

パプアニューギニア国

ラバウル農村総合復旧計画

パプアニューギニア穀物・米開発強化計画

(エラップ穀物・米開発センター整備計画)

プロジェクトファイナニング調査報告書

平成7年9月

社団法人 海外農業開発コンサルタント協会

まえがき

1995年7月1日から7月15日までの約2週間、住友商事（株）の田中春陽氏（現地参加）とともにパプアニューギニア国において、農業・農村総合開発事業のプロジェクト・ファイナディング調査を実施した。

パプアニューギニアは1975年9月に独立したイギリス女王を元首と仰ぐ立憲君主国である。国民の80%は自給・半自給農耕に生計を依存している。急峻な山岳、広大な湿地帯、散在する島々等の地理的制約から、空路を除く交通網が未発達であり、都市、集落は小規模かつ分散している。この小規模分散性が、貨幣経済の地方への浸透を妨げ、物資輸送のコスト高、国内製造業の未発達の原因となっている。農業は自給自足農業と商品作物農業（コーヒー、ココア、コブラ、ゴム、パームオイル等）とが混在しているのが特徴である。国際市況の長期低迷から商品作物は1980年代以降停滞を続けている。このため、コーヒー、ココア、コブラ、パームオイルについては、生産者所得の安定を図るための安定化基金が設けられている。米等の穀物類の生産は少なく、大半を輸入に依存している。従来、パプアニューギニア政府の農業政策は商品作物農業に重点が置かれており、穀物・米等の食糧生産は二の次にされてきた。しかし、最近の方針を変更し、食糧輸入のための外貨の節減、国民の栄養改善等の見地から、食糧生産にも重点が置かれている。

今回の調査は、農牧省の要請により、稲作を軸とした農村総合開発を対象として、ラバウル、エラップ、ベレイナおよびマプリックの4地区を調査した。最初に訪問したラバウル地区はニューブリテン島の東北端に位置し、1994年9月19日の火山噴火により市街地は壊滅状態となっている。50,000人を超える被災民が難民として近隣の保護センターに避難している。難民の一部は首都ポートモレスビー、ラエ等の都市部に流出しており、最近の治安悪化の原因の一つといわれている。復旧事業は都市、空港、道路などのインフラ整備が優先されており、農村部、難民センターなどへの対策は遅れている。また、農業関係資料の多くも消失しており、難民センター、農村部の資料・情報はほとんど整理されていない。難民センターの農村整備を含めたラバウル地区農村総合復旧計画の緊急性、プライオリティーは非常に高いといえる。

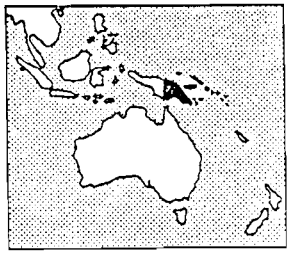
その他の3地区は首都のあるニューギニア本島に位置し、農牧省（DAL）直轄の農業試験場があり、米栽培を普及している地区である。3地区とも地形、気象、土壌などの面で、水稻栽培に対し高いポテンシャルを有しているが、地域住民の低い労働意欲、農牧省農業試験場の資機材の老朽化、支援サービスの不足から、普及活動は停滞している。普及活動を効率的に推進させるには農業試験場の整備が急務である。3地区の中では米普及活動の本部としての機能を果たしているエラップ農業試験場が要員、用地、治安などの面から整備計画の優先度が高い。

パプアニューギニアを自国米の大きな市場と位置付けているオーストラリア政府の外圧にも負けず、西暦2020年までに米の自給を達成しようとする農牧省関係者の米栽培にかける熱意は大きい。今後、この可能性を高めていくには、農民に対する農業経営、農業労働に対する意識改革を促す農民教育、普及活動が肝要である。

最後に、今回のプロジェクト・ファイナディング調査に、ご指導、ご協力いただいた、在パプアニューギニア日本大使館、国際協力事業団パプアニューギニア事務所および現地政府機関の関係者の皆様に感謝の意を表します。

1995年9月

調査団長
松本 真一郎



PAPUA NEW GUINEA

調査位置図

- INTERNATIONAL BOUNDARIES
- - - DISTRICT BOUNDARIES
- RIVER





写真1:ラバウル地区
州政府の米作開発計画の
水源となるWarangoi川。
流量観測所はない。



写真2:ラバウル地区
ラバウル近郊の農産物市場。



写真3:ラバウル地区
難民センターの居住区。飲料
水は雨水貯留で、乾期は生活
用水が不足している。

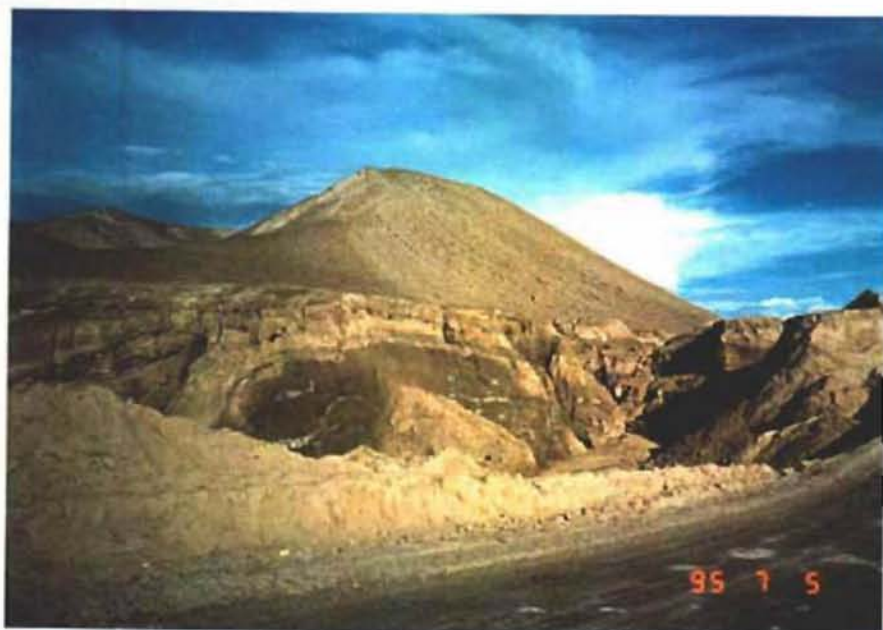


写真4：ラバウル地区
1994年9月19日に噴火した
Vulfan山。山麓を走っていた
国道は完全に埋没している。



写真5：ラバウル地区
噴火により、壊滅的被害を受
けたラバウル市街。火山灰の
重量で圧壊した建物が多い。



写真6：ラバウル地区
Warangoi川沿いにあるOISCA
研修農場。日本米が栽培され
ている。



写真7: エラップ地区
エラップ農業試験場の施設と
機材。



写真8: エラップ地区
エラップ農業試験場の種子生
産農場予定地。灌漑用の井戸
は整備されている。



写真9: エラップ地区
エラップ農業試験場近郊の
陸稲栽培地区。



写真10: エラップ地区
エラップ地区の農家風景。



写真11: エラップ地区
エラップ地区の農産物市場。



写真12: Trukai ライス
首都ポートモレスビーで販売
されているオーストラリアから
の輸入米。1kg=約60円。



写真13：ベレイナ地区
首都からベレイナ地区へ向う
国道沿いのゴム農園。



写真14：ベレイナ地区
農牧省直轄の農業試験場の
穀物倉庫。



写真15：マブリック地区
マブリック地区を流れるSepik川。
米作地域はほんの一部で、ほとんど
未利用の状態である。

目 次

まえがき

調査地域位置図

1.	調査の背景	1
2.	パプアニューギニア国の一般事情	1
2.1	一般指標	1
2.2	政治・行政・外交	1
2.3	国土・地勢・気候	2
2.4	民族・宗教・言語	2
2.5	経 済	2
2.6	財 政	3
2.7	公共投資計画(1995-1999)	4
2.8	最近のオーストラリア政府の対PNG援助政策	4
2.9	TRUKAI INDUSTRY PTY. LTD.	4
3.	パプアニューギニア国の農業事情	4
4.	ラバウル農村総合復旧計画	6
4.1	事業の背景	6
4.2	地区概要	6
4.3	計画概要	7
4.4	総合所見	8
5.	パプアニューギニア穀物・米開発強化計画	12
5.1	事業の背景	12
5.2	地区概要	12
5.3	計画概要	14
5.4	総合所見	15

付属資料

(A)	団員経歴	資料-1
(B)	調査日程表	資料-2
(C)	面会者一覧表	資料-3
(D)	収集資料一覧表	資料-5
(E)	公共投資計画 1995-1999 (PIP) の農牧省案件	資料-6
(F)	オーストラリア政府のPNG援助案件一覧表	資料-11
(G)	Terms of Reference (Draft)	資料-23
(H)	The Application Form for Japan's Grant Aid (Draft)	資料-34

1. 調査の背景

弊社は昭和57年度にパプアニューギニア国（PNG）の米作開発プロジェクトのプロジェクトファイナディングを実施している。調査地域の米作開発のポテンシャルは非常に高く有望と思われたが、PNGの最大援助国であるオーストラリア政府との米に関する輸入協定、tied-aidを受けないとする方針等から、実施につながらなかった。

PNGを自国産米の市場と位置づけているオーストラリア政府に対する遠慮から商品作物開発に重点を置いていたPNG政府も、近年は、食糧輸入のための外貨節減、国民の栄養改善などの見地から食糧生産にも重点を置くようになり、農牧省は積極的に米作開発を推進しようとドナー国を探している状況に変化してきた。

このような背景から、「ラバウル地区稲作パイロットファーム建設計画」は東ニューブリテン州政府の小規模農家稲作開発事業の一環として発生してきた案件である。また、「ニューギニア島小規模農村総合開発計画」も農牧省食糧管理局直轄のエラップ、ベレイナ、マプリックの農業試験場が推進している穀物・米開発計画の一環として発生してきた案件である。

上記2案件の名称は現地調査時において、「ラバウル地区稲作パイロットファーム建設計画」は昨年の火山噴火の関係から「ラバウル農村総合復旧計画」に、「ニューギニア島小規模農村総合開発計画」はPIPプロジェクトへの登録の関係から農牧省の意向で既に登録済の「パプアニューギニア穀物・米開発強化計画」に改称した。

2. パプアニューギニア国の概要

2.1 一般指標

面積：	46.2万km ² （日本の約1.25倍）
人口：	377.2万人
人口密度：	8人／km ² （1991）
首都：	ポートモレスビー（1990年の人口：17.4万人）
一人当り国民総生産：	820ドル（1992）
為替レート：	1ドル＝0.955キナ（1990）

2.2 政治・行政・外交

PNGは、オーストラリア自治領から1975年に独立し、英連邦に加盟したイギリス女王を元首と仰ぐ立憲君主国家で、立法、行政、司法の三権分立制の民主主義国家である。元首のエリザベス女王は総督、首相及び閣僚の任免、条約の批准などの権限を有している。総督は元首の権限、義務などに係わる国事行為を代行する。総督はパプアニューギニア人の候補者の中から、国会議員の投票で選ばれ、任期は6年である。議会は1院制で任期は5年である。

PNGは従来オーストラリア、イギリスなどの西側諸国との関係が深く、特にオーストラリアは旧宗主国であり、財政援助を受けている関係上きわめて緊密な関係にあるが、最近では日本との関係強化にも熱心に取り組んでいる。

2.3 国土・地勢・気候

PNGは、オーストラリア北方、赤道の真南に位置するニューギニア島の東半分（西半分はインドネシア領のイリアンジャワ）、ニューブリテン島、ニューアイランド島、ブーゲンビル島など大小1万余の島々からなり、ニューギニア島の中央部に3,000mから4,500mの高山地帯がある。気候は中央山岳地帯及び南部を除き、熱帯雨林気候に属し、12月から4月にかけて北西ないし西のモンスーンが吹き、5月から10月にかけて南東の貿易風が卓越している。平均気温は沿岸部と山岳部とでかなり異なるが沿岸部では最低20-25度、最高30-35度で年格差はほとんどない。降雨量はパプア湾側のデルタ地帯では年間5,000mmを越え、7,000mmに達する世界的多雨地帯となっているが全島平均では2,000mm程度である。ただし、首都ポートモレスビーは熱帯サバンナ地帯にあり、年間降雨量は1,200mm前後である。首都の月別の平均気温、降雨量、平均湿度は下表のとおりである。

	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月
平均気温(度)	27.6	27.3	27.3	26.9	25.4	26.2	25.8	26.1	26.5	27.2	27.5	27.7
降雨量(mm)	150	194	170	173	41	31	12	37	53	20	97	164
平均湿度(度)	76	78	78	81	86	78	76	74	73	76	73	74

2.4 民族・宗教・言語

住民はメラネシア系のパプア族とメラネシア族で構成されている。PNGには500の部族があり、部族意識、地域意識が強く、地域的利害をめぐる、対立・抗争が激しい。宗教はキリスト教が広く普及しているが、部族固有の祖先崇拜や霊魂崇拜などの原始宗教が根強く残っている。言語は公用語が英語で、共通語がPidgin EnglishとHiri Motuである。全国では700以上の異なる言語が使われている。

部族の構成員は部族共同体（ワン・トーク）の一員として親戚、部族全体の利益擁護のための団結意識が強く、相互扶助の伝統的慣習が根強く残っている。部族は長老を指導者として統制され、村落共同体の平等無差別社会を構成している。土地の大部分は部族の共有制(Customary Land)で、国土の95%以上が村落共同体の保有となっており、これを共同体以外の者が使用または譲渡する場合、共同体構成員全員の同意が必要である。このため、政府の開発プロジェクトの多くはこの土地問題で妨げられ、経済発展の阻害要因となっている。

2.5 経済

PNGは急峻な山岳、広大な湿地帯、散在する島々などの地理的制約から、空路を除く交通網が未発達であり、都市、集落は小規模かつ分散している。この小規模分散性が貨幣経済の地方への浸透を妨げ、物資輸送のコスト高、国内製造業の未発達の原因となっている。また、ほとんどの消費物資を輸入に依存し、国内の物価高、ひいては高賃金をもたしている。さらに、技術、資本などの外国依存、上述の慣習的な土地所有制度（国土の95%は部族所有）に起因する問題も抱えている。

PNGの経済構造は都市部の貨幣経済と村落部の自給自足経済という二重構造が特徴であるが、国民の過半数は中間的な半自給経済（食糧などは自給、一部現金収入）に属している。貨幣経済は鉱業（銅、金）および農林業（コーヒー、ココア、木材）に依存している。1988年の主要輸出入品目は下表のとおりである。

