executed this year for the managers and operators at the model milling centers.

Indicator: 2) 0.5kg seed of traditional varieties or selected varieties is distributed to 4,800 non-rice farmers respectively by way of direct provision by LGs and/or through Model Farmers in "target area to measure achievement" by the year 2008.

As of May 2006, 123Kgs of seeds were distributed to 114 non-rice farmers through 8 MFs in Maprik District. Varieties were TCS10, IR10, IR64 and local variety. In Madang Province, seed mainly from ROC was distributed to 498 non-rice farmers but the amount has not been recorded.

At the same time, there are serious concerns on the low germination rate of currently distributed seeds and is causing a distraction in the MFs and contact farmers enthusiasm. Hence, the Project has decided recently in activating seed distribution by producing seeds by advanced MFs and the local governments buying and distributing the seeds. A new indicator to cover this aspect will be set along with others.

3-3. Achievement of Other Activities

There are a number of additional achievements that were not covered by the indicators mentioned above. Importance of other activities that supplement the Farmer to Farmer Extension Activities, as to 1) motivate and aware MFs on their role as MFs, 2) maintain knowledge and skills on proper sustainable rice farming, are as follows;

(1) Field Consultation

Field consultation to introduce basic rice farming skills was conducted by Mr. Jajat, Third-Country Expert from Indonesia and Mr. Odashima, Japanese Expert. Mr. Jajat introduced the KISER, a type of manual rice mill that can be made by hands and simple tools. This manual mill made a significant impact on farmers, especially the ones in the rural areas who have less access to milling machines. The manual mill is now promoted by the project. In Angoram District of East Sepik Province, there is a possibility for manufacturing and selling the mills as product, which will contribute to the promotion of rice farming in the area.

(2) Brush-Up Training in Madang

In 2005, 50 MFs from 5 districts were re-trained on basic rice farming skills, such as making of manual mills, KISERS, and *kamishibai*. This contributed to the moral support to MFs. It should be noted that the planning and implementation of this training course was fully led by the Madang Province's initiative.

(3) Exchange Program

An exchange program where farmers and government officers from East Sepik Province went to Madang took place in 2005 and 2006. The program offered an occasion for the participants to learn about other thinking in other areas through interaction with one another.

(4) Study Trips to Indonesia

The trips were conducted three times in the first half of the project term for studying the indigenous technology of rice farming and post harvest in Subang District, West Jawa Province in Indonesia. A total of 23 participants attended, who were selected mainly from the MFs. The study trips in Indonesia provided a remarkable contribution to raise the participants' awareness on a possibility of upland rice farming and post harvest techniques.

3-4. PDM Modifications

3-4-1. Reasons for Modification

Followed on the experiences of the Project in the last two years, the PDM was revised mainly by the following reasons;

- The "Model for Smallholders Rice Production by MFs (the Model)" was identified, and the Model

approach has been made available. (further description in section 3-5-1)

- Among the four main components in the Model, the supporting system for the MF activities needs to receive more attention from all the implementation agencies.
- Capacity building of officers involved has been occasionally focused.

These points need to be explicitly reflected on the project design to undertake further project activities effectively. Output-3 is newly provided, which is focused on capacity building of the NDAL. After the Project is terminated, the NDAL (specifically the FSB) will have to start extending of the Model towards other provinces. To sustain the project activities of post project stage in a desirable level, the Output-3 is aimed at strengthening of human capacities of the NCP and set in place if not already existing, improved institutional processes and systems i.e. simplified M & E System of MF activities, improved recording and tracking format.

The revised PDM is attached in this report, but the indicators are subject for further confirmation by the Project. A new set of indicators should be set by at the JCC meeting in December 2006.

3-4-2. Morobe Province

As recorded in the Memorandum of Understanding signed on April 2005 by the parties concerned, the implementation of the Project in Morobe Province had not proceeded as planned due to a conflicting approach for extension services with other projects within the province, namely the SSSPP Project of the Asian Development Bank (ADB). The SSSPP project, which started prior to the Project, was initially planned for a period of 5 years from 2000 to 2005, but has been extended for another 2 years for completing the loan disbursement. The Project has since limited its activity to quarterly consultations only. TAS

The main reason behind this decision was the similarity between the two projects in its extension methods, but different approaches or concepts that would lead to confusion at the field level, especially for farmers, since whilst the SSSPP pays contract fees to for extension, the Project does not.

Secondly, there are a number of other projects by other donors, not only ADB, but FAO, the Republic of China (ROC) Mission, and EU and others, have on-going or are planning projects/programmes in Morobe Province due to its environmental and historical background in agriculture. This means there will be a limitation on the availability of provincial counterparts while the Project needs high level of commitment for its full activity. This limited capacity in terms of human resource is also a hindrance for the Project and a burden for the Morobe Provincial government.

Despite efforts from both sides to operate in Morobe, the above-situation has not changed and results of the quarterly consultations by the Project was limited to providing instruction and training materials which could not be followed for properly monitored for measurement as the Project's outcome.

Furthermore, the Project has already built a basis in Madang and East Sepik Province and is at a stage to cement some of its activities at the district level. It is clear that the Project should concentrate its input

in these other provinces for higher efficiency.

Hence, based on the above experiences, the Project should exclude Morobe Province as one of its target provinces so that the Project can concentrate on Madang and East Sepik provinces.

3-5. Implementation Process

3-5-1. Basic Approach of the Project

The Model for Smallholder Rice Promotion using the Farmer-To-Farmer Extension Approach (referred as "Model"), which has been developed and promoted in the target provinces by the Project, has the following components;

(1) Main Components

- 1) Training of basic rice farming for the MF has been conducted in OISCA Eco-Tech Center. This training will be substituted after 2007 by trainings to be conducted by the provincial government.
- 2) The supporting system for the MF is operated by the province under a formalized guideline. This supporting system is aimed at providing the MF with financial support for their extension activities such as transportation, daily allowance and materials. This is budgeted by the province. Most of the model farmers that the Joint Evaluation Team interviewed are well aware of their position and role in the Model, and are highly motivated to improve livelihood of their communities. For extending rice farming to farmers in neighboring villages, they have the courage to travel by spending a few days or more, even which may sacrifice their working days in their own farming activities and in spending quality time with their families in attending to household chores.

(2) Supporting Activities

The following activities to support are still in a preparatory stage. Its full execution will depend on development of a conducive support system initiated by the local governments' initiative.

- 1) Milling service is being conducted by the province and district governments and other sources. The Project has supported for management and maintenance of the machine in two model milling centers, and has tried to develop local sources in Lae for reproducing some spare parts, for an example, by replacing external linings of plastic for a mill wheel so as to reduce the operation costs.
- 2) Seed distribution is also being operated by the national and provincial governments under the national rice program. Presently the Project is supporting monitoring of seed distribution which is currently provided mostly by ROC. But the Project has actively started distribution of seed produced by the MF, as mentioned above.

3-5-2. Project Operation Areas

The Project is featured with the operational areas that may be defined as all resident villages of the active MFs. This project is of a nature that does not have any experimental or pilot plots for displaying or testing rice farming techniques. This seems to have been resulted in a main feature of upland farming. Under shifting agriculture, it is difficult to continue farming in the same plots more than a few

years. Lands of model farmers for upland rice farming may be able to be used for the purposes occasionally, when their extension actions for neighbor farmers or the field consultation by the Project are conducted.

3-5-3. Different progress of the Project activities

An extent of progress in promoting four components of the Model is different by the districts. Basic training for the MF has been conducted for mostly all the districts in the target provinces. Monitoring of extension activities by the MF has, however, not been fully performed as shown in the monitoring records from the provinces. The supporting system for the MF has been recently initiated in Madang and Sumkar Districts in Madang Province. Maprick District in East Sepik Province has also started to prepare for implementing the supporting system. In other districts than these three districts, substantial actions for starting the supporting system are not reported yet.

4. RESULTS OF THE EVALUATION

Among the five criteria set out for the project evaluation, the Joint Evaluation Committee focused on Relevance and Efficiency of the Project since it is still mid-term of the Project. The other three criteria were referred as well though to a lesser extent, and were incorporated in conclusion of the evaluation.

4-1. Relevance

The relevance of the Project is high. The National Food Security Program (2000-2010) and PNG Domestic 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 political base for the NDAL to promote the domestic rice production by all the smallholders, institutions and semi-commercialized entities in the whole country. However, in the Medium Term Development Strategy (2005-2010), the food security issue or development of domestic rice supply was unfortunately not given a clearer placing amongst the priorities set as shown in its 7 expenditure priority areas. This is probably the main cause of frustrating the effective implementation of the Domestic Rice Development Policy resulting in the low and inconsistent allocation of budgetary support as opposed to what was initially planned by the NDAL.

The food security in Papua New Guinea has been continuously situated in an alarming level in these years; namely, increased population has been nearly reaching year to year at a level to outstrip the country's acceptable environment limit, especially in most of rural villages where shifting upland farming has been traditionally practiced. Necessity for developing domestic rice production in the nation has been repeatedly discussed in precedent projects. Rice as a food crop is valuable in terms of its longer preservation, rapider growth, increased demands and import substitution. It should be noted therefore that, still at present, an importance of the Domestic Rice Development Policy is definitely not reduced in any of the macro economic conditions in the nation.

There seems to still exist an opinion saying that, in an economical sense, it would be better for farmers to buy rice with cash earned by other profitable crops like coffee or cocoa, as farming of rice may demand more workloads than farming of others. However, as the NDAL noted in the Domestic Rice Development Policy, primary industry products for export from developing countries are overwhelmingly vulnerable in the international commodity markets, and thus result in insecure income. An over-dependency on them would not constantly secure the farmers' livelihood.

In regard to the needs for rice production from the direct beneficiaries (farmers), we referred to consumption of rice in households in Madang and East Sepik Province from the World Bank's *LSMS in PNG* report, 1996. On the basis of consumption equivalent of Kina as of 1996, an average household in the two provinces consumes almost 19% of rice as a staple food. This means rice has, since it was introduced 100 years ago, become to represent as one of the main staple foods in the provinces and in the nation, though the extent may be largely deferent by provinces. Problems are that main supply source of rice is in the overseas, and farmers need to buy it while they could grow at their plots.

4-2. Effectiveness

The effectiveness of the Project is predicted moderate or high. Achievement of the Project purpose will depend substantially on performance by the three districts especially when driving the supporting system for the MF into a sufficient level. The project counterparts in these districts and others that are trying to adopt the supporting system are working hardly with their duties in the Project.

The biggest obstacle the Project will have to achieve by the end will be a shortage of the budget provided by the national and provincial governments.

4-3. Efficiency

The efficiency of the Project was moderate in the first half term. Inputs of the project resources that include human power and equipment were made mostly as expected, with the exception of provision in budgets for project operation by NDAL and the provincial governments. As noted before, the extent to which the 31 district counterparts have been involved in the project activities are largely different, as shown in the coverage of the MF in their monitoring reports. Probably, this difference is caused by constraint of access to the MFs. However, if such physical constraint could be reduced by providing budgets enough for day or overnight travel, there may have been more deployment of the district counterparts to the distant villages. Hence, it should be noted by all the parties involved that the budgetary measures may largely and directly affect the extent of travel of the counterparts to the villages, and such an extent can definitely affect the performance of the Project. ✓

By a technical reason, among 12 districts in the target provinces, only three districts are being selected for measuring verifiable indicators in district level as shown in the PDM. This does not mean the project operation area will be limited to these three districts in the last half term. Main activities that include training and monitoring of MFs will be continued in all the districts as in the first half term. Likewise, upon the final evaluation scheduled in 2008, all the inputs in the first-half, as well as those in the

last-half, will be assessed in terms of their contribution to achieve the project performance. If a coverage of monitoring the MF activities is not improved in coming two years, this would result in an excess (it substantially means a loss) of the corresponding inputs.

4-4. Impact

The impacts of the Project are expected moderate or high. Achievement of the overall goal depends, to a large extent, on the acceptance of the supporting system for the MF by remaining districts in the target provinces, similarly to the Project purpose. It is well recognized by the NCP and the JICA Experts in the Project team that the model farmer approach will not work successfully unless there is a supporting system to support the MF. Regarding positive effects of the Project, it is said that success and lessons generated by the Project will provide a useful input in determining the policies and direction of domestic rice development in the country, and also that achieving the goals will result in increase in local rice production that might compete against imported rice.

4-5. Sustainability

The sustainability of the Project is predicted to be moderate. It is recognized by key personnel involved that the NDAL has to absorb the Project into the national rice programs for sustaining and expanding the project benefits in the post project stage. Also, in interviews with farmers, they strongly insisted on the importance of continuing government assistance to farmers after the project termination. To sustain the project benefits, it is also important that the NDAL and the provincial DPIs organize themselves and adopt the similar implementation strategy used by the Project, and that, to undertake these measures, the NDAL plays a leading role by establishing a unit within the FSB to coordinate and implement the national rice programs. The unit should have the technical competencies to address specific problems i.e. pest/disease control, compliance with quality control standards, program management, M & E, etc.

All the intention for the above institutional reinforcement will apparently have to be backed up with budgetary measures made by the national government. Therefore, the sustainability of the Project will depend heavily on whether the Project is budgeted enough at the post project stage.

Policies, plans, strategies formulated to support food security and rice production must be clearly spelt out, coherent and cohesive at all levels of government. More so, implementation roles should be clearly demarcated and demonstrated via realistic budgetary and other resource commitments at different levels.

5. CONCLUSIONS

Since its initial stage, this project has carried on basically two subjects to resolve that are predominant on the project operation but are not easily visible in the PDM.

First, the Project had to build up from scratch where nothing was systematically institutionalized, an effective extension system at the rural village level. Local governments had, and have still in case of

some districts, neither enough nor appropriate resources and instrument for mechanizing and undertaking extension services for farmers, because of their relatively new status as an independent government. Such constraints are further and largely hardened by a fact that many of the farmers are living in rural areas that are difficult to access either from provincial or district capitals. Sometimes it requires a few days to travel from a provincial capital to even a town where district office is located, and furthermore, telecommunication is not easy between them due to the limited availability of electric power in the area.