輸出品目	金額（百万キナ）	輸入品目	金額（百万キナ）
銅	446.9	機械製品	424.6
金	405.1	工業製品	206.7
コーヒー	113.5	食用動物	181.8
林産物	97.5	燃料、潤滑油	106.8
ココア	46.0	化学製品	84.4
パームオイル	32.9	飲料、タバコ	15.5
その他	114.2	その他	113.7
合計	1,256.1	合計	1,133.5

また、1989年の経済部門別の国内総生産は下表のとおりである。

部門	金額（百万キナ）	割合（％）
農林水産業	856.3	28.4
鉱業・採石業	352.7	11.7
製造業	336.9	11.2
電気・ガス・水道	49.0	1.6
建設業	161.3	5.4
卸・小売サービス	296.2	9.8
運輸・倉庫・通信	163.5	5.4
金融・保険・不動産	172.9	5.7
その他	624.9	20.8
GDP	3,013.7	100.0

2.6 財政

PNGの国家財政の特徴は、独立以来、旧宗主国であるオーストラリアの財政無償援助に大きく依存していることであるが、年々削減されており、国家予算に占める同援助の比率は1977年の41%から90年の14%まで低下している。このため、政府は外国援助ソースの多角化に努力している。

2.7 公共投資計画 (1995-1999)

大蔵・計画省が1995年3月に発表した経済開発政策と公共投資計画(1995-1999)を入手した。農業・畜産部門の開発政策および公共投資計画の内容は**付属資料(E)**に示すとおりである。

2.8 最近のオーストラリア政府の対PNG援助政策

最近のオーストラリア政府のバプアニューギニア援助案件は**添付資料(F)**に示すとおりで、事業実施案件から自国技術者、教員等の人材派遣に重点が移っており、資金環流、自国民の就業機会の創出が裏にあると伺える。

2.9 TRUKAI INDUSTRIES PTY. LTD.

TRUKAI INDUSTRIES PTY. LTD. はバプアニューギニアでTRUKAI RICEのブランド名でオーストラリアからの輸入米を一手に取り扱っているオーストラリアとPNG出資の会社で、会社設立の経緯は下記のとおりである。PNGでの稲作も事業内容の一つにしているが、基本的にはオーストラリア米のマーケットの安定確保が目的であるため、本格的に着手していない。現在、TRUKAIライスは1キロ約65円前後で市販されている。

1970年2月17日 RICEGROWER-AUSTRALIA PTY. LTD.

1971年12月23日 RICE INDUSTRIES PTY. LTD.

1994年7月26日 TRUKAI INDUSTRIES PTY. LTD.

3. バプアニューギニア国の農業事情

PNG農業において農業の占める役割は非常に大きく、PNG全人口の約85%が農業(水産、林業も含む)に依存し、農業生産額(1981-86年平均)は輸出額の35%、GDPの40%を占めている。農業は自給自足農業と商品作物農業が混在しているのが特徴である。

商品作物農業としては、コーヒー、ココア、コプラ、ゴム、茶、パームオイル、除虫菊などが栽培されており、ほとんどが輸出用である。なお、コーヒー、ココア、コプラ、パームオイルについては、生産者所得の安定を図るための安定化基金(Stabilization Fund)が設けられている。自給自足農業の住民は根菜類から得られるデンプンを主食糧とし、サツマイモ、タロイモ、ヤマイモ、キャッサバなどを栽培している。近年は米の生産が増大しており、その他に漁業、狩猟に依存している。

1989年に政府は小規模生産者を中心とした農業振興を図るための新農業政策を発表し、アジア開発銀行の援助資金を導入し、政策・制度的な構造調整を含む「農業開発計画」を進めている。

FAO資料によれば、PNGの土地利用状況(1988)は下表のとおりで国土の大部分は森林で、商品作物には僅1%程度の国土が利用されているのみである。ただし、国土の15%で焼畑農業が行われていると推測されている。

区 分	面積 (1000ha)	割合 (%)
耕地面積	33	0.1
永年作物	355	0.8
永年牧草地	84	0.2
森林面積	38,230	84.4
その他	6,584	14.5
合計 (陸地面積)	45,286	100.0

PNGの米の生産は農家の自家消費に回されるため、統計資料が整備されていないが、国内生産量は年間1,000-2,000トン程度で、国内消費の大半は輸入米である。最近の人口、生産と消費量は下表のとおりである。

年度	人口 (千人)	生産量 (ton)	消費量 (ton)
1990	3,700	1,500	144,000
1991	3,789	1,500	147,771
1992	3,880	1,500	151,320
1993	3,973	1,500	154,947
1994	4,068	1,500	158,652

ラバウル農村総合復旧計画

4. ラバウル農村総合復旧計画

4.1 事業の背景

パプアニューギニア（PNG）における農業部門の役割は大きく、全人口の80%が農業に依存していると同時に、GDPの3割を占めている。PNG農業は自給自足農業と商品作物農業とが混在しているのが特徴である。自給自足農業は前近代的な伝統的農業で、その実態は統計数量に反映されていない。

ラバウル地区での商品作物はココアとココナツが中心であるが、近年は国際市況の低迷から停滞を続けている。一方、1994年9月19日の火山噴火により、ラバウル市街は壊滅的被害を受け、約50,000人の被災民が周辺の農村部に難民として流出し、地域経済、治安状況は著しく悪化している。

本計画は火山噴火で荒廃したラバウル地区の農村総合整備を行い、地域経済の活性化と民生、治安状況の改善を図るものである。

4.2 地区概要

州都ラバウルはニューブリテン島の東北端に位置し、旧火山口にできた天然の良港を有するPNG第5位の都市である。第2次世界大戦時の日本軍基地として有名なところで、現在も戦跡ツアーで日本人が時々訪れている。一方、火山の町としても有名で、度々噴火の被害を受けている。最近では、1994年9月19日シンプソン湾のVulcan山とTavurvur山の2つの火山が同時に噴火し、ラバウル市街地は壊滅的被害を受けている（図4.1参照）。周辺農村部も相当の被害を受けているが、正確な調査は行われていない。

50,000人以上の地域住民が被災し、Gazelle半島の33ヶ所の臨時難民センターに避難した。政府は難民の入植地として、100haの国有地と300haの農園を用意し、これまで、20,000人が入植しているといわれている。しかし、難民センターの生活環境はあまり整備されておらず、元の住居に戻ったものや他の大都市に流出したものも多く、実態は正確に把握されていない。最近の都市部での治安の悪化はラバウルからの難民が原因ともいわれている。

ラバウル市街地および都市インフラ施設についてはオーストラリアAIDABが調査を行い、復旧計画が提案されている。AIDABの調査対象は次のとおりである。

- － 港湾、道路、空港、上下水道
- － 電力、電信電話、テレビ
- － 教育、保健、医療
- － 国家および州政府などの公共機関
- － 商業施設および住宅

ラバウル地域の農業はココアとココナツの商品作物が中心である。生産面積、生産量などは州政府の資料が噴火によりすべて消失したということで入手できなかった。本地区は年間降雨量2,000mmと降雨に恵まれており、州政府は稲作普及に力を入れている。州政府の要請を受け、Warangoi地区で日本のNGO団体であるOISCA産業開発協力団のラバウル研修センターが地域農民に稲作の指導を行っている。この研修センターにも難民の一部が住み着いている。OISCA研修農場では、現在日本米（コシヒカリ、初霜、黄金晴）および台湾米の有機農法による栽培を研修生に指導している。州政府はこの研修センターの対岸地区

を水田に開発し、難民や研修センターの卒業生などを入植させたい意向をもっている。気象、土壌、乾期のWarangoi川の流量などから水田適地と判断されるが、問題は洪水である。現地での聞き取りによれば、年1回は冠水しており、事業化に対しては洪水対策を検討する必要がある。

ラバウル地域の農業開発はEast New Britain州政府の第一次産業部(DPI)が担当している。州政府の組織は図4.2 に示すとおりである。DPIは現在ラバウルからVunadidir 地区に事務所を移転している。農業研究機関としては、Keravat地区に農牧省の低地農業試験場(Lowland Agriculture Experiment Station)とパプアニューギニアココア・ココナツ研究所がある。この2つの試験場は隣接している。

4.3 計画概要

(1) 調査の目的

調査地域の農業はココア、ココナツの商品作物が中心であるが、近年の国際市況の低迷から停滞ぎみである。一方、1994年9月の火山噴火によりラバウル市街は壊滅的被害を受け、50,000人の被災民がラバウル近郊の難民センターに避難している。復旧活動の中心はニュータウン、道路、空港、保健・医療等に重点が置かれているため、貧困層の多い難民センターや農村部の復興は後回しの状況にある。本調査は火山噴火後の農業・農村の実情を把握し、農村復興に何が必要であるかを調査し、都市部の復旧計画と調和のとれた農村総合開発計画のマスタープランを作成、その中の最優先プロジェクトについてフィージビリティスタディを行う。

(2) 調査内容

調査対象地域は図4.3 に示す約100,000haである。これらの地域は1/50,000地形図でカバーされているので、特に地形図を作成する必要はない。開発事業の内容としては以下のプロジェクトが想定される。

- － 農村基盤整備計画（特に難民センターの生活環境の改善を図るための農村給水、農道、集会場等の整備）
- － 難民入植地農地整備計画
- － 稲作開発計画
- － 農業多様化計画
- － 農産物流通・加工計画
- － 農民支援・農民組織強化計画
- － 環境保全計画

調査は、フェーズⅠ、フェーズⅡ、フェーズⅢの3段階に分けて実施する。各フェーズでの調査内容は次のとおりとする。

1) フェーズⅠ：インベントリー調査

開発計画策定に必要な基礎資料が不足している。関連公共機関が保有していた資料は噴火により、焼失しているものが多く、資料収集は通常の調査より労苦を強いられると予想される。マスタープランに先立ち、資料収集・解析のためのインベントリー調査を行う。

2) フェーズII：マスタープラン

フェーズIのインベントリー調査成果を受けて、マスタープランを行う。

- a) 調査対象地域の現状分析（気象、水文、地質、土壌、土地利用、農業、農村社会基盤、難民センター、灌漑・排水、環境、経済・社会、関連開発計画等）
- b) 稲作開発調査
- c) リモートセンシング調査（ランドサット衛星画像により噴火による被災状況、火山灰の影響範囲、噴火前後の土地利用状況などを調査する。）
- d) 開発制約要因と開発ポテンシャルの検討
- e) 農村総合復旧計画マスタープランの作成

3) フェーズIII：フィージビリティスタディ

フェーズIIのマスタープランの中で選定された優先プロジェクトについてフィージビリティ調査を実施する。

4.4 総合所見

本計画（農村総合復旧計画）は、ラバウル噴火被災民の生活環境の改善、民生の安定等の観点から緊急性の非常に高い。国家開発計画（公共投資計画:PIP1995-1999）において農牧省が重要課題としている食糧増産及び小農育成の面からも優先度の高い計画である。東ニューブリテン州政府は、小規模農家の所得向上、栄養改善、難民入植地開拓を目的に、小規模農家稲作開発を計画している。本計画はこの開発計画も包含するものであり、東ニューブリテン州政府は、日本政府の技術・経済協力による本計画の実現を期待している。

<社会的可能性>

PNG政府（農牧省）はオーストラリアからの輸入米に依存する現状からの脱却を図るため、自国米の増産を推進している。本計画の調査地域内のWarangoi川流域の水田開発は有望であり、国の農業政策との整合性も高い。

貧困層の多い被災難民の生活環境の改善と就業機会の創出を図る本事業の優先度は非常に高い。また、首都ポートモレスビーやラエなどの都市部に流出した難民を故郷に呼び返し都市部の荒廃した治安状況の改善を図る観点からも社会性の高い計画である。

<技術的可能性>

調査地域は、気象、土壌、地形等の自然条件において稲作開発のポテンシャルは非常に高い。また、栽培に手間がかかるため勤労意欲の低いPNGには、あまり普及していない稲作であるが、ラバウル地域は旧日本軍が稲作栽培を行っていること、近年の日本のNGO（オイスカ産業開発協力団）による水稻栽培技術の指導等により、水稻栽培に体する地域農民の理解は非常に高い。

稲作のパイロットファームの位置として、州政府はWarangoiのOISCA研修農場の対岸を考えているが、雨期の冠水が懸念される。聞き取り調査によると年1回程度は冠水し、5年に1回程度は洪水に見舞われている。計画に際しては、洪水解析、洪水対策が肝要である。

図4.1 1994年9月19日ラバウル火山噴火被災地域図



図4.2 EAST NEW BRITAIN 州の組織図

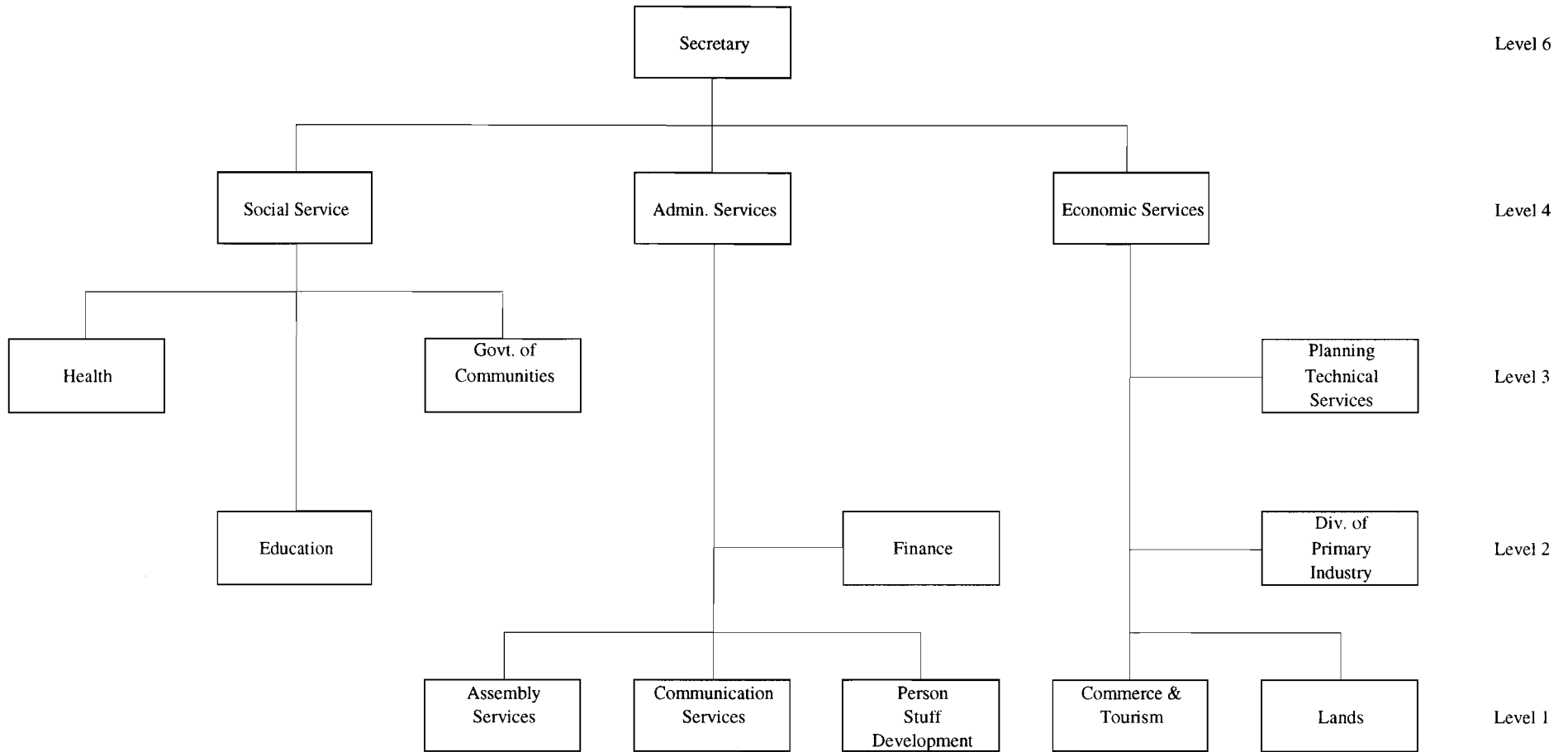
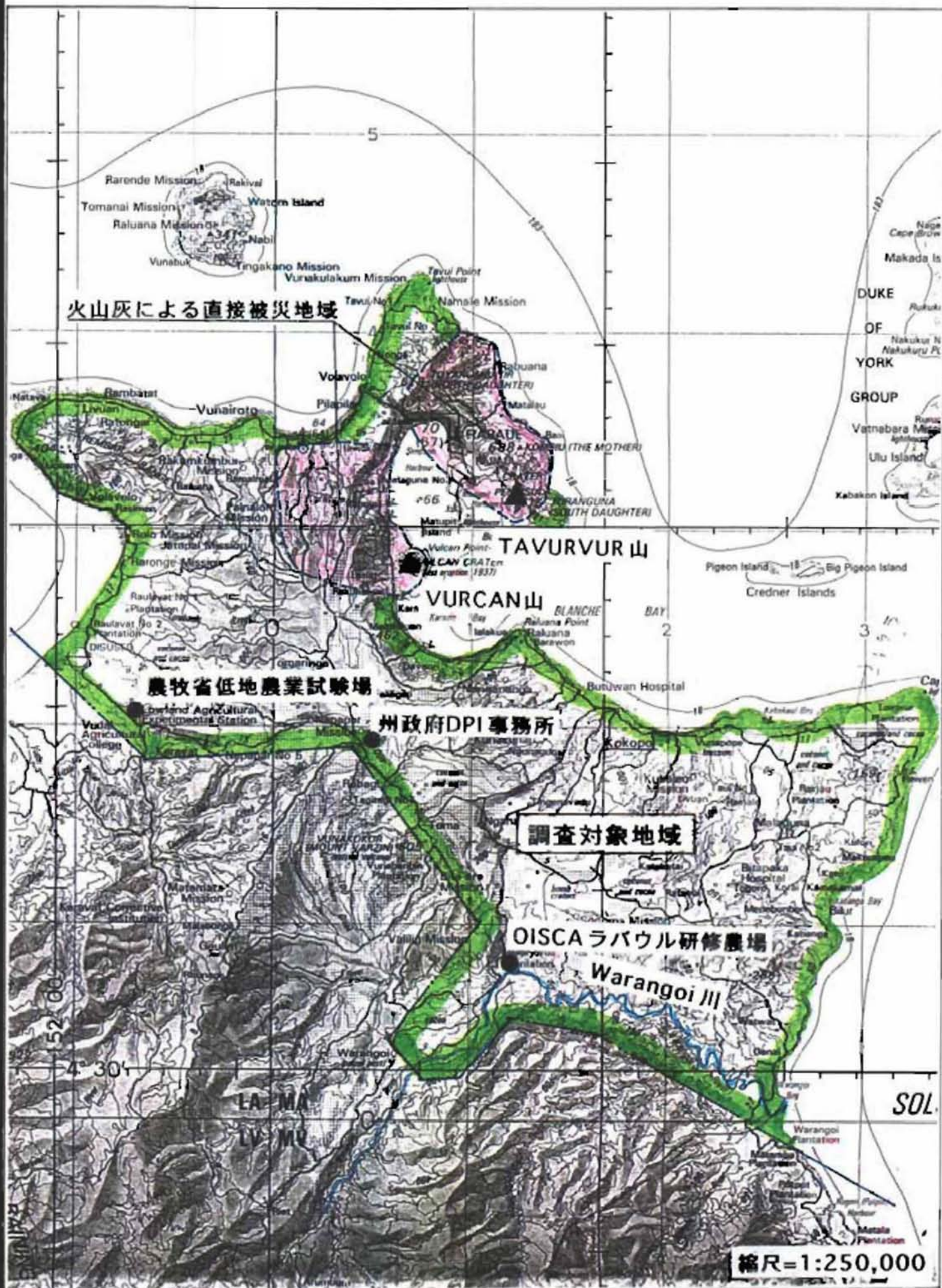


図4.3 ラバウル農村総合復旧計画の調査対象地域図



パプアニューギニア穀物・米開発強化計画
(エラップ穀物・米開発センター整備計画)

5. パプアニューギニア穀物・米開発強化計画

5.1 事業の背景

本計画は農牧省が1988年から推進している「穀物・米開発計画」を強化・支援するものである。「穀物・米開発計画」の事業対象地域は Morobe, Central, East Sepik, Gulf, Milne Bay, Madan, East New Britain の6州が対象となっている。本計画は特に農牧省が重点を置いているMorobe州のErap農業試験場、Central州のBereina農業試験場、East Sepik州のMaprik農業試験場の強化を行うものである。

5.2 事業計画地区の現況

(1) エラップ地区 (ERAP)

エラップ地区はMorobe州に属し、PNG第2の都市である州都LAEの西方約40kmに位置している（図 5.1参照）。交通の便は良く、LAEから舗装道路が通じているとともに、LAE空港にも至近距離に位置している。調査地域はMarkham川流域の平坦な地形で、水田開発のポテンシャルが非常に高い。しかし、未利用のまま放置されている土地が非常に多い。降雨量は比較的少ない地域で年間降雨量は1,200mm前後である。月別降雨量は図5.2のとおりである。

エラップには農牧省の農業試験場があり、農牧省が推進している穀物・米開発計画の推進本部としての役割を担っている。エラップ農業試験場の組織は図5.6のとおりで、下記の3事業の開発・研究・普及を行っている。

- － 穀物・米開発計画
- － 園芸作物開発計画
- － 畜産開発計画（牛、山羊）

試験場のスタッフは比較的そろっており、IRRIで働いていた外人技術者（2名）も含めて、36名が働いている。しかし、設備・資機材は老朽化・不足しているものが目立つ。1994および1995年は政府予算の不足から、種モミの生産・配布などの支援サービスの不足から米の栽培面積は減少しているとのことであった。

(2) ベレイナ地区 (BREINA)

ベレイナ地区はCentral州に属し、首都ポートモレスビーから西北約150kmに位置している（図 5.3参照）。首都から途中までアスファルト舗装が続くが、残りは未舗装の悪路で、乾期は片道3時間、雨期は5時間以上かかる。比較的米作が盛んな地域でBreina Riceのブランドをもっている。

ベレイナの米作プロジェクトは資金不足から10年前に放棄されていたものを農牧省が1989年に再開したものである。再開後の農牧省（DAL）の基本方針は、小規模天水田の稲作農家に機械化農業を普及するものである。ベレイナには農牧省直轄の農業試験場があり、穀物倉庫、精米機などが設置されており、米栽培の支援活動を行っている。農業試験場には10名の農牧省スタッフが常駐し、州政府の関係者と普及活動を行っている。

最近の生産状況は下表のとおりである。

年度	栽培農家数	栽培面積 (ha)	生産量 (ton)
1989/90	5	-	55
1990/91	29	90	165
1991/92	39	152	270
1992/93	151	-	n/a

エラップ地区と同様に予算不足のため、今年の米の栽培面積は少ないとのことであった。

(3) マプリック地区 (MAPRIK)

マプリック地区はEast Sepik州に属し、州都WEWAKから西方約100kmに位置している（[図 5.4](#)参照）。一部区間は舗装されているが、道路事情は悪く片道3時間を要した。雨期は4時間以上かかるとのことである。マプリックにも農牧省直轄の農業試験場があり、米作の普及活動を推進している。

マプリック地区の米作は1975年の独立以来、州政府（DESP）が推進してきた。1989年農牧省の"Grain & Rice Development Programme"の一環として"Maprik Rice Development Project:MRDP"が開始された。MRDPはRoma, Wosera および Hayfield の3つ米作地区を管轄している。MRDPは9名のスタッフで運営されている。

1975年以降の米の生産量は下表のとおりである。

年度	生産量 (ton)	年度	生産量 (ton)
1979	250	1986	47
1980	520	1987	18
1981	189	1988	117
1982	1,003	1989	195
1983	342	1990	420
1984	315	1991	518
1985	85		



5.3 計画概要

(1) 事業の目的

「パプアニューギニア穀物・米開発強化計画」の目的は、農牧省が1988年から推進している「穀物・米開発計画」を強化・支援するものである。「穀物・米開発計画」の事業推進機関となっている農牧省のエラップ、ベレイナ及びマプリックの農業試験場を強化し、「穀物・米開発計画」の下記の目標の達成を図る。

- － 地方での食糧生産の拡大により、食糧輸入のための外貨の節減を図る。
- － 穀物、米、ピーナツおよび畜産農家の抱える開発制約要因を調査し、合理的生産方法を開発する。
- － 生産量の調査・集計と生産農家への支援サービスを行う。
- － 事業地区のインフラストラクチャーを整備する。
- － 事業地区の生産ポテンシャルを立証するとともに、国内外の市場を開発する。

(2) 事業実施機関

事業実施機関は農牧省食糧管理局とエラップ農業試験場とする。農牧省および事業実施機関の組織図は、 5.5および 5.6に示すとおりである。


(3) 事業内容

事業は国際援助機関の無償資金協力により実施するフェーズⅠと、パプアニューギニア政府が自助努力で実施するフェーズⅡに分けられる。

1) フェーズⅠ

「穀物・米開発強化計画」の事業実施機関の本部として位置付けられているエラップ農業試験場の施設・機材を整備し、エラップ穀物・米開発センターを設立する。事業内容は次のとおりである。

a) エラップ穀物・米開発センターの施設・機材の整備

- 圃場整備： 種子生産農場 (10ha)とデモンストレーション農場 (5ha)の整備
建築施設： 本館、種子貯蔵庫、穀物・肥料倉庫、寄宿舍、車庫、ワークショップ等で配置は 5.7参照
機材： 灌漑機器、精米機、種子処理用機材、教育用資機材、農機、車両等、

b) ベレイナ、マプリック農業試験場の機材整備

小型精米機、農機、車両等の機材を配備する。

2) フェーズⅡ

フェーズⅡでは、PNGの自己資金により、ベレイナおよびマプリック農業試験場の農場および建築物の整備を行う。

5.4 総合所見

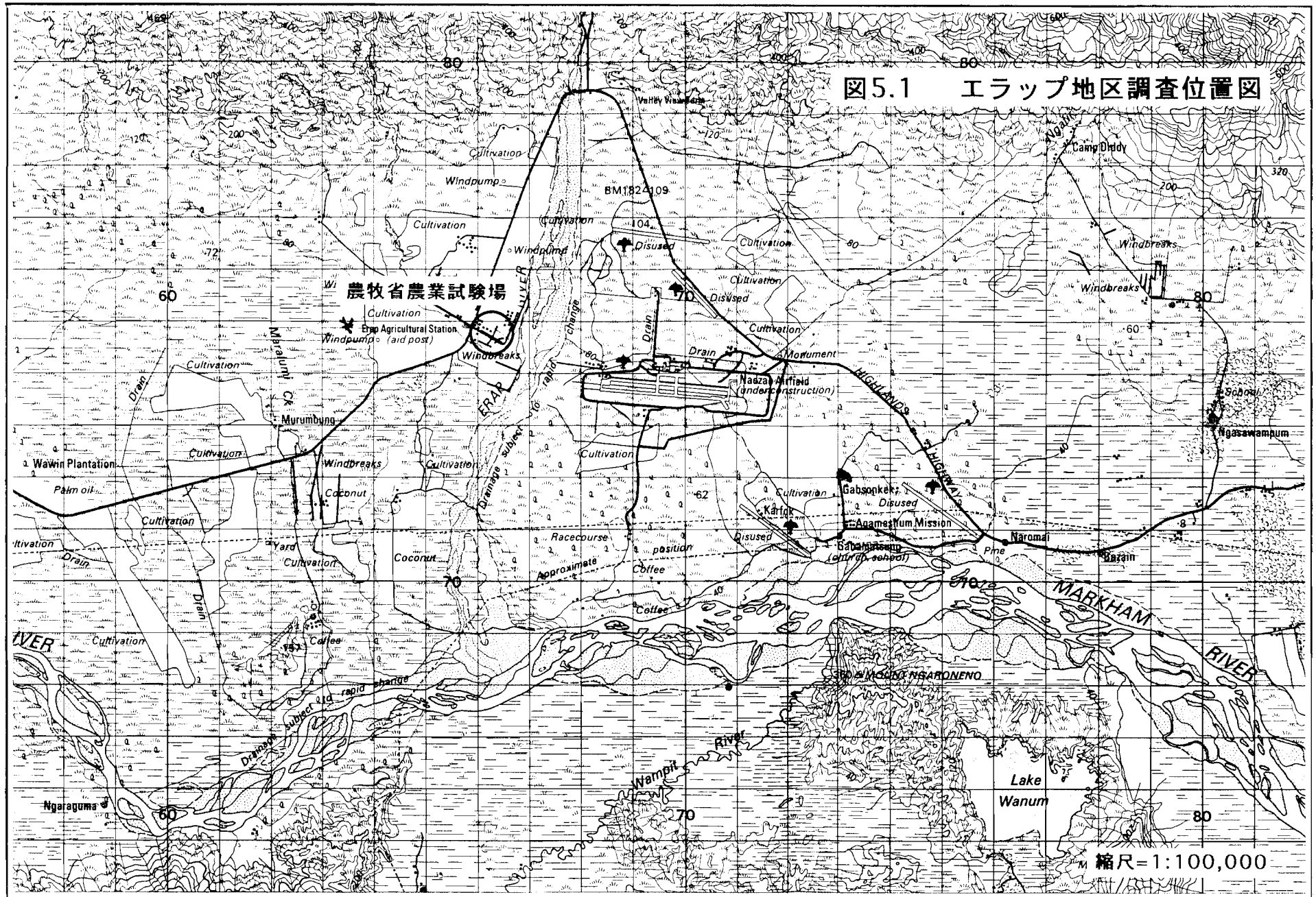
パプアニューギニア国の農業の特徴は自給自足型農業（食糧生産）と商品作物農業（コーヒー、ココア、コブラ等）とが混在していることである。従来の政府の農業政策は商品作物農業に重点が置かれ、自給自足型の食糧生産部門は2の次とされていた。このため、国民の主要食糧である米、麦の大半は輸入に依存しており、人口増につれて輸入量は増加傾向である。したがって、輸入農産物に対する外貨節約、国民の栄養改善の見地から、食糧（穀物・米）生産の拡大が緊急課題となり、政府も食糧生産に重点を置くようになった。