Second, the Project focuses on low-input technology of rice farming, a technology that is not readily available in a systemized form like irrigated rice farming techniques since up-land rice farming is not practiced in most other countries.

These two points were always taken into account upon evaluation of the Project.

Through the first half term of the Project, the FTFEA has been applied to the target provinces and tested in a course of monitoring and workshops held for the MFs. A model for implementing the extension services with minimized costs, with exception of the OISCA training (in terms of total input in this Project) was tested and its feasibility successfully presented. Among these activities, we note that an establishment of the monitoring system at the MF level should be highly evaluated.

Nonetheless, we must also note that the system still depends on individual efforts of the project counterparts and is not fully performed in some districts at this point. This may effect the achievement of the Project purpose and its indicators. Before this mid-term evaluation, indicators specific to spatiality of the project achievement has not been provided. For example, a population of 500 rice growers would have a quite different meaning depending whether 1,000 or 5,000 general farmers exists in the vicinity. To remove such uncertainty, a new indicator on the number of districts that adopt or establish the supporting system for the MF should be adopted at the JCC in December to measure the project purpose with more firmness.

On the other hand, the Project has made efforts to establish the extension system by setting out upland rice farming as a target technology. Throughout various actions to establish the system, capacities of personnel involved from the relevant administration bodies were reinforced and an extension system that is financially viable has also been sought. Therefore, to understand the meaning of this Project correctly, we note that such achievements and inputs made in the course of building the extension system should be evaluated positively.

We should also note which technical issues need to be prioritized for extension to rice farmers. Basic techniques for upland rice farming were, and will be further, transferred to considerable number of MFs through OISCA training and other measures. In addition, as shown in replies to the questionnaire for the project counterparts, technical issues that include prevention of insect pests, selection of varieties appropriate to local conditions and soil management are in need of attention. This is being sought by government officers as target technology to incorporate in the extension system. Also, the Project has been trying to identify low-inputs techniques for insects pests which will be placed on discussion in due

course.

Therefore, the conclusion will be a high recognition on the Project's activities in constructing /strengthening the current Model of extension through FTFEA which is subject to a workable farmer supporting system to be fully and realistically resourced by the government at all levels.

6. RECOMMENDATIONS

Followings are recommended for the efficient implementation of the Project;

6-1. For Project Coordination and Implementation in General

- It is strongly recommended that the Project exclude Morobe Province as one of its target provinces in order to concentrate on Madang and East Sepik provinces.
- The revised PDM is attached in this report for further consideration of its indicators by the Project. A new set of indicators should be set at the JCC meeting in December 2006.
- Coordination between donors in the same sector to avoid duplication should be strengthened by DNPM.
- Adequate and consistent budget allocation should be secured at all levels of the government.

6-2. For Madang and East Sepik Province:

- To adopt the Food Security Policy and deploy the necessary resources for its implementation in conformity with local socio-economic conditions with strong linkage to NDAL.
- Among the above actions, to facilitate necessary finance and other measures to promote the Model for Smallholders Rice Promotion using FTFEA in the all the districts where implementation of the Model is applicable.
- To extend the selection of MF candidates and introduce the guideline for the MF supporting system to other districts where development of rice production has not fully commenced yet.

6-3. For the NDAL:

- In order to implement the Project effectively under the PNG Domestic Rice Production Development Policy, it is recommended to strengthen coordination with the DNPM further, and to strengthen linkage with target provinces to implement their part of the policy.
- It is recommended to formulate a rice coordinating unit for the promotion of rice in particular, within the FSB.
- It is recommended to facilitate at the earliest opportunity, necessary measures for providing the NCP with appropriate working environments, especially with accommodation.

6-4. For the Project Team:

- Measures to lower the language barrier should be facilitated, for an example, increasing contact hours

among the project team (especially between LG counterparts and Japanese Experts). Although occasional, misunderstandings during communications were indicated in the questionnaire, pointing out that English is the second language to the project counterparts and the MF, as well as to the JICA experts.

付属資料5 専門家投入実績

長期専門家

注: 西暦は会計年度をあらわす

No.	Name of Expert	Field	Period of Assignment								
			From	To	Remarks	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
1	Mr. N. Odashima	Chief Advisor / Training	30-Nov-03	2-Jun-05		✓	✓	✓			
2	Mr. I. Nakayama	Extension / Coordinator	30-Nov-03	29-Sep-05		✓	✓	✓			
		Extension / Training	30-Sep-05	29-Nov-07					✓	✓	
		Acting Chief Advisor / Extension									
3	Mr. S. Katafuchi	Coordinator / IEC	30-Sep-05	29-Sep-07				✓	✓	✓	
4	Mr. M. Ikezoe	Training	31-May-06	29-May-08					✓	✓	✓

短期専門家

No.	Name	Field	Period of Assignment								
			From	To	Remarks	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008
1	Mr. A. Nakamura	Support System	31-Jan-04	13-Apr-04		✓					
2	Mr. S. Akamatsu	Instruction on Supporting System / Guideline Planning and Working	11-Jun-04	11-Aug-04			✓				
3	Mr. K. Nozawa	Farmer Survey (Survey on Farming System)	21-Jun-04	20-Sep-04			✓				
4	Mr. Y. Ohama	Lecturer for Introductory Seminar on Supporting System for Farmers	23-Jul-04	5-Aug-04			✓				
5	Mr. H. Kanamori	Project Operation Method	13-Aug-04	30-Aug-04			✓				
6	Mr. J. Ruchijat	Management of Milling machine	11-Feb-05	11-Apr-05	TCE from Indonesia		✓				
7	Mr. A. Nakamura	Strengthening of Supporting system to farmers	12-Feb-05	16-Mar-05			✓				
8	Mr. S. Akamatsu	Chief Advisor (shuttle arrangement)	14-Oct-05	24-Oct-05				✓			
9	Mr. S. Akamatsu	Chief Advisor (shuttle arrangement)	25-Nov-05	9-Dec-05				✓			
10	Mr. A. Matsumoto	Role Play Game	4-Jan-06	2-Feb-06				✓			
11	Mr. M. Ikezoe	Strengthening of Supporting system to farmers	20-Jan-06	15-Mar-06				✓			
12	Mr. Nariyoshi Odashima	Rice Culture	3-Feb-06	20-Apr-06				✓			
13	Mr. J. Ruchijat	Management of Milling machine	3-Feb-06	13-Apr-06	TCE from Indonesia; from 20-Feb to 3-Mar for condolence leave for			✓			
14	Mr. S. Akamatsu	Chief Advisor (shuttle arrangement)	25-Mar-05	13-Apr-05				✓			

付属資料6 C/P配置/本邦研修実績

Note: In case a counterpart's employment is temporary, enter "*" in Remarks

No.	Name of Counterpart		Field	Present Post	Remarks	Period of Assignment		
						From	To	Name of Training Course
1	Mr.	Mr. Mattew Wela Kanua	Secretary, Department of Agriculture and Livestock	Secretary, Department of Agriculture and Livestock	(1) Secretary for DAL : Dec-03 to July-05 and Nov-05 up to now	Nov-03	up to now	
2	Mr.	Anton Benjamin	Project Director	Director, Food Security Branch, Department of Agriculture and Livestock	(1) Acting Deputy Secretary for DAL : Dec-03 to Jan-05 (2) Acting Secretary for DAL : Jul-05 to Nov-05	Oct-05	up to now	
3	Mr.	Brown Konabe	National Project Manager	Senior Special Project Officer, Food Security Branch, Department of Agriculture and Livestock	(1) Acting Director for FSB : Dec-03 to Nov-05	Oct-05	up to now	Rice Policy' in June 2006
4	Mr.	John Jave	National Project Coordinator	Rice Agronomist, Food Security Branch, Department of Agriculture and Livestock		Nov-03	Oct-04	
5	Mr.	Verave Gavali	National Project Coordinator	Senior Technical Officer, Food Security Branch, Department of Agriculture and Livestock		Nov-03	up to now	Agricultural Extension Planning & Management from May - July in 2004
6	Mr.	Boni Julies	National Project Counterpart	Rice Agronomist, Food Security Branch, Department of Agriculture and Livestock		Nov-03	Oct-04	
7	Mr.	Heaistefen Hoko	National Project Counterpart	Irrigation Agronomist, Food Security Branch, Department of Agriculture and Livestock		Oct-05	up to now	
8	Mr.	Miriam John	National Project Counterpart	Grain Agronomist, Food Security Branch, Department of Agriculture and Livestock		Nov-03	up to now	
9	Mr.	Patrick Oa	National Project Counterpart	Irrigation Technician, Food Security Branch, Department of Agriculture and Livestock		Feb-06	up to now	
10	Mr.	Pascal Feria	Madang Provincial Project Manager	Advisor, Madang Provincial Branch of Agriculture and Livestock		Nov-03	Nov-04	
11	Mr.	Ganei Agodop	Madang Provincial Project Manager	Advisor, Madang Provincial Branch of Agriculture and Livestock		Dec-04	up to now	(1) Agricultural Extension Planning & Management from May - July in 2004 (2) 'Rice Policy' in June 2006
12	Ms.	Mary Lilih	Madang Provincial Project Coordinator	Food Crop Officer, Madang Provincial Branch of Agriculture and Livestock		Nov-03	up to now	
13	Mr.	Godfried Savi	Madang Provincial Project Counterpart	Deputy Advisor, Madang Provincial Branch of Agriculture and Livestock		Nov-03	up to now	Agricultural Extension Planning & Management from May - July in 2004
14	Mr.	Tapul Waltubol	District Counterpart, Madang	Programme Manager for Branch of Agriculture and Livestock of Madang District		Nov-03	up to now	
15	Mr.	Godfried Agabara	District Field Officer, Madang	Field Officer for Branch of Agriculture and Livestock of Madang District		Nov-03	up to now	

16	Mr.	Jimmy Sekum	District Counterpart, Sumkar	Programme Manager for Branch of Agriculture and Livestock of Sumkar District		Nov-03	up to now	
17	Mr.	Noali Saina	District Field Officer, Sumkar	Field Officer for Branch of Agriculture and Livestock of Sumkar District		Nov-03	up to now	
18	Mr.	Jack Wokipim	District Counterpart, Bogia	Programme Manager for Branch of Agriculture and Livestock of Bogia District		Nov-03	up to now	
19	Mr.	Lorrie Saukiai	District Field Officer, Bogia	Field Officer for Branch of Agriculture and Livestock of Bogia District		Nov-03	up to now	
20	Mr.	Thomas Bip	District Counterpart, Usino Bundi	Programme Manager for Branch of Agriculture and Livestock of Ushino Bundi District		Nov-03	up to now	
21	Mr.	Fred Bougian	District Field Officer, Usino Bundi	Field Officer for Branch of Agriculture and Livestock of Ushino Bundi District		Nov-03	up to now	
22	Mr.	Simon Sakipa	District Counterpart, Middle Ramu	Programme Manager for Branch of Agriculture and Livestock of Middle Ramu District		Nov-03	up to now	Agricultural Extension Planning & Management from May - July in 2005
23	Mr.	Mugia Loss	District Field Officer, Middle Ramu	Field Officer for Branch of Agriculture and Livestock of Middle Ramu District		Nov-03	up to now	
24	Ms.	Susan Kui	District Field Officer, Raicoast	Field Officer for Branch of Agriculture and Livestock of Raicoast District		Nov-03	up to now	
25	Mr.	Benjamin Sani	East Sepik Provincial Project Manager	Advisor, East Sepik Provincial Division of Agriculture and Livestock		Nov-03	Oct-05	
26	Mr.	Tony Hobiagi	East Sepik Provincial Project Manager	Advisor, East Sepik Provincial Division of Agriculture and Livestock		Oct-05	Nov-05	
27	Mr.	Edward Liru	East Sepik Provincial Project Manager	Advisor, East Sepik Provincial Division of Agriculture and Livestock		Nov-05	up to now	
28	Mr.	Pius Numbatai	East Sepik Provincial Project Coordinator	Food Crop Officer, East Sepik Provincial Division of Agriculture and Livestock		Nov-03	up to now	Post-Harvest Rice Processing from Aug to Nov in 2004
29	Mr.	Paul Woisub	District Counterpart, Wewak	Technical Manager, Division of Agriculture and Livestock of Wewak District		Nov-03	up to now	
30	Mr.	Mathew Kakota	District Rice Officer, Wewak	Rice Officer, Division of Agriculture and Livestock of Wewak District		Nov-05	up to now	
31	Mr.	Caspar Hauamibei	District Rice Officer, Wewak	Assistant Rice Officer, Division of Agriculture and Livestock of Wewak District		Nov-04	up to now	
32	Mr.	Vincent Pallan	District Counterpart, Angoram	Technical Manager, Division of Agriculture and Livestock of Angoram District		Nov-03	up to now	
33	Mr.	Moses Okm	District Rice Officer, Angoram	Rice Officer, Division of Agriculture and Livestock of Angoram District		Nov-03	up to now	Post-Harvest Rice Processing from Aug to Nov in 2005
34	Mr.	Petrus Kasindu	District Rice Officer, Angoram	Assistant Rice Officer, Division of Agriculture and Livestock of Angoram District		Nov-04	up to now	
35	Mr.	Andrew Maika	Special Project Officer			Nov-03	up to now	