かかる状況から、農牧省は穀物・米開発計画を1988年からスタートさせた。本計画は、政府の政策とも合致し、時宜を得たものである。現在、農牧省は、エラップ、ベレイナ、マプリックの直轄農場を事業実施の最前線基地として、IRRI品種の普及事業を展開している。しかし、施設の老朽化、保有機材の不足により、事業の進展は遅れている。

現在、日本の農業普及に関わる協力は、NGOのOISCAがラバウルで行っているのみである。農牧省は、日本の小規模経営が主流である稲作技術が、同様な状況にある同国にとって最も参考となるものと期待しており、我が国からの本分野に対する日本政府の協力を強く望んでいる。本計画は同国の農業発展に大きく貢献するものであり、日本の協力プロジェクトとして適当なものであると思われる。

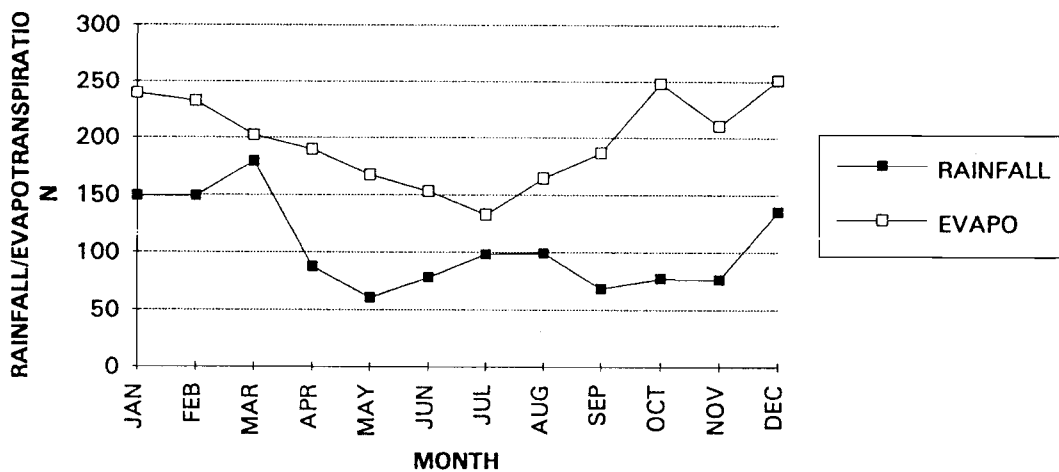
エラップ地区は3地区の中で、用地、治安、維持管理体制などの受け入れ体制が最も進んでいるとともに、PNG第2のLAE市からも近く展示効果も高い。加えて、水田開発のポテンシャルの高いMakham Vally平野への波及効果が期待される。

図5.1 エラップ地区調査位置図

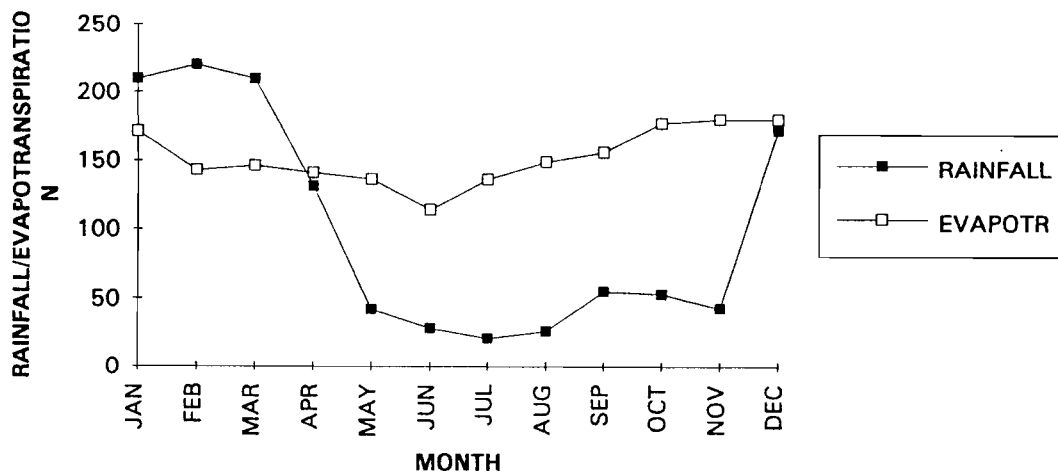


縮尺=1:100,000

MOISTURE PARAMETERS ,ERAP



MOISTURE PARAMETERS,BEREINA



Rainfall in Maprik

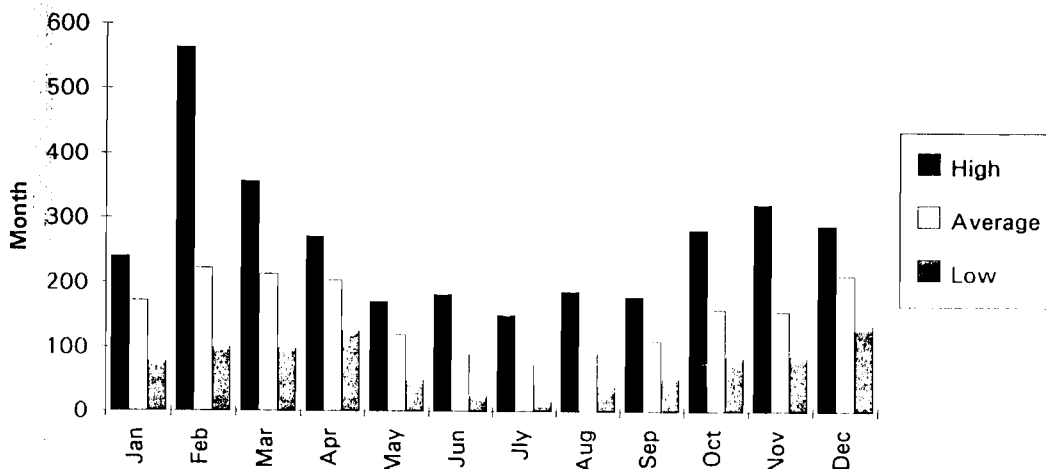


図5.2 事業計画地区の月間降雨量

図5.3 ベレイナ地区調査位置図

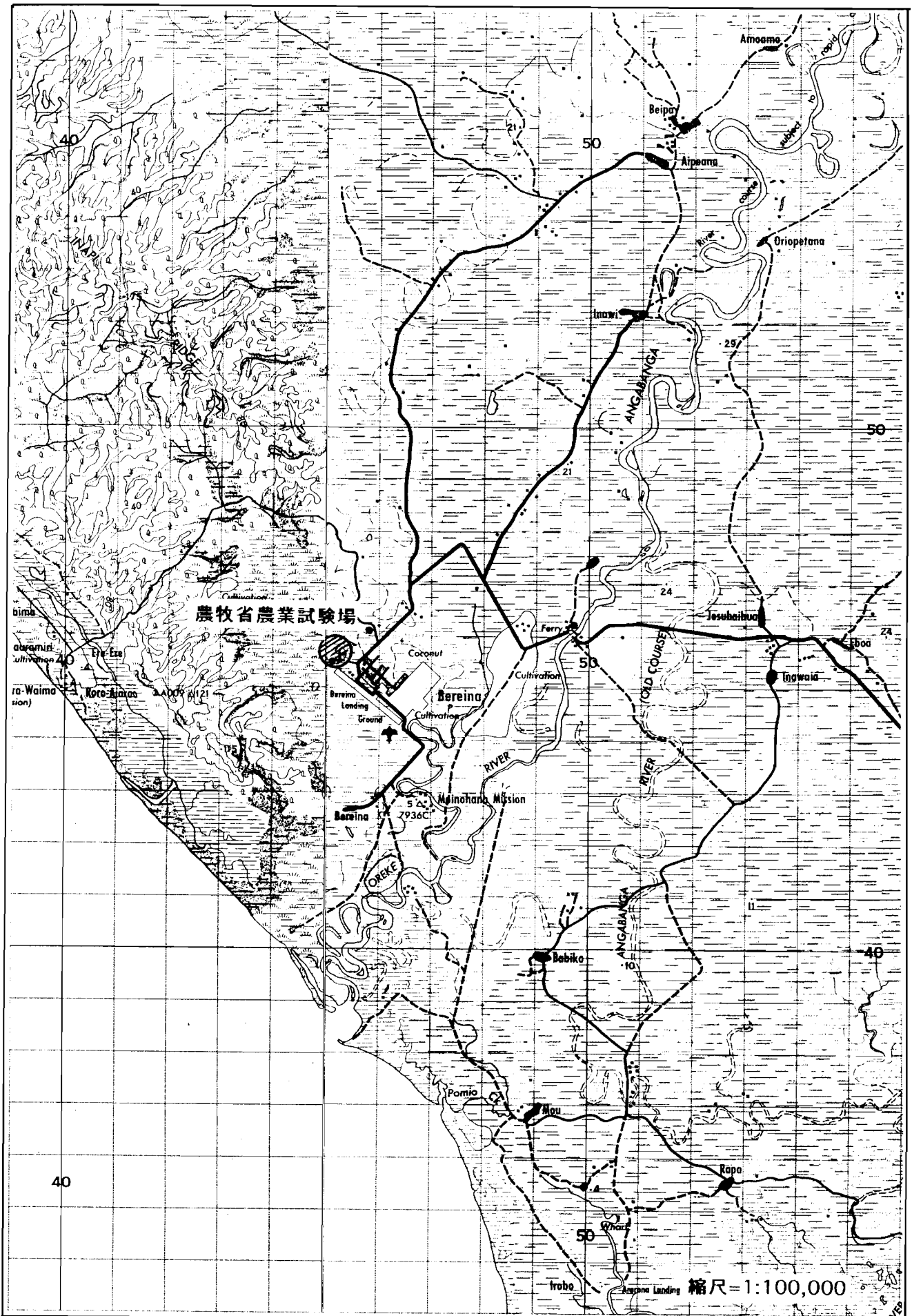


図5.4 マプリック地区調査位置図

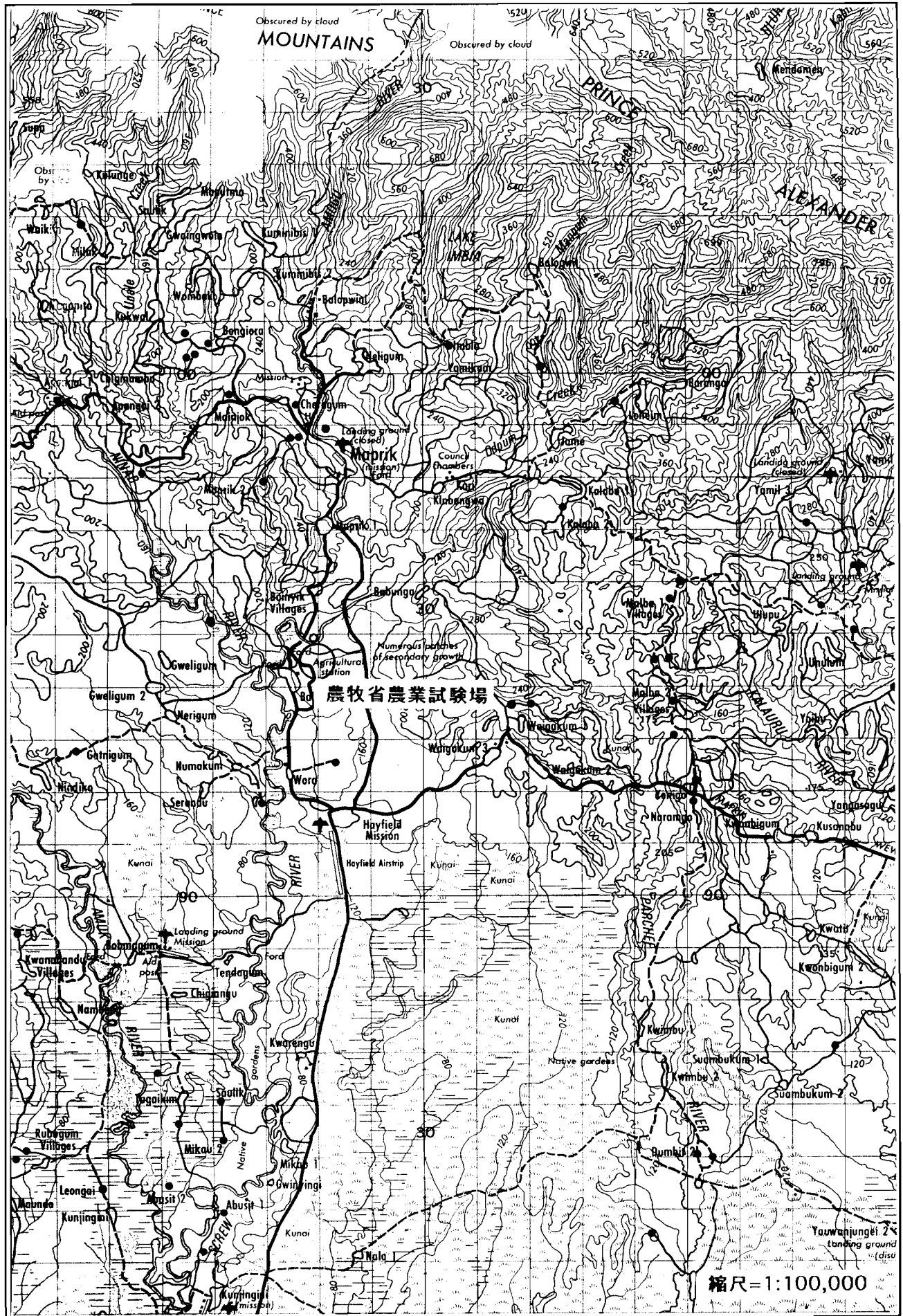


图5.5 農牧省組織図

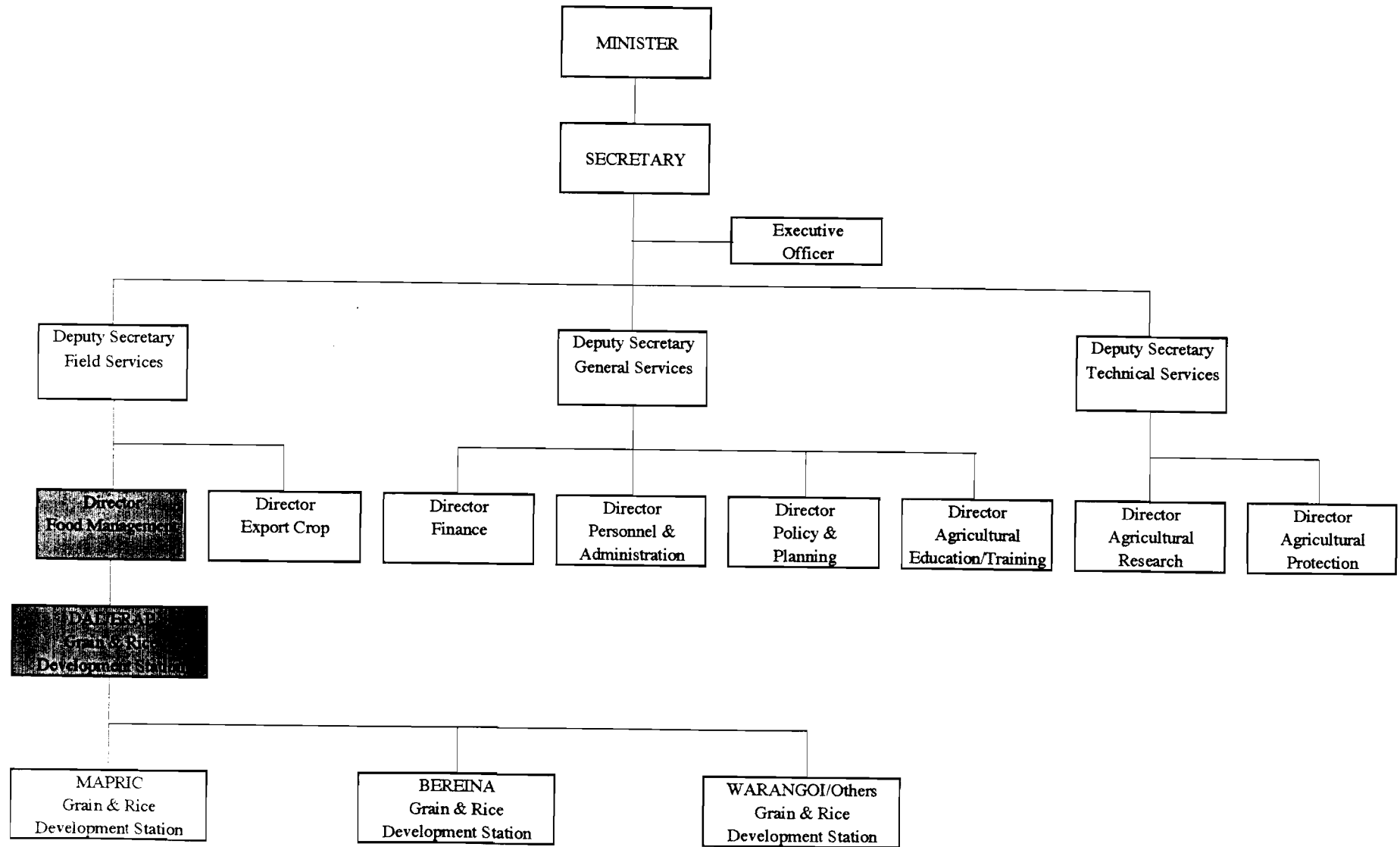
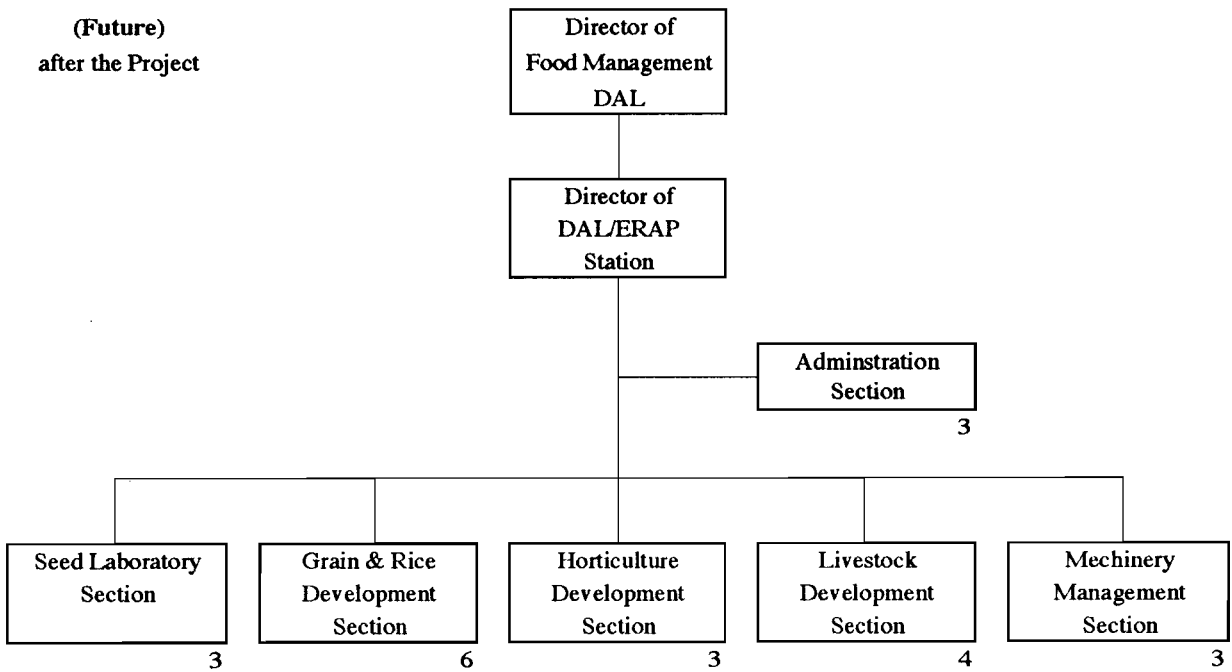
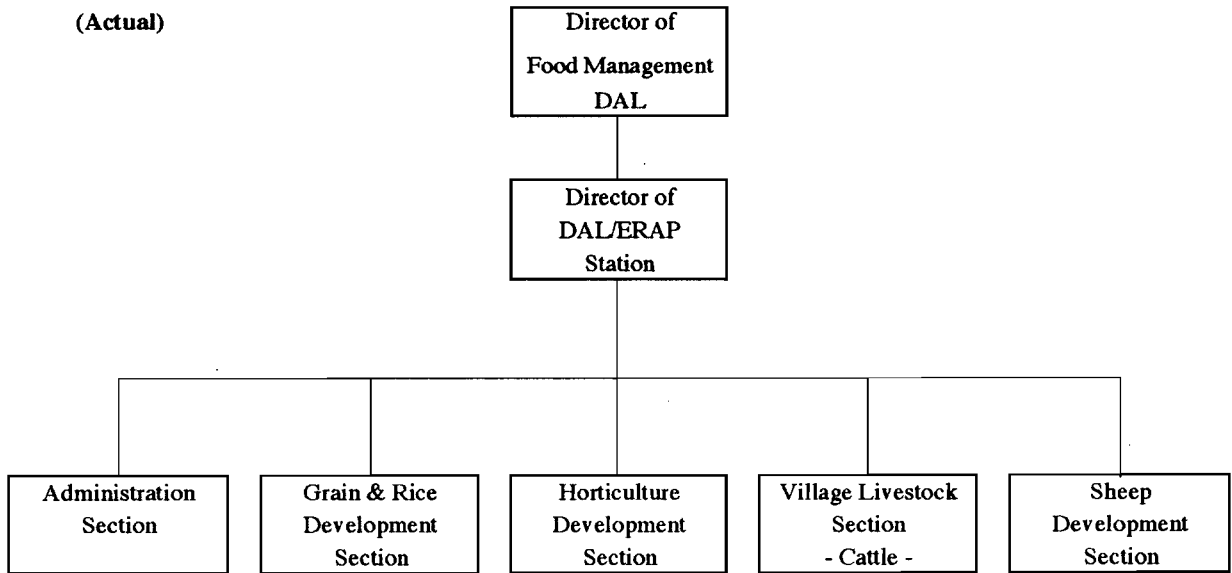


図5.6 事業実施機関組織図



添付資料

(A) 団員経歴

松本真一郎

昭和17年10月17日生

(職歴)

昭和45年3月

帯広畜産大学畜産学部農業工学科卒業

昭和45年4月～57年3月

(株)日本水工コンサルタント

昭和57年4月

(株)パシフィックコンサルタンツインターナショナル
現在第二事業本部 農水事業部 次長

(資格)

昭和56年2月

一級土木施工管理技士

昭和62年3月

技術士(農業土木)

(業務経歴)

昭和45年4月～55年3月

国内のダム、灌漑排水等の調査・計画・設計

昭和55年11月～1ヶ月

タイ・マレーシア国農業開発計画事前調査

昭和56年6月～3ヶ月

インドネシア国ジェネベラン河治水計画調査

昭和56年9月～4ヶ月

フィリピン国マビニ地区農業開発計画

昭和59年4月～3ヶ月

ドミニカ国アグリボ(エルボソ)農業開発計画

昭和59年10月～5ヶ月

インドネシア国アチェ農業開発計画

昭和60年6月～14ヶ月

ドミニカ国アグアカテ・グァジャボ農業開発計画

昭和61年2月～18ヶ月

コロンビア国キンディオ盆地農業総合開発計画

平成元年6月～1ヶ月

ケニア・タンザニア国農業開発事前調査

平成元年7月～36ヶ月

ルワンダ国東部生活用水開発計画

平成4年3月～10ヶ月

グアテマラ国フティアバ県農牧業農村総合開発計画

平成4年12月～9ヶ月

フィリピン国特定地方都市洪水防御計画

平成5年9月～3ヶ月

中国三江平原龍頭橋典型区農業開発計画

平成6年7月～10ヶ月

ルーマニア国ブランチェア県北東部地域灌漑整備計画

平成7年2月～2ヶ月

ベナン国コトヌ市排水施設整備計画

田中 春陽

昭和27年8月30日生

(職歴)

昭和52年3月

東京大学農学部農業工学科卒業

昭和52年4月～

住友商事(株)機電統括部

平成7年2月～

住友商事(株)ポートモレスビー事務所長

(B) 調査日程表 (パプアニューギニア国)

日数	月日	曜日	出発地	到着地	宿泊地	業務内容
1	7月1日	土	東京		機中	移動 (JL771, 21:15発)
2	7月2日	日		シトニ	シトニ	移動 (JL771, 07:35着)
3	7月3日	月	シトニ	ホ°-トモレスビ°-	ホ°-トモレスビ°-	移動 (PX004, 08:15発13:15着) 田中春陽本日より現地参加、 日本大使館、JICA事務所表敬
4	7月4日	火			ホ°-トモレスビ°-	農牧省、国際開発局(OIDA)表敬 資料収集 (統計資料、地図)
5	7月5日	水	ホ°-トモレスビ°-	ラハ°ウル	ラハ°ウル	移動 (PX272, 08:30発09:55着)、 ラハ°ウル地区現地調査
6	7月6日	木	ラハ°ウル	ラエ	ラエ	ラハ°ウル地区現地調査、 移動 (PX209, 15:35発17:25着)
7	7月7日	金	ラエ	ホ°-トモレスビ°-	ホ°-トモレスビ°-	エラツ°地区現地調査、 移動 (PX209, 15:35発17:25着)
8	7月8日	土			ホ°-トモレスビ°-	団内打合せ、資料整理
9	7月9日	日			ホ°-トモレスビ°-	資料整理
10	7月10日	月			ホ°-トモレスビ°-	ハ°レ付け地区現地調査
11	7月11日	火	ホ°-トモレスビ°-	ウエワク	ウエワク	移動 (PX142, 07:45発10:30着)、 マフ°リック地区現地調査
12	7月12日	水	ウエワク	ホ°-トモレスビ°-	ホ°-トモレスビ°-	マフ°リック地区現地調査、 移動 (PX135, 15:00発17:05着)
13	7月13日	木			ホ°-トモレスビ°-	農牧省、大使館、JICA打合せ
14	7月14日	金			ホ°-トモレスビ°-	農牧省、国際開発局(OIDA)打合せ、 帰国準備
15	7月15日	土	ホ°-トモレスビ°- ケアンズ°	ケアンズ° 東京		移動 (PX090, 07:45発09:20着) 移動 (JL776, 13:20発19:35着)

(C) 面会者一覧表

DEPARTMENT OF AGRICULTURE & LIVESTOCK (DAL)

(農牧省)

Mr. Miri SETAE	Secretary 次官
Mr. Joseph S. WOHUINANGU	Director of Food Management Division 食糧管理局局長
Mr. Alfred BALA	Chief of Commercial Food Investment, Food Management Div. 食糧管理局商業食糧投資部

DEPARTMENT OF FINANCE & PLLANNING

(大蔵・計画省)

Mrs. Marianna ELLINGSON	Ass. Director, Office of International Development Assistance (OIDA) 国際開発協力局 (OIDA)、副局長
Mr. Masayoshi ONO	Adviser (JICA Expert), OIDA 国際開発協力局、JICA専門家
Mr. Joe Kenken MOK	Senior Programme Officer, Bilateral Programmes Branch, OIDA 国際開発協力局

在パプア・ニューギニア日本大使館

林 安秀 氏	大使
田中 康久 氏	一等書記官 (農林業担当)
小林 雪治 氏	二等書記官 (経済協力担当)

JICAパプア・ニューギニア事務所

海老名 捷彦 氏	所長
佐々木十一郎 氏	

RABAUL AREA / ラバウル地区

Mr. Peter BUAK	First Assistant Secretary, Department of East New Britain (ENB) 東ニューブリテン州、次官補
Mr. Nathaniel BURUA	Assistant Secretary, Division of Primary Industry (DPI), ENB 東ニューブリテン州、第一次産業局
Mr. Oswald LATAIN	Division of Primary Industry (DPI), ENB 東ニューブリテン州、第一次産業局
Mr. Martin TOVADEK	Chairman of OISCA Board オイスカ委員会議長
荏原 美知勝 氏	オイスカ産業開発協力団ラバウル研修センター団長
Mr. John MOXON	Institute Director, PNG Cocoa & Coconut Research Institute (CCRI) PNGココア・ココナツ研究所所長
Mr. Gady LING	Agronomist, Lowlands Agriculture Experiment Station, DAL 農牧省低地農業試験場