36	Mr.	Ben Timi	District Counterpart / District Rice Officer, Yangoru/Saussia	Technical Manager, for Division of Agriculture and Livestock of Yangoro/Sausia District		Nov-03	up to now	
37	Mr.	Philip Gura	District Counterpart, Maprik	Technical Manager, for Division of Agriculture and Livestock of Maprik District		Nov-03	up to now	Rice Policy' in June 2006
38	Mr.	Philemon Minilisk	District Rice Officer, Maprik	Rice Officer, Division of Agriculture and Livestock of Maprik District		Nov-03	up to now	Agricultural Extension Planning & Management from May - July in 2005
39	Mr.	Wandoi Swong	District Counterpart, Ambunti/Drekikir	Technical Manager, for Division of Agriculture and Livestock of Ambunti / Drekikir District		Nov-03	up to now	
40	Mr.	Wilson Lambi	District Rice Officer, Ambunti/Drekikir	Rice Officer, Division of Agriculture and Livestock of Ambunti / Drekikir District		Nov-03	up to now	
41	Mr.	Augustine Wanga	District Rice Officer, Ambunti/Drekikir	Assistant Rice Officer, Division of Agriculture and Livestock of Ambunti / Drekikir District		Nov-04	up to now	
42	Mr.	Steven Aulem	District Counterpart, Wosera/Gawi	Technical Manager, for Division of Agriculture and Livestock of Wosera / Gawi District		Nov-03	up to now	
43	Mr.	Alphonse gawi	District Rice Officer, Wosera/Gawi	Assistant Rice Officer, Division of Agriculture and Livestock of Wosera / Gawi District		Nov-04	up to now	
44	Mr.	Issac Sangi	District Rice Officer, Wosera/Gawi	Rice Officer, Division of Agriculture and Livestock of Wosera / Gawi District		Nov-03	up to now	
45	Mr.	Geobing Bilong	Morobe Provincial Project Manager	Advisor, Morobe Provincial Division of Agriculture and Livestock		Nov-03	up to now	
46	Mr.	Amos Buibea	Morobe Provincial Project Coordinator	Food Crop Officer, Morobe Provincial Division of Agriculture and Livestock		Nov-03	up to now	

(*) No.1-No.9: Personnels in NDAL, Np.10-No.24: Personnels in Mdang Province, No.25-No.44: Personnels in East Sepik Province, No.45-No.46 : Personnels in Morobe Province

付属資料7 機材供与実績

No.	Date of Arrival	Description			Amount	Unit Price	S-total	Place of Storage	Frequency of Use	Condition	Remarks
		Item	Manufacture & Model Number	R/P							
1	Feb-00	fax machine	HP Laserjet 3330	L	3	K 2,788.50	K 8,365.50	P	C	A	
2	Feb-00	soft application	MS office 2003 basic	L	7	K 770.00	K 5,390.00	P/M/E/A	B	A	
3	Feb-00	UPS	Niulogic 650Va	L	7	K 220.00	K 1,540.00	P/M/E/A	B	A	
4	Feb-00	projector	canon LVS3	L	1	K 5,586.01	K 5,586.01	P	B	A	
5	Feb-00	DVD machine	TOSHIBA SD 1850	L	4	K 999.00	K 3,996.00	P/M/E	B	A	
6	Feb-00	copy machine	Sharp AR 163	L	3	K 5,547.93	K 16,643.79	P/M/E	A	A	
7	Feb-00	copy machine with feeder attachment	Sharp AR 163	L	1	K 6,973.52	K 6,973.52	P	A	A	
8	Feb-00	PC	Optima P4 1.8G/256/CDRW/DVDR	L	7	K 2,789.68	K 19,527.76	P/M/E/A	A	A	
9	Feb-00	PC monitor	Monitor-AbleView 15"	L	7	K 415.00	K 2,905.00	P/M/E/A	A	A	
10	Feb-00	video camera	canon MV6iMC DV camera	L	1	K 4,740.00	K 4,740.00	P	B	A	
11	Mar-00	video camera	canon MV600iMC DV camera	L	3	K 2,615.00	K 7,845.00	P	B	A	
12	Mar-00	tripod	VELBON CX500 TRIPOD	L	1	K 379.95	K 379.95	P	B	A	
13	Mar-00	tripod	VELBON TRIPOD CX640	L	1	K 399.95	K 399.95	P	B	A	
14	Mar-00	tripod	VELBON CX500 TRIPOD	L	1	K 379.95	K 379.95	P	B	A	
15	Mar-00	tripod	VELBON TRIPOD CX640	L	1	K 399.95	K 399.95	P	B	A	
16	Mar-00	TV	Philips 21PT2012/59R	L	3	K 1,185.00	K 3,555.00	P/M/E	B	A	
17	Mar-00	fax machine	Panasonic UF-490	L	3	K 2,530.00	K 7,590.00	M/E/A	A	A	
18	Mar-00	Toner for HP LASERJET FAX Machine	HP C7115A TONER	L	16	K 317.49	K 5,079.84	P	C	A	Cosumable item
19	Mar-00	External Hard Disk	40GB 7200PRM IDE DISK DRIVE 3.5 USBV2. External Case	L	5	K 808.50	K 4,042.50	P	A	A	
20	Mar-00	Fax Machine Toner	BLACK(UG3222)	L	6	K 458.15	K 2,748.90	P	C	A	Cosumable item
21	Mar-00	Video Camera Case	Targus Video Camera Case	L	3	K 59.29	K 177.87	P	B	A	
22	Mar-00	Memory Card	Apacer SD Card 128MB	L	3	K 250.50	K 751.51	P	C	A	
23	Mar-00	External Card Reader	Apacer 8 in 1 ext USB Reader	L	3	K 110.40	K 331.19	P	C	A	
24	Mar-00	Projector Screen	HPSS PROJECTOR SCREEN	L	1	K 1,152.10	K 1,152.10	P	B	A	
25	Mar-00	Memory Stick	USB 2.0 MEMORY STICK 128 MB	L	7	K 218.00	K 1,525.99	P	C	A	
26	Mar-00	Vehicle	Toyota Hilux	L	1	K 73,530.00	K 73,530.00	P	A	A	
27	Mar-00	Vehicle	Toyota Hilux	L	1	K 73,530.00	K 73,530.00	M	A	B	
28	Mar-00	Vehicle	Toyota Hilux	L	1	K 73,530.00	K 73,530.00	E	A	B	
29	Jan-01	Desktop computer(CPU)	Niulogic Discovery II	L	1	K 2,640.00	K 2,640.00	P	A	A	
30	Jan-01	Monitor for computer	Mag 15" Color Monitor	L	1	K 374.00	K 374.00	P	A	A	
31	Jan-01	Scanner	Epson Pefection 2480 PhotoScan	L	1	K 715.00	K 715.00	P	C	A	
32	Jan-01	Digital camera	Canon A75 Digital Camera	L	1	K 1,095.00	K 1,095.00	P	C	A	
33	Jan-01	Digital Camera	Canon A85 Digital Camera	L	1	K 1,350.00	K 1,350.00	P	C	A	
34	Jan-01	Camera Bag	Targus Video Camera Case	L	2	K 67.14	K 134.29	P	C	A	
35	Jan-01	Digital Projector	Canon LV-S3 Projector	L	1	K 4,464.70	K 4,464.70	P	C	A	
36	Jan-01	Projector Screen	3M TS175 Tripod Screen (1,800×1,800)	L	1	K 940.68	K 940.68	P	C	A	
37	Jan-01	Light bulb for Digital Projector	Canon LV-S3 Spare Bulb	L	2	K 1,709.50	K 3,419.00	P	C	A	Cosumable item
38	Jan-01	Inkjet Printer	HP Deskjet 1180C Printer	L	1	K 1,164.70	K 1,164.70	P	A	A	
39	Jan-01	Color Ink Cartridge	HP C6578d HP No78 Tri-Color Cartridge	L	5	K 133.77	K 668.86	P	A	A	Cosumable item
40	Jan-01	Black Ink Cartridge	HP 51645A HP No45 Black Ink Cartridge	L	15	K 126.62	K 1,899.32	P	A	A	Cosumable item
41	Jan-01	Software	MS OFFICE 2003	L	1	K 1,320.00	K 1,320.00	P	C	A	
42	Jan-01	UPS	Niulogic 650Va LCD UPS	L	1	K 209.00	K 209.00	P	A	A	
43	Jan-01	Scanner	HP Scanjet 5330 Photoamart Scan	L	1	K 1,485.00	K 1,485.00	P	C	A	
44	Jan-01	Color Ink Cartridge	HP Ink cartridge No57-DJ5550	L	5	K 155.00	K 775.01	P	C	A	Cosumable item
45	Jan-01	Light bulb for Digital Projector	Canon LV-S3 Spare Bulb	L	2	K 1,709.50	K 3,419.00	P	C	A	
46	Jan-01	Black Ink Cartridge	HP C66 15 DA Black 15	L	2	K 110.00	K 220.00	P	A	A	Cosumable item
47	Jan-02	Digital Projector	Benq Ppb2140 1600 IUM svga 1.9kg	L	1	K 3,630.00	K 3,630.00	P	C	A	
48	Jan-02	Projector Screen	3M TS175 Tripod Screen	L	1	K 945.00	K 945.00	P	C	A	

備考 R/P:Route of Procurement

Frequency of Use
Condition
(Place of storage)

(J: From Japan,L: Local,E: With Expert)
(A: Always - B: Often - C: Sometimes)
(A: Good - B: Fair - C: Bad)
(P: NDAL at POM, M: Madang, E: East Sepik, A: Maprik)

¥:Japanese Yen
K:Kina
(Yen or K)

付属資料8 ローカル・コスト負担実績

(1) ローカル・コスト負担(日本国側)

Unit:Kina

No.	Category	Budgetary Year						Amount
		FY.2003	FY.2004	FY.2005	FY.2006	FY.2007	FY.2008	
1	Local activity cost	148,558.85	392,586.21	485,380.00				1,026,525.06
2	Local activity cost for Training & Field consultation by	0.00	152,799.00	159,160.00				311,959.00
3	Local activity cost for Airfares for trainees to OISCA	0.00	67,364.00	77,650.00				145,014.00
Total		148,558.85	612,749.21	722,190.00				1,483,498.06

(2) ローカル・コスト負担(PNG側)

Unit:Kina

No.	Category	Budgetary Year						Amount
		FY.2003	FY.2004	FY.2005	FY.2006*	FY.2007	FY.2008	
1	NDAL (Expenditure)		38,515.76	91,592.49	369,000.00			499,108.25
2	MADANG PROVINCE							
(1)	Expenditure of budget under management of Province		14,000.00	20,000.00	30,000.00			64,000.00
(2)	Expenditure of budget deposited in NDAL Trust Account		7,354.98	11,104.15	<24,298.87>			18,459.13
3	EAST SEPIK PROVINCE							
(1)	Expenditure of budget under management of Province		10,000.00	13,012.81	60,000.00			83,012.81
(2)	Expenditure of budget deposited in NDAL Trust Account		20,465.65	6,925.00	<34.15>			27,390.65
Total			90,336.39	142,634.45	459,000.00			691,970.84

* Figure in FY 2006 is planned budget.

Figure in < > shows balance as at December 2005

付属資料9 モデル農家研修受講者リスト

(1)東セビック州

No.	No. in Pro.	Name of Model Farmer	District	LLG	Village	Batch of OISCA Training	Training Year	Contact farmers under MF	Farmers under Contact Farmer	Occupation	Remarks
1	1	Bun Sungwi	Maprik	Bumbita Muhiang	Balif	1st	Sep. 2001			MF	
2	2	Bonjang Kioni	Maprik	Albiges Mablep	Waikum	1st	Sep. 2001	3		MF	
3	3	Samuel Gilot	Maprik	Yamil Tamawi	Suambukum # 2	1st	Sep. 2001	1		MF	
4	4	Danny Akinole	Maprik	Wora	Aupik	1st	Sep. 2001				
5	5	Philip Gura	Maprik			1st	Sep. 2001			DAL Officer	
6	6	Benson Awikiak	Maprik			1st	Sep. 2001			DAL Officer	
7	7	Joseph Siliwi	Wosera Gawi	South Wosera	Nala # 1	3rd	Aug. 2002	2		MF	
8	8	Simon Mare	Wewak	Wewak Rural	Nunguwanje	3rd	Aug. 2002	1		MF	
9	9	Pius Numbatai	Wewak			3rd	Aug. 2002			DAL Officer	
10	10	Moses Okim Ambokai	Angoram			3rd	Aug. 2002				
11	11	Sebastin Wandia	Angoram	Marienberg	Gavien	3rd	Aug. 2002	3		MF	
12	12	Jack Mauligen	Maprik	Maprik Wora	Kimbagwa	3rd	Aug. 2002	4		MF	
13	13	Jeffery Kapun	Wosera Gawi	Burui Kunai	Yangit	3rd	Aug. 2002	3		MF	
14	14	Moses Taptehei	Ambunti Drekkir	Drekikir	Musiloh	6th	Aug. 2003	3		MF	
15	15	Willie Weifuk	Yangoru Sausia	Numbo	Nangumarum	6th	Aug. 2003	2		MF	
16	16	Berthoid Toni	Angoram	Angoram	Pinang	6th	Aug. 2003	3		MF	
17	17	James Poito	Angoram			6th	Aug. 2003				
18	18	Pascilius Maika	Angoram	Angoram	Moim	6th	Aug. 2003				
19	19	Donald Kumlau	Wewak	Wewak Is.	Warak	6th	Aug. 2003	2		MF	
20	20	Damien Konda	Wewak	Wewak Is.	Taro	6th	Aug. 2003	2		MF	
21	21	Irene Anamakon	Angoram	Biwat	Biwat	7th	July. 2004			MF	
22	22	Moses Kakato	Angoram			7th	July. 2004				
23	23	Valentine Tama	Angoram	Karawari	Guevas	7th	July. 2004			MF	
24	24	Raphael Barewoi	Wewak	Turubu	Kamasau	7th	July. 2004				
25	25	Philip Hombi	Yangoru Sausia	Sauso	Mapringa	7th	July. 2004				
26	26	Joe Maninaka	Yangoru Sausia	West Yangoru	Alisu # 2	7th	July. 2004			MF	
27	27	Alex Maimbang	Wosera Gawi	Gawi	Kaindingei	7th	July. 2004	1		MF	
28	28	Sebastine Tawindu	Wosera Gawi	North Wosera	Umunko	7th	July. 2004			New Farmer	
29	29	Joseph Erkot	Ambunti Drekkir	Kawanga	Waukia	7th	July. 2004				
30	30	Philimon Minilistik	Maprik			8th	Oct. 2004			DAL Officer	
31	31	Alphonse Gawi	Wosera Gawi	Gawi	Pagwi	8th	Oct. 2004			DAL Officer	
32	32	Angela Gossiba	Fowlad	Maprik Wora	Hayfield	8th	Oct. 2004			MF (NGI)	
33	33	Kitchimon Dalof	Maprik	Bumbita/Muhiang	Ilaita # 4	8th	Oct. 2004	1		MF	
34	34	Israel Yaure	Wewak	Turubu	Musangun	8th	Oct. 2004			MF	
35	35	Peter Monjivii	Wewak	Wewak Rural	Paliama	8th	Oct. 2004			MF	
36	36	Bernard Gai Wanga	Wosera/Gawi	South Wosera	Jibakum	8th	Oct. 2004			MF	
37	37	Clement Pallan	Angoram	Angoram	Wilawila Blk	8th	Oct. 2004			MF	
38	38	Bernard Dalle	St. Xavier	Wewak Is.	Voqueo	8th	Oct. 2004			Teacher	
39	39	Bernadict Timi	Yangoru/Sausia	Kubalia	Kubalia	9th	Aug. 2005			LLG Officer	
40	40	Henry Watarupu	Ambunti/Drekikir	Kawanga	Kawanga	9th	Aug. 2005			MF	
41	41	Roger Wihal	Ambunti/Drekikir	Drekikir	Drekikir	9th	Aug. 2005			MF	
42	42	Otto Joral	Wewak	Wewak Is.	Pausum	9th	Aug. 2005			MF	
43	43	Justine Wandarut	Wewak	Turubu	Sinamblai	9th	Aug. 2005			MF	
44	44	Willy Pawia	Angoram	Gavien	Gavien	9th	Aug. 2005			MF	
45	45	Benny Gitbakum	Wosera/Gawi	South Wosera	Babmokum	9th	Aug. 2005			MF	
46	46	Ipi Kiawi	Maprik	Tamawi	Waikakum	9th	Aug. 2005			MF	
47	47	Job Mathias	Maprik	Bumbita	Solomb	9th	Aug. 2005			MF	
48	48	Andrew Kamsa	Wewak	Brandi S/School	Wewak	9th	Aug. 2005			Teacher	
49	49	Augustine Wanga	Ambunti/Drekikir	Kawanga	Wumungko	10th	Oct. 2005			DAL Officer	
50	50	Paul Dum	Wewak	Turubu	Taul	10th	Oct. 2005			Farmer	
51	51	Mathew Kakota	Wewak	Wewak	Musangun	10th	Oct. 2005			DAL Officer	
52	52	Freddy Awai	Wewak	Gawi		10th	Oct. 2005			Farmer	
53	53	Kristoffa Wesly Piso	Angoram	Angoram	Angoram	10th	Oct. 2005			Farmer	
54	54	Jeffery Ebarpha	Angoram	Keram		10th	Oct. 2005			Farmer	