DAL/ERAP Grain & Rice Development Station

(農牧省エラップ穀物・米開発試験農場)

Mr. Martin RAURELA Director, ERAP Grain & Rice Development Station, DAR
農牧省エラップ穀物・米開発試験農場場長

Dr. R. Chris DEKUKU Research Coordinator, Grain and Rice Research/Development Project,
DAL
農牧省穀物・米研究開発プロジェクト担当

Mr. Arsenio R. SAMIANO Farming System Research and Development Coordinator, DAL
農牧省営農システム研究開発担当

DAL/BEREINA Grain & Rice Development Branch Station

(農牧省ベレイナ穀物・米開発試験分場)

Mr. Joseph INIAUMA Director, BEREINA Grain & Rice Development Branch Station
農牧省ベレイナ穀物・米開発試験分場場長

Mr. Charlie KUEKUE BEREINA Grain & Rice Development Branch Station
農牧省ベレイナ穀物・米開発試験分場

Mr. Galamo RAGA BEREINA Grain & Rice Development Branch Station
農牧省ベレイナ穀物・米開発試験分場

DAL/MAPRIK Grain & Rice Development Branch Station

(農牧省マプリック穀物・米開発試験分場)

Mr. Jack Quinding Director, MAPRIK Grain & Rice Development Branch Station
農牧省マプリック穀物・米開発試験分場場長

Mr. Andren MAIKA Rice Rural Development Officer, MAPRIK Grain & Rice Development
Branch Station
農牧省マプリック穀物・米開発試験分場、米地方普及担当

(D) 収集資料一覧表

<報告書>

1. Economic & Development Policies (Department of Finance and Planning: DFP)
2. 1995 Estimates of Revenue and Expenditure Part 1 (DFP)
3. 1995 Estimates of Revenue and Expenditure Part 2 (DFP)
4. Public Investment Programme: 1995-1999 (DFP)
5. Abstract of Statistics 1995 (National Statistical Office: NSO)
6. Government Finance Statistics 1984-1988 (NSO)
7. Gross Domestic Product and Expenditure 1987-1991 (NSO)
8. Economic Indicators 1995 (NSO)
9. International Trade Export 1991 (NSO)
10. International Trade Import 1990 (NSO)
11. International Arrivals and Departures 1994 (NSO)
12. Consumer Price Index 1995 (NSO)
13. Export Price Index 1991 (NSO)
14. Import Price Index 1984-1988 (NSO)
15. Building Statistics 1994 (NSO)
16. Annual Business Census 1990 (NSO)
17. Rural Industry 1986 (NSO)
18. Secondary Industries 1989 (NSO)
19. Domestic Factor Incomes by Region and Province, 1983-1984 (NSO)
20. Agricultural Largeholdings 1989
21. Rice Research and Training Project (DAL/IRRI)
22. Rice Production in Papua New Guinea (DAL)
23. Food Crops and Alternative Crops (DAL)
24. Papua New Guinea - Australia Development Cooperation Programmes
25. Farming Systems in Ramu and Markham Valleys (DAL)
26. Rice/Grain Development Programme Foundation for Food Security (DAL)
27. Mamose Region Beef Cattle Development Plan (DAL)
28. Strategies for Grain Industry Development Cooperation (DAL)
29. Rabaul Volcanic Disaster Needs Assessment Mission Final Report (AIDAB)
30. Volcano Town the 1937-43 Rabaul Eruptions (R.W.Johnson & N.A. Threlfall)

<地図>

1. パプアニューギニア全土 1:2,500,000
2. ラバウル地区 (1:250,000、及び1:50,000)
3. エラップ地区 (1:250,000、及び1:100,000)
4. マブリック地区 (1:250,000、及び1:100,000)
5. ベレイナ地区 (1:250,000、及び1:100,000)

(E) 公共投資計画1995-1999の農牧省案件

FIP NUMBER: 1011

PROJECT NAME: GRAIN AND RICE DEVELOPMENT

EXECUTING AGENCY: Department of Agriculture and Livestock

PROJECT OBJECTIVES: To save foreign exchange through the production of local feed grain. To develop production methods and investigate major agronomic constraints facing producers of feed grain, peanuts, rice and cattle. To monitor production and assist producers. To develop infrastructure. To identify potential production sites and explore marketing opportunities both domestically and overseas.

PROJECT STATUS: Phase 1 of the project commenced in 1988 and ended in 1992. Phase 1 placed emphasis on research into commercial production systems and on developing new crop varieties. A review is being done under Phase 2 of the project to develop smallholder semi-mechanized grain, peanut and rice production, develop sustainable rice milling and marketing and establish mixed farming system. Phase 2 commenced in 1993 and will end in 1997.

PROJECT COMPONENTS: The project components include: (i) Rice Research and Development (ii) Food Grain Research and Development (iii) Cattle Research and Development (iv) Peanut Research and Development

PROJECT LOCATIONS: Central, Morobe, Gulf, Milne Bay, Oro, Madang, East Sepik, Sandaun and East New Britain provinces.

PROJECT JUSTIFICATION: Government policy supports import substitution in commodities where local production has a comparative advantage. Government support is necessary to assist private sector involvement in import replacement of peanut and feed grain.

INSTITUTIONAL CAPACITY: A total of 13 officers are currently implementing the project. The Department of Agriculture and Livestock has acquired two rice experts from the International Rice Research Institute to assist in the rice component. Further assistance is forthcoming from JICA under its Food Aid Program (2KR Increase Food Production). This will see the provision of agriculture machinery, fertilisers and chemicals to be used by farmers in two main areas; Markam Valley & Bereina.

PROJECT BENEFICIARIES: Smallholder farmers benefit from information derived from research and extension services, the rice and grain credit facility and increased employment generation.

PROJECT SUSTAINABILITY: The sustainability of the project will depend on a development plan for the industry based on research into all aspects of the grain and rice industry. In grain such as sorghum and stock feed, import restrictions may be required to assist the local grain industry. Research into the feasibility of large scale rice and grain industry is being carried out. The results will be used to draw up a development plan for the industry.

EMPLOYMENT GENERATION: Nine (9) positions will be directly created under this project. This will include: six (6) Scientific Officers; and, three (3) Rural Dev. Officers (RDOs). A total of thirty six (36) Labourers will also be recruited.

PIP NUMBER: 1002

PROJECT NAME: SMALLHOLDER COCOA/COCONUT REHABILITATION AND EXPANSION
(SCCREP)

EXECUTING AGENCY: Department of Agriculture and Livestock

PROJECT OBJECTIVES: To increase cocoa and copra production and incomes of participating farmers and to introduce an effective extension package in the provinces to assist smallholder cocoa and coconut growers.

PROJECT STATUS: The project is being implemented in a phased manner covering selected provinces. Phase 1 was implemented from 1988-92 and covered the provinces of North Solomons and Madang; Phase 2 from 1989-93 covering ENB, East Sepik and New Ireland and Phase 3 from 1990-94 covering WNB, Oro, Central and Milne Bay. The project, though envisaged to be completed in 1994, has been extended to allow full completion of components that have been hampered by funding constraint. Transition arrangement, particularly aims at determining the recurrent funding implication of the project is being worked on by DAL and DOFP with the aim of fully absorbing the recurrent cost of the project in 1996. Phase 4 of the project is under design.

PROJECT COMPONENTS: (i) Provision of extension training. (ii) Training of smallholders. (iii) Capital works including houses and access roads.

PROJECT LOCATIONS: Phased introduction into all cocoa and coconut growing areas: Phase 1 - North Solomon & Madang, Phase 2 - East New Britain, East Sepik, New Ireland, Phase 3 - West New Britain, Oro, Central, Milne Bay, Phase 4 - Under design.

PROJECT JUSTIFICATION: There is a need to fully exploit the smallholder income earning opportunities and overcome weaknesses in provincial agricultural services through the use of easily replicable extension packages.

INSTITUTIONAL CAPACITY: There are currently eight (8) officers and 32 labourers working on the project. A Memorandum of Understanding has been signed between DAL and the respective provincial departments for the provincial DPIs to carry out extension in the provinces.

PROJECT BENEFICIARIES: The beneficiaries of this project are the smallholder cocoa/coconut growers in the selected provinces.

PROJECT SUSTAINABILITY: Once completed, responsibility for sustaining project activities will be borne by DAL as well as the respective provincial departments as per the various MOUs that have been signed between the parties. Extension will have to be supported fully so that increase productivity will be realised.

EMPLOYMENT GENERATION: There are currently eight (8) officers and thirty two (32) labourers working on the project.

PIP ESTIMATES BY AGENCY - 1995 BUDGET (in thousands of kina)

SECTOR: PROVINCIAL DEPARTMENTS

AGENCY: PROVINCIAL DEPARTMENT - ENB

NO.	PIP PROJECT NAME	PROJECT STATUS AT END OF 1994	PROJECT STATUS IN 1995	1994		FUNDING TYPE/SOURCE	1995 EST			1996 EST			1997 EST			1998 EST						
				APPROP	REVISED		IN-BUDGET	EX-BUDGET	TA	IN-BUDGET	EX-BUDGET	TA	IN-BUDGET	EX-BUDGET	TA	IN-BUDGET	EX-BUDGET	TA				
							GOPNG	DONOR	GRANT	TA	GOPNG	DONOR	GRANT	TA	GOPNG	DONOR	GRANT	TA	GOPNG	DONOR	GRANT	TA
1075	POMIO-BAINING INTEGRATED RURAL DEV. PROGRAM	TERMINATE	PIP TRANSFER	602.2	602.2	GOPNG	579.4															
1495	CUSTOMARY LAND REGISTRATION	PIPELINE	START-UP	0	0	GOPNG	100															
1480	POPULATION & FAMILY PLANNING	ONGOING	ONGOING	315.8	315.8	L/BRD	65.4	25.4		206.7	24.8		212.8				112.5					
1503	DEPT. MANPOWER DEVELOPMENT	PIPELINE	START-UP			GOPNG																
1504	COMM. GOVT. FACILITIES DEV.	PIPELINE	START-UP			GOPNG																
1505	FOOTBRIDGE DESIGN & CONST.	PIPELINE	START-UP			GOPNG																
1494	SMALLHOLDER RICE PROD.	PIPELINE	START-UP			GOPNG																
1531	RABAUL RESTORATION		START-UP			L/BRD	3,300.0	12,000.0														
		SUB - TOTAL					4,044.8	12,025.4	0	0	206.7	24.8	0	0	212.8	0	0	0	112.5	0	0	0
		TOTAL		918	918		16,070.2	0		231.5	0		212.8	0		112.5	0					

- Note: 1. L = Loan
 2. G = Grant
 3. TA = Technical Assistance
 4. IN-BUDGET = GOPNG Input + Donor Input + Grants thru budget
 5. EX-BUDGET = TA's + Grants outside budget
 6. 1995 Estimate is therefore the TOTAL IN-BUDGET (4 above)

(F) オーストラリア政府のPNG援助案件一覧表

PAPUA NEW GUINEA - AUSTRALIA
DEVELOPMENT COOPERATION PROGRAMME

OVERVIEW

Joe - Copy.

14 July 1995

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMTS (A\$'000)	EST. DONOR CONTR. (A\$'000)					TOTAL GOPNG COMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC.94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
AGRICULTURE																
1. Cocoa Quality Improvement (CQUIP) (PIP 1178) 1991 - 1995 J. Woiwani (Extension)	3,200	648	567	100			700	0.3	20	25			651	123	774	AusAID approved 18 months extensions. Components of project include Research, Extension Service & Info., Training and Project Mgmt. Full assessment report done after the volcanic eruption. DAL to submit proposals under the project. Need housing for adviser. AusAID to contact Moxon for housing. K50,000 appropriated in the 1995 budget under DAL. PCG set for end of July, 1995.
2. Mapping Agriculture Systems Project (Non PIP) B. Sawai	1,000	200	420	221	0		35	15	10	10			100	100	200	Publication of database containing info. on village agriculture for national & provincial level planning completed in six provinces. Data work survey still being undertaken in 12 provinces. Undertake training - fieldmapping, data management & analysis. Progressing well.
3. Agriculture Quarantine Inspection Service Design Study (New)	11,500	305	4,600	3,580	3,110								0	130	130	Feasibility study undertaken for the Quarantine. Inspection Service in mid Oct. 94. PDD finalised. AusAID to advise level of part funding to DOFP. Mobilisation in early July 1995.
FORESTRY																
1. Rapid Resource Appraisal (PIP 1270)(1992 - 1995) B. Gover	2,000	1,100	100	0	0	0		124	83	85			620	464	1,084	Fire in June, 94, damaged equip/facilities. Disrupted progress of the RRA programme. Mr Ferraris of AusAID assessed equip/facilities to replace equip. etc. AusAID approved \$200,000 (K170,000) to purchase equip, replacement of equip/facilities for the project. Australian Govt handed over project to the GoPNG.
2. Forestry HRD	11,000	315	2,500	4,000	4,200			0.6					61	20	81	Revised PDD endorsed. CVs for Team members to be approved by GoPNG. Desk appraisal of the project within next 2 months. CHE is implementing agency. Min. Binley approved A\$11m on 2/12/94 for the project. AusAID negotiating contract.
3. PNG Resource Information System (PIP 1273)(1988 - 1996)	1,750	3000.0	150	0			290	93	145	52			1,637	615	2,252	Fire that destroyed NFS in June 94 has setback development to this project. AusAID's prompt response to assist in replacing the equipment has given the project on the road again. AusAID handed over project to GoPNG on 27/06/95.
4. NFCAP Trust Funds	0	0	0	0	0	0										AusAID advises that a balance of US\$1 million is undisbursed. NFA to advise status of funding received from the WB for NGO small-scale projects.
5. PNGFA Transit Housing	1,208	0	0	0	0	0										AusAID approved request. All housing materials purchased locally through SMEC. Purchased kit housing under CASP arrangements.

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMTS (A\$'000)	EST. DONOR CONTR. (A\$'000)					TOTAL GOPNG COMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC.94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS
		94/95	95/96	96/97	97/98	98/99		94/95	95/96	96/97	97/98	98/99				
		FY	FY	FY	FY	FY		FY	FY	FY	FY	FY				
ENVIRONMENT																
1. Oro Conservation Project (PIP 1453)	4,300	246	1,300	1,000	1,500								5	420	425	Project commenced in mid 1994. AusAID MC is AACM Intern1 P/L in association with Australian FSP, Sheddon Agribusiness P/L & CSIRO Entomology Division. AMC mobilised & settled in Popondetta. AusAID to advise status of MOU.
2. Validation of OTML Heavy Metal Monitoring of the Fly River	125	99	0	0			Recurrent						924.9	n/a	n/a	Consultant scientist Dr David Gwyther conducted an Indep assessment on 26 Oct. 94 for 3 weeks, on validation of trace metal analyses in water & fish tissue samples as reported by OTML. Assessment of OTML's procedures for compliance with intern1 standards, evaluation of the National Analysis Laboratory for metal analysis. Study completed. Samples now sent to NZ for independent assessment.
3. Management Plan Western Gulf & Coastal Zone Management	1,000	308	640	1,000	2,000		recurrent	19	100				n/a	n/a	n/a	Initial pre- feasibility study has been completed. Report provided. Comments received incorporated and accepted. AIDAB to proceed with preparation for commencement of project. AMC to find savings in training budget to fund additional training.
4. DEC Strengthening Project (PIP 1264)	5,700	345	2,688	2,040	3,090								674	80	754	MOU signed. PID commented on. BWR now included in the project scope. Some BWR procurement of supply under CASP.
5. Water Hyacinth Project	0	0	800	0	0	0										PNG requested for extension. Extension agreed. Project 'PIPed'.
RURAL DEVELOPMENT																
1. North Simbu Rural Development Project (PIP 1288)	10,900	1,600	3,500	2,374	941		7,825.00	303	2765	2821			42.1	462.0	609	Project progressing well. MOU signed on 15 August 1994. Joint supervision mission from 24- 28/4/95. TAs already in Simbu awaiting funds released from IFAD. Trust Deed signed by Min. Haiveta & trust instrument signed by Sec. Acpi to enable IFAD loan funds to be deposited in the trust a/c at BPNG. BPNG has been instructed to open trust a/c. Awaiting advise from BPNG of a/c no. & other pertinent details. For SSRDP - PNG to comment on MOU amendment and forward to AusAID.
2. Kandrian Gloucester Integrated Rural Development Project (PIP 1146)	10.6	6.5	3.6	3.0									1800	4000	5800	Review was conducted May- June, 95. Recommendation agreed to in principle. Await final review report from AusAID.

30 July 1995

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMMTS (A\$'000)	EST. DONOR CONTR. A\$'000					TOTAL GOPNG COMMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC. 94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS	
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY					
EDUCATION & TRAINING																	
1. Secondary Schools Student Scholarship	9100 (Ongoing)	7834	9900	8100	5400	1800	ongoing	298.7	400.0	400.0				7305	3000	10307	A Review was undertaken from 11 - 31 Oct 94. Inter- alia review recommended a gradual phasing out of project by 1997. This move will have to be undertaken slowly & may not be done in 1997 as previously envisaged due to internal infrastructure in the high school top- up not in place. The number of students may have to remain at 200 p.a. until capital works at Kondu & Papiatal are in place for the 1996 in- take of students. PCG date to be confirmed by AusAID within the next week.
2. ASTAS (formerly ICSS awards)	7900	5213	8100	8500	8500	8500											AusAID currently preparing TOR for joint review.
3. Community Teachers College Lecturers Training Project (PIP 1295)		463	247	0										366	230	596	Project has been extended for one year, into 1995 & early 1996. Extension caters for those who did not complete their studies to continue and complete their course work. AIDAB as yet to complete contract arrangements. Any ext past 1996 is subject to further assessment. Further interventions to be considered in the context of the Teacher Educ. Prog. W/shop in Goroka in 7/95. PCG in 6/95 and completion PCG in 12/95.
4. Overseas Student Charge- Private Students		20	10	5										34	0	34	Completed.
5. Payments to educational and training institutions in Australia.	Ongoing (Annual)	3.0	2.5	2.6										1450	1100	2550	Managed by AusAID in Australia
6. Student Training Allowances in Australia. (PIP 240)	Ongoing (Annual)	4.8	4.4	4.6										2103	2250	4353	Managed by AusAID in Australia
7. Short Term Training Courses	60	250	500	500	500	500								57	97	154	Managed by AusAID in Australia. OIDA to formally request assistance from AusAID. Mamac in charge.
8. Upgrading Provincial High Schools	61	6750	3950	0	0	0								18	70	88	AusAID is currently finalising the PDD for the topping up as planned. SMEC selected as AMC. Contract negs underway. Fieldwork begins once contract agreed. Kondu & Fatima equipment under CASP. MOU in preparation. Need to begin capital work in 1995 on the 2 high schools in order to have Grade 12 student in- take in early 1996. How can we fast track the process. AusAID to advise as there is scope to fast- track.
9. Teacher Education Programme	0	0	500	9245	9025	8350								0	67	670	3 components - Madang, POM and GTC to be included in PDD. AusAID to respond to request. Draft TOR with PNG. Design mission later in 1995.
Components:																	
Goroka Campus Upgrading	0	0	0	2500	0	0											- undefined.
Madang Teachers' College	0	0	0	1100	3500	1000											- undefined.
POM Inservice College Upgrading	0	0	0	0	0	0											- undefined.
Grade 7&8 Teacher Upgrading (Primary)	0	0	0	2500	2500	2500											- undefined.
Special Education	0	0	0	420	400	300											- undefined.
Elementary Vernacular Education	0	0	0	2500	2000	4000											- undefined.
CTC next phase (Teacher Education Staff)	0	0	0	225	625	550											- undefined.

24 July 1995

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMMTS (A\$'000)	EST. DONOR CONTR. A\$'000					TOTAL GOPNG COMMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC. 94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
10. Education & Training Resource Study		300	0	0								0	300	300	Study undertaken by AusAID, GoPNG and ADB. Final draft report to be forwarded to Govt for comment. DOPP to get Cabinet endorsement & roundtable meeting of donors to be held in 7/95.	
11. Education & Training Sector Development	30	25	25	25	25							11	0	11	Sector report endorse for implementation as of June 8/94. Various projects.	
12. Teacher Supply & Demand Study		0	0	0								62	0	62	Study completed. Final report received.	
13. Volunteer Teacher Program	8.5	1.2	2.0	2.0			0.5	0.4	0.5			n/a	n/a	n/a	Ministerial Approval given for 37 teachers to be placed in PNG high schools, vocational centres and teachers colleges in Feb 95. OSB and DOE to jointly manage the program. Housing to be excluded in prog. OSB is having problems in recruiting to meet the target of 37 teachers. Currently there are 16 volunteers. A few more are likely to be in PNG in 7/95.	
14. IDP Universities Development Project	55	43	0	0	0	0						194	60	254	Project Completed. Completion Report received. 1 student on-award to mid- 95.	
15. Trade Testing & Certification System	73	73	1968	10683	5132	1372							40	105	Under tender. PDD being considered. Some anomalies identified and in need of clarification. Progression to implementation subject to adequate staffing in NATTB. DOE Tech. Div. to put paper to Nat. Educ. Board for approval for transfer of progs eg. Mt hagen to Madang. PNG to respond on PDD in mid- 6/95. 2 main issues: transfer of progs approved by NEB & approval of NATTB for institutions to offer the progs levels I, II & III trade testing. Staffing- DPM to approve structure of secretariat serving NATTB. Secretariat wants 6 positions immediately. Govt trying to address recruitment & structure. DOPP helping with staffing requirements for NATTB. DPM approved 4 positions on 2/5/95 for recruitment by DLE. Internal mtg set for 7/7/95.	
16. Female Participation Study	12	7	143	0	0	0									Completed. Report received.	
17. Expansion of Grades 7&8 - Materials (CASP)	364	3	9000	0	0	0									Tenders closed. SMEC assessing. 12 weeks lead time. MOU/EOL in preparation. Materials to start arriving in 8/95. Packaging on a school- by- school basis to ensure quick & efficient delivery.	
18. Expansion of Grades 7&8 - Infrastructure	0	0	1000	2000	2000	2000									TOR under preparation by AusAID Canberra. Check with ADB whether still interested in non- formal training. Look at structured and non- structured non- formal education study.	
19. In- country Short Term training	60	47	250	500	500	500									OIDA to formally request assistance & agree on TOR.	
20. Fast - Track Interim Assistance	0	0	500	0	0	0									Subject to proposal being submitted to DOE & development of an appropriate disbursement mechanism. To cover Lahara training of teachers & cost of running the courses. To help upgrade teachers' skills between now & early 1996 - an essential part of the reform process. Need a trust a/c mechanism. Not sufficient details yet.	

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMMTS (A\$'000)	EST. DONOR CONTR. A\$'000					TOTAL GOPNG COMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC. 94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS	
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY					
Fast-Track Interim Assistance (continued)																on the PDD.	
22. English Radio Broadcasting	0	0	0	0	0	0										Not programmed.	
23. Elementary Infrastructure	0	0	0	0	0	0										Undefined. TOR under preparation by AusAID Canberra to be considered in the context of Grds 7 & 8 Expansion infrastructure.	
24. PNG Colloquium	0	0	0	0	0	0		1	200	200						No funding has been provided in the programme. NRI proposal to be considered for funding from main aid programme. OIDA to advise NRI as chairperson of Colloquium. Completed.	
<p>Note: ADCOS Awards are outside the aid programme and funded under global funds by AusAID. The programme was formerly known as Equity & Merit and later John Crawford Scholarship Scheme. ADCOS is solely managed by AusAID.</p>																	
HEALTH																	
1. Hospital Operation & Management Improvement Project (PIP 1403)	7.60	1.8	4.0	4.0			495	408	2138	2193						Project commenced October 1994 with a launching on "Sustainable Management". Progressing well. PNG contribution is very small. DOH advises that counterparts do not need to be recruited as counterparts are part of the set up. TAs for Port Moresby, Lae & Mt Hagen are filled. 2 other locations - Goroka & Rabaul have not been filled. PCG in early 6/95. PID currently put together in Canberra.	
2. Population and Family Planning Project (PIP 1456)	14.6	1.10	2.5	3.0	-	-		39.5	78.4	91.3				2366		Reflected SAGRIC transfer done.	
3. Support for Child Survival Crash Program	1.65	0.55	0	0										1355	500	1855	Equipment to be purchased this year under CASP arrangements - cold chain & patrol equipment. Arrived in 3/95 & now being distributed throughout PNG. Proceeding well however slow due to remoteness of locations in rural areas.
4. Interim Program HIV/AIDS Prevention							Recurrent								3		All components completed. Status on regional seminar. Study report expected from AIDAB. Project completed in 1994.
5. HIV/AIDS Prevention Project	7.20	0.18	2.0	2.9			0.27								31		Contractor selection almost completed. Mobilisation due in 7/95. In the meantime, AIDAB has been requested to fund an important intervention targeting the transport sex worker industry in PNG who are at high risk for aids and likely to be infected. The total of A\$200,000 to be forwarded. AusAID AIDAB as yet to respond to our request formally. * Workshop on STDs.

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMMTS (A\$'000)	EST. DONOR CONTR. A\$'000					TOTAL GOPNG COMMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC. 94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
6. Medical Officers Training Project (PIP 1391)	2,490	830	2,030	1,800			107.0	886	565	750			323.3	105.0	513.0	4th year of implementation. Problems with Planning & Budgeting to address problem. No vote for this project, drawing from other votes. Need for creation of specific vote. Approval granted for Extension and expansion. EOL in place for the extension for the project. Project will expand to include allied health workers, nurses & medical officers. Med. officers analysis undertaken in 3/95. Awaiting report. Need to look at nursing will be scheduled. DOFP feels that there may be a need to review the project as figures do not seem right after recent study.
7. Malaria Vaccine Trials	4.53	0.65	1.50	1.50										177,720		A cheque for an accountable cash grant of K177,720 was made directly to the IMR for the Malaria Vaccine Evaluation Field Project. MOU signed. Appraisal conducted in 3/95. Awaiting report of appraisal. Appraisal recommend continuation of support. Progressing well.
8. Pigbel Vaccine Supply		0.20	0.03	0.21												Dr Walker's report received & circulated. Report is basis for PNG to enter into contract with the Commonwealth Serum Lab, Melb. Once contract is signed (for 5 yrs) AusAID will release funds amounting to A\$1.335 million for 5 yrs.
9. Selected Provinces Project		0.20	0.08	2.0												Stage I design mission completed. Stage II starts on 15/5/95. Study covered Western, Gulf and Sandaun provinces.
10. Maternal and Child Health		0.13	0.16	5.0												Stage I design mission currently underway. Project agreement to be concluded after UN procedures have been satisfied.
11. Vaccine Supply (Non- programme activity)	2.4	1.2	1.2	0												Purchase of vaccines & needles to meet DOH requirements for 1995. 1st consignment end of 6/95. 2nd consignment due in 12/95. Pharmaceuticals - funding for stocks sitting at the wharf. AusAID wants to look at longterm assistance to make system more funded from soft funds.
INFRASTRUCTURE																
1. Institutional Strengthening of Madang Maritime College	65,989.0	43	3310	1965			516.3	222	222							Mobilisation of TAs in June 1995.
2. Lac City Roads Upgrading (Phase I) (PIP 1523)	500	500	0	0				270	500	500			0	250	250	Minor works (pothole repairs). To cover areas between arterial roads in the port industrial area. Work carried out by day labour. Work has started. MOU in place. Need to have acquittal from DOW for AusAID to release further funds.