55	55	Felix Mark	Ambunti/Drekikir	Ambunti	Yerekai	10th	Oct. 2005			Farmer	
56	56	Amos Sefi	Maprik	Albiges/Mamblep	Klapu	10th	Oct. 2005			Farmer	
57	57	David Bunga	Maprik	Maprik/Wora	Maprik # 1	10th	Oct. 2005			Farmer	
58	58	Frank Minjuan	Maprik	Maprik/Wora	Kumunimbis	10th	Oct. 2005			Farmer	
59	59	Emmanuel Gombak	Angoram	Maranberg	Pinang	10th	Oct. 2005			Farmer	
60	60	John Saka	Ambunti/Drekikir	Ambunti	Bangus	10th	Oct. 2005			Farmer	
61	61	Jonah Davies Timothy	Maprik	Albiges/Mamblep	Supari	10th	Oct. 2005			Farmer	
62	62	Timothy Balas	Maprik	Bumbita/Muhiang	Malahum	10th	Oct. 2005			Farmer	

(2)マダソ州

No.	No. in Pro.	Name of Model Farmer	District	LLG	Village	Batch of OISCA Training	Training Year	No. of Contact farmers under MF	No. of Farmers under Contact Farmer	Occupation	Remarks
63	1	Peter Kaimu	Madang	Ambenob (14)	Balama	2nd	Oct. 2001			MF	
64	2	Mary Lilih	Madang	PHQ	Sisiak No. 3	2nd	Oct. 2001			DPI Officer	
65	3	George Gene	Madang	Bundi	Walium	2nd	Oct. 2001			DPI Officer	
66	4	Boting Bongut	Madang	Saidor	Raicoast No. 3	2nd	Oct. 2001			Farmer	
67	5	Lalos Dimi	Madang		Lagaha	2nd	Oct. 2001			Farmer	Not working
68	6	Asang Kalang	Raicoast	Saidor		2nd	Oct. 2001			Farmer	Not working
69	7	Mathias Kaupe				2nd	Oct. 2001				
70	8	Jerome Kelpi	Middle Ramu	Simbai	Asal	2nd	Oct. 2001				Not working
71	9	Edelbert Kubod	Sumkar	Sumgilbar (14)	Liksal	3rd	Aug. 2002			Farmer	
72	10	Andrew Fei Siqim	Sumkar	Sumgilbar	Aronis	3rd	Aug. 2002	2		MF	
73	11	Jacob Yerim	Bogia	Yawar	Masaruka	3rd	Aug. 2002			Farmer	Not working
74	12	John Koinari	Usino Bundi	Usino	Saussi	3rd	Aug. 2002	2		MF	
75	13	William Umbaria	Usino Bundi	Usino	Danaru	3rd	Aug. 2002	2		MF	
76	14	Susan Dadau	Madang	Ambenob (2)	Sisiak Menku	3rd	Aug. 2002			MF	
77	15	Alex Sisil	Madang	Ambenob	Opi	4th	Oct. 2002	1		MF	
78	16	Lorrie Suarkia	Bogia	Yawar	Bogia	4th	Oct. 2002			Ext. Officer	
79	17	Samson Itau	Madang	Ambenob	Nobonob	4th	Oct. 2002			Ext. Officer	
80	18	Reynold Wagab	Sumkar	Sumgilbar	Bareudig	4th	Oct. 2002			Farmer	
81	19	John Wenko	Bogia	Almami	Malala	4th	Oct. 2002			Farmer	Not working
82	20	Casper Kaukanam	Bogia	Almami	Yakiba	4th	Oct. 2002			Farmer	Not working
83	21	Koman Dowal	Madang	Transgogol	Kokun	4th	Oct. 2002			Farmer	
84	22	Elish Engombe	Middle Ramu	Arabaka	Aiome	5th	Jun. 2003			Farmer	
85	23	Leo Nunangik	Raicoast	Saidor	Aiyawang	5th	Jun. 2003			Farmer	
86	24	Raphael Maru	Bogia	Yawar	Awar	5th	Jun. 2003	2		MF	
87	25	Paul Walimar	Raicoast	Saidor	Wab	5th	Jun. 2003	1		Teacher	
88	26	Lesley Samadong	Raicoast	Saidor	Seure	5th	Jun. 2003	2		MF	
89	27	Nick Sangi	Middle Ramu	Arabaka	Tsumba	5th	Jun. 2003			Farmer	
90	28	Joel Lapiu	Madang	Madang	Danip	5th	Jun. 2003			Teacher	
91	29	Brian Aian	Madang	Madang	CIS Bion	5th	Jun. 2003			CIS Officer	
92	30	Susan Rui	Raicoast	Saidor	Saidor	5th	Jun. 2003			Rice Officer	
93	31	John Babau	Sumkar	Sumkar	Kurum	5th	Jun. 2003			Rice Officer	Did not go
94	32	Vincent Andousam	Bogia	Yawar	Masauvura	6th	Aug. 2003	2		MF	
95	33	Hohug Mait	Madang	Ambenob	Waragum	6th	Aug. 2003			Farmer	
96	34	Simon Sakipa	Middle Ramu		Aiome	7th	July. 2004			Ext. Officer	
97	35	Peter Kayang	Bogia	Almami	Sikor	7th	July. 2004			Farmer	
98	36	Nick Lalup	Madang	Ambenob		7th	July. 2004			MF	
99	37	Natan Masi	Raicoast	Raicoast	Liya	7th	July. 2004			Farmer	
100	38	Sebra Guru	Madang	Ambenob	Silibob	7th	July. 2004			Farmer	
101	39	Manin Jol	Madang	Ambenob	Brambin	7th	July. 2004			Farmer	
102	40	Michael Mek	Ussino	Upper Ramu	Gara	7th	July. 2004			DPI Officer	
103	41	Clement Mari	Madang	Ambendo	Domp	7th	July. 2004			Teacher	
104	42	Melchior Warne	Ramu	Usino	Usino Bundi	7th	July. 2004			Farmer	
105	43	Janet Kanawi	Beon CIS	Ambenob	Bion	8th	Oct. 2004			CIS Officer	
106	44	David Kalo	Sumkar	Sumgilor	Ubab	8th	Oct. 2004			Farmer	
107	45	Notal Wolovil	Madang	Ambenob	Bion	8th	Oct. 2004			Farmer	
108	46	Fred Bougian	Ussino Bundi	Usino	Usino Bundi	8th	Oct. 2004			Ext. Officer	
109	47	Tapul Waltubol	Madang	Madang		8th	Oct. 2004			DPI Ext. Officer	
110	48	Bernard Kaman	Madang	Ambendo	Baitaka	8th	Oct. 2004			Farmer	
111	49	Mukukut Amring	Sumkar	Sumgillor	Sevan	8th	Oct. 2004			Farmer	
112	50	Anton Ale	Bogia	Almanu	Papur	8th	Oct. 2004			Farmer	
113	51	Moxie Ambes	Raicoast	Australobe	Atto	8th	Oct. 2004			Farmer	
114	52	Paul Poringe	Raicoast	Australobe	Aye	8th	Oct. 2004			Farmer	
115	53	Elias Mangoa	Ussino Bundi	Bundi	Mondisipiri	9th	Aug. 2005			Farmer	
116	54	Brambin Jakineum	Ussino Bundi	Bundi	Sanawai	9th	Aug. 2005			Farmer	
117	55	Joachim Tamsen	Madang	Transgogol	Musak	9th	Aug. 2005			Farmer	
118	56	Noila Gunar	Madang	Transgogol	Sein	9th	Aug. 2005			Farmer	
119	57	Ogmai Kumai	Madang	Transgogol	Gonoa	9th	Aug. 2005			Farmer	
120	58	Bumbum Bais	Raicoast	Astrolobay	Astrolobay	9th	Aug. 2005			Farmer	
121	59	Labun Miani	Sumkar	Karkar	Marup	9th	Aug. 2005			Farmer	

122	60	Willy John	Sumkar	Karkar	Karkar High School	9th	Aug. 2005			Teacher	
123	61	Paul Husam	Sumkar	Sumgilor	Wasab	9th	Aug. 2005			Farmer	
124	62	John Babau	Sumkar	Sumkar	Kurum	9th	Aug. 2005			Ext. Officer	
125	63	Jessie Hagai	Ussino/Bundi	Begesin		10th	Oct. 2005			Farmer	
126	64	John Moru	Ussino/Bundi	Forogo		10th	Oct. 2005			Farmer	
127	65	Martin Kosi	Madang	Transgogol/Oronga		10th	Oct. 2005			Farmer	
128	66	Helen Angambangnai	Middle Ramu	Josephtaal		10th	Oct. 2005			Farmer	
129	67	Eric Eki	Middle Ramu	Gosingi		10th	Oct. 2005			Farmer	
130	68	Louie Mafuk	Bogia	Yawar		10th	Oct. 2005			Farmer	
131	69	Benny Akari	Bogia	Yawar		10th	Oct. 2005			Farmer	
132	70	Simon Kah	Bogia	Yawar		10th	Oct. 2005			Farmer	
133	71	Bob Wati	Ussino/Bundi	Ussino		10th	Oct. 2005			Farmer	
134	72	Pelisa Maiagu	Raicoast	Yalila		10th	Oct. 2005			Farmer	
135	73	Vinantius Tatawa	Bogia	Yawar		10th	Oct. 2005			Farmer	
136	74	Gabriel Mori	Ussino/Bundi	Ussino		10th	Oct. 2005			Farmer	
137	75	Alois Beso	Bogia	Yawar		10th	Oct. 2005			Farmer	
138	76	Rex Wagol	Madang	Transgogol		10th	Oct. 2005			Farmer	
139	77	Joseph Ambirai	Middle Ramu	Gosingi		10th	Oct. 2005			Farmer	

(3)モロベ州

No.	No. in Pro.	Name of Model Farmer	District	LLG	Village	Batch of OISCA Training	Training Year	Contact farmers under MF	Farmers under Contact Farmer	Occupation	Remarks
140	1	David Alois			Morobe South	2nd	Oct. 2001				
141	2	Semane Bago	Huon		Dona	2nd	Oct. 2001				
142	3	Norman Kawale			4 Mile Lae City	2nd	Oct. 2001				
143	4	Misin Nira			Waima	2nd	Oct. 2001				
144	5	Ranie Memering			Lae City	2nd	Oct. 2001				
145	6	Logen Taugin	Finschafen			2nd	Oct. 2001				
146	7	Nick Kising	Lae	Lae	Pohoam	4th	Oct. 2002			Farmer	
147	8	Lydon Ragusa	Huon	Wawin	Wawin Stn	4th	Oct. 2002			Farmer	
148	9	Bakel Sisawa	Finschafen	Hube	Finschafen	4th	Oct. 2002			Farmer	
149	10	Lawrence James	Markham	Mutzing	Ragiampun	5th	Jun. 2003			Farmer	
150	11	Anzi Marinuc	Finschafen			5th	Jun. 2003			Farmer	
151	12	Berry Yema	Huon			5th	Jun. 2003			Farmer	
152	13	Joseph Taukoka	Lae	Ward 4	4 Mile Settlement	5th	Jun. 2003			Farmer	
153	14	Kepa Semu	Huon	Lae		5th	Jun. 2003			Farmer	
154	15	Jerry C. Jawa	Markham			8th	Oct. 2004			Farmer	
155	16	Leah Kalak	Nawaeb			8th	Oct. 2004			Farmer	
156	17	Yaeng Kahu	Nawaeb			8th	Oct. 2004			Farmer	

(4)その他の州

No.	No.	Name of Model Farmer	District	LLG	Village	Batch of OISCA Training	Training Year	Contact farmers under MF	Farmers under Contact Farmer	Occupation	Remarks
157	157	John Walando	Nuku	Nuku		1st	Sep. 2001			Officer	
158	158	John Abraham	Nuku	Nuku		1st	Sep. 2001			Farmer	
159	159	Francis Sembekubo	Nuku	Nuku		1st	Sep. 2001			Farmer	
160	160	Tatsi	Nuku	Nuku		1st	Sep. 2001			Farmer	
161	161	Pascal Yetin	Nuku	Nuku		1st	Sep. 2001			Farmer	
162	162	Steven Mandaro	Nuku			3rd	Aug. 2002			Farmer	
163	163	Jacob K. Wani	Nuku	Wambiunamblo	Wambiunamblo	3rd	Aug. 2002			Farmer	
164	164	Joe Salem Wukak	Nuku			4th	Oct. 2002			Farmer	
165	165	Peter Wulne	Nuku		Mai	4th	Oct. 2002			Farmer	
166	166	Carl Mauresofo	Nuku			5th	Jun. 2003			Farmer	
167	167	James Loi	Nuku			5th	Jun. 2003			Farmer	
168	168	Paul Kawa	Nuku			5th	Jun. 2003			Farmer	
169	169	Mark Mom	Vanimo		Puare	6th	Aug. 2003			Farmer	
170	170	Marcus Kulie	Nuku			6th	Aug. 2003			Farmer	
171	171	Bernard Likas	Kavieng			5th	Jun. 2003				
172	172	Johnson Walau	Kavieng			5th	Jun. 2003				
173	173	Patas Pitala	Kavieng			5th	Jun. 2003				
174	174	Joachim Kinakap	Kandrian			1st	Sep. 2001			Farmer	
175	175	Byron Yawegi	Rabaul			1st	Sep. 2001				
176	176	Kukunias Moni	Gelagela			1st	Sep. 2001				
177	177	Joseph Timan	Kokopo			3rd	Aug. 2002			Farmer	
178	178	Roland Maniot	Kokopo			3rd	Aug. 2002			Farmer	
179	179	Waterhouse Siale	Rabaul			3rd	Aug. 2002			Farmer	
180	180	Hens Thomas	Rabaul			3rd	Aug. 2002			Farmer	
181	181	Labet Longbut	Kokopo			3rd	Aug. 2002				
182	182	Bernadette Dirmave	Kokopo			6th	Aug. 2003			Farmer	

183	183	Ereman Pinia	Rabaul			6th	Aug. 2003			Farmer	
184	184	Gerard Lagisa	Rabaul			6th	Aug. 2003			Farmer	Self-sponsored
185	185	August ToDik	Kokopo			7th	July. 2004			Farmer	
186	186	John Rimi Hason	Buka			1st	Sep. 2001				
187	187	Bernard Revin	Buka			4th	Oct. 2002			DPI Officer	
188	188	Paul Surukau	Siwai	Hanong	Ponoi	4th	Oct. 2002			Farmer	
189	189	Felix Chanoan	Manus			1st	Sep. 2001				
190	190	Gibson Norling	Manus			1st	Sep. 2001				
191	191	Siski Kaspou	Manus		Lowa	4th	Oct. 2002				
192	192	Fidelis Menei	Manus		Kawaliap	4th	Oct. 2002				
193	193	Raphael Kahu	Manus			7th	July. 2004			Farmer	
194	194	Rose Pokaran	Manus			7th	July. 2004			Farmer	
195	195	Sukuna Guise	Kupiano		Kupiano	2nd	Oct. 2001			Farmer	
196	196	Jacob Oita	Abau		Abau	2nd	Oct. 2001			Farmer	
197	197	Charlton Haeae	Rigo			2nd	Oct. 2001			Farmer	
198	198	Roland Solien	Hiri			2nd	Oct. 2001			Farmer	
199	199	Dimo Overe	Kupiano			2nd	Oct. 2001			Farmer	
200	200	Gebo Pole	Rigo Inland		Kalo	6th	Aug. 2003			Farmer	
201	201	Raka Vele	Rigo		Kalo	6th	Aug. 2003			Farmer	
202	202	Michael Poiapua	Goilala			6th	Aug. 2003			Farmer	
203	203	Patricia Oa	Kairuku			6th	Aug. 2003			Farmer	
204	204	Peter Ani	Kairuku		Apanaipi	7th	July. 2004			Farmer	
205	205	Vavine Kila	Rigo		Galoma	7th	July. 2004			Farmer	
206	206	Raymond Barevo	Sohe			4th	Oct. 2002			Farmer	
207	207	Beven Erari	Popondetta			7th	July. 2004			Farmer	
208	208	Praut Erari	Popondetta			7th	July. 2004			Farmer	
209	209	Seapo Farapo	Malalaua			6th	Aug. 2003			Farmer	
210	210	Richard Lavau	Malalaua			6th	Aug. 2003			Farmer	
211	211	Felix Hoyap	Ningerum			5th	Jun. 2003			Farmer	
212	212	Bolena Pikoli	Alotau	Bubuleta		6th	Aug. 2003			Farmer	
213	213	Pius Beka Koku	Goroka			5th	Jun. 2003			Farmer	
214	214	Gesi Ipaie	Goroka			5th	Jun. 2003			Farmer	
215	215	Joseph Arapuso	Goroka			5th	Jun. 2003			Farmer	
216	216	Reuben Kele	Ungai Bena			6th	Aug. 2003			Farmer	
217	217	Christopher Tio	Ungai Bena			6th	Aug. 2003			Farmer	

付属資料 10 モニターされたモデル農家数(2006年7月現在)

郡の名称	人口(人)	世帯(戸)	農業従事世帯 ¹⁾	自給農家 ²⁾	モデル農家 ³⁾ 2001～2003年	モデル農家 ³⁾ 2004～2005年	モニターされたモデル 農家数 ⁴⁾
マダン州							
Middle Ramu	57,879	9,337	97.5%	77.7%	3	4	0
Bogia	57,104	9,681	95.6%	70.2%	5	7	5
Sumkar	67,052	11,358	93.9%	73.6%	3	4	3
Madang	86,693	13,609	72.6%	38.8%	7	10	10
Usino Bundi	40,079	7,218	82.1%	63.8%	2	6	2
Raicoast	56,299	9,506	95.0%	62.7%	3	5	0
不明					1		
合計	365,106	60,709		38,256 戸	24	36	20
東セピック州							
Ambunti/ Dreikikir	55,397	11,536	90.9%	73.8%	1	5	1
Maprik	57,806	12,096	97.7%	73.6%	5	8	5
Wosera/ Gawi	49,408	10,089	95.4%	69.6%	2	4	0
Yangoru/ Saussia	47,809	9,366	96.5%	69.7%	1	2	1
Angoram	68,796	11,139	90.3%	58.2%	5	8	7
Wewak	63,965	11,007	77.4%	51.1%	3	7	1
合計	343,181	65,233		43,074 戸	17	34	15
総計				81,330 戸	41	70	35

出典: Census in 2000, Monitoring reports by the project PSRP

- 備考: 1) 2000年センサスに言う“(Households) Engaged in any form of agricultural activity”を指す
 2) 同じく“(Households) Engaged in growing foodcrops for own use”を指す
 3) 本プロジェクト(2004年～2005年)及び先行事業(2001年～2003年)によりOISCAで訓練を受けた農家
 4) モニタリング報告様式 8 による(マダン州は 2006 年上半期報告、東セピック州は 2005 年下半期報告)

付属資料 11 プロジェクト対象郡へのアクセス状況(州都～郡行政府所在地)

郡の名称	車輛	交通機関	道路	ボート	通信手段	その他通信手段
マダング州						
Middle Ramu	Only to Ushino Bundi or Bogia	30min by air	(1) 2 hrs drive to Usino Bundi by Vehicle & 6hrs by boat from Usino Bundi to Station (2) 4 hrs drive to Bogia by Vehicle & 6hrs by boat from Bogia to Station		No Telephone	2 way radio/ Health radio /Letter
Bogia	3hrs	4hrs by bus	Paved	=====	Telephone	2 way radio/ Health radio /Letter
Sumkar	Only to Sumgirbar	1hr	1 hr drive on paved road to Sumgirbar & 45 min by boat from Sumgirbar to Station		Telephone	2 way radio/ Health radio /Letter
Madang	Vicinity	Available	Paved	No use	Telephone, FAX	=====
Usino Bundi	2hrs	2-3hrs by bus	Paved/unpaved	=====	Telephone	2 way radio/ Health radio /Letter
Raicoast	No	40 min by air	No	6-7 hrs from Capital	Telephone	2 way radio/ Health radio /Letter
東セピック州						
Ambunti	Only to Gawi	Available	5hrs to Gawi by Vehicle & 1hr by boat from Gawi to Station		Telephone, FAX	Central Sepik FM & Radio Wewak
Dreikikir	5 hours	Available	Paved	No use	Police & Health Radio System	Central Sepik FM & Radio Wewak
Maprik	3 hours	Available	Paved	No use	Telephone, FAX	Central Sepik FM & Radio Wewak
Wosera	3 hours	Available	Paved	No use	Police & Health Radio System	Central Sepik FM & Radio Wewak
Gawi	5 hours	Available	Paved	No use	Police & Health Radio System	Central Sepik FM & Radio Wewak
Yangoru	1 ½ hour	Available	Paved	No use	Police & Health Radio System	Central Sepik FM & Radio Wewak
Saussia	1 hour	Available	Paved	No use	Police & Health Radio System	Central Sepik FM & Radio Wewak
Angoram	3 hours	Available	Paved	No use	Police & Health Radio System	Central Sepik FM & Radio Wewak
Wewak	Vicinity	Available	Paved	No use	Telephone, FAX	Central Sepik FM & Radio Wewak

出典: PSRP Mid-Term Evaluation Study, July 2006

付属資料 12 質問書に対する農業畜産省の回答

Project Implementation Process

Any difficulties in technical transfer:

1. *Could the counterparts be well engaged in activities and/or project management?*

NDAL:

The engagement of Counterparts for the project and their Term of Reference (TOR) was formalized under the original R/D in November 2003. Under this arrangement, a total of 12 counterparts (6 National & 6 Provincial) were to be engaged to implement the project. However, the engagement of the counterparts did not proceed smoothly as planned due to a number of events occurred that affected the implementation of the original TOR. These events were:

- 1) Difficulties in relocation National counterparts to their target provinces due to lack of housing and they were based and operated out of Port Moresby.
- 2) Two national counterparts could not be engaged due to lack of housing and performance problems.
- 3) Lack of staff to replace the two counterparts indicated in 2) and existing National Counterparts have to be reshuffle to fill in the vacant positions.
- 4) Project activities in Morobe Province were scaled down due to conflicting extension approaches.
- 5) Despite the absence of National Counterparts at the target provinces, implementation of project activities was successful due to improvement of capacity of provincial and district counterparts that resulted from acquisition of suitable skills and knowledge, better communication, better understanding of the project concept and development of positive attitude.
- 6) The project recognized the need to engaged another national counterpart in rice machinery.

The above-mentioned situation warranted a change in the original TOR to allow for the smooth implementation of the project. In February 2006, the Joint Coordination Committee (JCC) rescinded the original TOR of the National Counterparts for this purpose and a new TOR was formulated. The National Counterparts were given new designations and specific duty instructions under the new TOR. The new TOR and job demarcation for the National counterparts is shown in Attachment 1 & 2.

Under the new TOR, the National Counterparts will have the following designations: NPC=National Project Coordinator (Mr. Verave Gavali); NCP1=National Counterpart 1 (Mr. Stephen Heai Hoko) (In charge of East Sepik Province); NCP2=National Counterpart 2 (Mrs. Miriam John) (In charge of Madang Province); and NCP3=National Counterpart 3 (Mr. Patrick Oa) (In charge of rice machinery). All National Counterparts will now be based and operated out of the Project Secretariat office in Port Moresby.

Generally, the NFC will oversee the overall coordination of the implementation of project activities set out in the Annual plan of Operation (APO). The NCP1, NCP2 and NCP3 will be responsible for providing technical, logistical, planning, monitoring & evaluation and communication support to the implementation of the project activities to the target provinces as per the Annual Plan of Operation. The new TOR was forwarded to JCC members in March 2006 for their endorsement.

Despite the set back afore-mentioned, the national, provincial and district counterparts have adapted well and have performed their duties well as a result of acquisition of suitable skills and knowledge, better communication, better understanding of the project concept and development of positive attitude towards work. All of these were the result of the counterpart arrangement and concept promoted by JICA technical cooperation programs. The National Department of Agriculture & Livestock (NDAL) fully supports the project approach of being flexible in addressing problems to adapt to changing situation to allow for smooth implementation of the project. The NDAL is confident and satisfied with the project counterpart arrangement and the new arrangement and TOR for the national counterparts, which will no doubt contribute to the improvement of the capacity of the counterparts and successful implementation of the project.

Project management system:

2. *Any problems in communication among the project operation units (JICA experts, counterparts, DAL/DPI/District Governments)*

NDAL:

The Project has recognized the importance of proper and effective communication within the Project and between the Project and the stakeholders. Communication within the project operational units is very good with clear communication channels and mode of communication. However, communication between the provincial and district counterparts and model farmers has been observed to be weak especially in Madang Province. Poor communication also exist between the Project and the top management {i.e. Secretary & Deputy Secretaries level} of NDAL and Department of National Planning & Monitoring (DNPM) and other stakeholders working with local rice development such as NARI, Trukai, ROC Taiwan, PRC China etc. Poor communication often resulted in inadequate understanding of the project concept and objectives by the stakeholders, duplication of activities and poor implementation and management of the project. To address this problem, the project has embarked to improve communication through meetings. Currently, the project only has one meeting- the Joint Coordination Committee (JCC), which was formalized in the R/D mentioned earlier. The project is considering establishing a number of new meetings besides JCC to improve communication. The specific purpose of these meetings would be:

- To review the overall progress of the project
- To organize, plan and prepare annual plan of operation
- To organize and coordinate overall support to the implementation of the project
- To deliberate and address outstanding issues
- To understand the effectiveness and outputs of the project
- To understand different activities and issues regarding rice and agricultural sector development

The new meetings to be established besides JCC are:

- Monthly brief meeting with NDAL Secretary
- Management Workshop
- Monitoring & Review Workshop with the target Provinces
- Quarterly Review Meeting with Department of National Planning & Monitoring (DNPM)
- Weekly Meeting by the Project Secretariat

The proposed meetings have been forwarded to JCC members for their perusal and endorsement on March 2006. The details are outlined in Attachment 3.

Involvement of government institutions concerned:

3. *How deep has the interest been paid to the project by government institutions concerned (DNPRD, provincial and district governments)?*

NDAL:

These organizations have regularly indicated their interest in the Project during meetings. However, their interest have been inconsistent and not been really translated into tangible support of the project in terms of resource support particularly financial support. This was evident in the target provinces failure to provide housing for the National Counterparts and counterpart budget support to the project. The DNPM (formerly DNPRD) also fail to facilitate budget support for the Project, which was their principal mandate as a central government agency. This was evident in 2005, when the Domestic Rice Production & Development Public Investment Program of NDAL was not appropriated any budget at all for the national rice program and for counterpart funding for the DAL-JICA PSRPP.

4. *How deep has the interest been paid to the project by stakeholders (Technical Advisory Committee for Rice and Grain, NARI, ROC Agriculture Mission, ADB and Trukai)?*

NDAL:

It is very difficult to indicate the level of interest of these stakeholders to the Project due to poor linkage and interaction between them and the Project caused by poor communication mentioned in (2).

They might show interest and be more actively involved, had the Project establish and maintain linkage with them.

5. *Linkage to NARI is needed in terms of both information acquirement and technology development for upland rice farming?*

NDAL:

There was poor or no linkage at all with NARI due to reasons mentioned in (2) and (4).

6. *Merits of coordinating donors and NGOs involved in assisting smallholder rice production in Papua New Guinea*

NDAL:

As mentioned above, there are number of national and international agencies (private & public bodies & NGOs) involved in the promotion and development of domestic rice in PNG. Some of these key stakeholders besides JICA are ROC Taiwan, PRC China, FAO, Trukai, OISCA etc. However, these organizations work in isolation of each other due to lack of an effective central body to coordinate their activities and poor communication between the organizations. As a result, there is duplication and less impact of the domestic rice promotion and development in this country.

Although, there was a committee called Technical Advisory Committee (TAC) on rice and grain research and development formed in 1994, to act as a coordinating body for domestic rice development. TAC comprised of representatives from NDAL, NARI, Trukai, ROC Taiwan, JICA, University of Technology (Unitech), DNPM, Chamber of Commerce and Rice Growers. However, TAC failed to make positive impact on rice development due to lack of common approach to domestic rice development by the stakeholders.

Rice farming technology:

7. *For improving upland rice farming, some technical issues or problems^{*)} should probably be studied or resolved by the project. How these issues or problems have, or have not, been handled so far in course to implement the project? (*For example, such issues or problems may include: Inappropriate cultivation period, causes of mosaic ripening, needs to study varieties cultivated, cultivation density, needs to introduce leguminous crop or green manure crop, harvest timing, self seed production, transplanting and direct seeding)*

NDAL:

The direction of rice farming promoted by the Project is to incorporate rice into the local farming system promoting small scale smallholder low input upland rice farming system, which should be environmentally friendly and should generate a firm and stable harvest. Up until the present, the project has been focusing or spending more time and resources on implementing non-rice production technical issues such as (Training, Field Consultation, Improve and distribution of instruction materials, Farmer to Farmer extension activities, Support extension activities of Model farmers, Monitoring of MF activities and Establish and maintain support services in milling and seeds as per the PDM) compared to production technical issues such as Land preparation, planting, harvesting, processing, pest & disease control etc. However, the Project is taking this appropriate approach to enhance the capacity of farmers and officers to address rice production technical issues. The Project has addressed the rice production technical issues indirectly through training of farmers and officers and the engagement of Short Term Experts (STE) and Third Country Experts (TCE). The Project since 2003 has contracted OISCA Echo-Tech Center in Rabaul to train officers, teachers and farmers on basic rice cultivation. The training is 70% practical and 30% theory covering courses like seed selection, soaking & incubation; land preparation; organic fertilizer making; direct planting; variety selection; fertilizer application and weed control; organic insecticide making; terrain rice farming; mulching and manual milling. A TCE from Indonesia was engaged several times since 2003 and he has conducted training on simple cultivation and processing tools, upland rice cultivation, integrated pest control and seed production for farmers in the target provinces. The seeds for the Project are source mainly from RUC Taiwan, who on average produced about 30 tons of seeds per year. In fact, ROC produced about 33.5 tons in 2004 and 15.6 tons in 2005 (January to September). The seeds are handed over to NDAL to be distributed to farmers. However, the Project is planning to encourage

farmers to grow different varieties to produce their own seeds. Since this is a highly technical activity, the project should explore ways of how to enhance the capacity of farmers to produce their own seeds of good quality.

As rice production increases, there will be also an increase in the demand for the project to address rice production technical issues. At the moment there is no Long Term Expert (LTE) specialize in rice agronomy. The project should consider engaging one to provide technical assistance to address rice production technical issues mentioned above. Technical assistance for some of these technical issues such as seed production, varietal selection, pests and diseases can be provided by organizations like NARI, ROC Taiwan etc. However, the project needs to link with them to find out if they can be able to assist.

Others:

8. *Are any other problems being caused that may give hindrance to undertake the project?*

NDAL:

The main problems are communication & linkage with other stakeholders, which have been discussed above.

Relevance of the Project

Promotion of smallholder rice production can meet the state policies in Papua New Guinea?

9. *Government's action plans for securing staple foods in state and provincial level*

NDAL:

The National Government approach and strategy in securing staple food in the country is based mainly on the PNG National Food Security Policy 2004-2010. The overall goal of the National Food Security Policy 2000-2010 is to ensure that ail people of PNG at ail times have access to safe and nutritious food in adequate quality and quantity to maintain and healthy and active life. The policy recognized the importance of addressing issues such as food production and accessibility; nutritional quality; marketing; downstream processing & utilization; institutional linkages and collaboration; sustainable use of natural resources and gender equality and participation in food security programs.

The Policy proposed interventions in 14 areas (sub-programs) to achieve the ultimate goal of food security mentioned above. These areas are promotion and development of traditional staple crops such as tuber root crops and sago; promotion and development of rice and grain; irrigation and water management control; horticultural fruit trees development; integrated vegetable development at high altitudes; urban and peri-urban gardening; downstream processing and utilization of food; agroforestry; livestock production; information & publication; extension support; rehabilitation of training centers; and farm machinery and equipment The Policy however, fall short of providing details of specific activities to be undertaken, budget, target outputs and implementation schedule and strategy at provincial and district Levels for the implementation of the 14 sub-programs to achieve food security.

10. *Role of smallholders in rice production*

NDAL:

The current local rice production is dominated by smallholder rice farmers. It is estimated smallholder rice production accounted for 80-90% of domestic rice production in this country. The government recognized the importance of smallholder rice production in the development of domestic rice industry in the country. Hence, smallholder rice production is one of the three areas (besides institutional & commercial rice production) promoted by the PNG Rice Development Policy 2004-2014 as a key area or flat form for driving the promotion and development of domestic rice at institutional and commercial levels.

11. *How the "Domestic Rice Development Policy 2004–2014" has been undertaken?*

NDAL:

The Rice policy proposed to revitalize the TAC to oversee and coordinate the implementation of the rice policy. The TAC will be comprised of representatives of NDAL, DNPM, Department of Education, Correctional Institutional Services (CIS), NARI, Unitech, Trukai, JICA, ROC Taiwan and Province. The policy also proposed the establishment of implementation teams or units at national, provincial and district levels. Although, NDAL Food Security Branch (FSB) will be the main implementer of the policy in collaboration with other stakeholders indicated in the policy, the policy does not provide details on the organization structure within FSB linking to provincial and district implementation units to other stakeholders that will be involve in the implementation of the policy. Hence, the implementation strategy of the rice policy is not clear due to lack of an organization structure.

12. Positioning/role of the project in the “Domestic Rice Development Policy 2004–2014”

NDAL:

The role of the Project in the promotion of smallholder rice production is clearly in line with the PNG Rice Development Policy 2004-2014 of promoting smallholder subsistence rice production as one of the three areas of rice promotion. The Policy also recognized the role of JICA as an important partner in the promotion of domestic rice development in this country.

13. How the project can meet the policy?

NDAL:

The Project must address the important needs of the smallholder farmers to make an impact. Some of these are access to sufficient and good quality seeds; access to suitable rice cultivation and processing technologies; training; information; technical support and other necessary support services. The Project currently has the best plan and strategy to address these needs but it requires continuous support and commitment of national and provincial government to assist to implement the project activities to achieve the objectives outline in the policy.

14. The promotion of rice production can meet needs of smallholders?

NDAL:

NDAL is confident that the project will make an impact to meet the needs of smallholder rice farmers as it has a clear well define plan and strategy. However, as mentioned earlier, counterpart commitment and support from the national and provincial government is critical for the project to achieve its objectives.

Others:

15. Major changes in policies and macroeconomics in Papua New Guinea since 2004, which may have affected implementation of the project

NDAL:

There is no change in National Food Security Policy 2000-2010 and the PNG Rice Development Policy 2004-2014. The main policy initiative that was launched by the government in 2005 was the Medium Term Development Strategy 2005-2010. The MTDS 2005-2010 is an overarching development strategy that focuses on export-driven economic growth, rural development and poverty reduction, good governance and the promotion of agriculture, forestry, fisheries and tourism on sustainable basis. The priorities for this policy are:

- Rehabilitation and maintenance of transport infrastructure;
- Promotion of income earning opportunities;
- Basic education;
- Development-oriented informal adult education;
- Primary health care;
- HIV AIDS prevention, and
- Law and justice.

However, this policy lacks details on individual sectors or organization specific activities, budget, target outputs and implementation schedule & strategy that are required to implement the priorities afore-mentioned.

Prior to 1999, rice imports into PRIG were subjected to 11 % tariff rate. However, this tariff was completely eliminated in 1999 and there are now no tariffs on rice imports. Hence, the government policy on rice trade remained unchanged, which means rice trade in PNG is open and unprotected and the country will continue to import rice to meet its domestic consumption.

Effectiveness of the Project

PDM vertical logics, verifiable indicators, assumptions:

16. Basic conditions to enable and sustain subsistence rice farming by smallholders in the project target provinces

NDAL:

The PNG Rice Development Policy 2004-2014 has taken over the rice and grain program outlined in the National Food Security Policy 2000-2014. The PNG Rice Development Policy 2004-2014 is promoting smallholder subsistence rice production, which fits very well with the approach taken by the PSRPP Project. The budget support provided by the National Government and Provincial authorities to the Project remains a big constraint to the Project. Budget support to the Project comes from the national government budget allocation to NDAL to FSB Domestic Rice Development & Production (D.RDP) Public Investment Program (PIP). In 2004, there was no budget problem but in 2005, the DRPD PIP received no budget from the national government and we had no funds to support the project. Through JICA intervention, DNPM gave us K150,000 to support the Project.

This year, the DRPD PIP received K1.0 million from the national government and K369,000 of that, is budgeted for counterpart funding for the Project (Attachment 4). The lack of commitment from the target provinces to support the project is also a big concern. Market price of rice is constantly monitored by Independent Consumer & Competition Commission (ICCC) to ensure that rice is sold at appropriate price. ICCC has done a review of rice price in 2005.

17. Kinds of typical diseases of rice in PNG and tolerance of major varieties

NDAL:

There is no record of major incidence of rice disease in PNG. Hence, the threat from diseases is still small. The number of varieties used in PNG such as TCS-10 (ROC Taiwan); Golden Mountain (PRC China); NARI varieties (NR 01, NR 15 & NR 16) and local varieties such as Finsch have so far been cultivated with out any disease problems. Some of these varieties have been bred to resist and tolerate specific pests and diseases.

18. Records on BPH emergence in the project target provinces

NDAL:

Incidence of BPH has been reported in some areas and observed to attack TCS-10 variety. However damages appeared to be insignificant and there was no major outbreak.

19. Records on El Nino or unusual weather (drought) in PNG

NDAL:

The El Nino drought effect is created by the El Nino Southern Oscillation (ENSO) that involves changes in the sea surface temperature and the major air circulation over the Pacific and Indian oceans. These changes affect rainfall and causes drought. The ENSO activity re-occurs every 10 years. The last El Nino that hit PNG was in 1997-98 causing moderate to severe drought in much of PNG affecting food production in rural areas. The 1997 El Nino was more severe than others recorded over the past 70 years in PNG including those in 1987, 1982, 1972, 1965, 1942, 1941 & 1931. The El Nino has an average return period of about 10 years.

Impacts of the Project

Probability to achieve the overall goal:

20. *The present model farmer approach will be accepted by other provinces?*

NDAL:

It is very difficult to predict the acceptance of MF approach in other Provinces. Experience so far gained from East Sepik and Madang Provinces suggest that for MF approach to work successfully, it needs a sustainable supporting system to support the MF and to provide incentives for them to operate.

21. *If not, what are reasons?*

NDAL:

MF approach will not work successfully unless there is a supporting system in place to support MF. MF needs financial support to operate and support their families.

22. *Any unfavorable factors that may obstruct generation of the overall goal*

NDAL:

Poor budget support from the national government and provincial administration and lack of suitable manpower would be the two main negative factors that will impede the realization of the overall goal.

23. *The present model farmer approach can attract interest from other provinces?*

NDAL:

It can but the interest would diminish if there is no sustainable support system in place to support the MF performing their activities.

24. *To be so, what are main conditions?*

NDAL:

The establishment of a sustainable supporting system for MF that will address financial support, rewards, incentives etc, which would provide the motivation for MF to continue to have interest in performing their activities

25. *Will the food security policy and the domestic rice development policy be kept prioritized in the future, too?*

NDAL:

These policies will continue to be the priority policies for NDAL due to their importance on food security, which is going to become a major concern with increase population

26. *Is there any possibility that the semi-commercialize rice production is rapidly and broadly developed in PNG?*

NDAL:

The PNG Rice Development Policy 2004-2014 also promotes commercial rice production for farmers in situations where it is economically viable. Currently, there are number of commercial rice production in PNG but it is still practiced on small scale compared to smallholder rice production. There is huge potential for commercial rice farming due to the high demand of consumption in the country. However, in order for commercial local rice production to flourish, consumer awareness must be promoted and appropriate marketing infrastructure has to be established.

Effects of the project:

27. *Opinions on whether the project can affect the governments in making of policy and direction of administration for domestic rice farming and an extent of such affects*

NDAL:

The approach taken by the Project to promote the development of smallholder rice production has not been attempted before by NDAL and other organizations in promoting development of domestic rice. The success and lessons generated by the Project will provide a very useful input in determining the policies and direction of domestic rice development in this country.

28. *Opinions on whether the project can affect commercialized rice distribution (for an example one by Trukai) in Papua New Guinea and an extent of such affects*

NDAL:

The Project in achieving its goals will result in increase in local rice production, which might compete against imported rice sold by Trukai. It is already happening in Morobe and Madang Provinces, where farmers are consuming or trading their own locally produce rice amongst themselves.

29. *Opinions on whether the project can contribute to improve the livelihood of smallholders*

NDAL:

Farmers who have the capacity to produce their own rice will be self sufficient in rice production which would help them save money from buying imported rice. On the other hand if they have surplus production, they can sell it to generate cash income. All this will contribute to the improvement of their livelihood.

30. *Opinions on whether the project can affect the national economy through increased production of rice and an extent of such affects*

NDAL:

Increase in locally produce rice brought about by the Project will correspondingly reduce the volume of rice imports and will also compete against rice imports resulting in the lowering of price of rice.

Sustainability of the Project

31. *Will efforts by DAL and provincial DPI for assisting the smallholders' rice farming be continued after the project?*

NDAL:

NDAL has to absorb the Project into its national rice programs, which will be funded under the Domestic Rice Production & Development PIP. However, NDAL and Provincial DPIs have to organize themselves and adopt the similar implementation strategy used by the Project to sustain the Project. NDAL has to play a leading role by establishing a unit within FSB to coordinate and implement national rice programs.

32. *What would be main conditions so that such efforts can be kept by them?*

NDAL:

The main conditions to sustain the Project are the consistent sufficient budget support from the national and provincial governments and sufficient manpower at national and provincial levels to sustain the Project.

33. *Which kind of technical information will be further needed for effective extension services for upland rice farming?*

NDAL:

Rice cultivation from land preparation to processing for new farmers and rice milling operation, maintenance and management

34. *Which institutions in Papua New Guinea will be main sources of such information in post project stage?*

NDAL:
NDAL and NARI

35. Opinions on such institution's capabilities to deliver necessary information and advice

NDAL:
Both have the capacity to develop and produce information materials. However, there (may exist) instances of insufficient funding that will affect their capacity to deliver.

Achievement

36. What are/will be main conditions that may negatively effect achievement of the project purpose? If smooth achievement is seen difficult, what are reasons?

NDAL:
Poor budget support from the national and provincial governments

Project Design

37. Needs for development of feasible and sustainable extension services or support system for farmers

NDAL:
There is an urgent need to establish sustainable supporting system for the Model Farmers or explore other appropriate extension system that the Project can utilize to implement its activities.

38. Needs for further technical development for upland rice production

NDAL:
Promotion of low input production system and introduction of appropriate varieties with high yields, adaptable to local soils and climatic conditions, good eating qualities and resistance to pest and diseases.

39. Project target districts for the project operation in Madang and East Sepik Province

NDAL:
The model district approach should be use and expanded to other districts based on their needs and interest to grow rice and commitment to support the Project.

付属資料 13 質問書に対する州農業畜産部の回答

Project Implementation Process

Any difficulties in technical transfer:

1. *Could the counterparts be well engaged in activities and/or project management?*

Madang Province DAL:

Yes, counterparts were well engaged in the activities and project management, in the sense that rice project has been the food crops activities that are being seriously being encouraged by the Provincial DAL. We could have managed better with more consultation with the Program Managers in the district. How to manage the rice activities in the districts has we need to improve the communication or understanding in the districts.

East Sepik Province DAL:

Yes, only when appropriate skills and knowledge are transferred. Most of the selected district and LLG counterparts have attended OISCA rice training and have acquired sufficient knowledge. However, the constraints are at the three levels of government, who are not fully supporting the rice project.

Project management system:

2. *Any problems in communication among the project operation units (JICA experts, counterparts, NDAL/PDAL/District Governments)*

Madang Province DAL:

Between DAL-JICA and provinces communication is very good. Between province and districts have been a problem and will require more consultation to improve.

East Sepik Province DAL:

At the National, Provincial and the model district (Maprik) there is 24 hours power supply with available phone and facsimile. The other five districts do not have 24 hour power supply, therefore, communication is sometimes hard. Our means of communications is through our two provincial radio stations, VHF radio and by mail, which takes time to travel. At times misunderstanding occurs with JICA experts language problem. District Governments are yet to fully understand their roles in the rice project.

Project sites:

3. *In which districts in Madang and East Sepik Province the project has been operated so far?*

Madang Province DAL:

For Madang general extension on rice is done in all 6 districts. For the improvement in extension system concentration is done in two target districts; Madang and Sumkar districts. For Sumkar District, we are concentrating in Sumgilbar LLG. This will be extended to other districts as and where necessary.

East Sepik Province DAL:

In East Sepik Province, Maprik district is the model district for the other five districts to copy and follow, however, the five districts are actively participating very well as indicated in their reports.

4. *How and why the above districts were selected?*

Madang Province DAL:

Accessibility and more rice farmers were seen to be planting rice.

East Sepik Province DAL:

Maprik district was selected, as it has a historical background going back to the 1950's. A three phase rice mill was installed in Bainyik (Pioneer DAL station) by National DAL to mill paddy rice from subsistence farmers. During that period funding was made available by the National Government under the Rural Cash Crop Purchase Project. The National Government stopped funding, creating a

problem to transport paddy rice to the mill site. Therefore only Maprik district and several hardcore subsistence farmers from surrounding districts have been and are continuously producing paddy rice.

5. *Why five districts in ESP other than Maprik have not interest in the model farmer approach?*

Madang Province DAL:
Not applicable

East Sepik Province DAL:
The Model Farmer approach is not only confined to Maprik district, the other five districts are also actively participating in the Model Farmer approach. OISCA trained Model Farmers in each district are; Maprik district (17), Arnbunti/Drekikir district (9), Wosera/Gawi district (7), Yanguru/Sausso district (4), Angoram district (11), and Wewak district (18).

6. *Any information on demands to develop smallholder rice production in these five district*

Madang Province DAL:
Not applicable

East Sepik Province DAL:
Yes, since 2001, when pre-study period of the PSRPP came to being and up to May 2006, Provincial Review. All five districts made very good progress as indicated in their brief summary report. The demand for seed rice by subsistence farmers in the other five districts put together are very demanding. That alone indicates clearly that interest in growing rice in the other five districts is very demanding.

7. *Possibility to operate the project in stepwise basis for all six districts in Madang Province*

Madang Province DAL:
It is possible to operate step by step. Madang and Sumkar district have started implementation of the FTFEA. If implementation in these 2 districts turns out to be successful, then we can move to another 2 districts. 2 last districts can then be targeted for achievement of purpose. Other districts are also interested but they have to find funds to support Model Farmer Activities to implement the extension system that is being applied in Madang and Sumkar district.

East Sepik Province DAL:
Not applicable

Rice farming technology:

8. *For improving upland rice farming, some technical issues or problems^{*)} should probably be studied or resolved by the project. How these issues or problems have, or have not, been handled so far in course to implement the project? (*For example, such issues or problems may include: Inappropriate cultivation period, causes of mosaic ripening, needs to study varieties cultivated, cultivation density, needs to introduce leguminous crop or green manure crop, harvest timing, self seed production, transplanting and direct seeding)*

Madang Province DAL:
To improve upland rice farming technical issues like self seed production, storage to keep seeds viable, milling service and unit area of production need to be improved so that production can be increased and interest of farmers can be sustained to produce more rice.

East Sepik Province DAL:
The main problems identified are;
1) Identifying a variety that is non - shattering, tall, high yielding with good taste preference (Currently Finch variety is suitable by farmers)
2) Fitting rice culture into the traditional practice
3) Abnormal weather pattern

Others:

9. *Are any other problems being caused that may give hindrance to undertake the project?*

Madang Province DAL:

The reform system of the government is causing difficulties in communication between the province and districts. Needs more consultation and closer collaboration to improve understanding to move forward in rice production

East Sepik Province DAL:

Major areas identified in the province are;

- (1) Counterpart funding support,
- (2) Support from local governments,
- (3) Soil management - crop rotation, composting (Bokasi),
- (4) Very high seed demand by contact and interest farmers, who have visited the model farmers throughout the province,
- (5) Insufficient milling facilities at the LLG areas,
- (6) and training of mill operators.

Relevance of the Project

Promotion of smallholder rice production can meet the state policies in Papua New Guinea?

10. *Government's action plans for securing staple foods in state and provincial level*

Madang Province DAL:

The only policy that addresses this question is the Food Security Policy where food production should be promoted to address the need for more food. Rice fits in with this policy and can be stored. No specific policy is in place for the root crops.

East Sepik Province DAL:

The only plans are the National Food Security Policy launched in 1998 by the National Government. The province does not have any policy in place.

11. *Consumption of rice (statistics or any available information)*

Madang Province DAL:

Rice imports in to Madang are around 20,000 tonnes per year. Current locally produced rice is 20 tonnes from 2005 figures.

East Sepik Province DAL:

Brief data collected from interview with the Trukai Depot Manager in Wewak on May 2005 are; (1) 2002 - 2003 year imports at 500,000 kilograms per week, (2) 2004 year at 250,000 kilograms per week, (3) 2005 year at 200,000 kilograms per week. In 2005, district milling records show that 40 tonnes of white rice was produced. There are reports of paddy rice in isolated areas being stored waiting to be milled. A village in Angoram district (Pinang) was reported to have milled 40 tonnes of brown rice through manual mills during the time of visit.

12. *Distribution of commercialized rice (ditto)*

Madang Province DAL:

No distribution records within districts and per district.

East Sepik Province DAL:

Trukai rice is the sole distributor of white rice received from Australia. The company has a warehouse that receives imported rice, stores and supplies rice upon payment to wholesalers and retailers.

13. Dependency on imported rice (ditto)

Madang Province DAL:

Yes, too much dependency on imported rice rather than self production.

East Sepik Province DAL:

Approximately 90 - 95% depends on imported rice. Currently that is happening because the three levels of government are not supporting the project.

14. Role of smallholders in rice production

Madang Province DAL:

Role of smallholders in the rice production is to reduce the rice imports and also family sustenance in food need.

East Sepik Province DAL:

Smallholder production is for home consumption, with surplus sold to nearby families.

15. How the “Domestic Rice Development Policy 2004–2014” has been undertaken?

Madang Province DAL:

Parts of the Rice Policy being implemented is the smallholder sustainable rice farming and institutional rice farming. No sign of commercial farming but small holders are selling for income generation to support family income from cash crops.

East Sepik Province DAL:

This office does not have a copy of the Domestic Rice Development Policy 2004-2014.

16. Positioning/role of the project in the “Domestic Rice Development Policy 2004–2014”

Madang Province DAL:

Project addresses the Domestic Rice production in terms of sustainability rather than too much government support where increased production can be experience in the short term and than having a drastic decline when this government support is not forthcoming.

East Sepik Province DAL:

Same as above

17. The promotion of rice production can meet needs of smallholders?

Madang Province DAL:

Smallholders can produce rice for their needs as being done by few model farmers. Based on family size and PNG culture to share amongst extended families a household should produce enough rice in one cropping to meet their rice needs until new crop of rice is harvested.

East Sepik Province DAL:

In the big picture, yes, the project has a very bright future. During the course of project execution, together, we have fully understood the main player as the Model Farmer. Our efforts now are to support the Model Farmer to diffuse rice technology to contact and interest farmers. They are the front people in rice development.

18. Any information on targeted farmer households: expenses for staple foods and self-consumption of rice

Madang Province DAL:

Farmers using local seeds can produce rice at no cost in the similar way as the production of staple crops.

East Sepik Province DAL:

A survey was funded and conducted into traditional food garden and rice acceptance by smallholders done by a short term expert Mr. Kazuhiro Nozawa. The survey report has some basic information regarding this question.

19. Technical problems and constraints in rice farming by smallholders in the project target provinces

Madang Province DAL:

Seed support and milling services to be addressed to sustain smallholder rice activities

East Sepik Province DAL:

Technical constraints identified are;

- (1) Suitable rice variety for easy management,
- (2) Rice mill operators training,
- (3) Supporting systems to the Model Farmer,
- (4) Seed supply and storage,
- (5) Unpredictable weather pattern confusing local farming calendar,
- (6) District DAL extension visits to Model Farmers to boost morale,
- (7) Pest management especially BHP.

Effectiveness of the Project

PDM vertical logics, verifiable indicators, assumptions:

20. Systematic methods to collect basic data/information on rice production and farmers in the project target provinces

Madang Province DAL:

Various reporting formats devised by the project are assisting in the collection of data. For example, milling records show how much rice is produced by certain farmers.

East Sepik Province DAL:

Several Model Farmers in one district submit their reports on formatted forms to the District Rice Officer. The District Rice Officer then collates data from the Model Farmers to compile the district rice report and presents it to the Provincial Project Coordinator. The Provincial Project Coordinator submits the provincial rice report to NDAL/JICA.

21. Basic conditions to enable and sustain subsistence rice farming by smallholders in the project target provinces

Madang Province DAL:

Farmers must keep seeds for new planting.

East Sepik Province DAL:

Provide Supporting Systems to the Model Farmer to conduct his extension activities through FTFFA. That support needs to come from the provincial local government agent.

22. Kinds of typical diseases of rice in PNG and tolerance of major varieties

Madang Province DAL:

No major diseases of rice in PNG. Local rice is very tolerant to diseases and insect pests.

East Sepik Province DAL:

There is presence of disease in the province but not of economic importance to the rice industry. The introduced rice varieties are vulnerable to disease attack as experienced in TCS-10 and IR varieties. However the local varieties are disease tolerant as experienced in Finch white and Finch brawn.

23. Records on BPH emergence in the project target provinces

Madang Province DAL:
No record so far during this period of the project.

East Sepik Province DAL:
There is presence of BHP in Maprik district. In 2003 there was disastrous damage to 80% of rice gardens reported in Maprik district. The other five districts are also reporting the symptoms of the BHP.

Impacts of the Project

24. Opinions on whether the project can affect commercialized rice distribution (for an example one by Trukai) in Papua New Guinea and an extent of such affects

Madang Province DAL:
Project does not really have any effect on the commercialized rice distribution by Trukai as the level of production is much less than 1%. However efforts can be made reducing imports so that local rice can be promoted.

East Sepik Province DAL:
Yes, there is evidence of decrease in rice imports by Trukai Industries. During 2003 - 2004 year, Trukai Industries imported 250,000 kilograms per week compared to 200,000 kilograms per week in 2005.

25. Opinions on whether the project can contribute to improve the livelihood of smallholders

Madang Province DAL:
Project is already contributing to the livelihood opportunities of smallholders who are growing rice for all their rice needs and sharing with relatives. At least 6 MFs I know plant and consume their own rice until the new rice crop is harvest.

East Sepik Province DAL:
The project has encouraged more farmers, both contact and new interest farmers to actively participate in rice culture. Benefits to the farmers as reported by some have been savings to spent on other obligations.

Sustainability of the Project

26. Will efforts by NDAL and provincial DAL for assisting the smallholders' rice farming be continued after the project?

Madang Province DAL:
Efforts by Madang and East Sepik through the Farmer to Farmer Extension Activity will sustain rice production in both provinces.

East Sepik Province DAL:
So long as the National and Provincial Governments provide necessary support. Provincial DAL is working on a Rice Policy submission also seeking National DAL for counterpart funding.

27. What would be main conditions so that such efforts can be kept by them?

Madang Province DAL:
FTFEA and Model Milling Centre functioning well and use of the manual mills will continue to assist the farmers. Using local rice varieties and making sure seed production is taken on by the successful farmers.

East Sepik Province DAL:
Increase manpower skills, knowledge and attitude with DAL officers and other stakeholders (Education institutions and Correctional Services). Encourage and follow up on districts and LLG for support systems to the Model Farmers.

28. Opinions on effectiveness and necessity of the agriculture extension service by provincial/district governments

Madang Province DAL:

The only best extension model is employed by the farmers and need to sustain the model farmer system. The Support Services Project undertaken by Morobe will not be sustainable practice when the ADB support comes to an end.

East Sepik Province DAL:

Currently not effective, but vital for smallholder support. National Government policies have fragmented the DAL creating confusion and frustration at the provincial level. However, the rice project has brought back officers team spirit and working morale as well as basic management principles. Both the Model Farmers and rice officers are working as a team.

29. Present and future possibility to obtain the personnel and budgetary resources for extension services by provincial/district governments

Madang Province DAL:

Awareness and consultation with districts and LLGs to own the Smallholder Rice Promotion will provide personnel and budgetary support.

East Sepik Province DAL:

Looks very slim at the moment, but requires more awareness to the local governments. Provincial government priority places DAL fourth that relates to funding. Our only hope is to establish a project document.

30. If the above is supposed difficult, what is an alternative measure for assisting farmers

Madang Province DAL:

Implement or employ the no cost rice farming by using local seed and preserving own seeds and using of manual mills are ways to progress if no support is received from the government. If district or LLGs operate a milling machine, the milling fees should maintain operation costs.

East Sepik Province DAL:

Organize Model Farmers into cluster groups at the LLG levels.

31. Which kind of technical information will be further needed for effective extension services for upland rice farming?

Madang Province DAL:

The three rice farming booklet and other promotion material produced by the project will be needed for extension services for upland rice farming.

East Sepik Province DAL:

Pest and disease management, seed selection and storage.

32. Which institutions in Papua New Guinea will be main sources of such information in post project stage?

Madang Province DAL:

Provinces implementing the project activities and material, OISCA should continue to provide training. DAL Information Unit should reproduce the printed material for circulation.

East Sepik Province DAL:

OISCA

33. Opinions on such institution's capabilities to deliver necessary information and advice

Madang Province DAL:

East Sepik and Madang Provinces can be the main sources of these extension system and material produced. DAL Information will be the other source of information packages if Food Security Branch can act to sustain the production of printed material. Within the local communities MFs will be the contact points for the farming communities.

East Sepik Province DAL:

The institutions focus is truly natural without much modern technologies involved.

Achievement of the Project

34. What are/will be main conditions that may negatively effect achievement of the project purpose? If smooth achievement is seen difficult, what are reasons?

Madang Province DAL:

This will depend entirely on Model Farmer interest as sustainable rice farming depends on farmer's willingness. Positive results show that farmers are producing and eating their own rice rather than buying imported rice in remote areas using manual milling facilities.

East Sepik Province DAL:

Farmer's attitude and willingness to accept rice as another subsistence food crop that they can grow with their other traditional subsistence food crops. Their knowledge and skills on self seed production and storage and other aspects of rice culture

Project Design

35. Needs for development of feasible and sustainable extension services or support system for farmers

Madang Province DAL:

The MF system put in place by the project in the two target districts can be replicated in the other four (4) districts.

East Sepik Province DAL:

Continue to improve current Model Farmer approach as extension agents with much more emphasis on governments support to the Model Farmers.

36. Needs for further technical development for upland rice production

Madang Province DAL:

There is need for crop rotation and use of Bokashi and use of compost to improve fertility of the soil properties so that permanent upland rice fields can be developed to integrate other vegetables and food crops with rice farming.

East Sepik Province DAL:

Government and private sector institutions to continue providing technical assistance for upland rice farming. Where possible we need the JICA experts to remain after the project term for another 3 years.

37. Project target districts for the project operation in Madang and East Sepik Province

Madang Province DAL:

The target districts in the two provinces can be increased depending on their capacity to take on rice activities. Other districts will come in depending on the financial capacity to fund the FTFEA in those districts.

East Sepik Province DAL:

If the project sees possible to include another two districts into the project as additional to Maprik, to bring total districts to three. Two districts are Angoram and Wewak districts.

General remarks by East Sepik Province DAL:

The rice project has taught the Model Farmers and rice officers many aspects, not only in rice, but basic management and mind set to achieve other projects in official and private life.

Basically it's all about self reliant using (of) limited available resources to maximum benefit to achieve ones goal.

Summary of answers to the questionnaire from 15 person

(A: Appropriate/Great, B: Mostly appropriate/Modest, C: Inappropriate/Negligible)

No.			A	B	C	Reasons for your evaluation or comments on subject if any	
1 2 3 4 5 6	Inputs by Papua New Guinea	Number of officers assigned for tasks of the project is enough in your department/division?	2	12	1	Provincial agric officers (have to) administrate all of districts on technical matters apart the provincial coordinaion; Only require casual/support staff; There is a need for additional officer to show responsibility of extension service and rice mill management; Staff having bio-physical knowledge for rice farming is needed	
		Your assignment has been clearly specified and appropriate for the project requirements?	9	6	0	Well defined tasks, targets and timing; Easy to follow	
		Have you been able to have enough time to undertake your tasks and assignments for the project?	6	5	4	(My time is used) 100% with the project than with other activities; Not enough due to tight schedule; Too much distraction with other tasks, but tried to spend enough time for the project; Provincial project counterparts do most of the implementation (in Madang); Have been tough sometimes	
		If "not", what were reasons?					
		Facilities and equipment prepared by your government	Facilities	2	8	5	Poor facilities due to limited funding from the Government; Support from NDAL is very good
			Equipment	2	5	8	Require equipment for better development of the project.
7		Availability of operation costs for the tasks assigned	1	2	11	New development needs to generate revenue. Poor counterpart funding from the Province; Good funding (is) available for 2006, while 2005 had no funding	
8 9 10 11 12 13 14 15	Inputs by Japan	Contact hours with the JICA experts were enough.	10	5	0	JICA Experts have greatly assisted all stakeholders (officers/MF/farmers) on technical aspects	
		Speciality and career of the experts were suitable.	12	3	0	Availability of the JICA experts is very helpful in the rice project in my area	
		Communication skill of the experts	5	8	2	Language is a barrier; Simple language barrier, but okay; English is second language for most of the project staff.	
		The experts were knowledgeable in subject area.	14	1	0	The experts have not machinery knowledge. However, JOCV for Machinery is very experienced; Their knowledge and experience are invaluable to NDAL staff.	
		The experts were available to your questions and helpful for your tasks.	12	3	0	The JICA Experts freely share their expertise and knowledge on project management and implementation, including extension and training.	
		Equipment prepared by JICA was appropriate in terms of specifications and quantities	10	3	2		
		How effective was training in Japan, if you received?	Timing of training	8	1	0	Well supported in extension planning, management and policy training. Gained much experience in Japanese approach of achieving targets; Need additional subjects suited to the PNG situation; Policy formulation and implementation need more time to fully understand
			Period of training	7	2	0	
			Curricula and syllabi	7	2	0	
16	To implement the project, have you ever presented any opinions when needed to improve your tasks? If "no", go to No.17.						
	If "yes",	1) How much were your opinions reflected on the project?	4	4	0	MF (candidates) should be selected by district counterparts; After OISCA training, MF trains contact farmers, and contact farmers then train farmers in their own villages; Conducting of rice mobile milling services within Madang District; To give more general awareness on smallholder rice production; Increase training on mill making to rice farmers; Using institutions as indirect extension agents (education/correction service); Selection criteria of MF; Experience of rice development in the district over ten years; To improve linkage with other stakeholders, need for a project document	
		2) Give example(s) of your opinions.					

No.		A	B	C	Reasons for your evaluation or comments on subject if any
	With regard to the model farmer training in OISCA ECO-Tech Center undertaken by the project:				FTFEA has been very good. This approach enables farmers to have access to information at village quickly.
17	Method and criteria to select trainee candidates were appropriate?	11	3	0	Performance rating (in criteria) relates to progress of rice development; Most of the selection was done by the provinces
18	Number of model farmers who have been trained in a year are enough?	7	7	0	Increase number to include the five districts (in ESP)
19	Does training curriculum in OISCA reflect actual rice farming conditions in the targeted areas?	6	6	2	Practices were conducted in fields prepared for irrigation. This does not reflect the real situation; In Madang Province, we are promoting and practicing upland cultivation until farmers have learnt basic knowledge and skills of rice farming, then we will take another step of irrigation; MFs need brush up training and support by extension agents for improved knowledge and skills; More time needed to capture other activities like crop rotation and compost; More emphasis should be placed on pest control measures and soil fertility improvement techniques; Rice is often planted in quite varying soils and land forms by means of upland farming, not by irrigated paddy as practiced in OISCA; Needs to strengthen and improve (MFs' knowledge in) bio-physical or agronomic aspects of soil fertility maintenance and pest control
20	Have model farmers been given skills and knowledge needed for improving their rice farming?	7	7	0	
21	Trained model farmers have expectedly supported rice farming by their neighbor farmers?	4	8	2	Some MFs failed to conduct FTFEA; Poor community participation to support the model farmers; Transfer of knowledge and skills are gradually reaching out. Some MFs have large areas to look after; Not well achieved. Still relying on government support to provide extension services to other farmers; Trained MFs require adequate support from the government to motivate and encourage in increase of smallholder rice farming; Lack of support for MF is main constraint. MFs have given up because of this.
22	For promoting smallholders rice production further, which issues are important?				All mentioned issues/problems are of great importance in further rice development, as they must be addressed now so that problems will be limited in future.
23	Avoidance of replant failure	5	4	2	
24	Selection of varieties	8	4	2	Use more local seeds; Introduction of varieties tolerant to pests and diseases; Farmers already have good rice varieties; Seed supply and milling machines are the two major issues
25	Self-production of seed	9	4	1	
26	Prevention of insect pests and diseases	9	4	1	Most important aspect of rice production to be addressed - neglect of it may prove serious
27	Post harvest techniques	10	3	1	
28	Manuring with resources available to farmers	3	7	3	Soil improvement by crop rotation, cover crop, green manure and compost; New concept but farmers will slowly pick up; Manuring and crop rotation practices need to be experimented and adopted; Rice cropping becomes permanent fixtures, soil fertility will become important
28	Others: storage of paddy rice for seeds and consumption	1	0	0	
29	Districts targeted by the project needs to be increased?	9	5	0	The five districts (in ESP) have been a part of the project since 2003; Equal representation is important for all the districts; (Expansion should be) based on the needs, interest and commitment of the districts to support the project
30	Have your expertise and skills related to the tasks been improved by technical transfer by the JICA experts?	7	8	0	FTFEA concept has improved my understanding to further develop similar approach in other target areas and with other "commodity based extension services"; Administratively in attitude and mind set; Need training in extension planning and management; Moderately in aspect of capacity building for all recipient stakeholders, but not in bio-physical aspect of rice cultivation
	If "not", state measures that should be taken.				