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMMTS. (A\$'000)	EST. DONOR CONTR. (A\$'000)					TOTAL GOPNG COMMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC. 94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
3. Lae City Roads (Phase II) - Butbun Bridge Component: . Construction . Social & Gender TA . Environmental Monitoring	3,838,806 3,501,696 23,400 140,510	150	3000	850			138,593									Implementation of Phase II to start in Jul. 95. For construction of principal arterial roads (about 20kms) in the port industrial area. PNG to be responsible for unsealed arterial roads. Selection of AIDABMC currently underway. Land acquisition still outstanding. DOW awaiting land valuation report from LCA in order to make payment to contractor. MOU to be signed after DOW comments have been received.
4. Lae City Roads Phase III - Major Works Components: . Infrastructure . Maintenance . Institutional Strengthening . Program Management	40,000 34,937.6 1,385.0 1,226.0 926.9	1,000	10,781	12,421			1,508									Phase III involves the rehabilitation selected arterial roads approx. 20km (including proposed new roads on the old Lae Airport site) and the reconstruction of roads & streets in the industrial area adjacent to the port. Assistance to LCA to strengthen institutional capacity. Feasibility Study undertaken in Oct 94. Ove Arup has been formally requested to take charge of the topographic survey and endorse its correctness and completeness. Technical design proceeding well. Project start up scheduled for 1/96.
5. Regravelling and Sealing Programme HRD/Mgmt/Monitoring Road works (Acc. Grants)	35,000 2,700 32,300	3,000	4,000	7,500			2,076									Specific projects will be implemented each year throughout the country. place advertisements on 30/4/95 calling for tenders for regravelling and sealing work. Tenders close on 10/5/95. Tenders will not be presented to delegate before signing of the MOU and before being reviewed by the AMC. MOU is still outstanding. DOW to prepare work plan.
6. Kisenpoi (Ialibu Junction) - Mendi (Highlands Highway Project) Direct Contr. - TA & Procurement Acc. Grant - Road & Bridge Construction	47,200 6,700 40,500	5,202	7,470	12,814			2,460									Implementation to start in May/June 95. Total project cost could be higher; approx K26.0mill. 5 bridges identified to be included. Technical design for stage 1 to be finalised. DOW/DOT will confirm whether funds for land acquisition can be utilised from approved funds for the Provincial Bridge Replacement Program. DOT has prepared an NEC submission to appropriate adequate funds for land acquisition for all projects. Land valuation done. DOW to arrange formal land acquisition now that funds are available. MOU still to be signed.
7. Wapenamanda - Wabag Road (Approx. 30km)	32,674	3,390	7,977	7,814			1,762.6									Approx 30kms of road for upgrading & resealing. 5 new bridges & 1 new bridge will be replaced along this stretch. Implementation to start in April 1995. DOW to prepare work plan. MOU to be signed.
8. Bridge Replacement & Upgrading																This study started on 23/4/95, with site visits to East Sepik and Manus. A\$10- 12 million per annum for up to 5 years. Draft design in the next few days.
9. Rabaul Reconstruction Programme																AusAID assistance to cover schools, land transport, & alternative arterial roads. 2 CASP requests already actioned: 1. Rabaul Volcan. Observatory - need 2 staff (TAs). OIDA to check with DPM on possible recruitment. Dept M&P to needs to advertise positions. 3. Design team in Rabaul to carry out design work on the Infrastructure, L7 O and Education sector. GoPNG officials to visit Rabaul to assist in the Design work.

31 July 1995

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMMTS. (A\$'000)	EST. DONOR CONTR. (A\$'000)					TOTAL GOPNG COMMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC. 94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
Rabaul Reconstruction Programme (continued)																2. Schools - AusAID requires formal request from PNG. Civil Aviation - Tokua Airport - equipment - PNG to formally send request to AusAID. Formal requests needed for general participation in the restoration programme and for funding assistance for infrastructure. 3 subcomponents in restoration programme - (a) infrastructure - 3 prov. h/schls & 9 primary approx. cost - A\$19.5 million. (b) roads - approx. cost - A\$10 m. (c) police barracks - cost n/a. Cost of other required assistance - firefighting equipment - A\$1.0, Rabaul V/O - A\$0.9 m, school materials - A\$2.4 (procurement of the other required assistance be via CASP arrangements.
10. Inland Waterways Study																Proposed involvement. DOT is currently drafting TOR for study.
11. DCA Accounting Support																Recom. in sector study report. DCA to respond on counter TOR drafted by AusAID. Proposed TA.
12. DCA Financial & Commercial Plan																Recom. in sector study report. DCA to respond on counter TOR drafted by AusAID. Proposed TA.
13. DCA Fire Fighting & Rescue																Need to seek clarification from DCA on this proposed assistance.
<u>LAW AND ORDER</u>																
1. Police Project Phase II (PIP 1060)		17.8	15.8	21.3									10331	8539	18870	Phase II Project Implementation Document endorsed. Forty-six advisers in country and deployed in 12 locations across 18 functional areas of Policing and Police support. Training programme underway and progressing well. Request for extension of Adviser contracts approved by GoPNG. PCG held on 28.4.95. Issue remains counterpart funding - DOFP to respond. Mid term review completed & draft report presented to Govt at PCG on 28.4.95. PNG to respond on MTR recommendations asap by 19/5/95. MID - no. of advisers should decrease with Phase II. Abscriptive capacity of counterparts - refers also to entry requirements/selection criteria as with CIS proposed officer-upgrading. Police have gone to AusAID direct recently for training assistance. OIDA to get copy of letter from Police asap.
2. Police Project Technical Advisory Group		91	90	80									90	45	135	Scheduled for Oct. 95. AusAID to confirm date.
3. Corrective Institutions Service Phase I																Progressing well. Due to be completed in Dec. 1995. Consultancy on classification just completed. Issue: CIS Commissioner wants to run urgent training to upgrade 60 officers from Aug- Sept. 1995. AusAID needs to have formal request from

31 July 1995

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		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
Corrective Institutions Phase I (continued)																PNG. MID concern: selection criteria should take entry requirements into consideration for sustainability purposes.
4. Corrective Institutions Service Phase II (PIP 1062)		1.8	15.9	41.6									503	275	778	Training Programme underway. AIDAB to finalise Project Design Document (PDD). Technical Adviser in country to assist in design of the Corporate Plan. Urgent need for 3 specialist TAs in the areas of HRD, Project Mgmt & Finance Admin. It is obvious that CIS does not have the capacity to properly manage a project of this magnitude. Need to carry out site inspections of proposed 5 major prison sites including Baisu, Eihute & Keravat. CIS MTR completed on 7.5.95. Issue: further reduction by AusAID of the total cost from K150 m to K50 m. CIS Appraisal & Redesign Report - ref. exec. summary on file. Scaling down of project cost to approx. A\$47m. Report due in 5 weeks time - AusAID to distribute. Implementation may start in Apr - Jun, 1996. Comments on PDD expected in 7/95 & finalisation of PDD for implementation.
5. National Law & Order Justice Council Initiatives.																Even though the Council has been abolished in 2/95, AusAID regards its past work as important due to downstream activities - issue: no coordination now & home for activities initiated by the Council - eg. justice/crime statistics bureau. DAG may become the mother agency for small projects.
6. Legal Services																A proposal for a strengthening project is yet to be done for both Dept Attorney General & the courts/judicial services.
PRIVATE SECTOR																
1. PNG Economic Analysis		196	156	0			none	179	200	200			112	70	182	Draft report with PNG for comments. Year allocations made, phase four information collection was conducted beginning 94. Currently the draft is been presented to the Peer Review Process, wherein academics, experts etc with demonstrated previous involvement in analysis of PNG's Economic draft will be presented to GoPNG to perusal and comment.
2. PNG Private Sector Study		1.5	5.0	22.0									8	340	348	The agreed TOR is with AIDAB. AIDAB advised to proceed with tendering process. Study is to commence in March 1995. Due to the delay in the Private Sector Study, two projects, namely the Start Your Business (SYB) Improve Your Business (IYB) project and IPA's Companies Registration Computerization and Business Information. Study completed on 26/4/95. 1st draft report presented by study team & circulated to all relevant agencies & private sector for comment. Final report in June/July 95.
3. Start/Improve Your Business		600	1.0	0									0	727	727	Request for short term tg prog. from SBDC for 1994 being assessed by Png. AIDAB is prepared to fund.

21 Feb 1995

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		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
OTHER																
1. Program Administrative Support Unit		550	600	650				529	600	600			333	340	670	Request some form of agreement and accountability for use of funds in this activity. AIDAB thinks it unnecessary. It is necessary because the local personnel engaged as support staff at AIDAB post are all being paid from the Bilateral Funds
2. OIDA Support Program		35	35	35									46	46	92	5 support staff funded. Ten computers purchased. AusAID yet to respond if funding will be available to Jan.96. Under the restructure, current staff will be absorbed.
3. Immigration & Citizenship Division Strengthening Project		234	176	0									102	1400	1502	Draft Project Implementation Document (PID) yet to be finalized. Migration control, Registry and Passports components progressing well. Cabling works in progress. UPS connection, printery of newly designed application forms delayed due to unavailability of counterpart funds. GoPNG to request for extension of project to Phase II to accommodate other designed points of entry around the country, and PNG missions & DLE Work Permits Division. Phase II approved by AusAID to proceed in 1996.
4. Small Grants Scheme (PIP 1299)		500	500	1.5									351	250	601	Substantial underexpenditure still exists. To see Mamac on issues affecting expenditure.
5. Land Mobilisation Project (ACLMP) (PIP 1027)		3.8	2.6	2.2									600	1540	2140	DLPP is yet to comment on the draft MOU. Project redone to accommodate 11 TAs to replace contract officers. 6 counterparts to be recruited. Urgent need for funds to carry out maintenance work and pay insurance cover for all expensive sensitive, mapping equipment. Counterpart staff is the main issue and remains outstanding. DPM Sec. has no problems to recruitment of c/part staff for the NMB so long as DLPP makes staff cuts elsewhere in keeping with the move towards a 7.5% reduction in the public service.
6. Rabaul Heat Flow Survey		0	0	0									54	0	54	Completed. Report with GOPNG.
7. Sector Program Development		970	1.0	2.4									520	600	1120	No formal arrangement in place to guide the usage of these funds. Need to discuss these with AIDAB.
8. Commodities Assistance & Supply Program (CASP)	30.0	4.9	8.0	10.0									95	0	95	MOU signed in Jun 94. Mechanism used for procurement of emergency suppliers for the Bougainville rehab. program. Assisted in Bougainville & child survival crash programme. AusAID to provide OIDA of list of all activities under CASP.

04 July 1995

SECTOR/PROJECT DETAILS	TOTAL PROJECT COMMTS. (A\$'000)	EST. DONOR CONTR. (A\$'000)					TOTAL GOPNG COMTS (K'000)	EST. PNG CONTR. (K'000)					(A\$'000) ACTUAL DISBMTS JUNE 94	EST. DISBMTS DEC. 94	EST. TOTAL DISBMTS 1994	STATUS/REMARKS
		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY		94/95 FY	95/96 FY	96/97 FY	97/98 FY	98/99 FY				
BOUGAINVILLE REHABILITATION PROGRAM <u>A\$10.0 million package</u>		3.5	4.0	0									2928	100	3028	Request AIDAB to itemise expenditure on this program.
1. International Red Cross/PNG Red Cross (various community activities)	500	500	n/a	n/a									n/a	n/a		
2. Health activities, equipment & design work on health centres	1.5	1.5	n/a	n/a									n/a	n/a		Design completed. Work to start in July 1995.
3. Proposed Health Facilities Upgrading- Buln, Wakunai, Sohano/Buka	3.7	n/a	n/a	n/a									n/a	n/a		Work to start in July 1995.
4. Proposed Construction of Wharves - Mamagota and Kangu	2.8	n/a	n/a	n/a									n/a	na		Construction of Mamagota to commence in July 1995.
5. Proposed Education Facilities	2.0	n/a	n/a	n/a									n/a	n/a		Govt to comment on PDD.
6. Care Centres	100	100											0	100		Emergency aid of 60 tonnes of rice (locally procured) & plastic sheeting for shelter (ex- Aust.) & charter of a Hercules aircraft for transportation from Aust. to Lac - for distribution to B'ville.
<u>A\$4.0 million package</u> 6. Textbooks, Health equipment, Education Materials, NBC Transmitters & other priority emergency equipment	4.0	0	0	0									n/a	n/a		Procurement through CASP mechanism. Contractor: Snowy Mountain Engineering Corporation (SMEC). Some Equipment is still been assembled and is still in Australia. All equipment now in PNG. Site preps & installation underway under joint supervision with SMEC.
GRAND TOTAL FOR PROGRAMME AID		77.3	118.6	154.9									38,509	34,229	72,738	The Treaty figure for the 1994/95 FY is A\$77.3 m. A reduction of of an additional A\$5 m was made in the 1993/94 FY due to over-programming hence the reduced amount for the 1994/95 FY.
BUDGET SUPPORT (As per the agreed 1992 Treaty figures)	Annually	213.4	177.8	142.2									17.0	17.0	17.0	Budget support is paid in monthly installments direct to the Waigani Public Account in the BPNG. Installments for Oct., Nov., and Dec. 1994 were paid in lump sum in Oct. 1994 during the cash crisis.

(G) Terms of Reference (Draft)

**Application for the
Technical Cooperation (Development Study)
by the Government of Japan**

1. Project Digest

(1) Project Title

“Master Plan on Rabaul Area Rural Reconstruction Project”

(2) Location

The Study Area lies on the Gazelle Peninsula in the eastern end of East New Britain Province and is located at about 800 km northeast from Port Moresby, the capital of Papua New Guinea (PNG). The capital city of the East New Britain Province is Rabaul, which is located at the northern part of the Study Area.

(3) Implementing Agency

1) Name and function of the agency

The Department of Agriculture and Livestock (DAL), the Province of East New Britain (PENB), will act as the implementing agency of the Study and will coordinate the related organizations for smooth implementation of the Study. DAL and PENB will also assist the Japanese Study Team for carrying out the necessary surveys such as present land use, existing irrigation system, sub-soil investigation and soil classification etc..

2) Number of staff members of DAL

(To be filled by DAL)

- Name of reference division in DAL
- Number of reference division staff
- Number of project staff

(To be filled by PENB)

- Name of reference division in PENB
- Number of reference division staff
- Number of project staff

3) Budget allocation to DAL & PENB

(To be filled by DAL & PENB)

4) Organization chart

(To be filled by DAL)

(4) Justification of the Project

1) Present conditions of agriculture sector

PNG has a land area of 463,000 sq.km of which 85% is on the main island and the remainder is spread over some 600 islands. The main island is dominated by actual central cordillera dividing north from south.

The country has a population of over 4 million and a growth rate of 2.0% per annum. Of the total population of PNG, 80% live in the interiors of the main islands and the remaining 20% inhabit the coastline of its many islands. Average population density is quite low; less than 8 person per sq.km. Towns with the higher economic activities are Port Moresby, Lae, Goroka, Mt. Hagen and Rabaul.

The agricultural sector still plays an important role in Papua New Guinean economy as well as in its social aspects, although its economic share has been reducing in recent years. The sector accounts for about 30% of total Gross Domestic Product (GDP) and 80% of Papua New Guineans have depended on agriculture for their livelihood.

During the past decade, the main agricultural exports - coffee, cocoa, oil palm, copra experienced a decline of 60 to 70% in world market prices, resulting in a fall in export earning, employment and rural incomes.

Since 1960s, the extent of area cultivated has been increased; for instance, coffee areas have been increased fourfold and cocoa area have been doubled. However, the area for major staple food crops is reported to have increased by only 40 to 50% although the rural population have been doubled.

2) National policy of agriculture development

In these circumstances, the Government has given the highest priority to agricultural development policy in the series of the National Public Investment Programme. Government is continuing to give price support to the treecrop sector where necessary and has taken several steps to develop the sector to improve farmer's incomes and food production. DAL is in the forefront of this ambitious exercise.

In the past, the Government policy has stressed the production of export tree crops, and emphasis on food production has been secondary to some extent. The Government policy now recognizes that food production is important not only to improve nutrition, but also from the view point of crop diversification and import substitution. The Government places high priority on improving the nutrition, increasing the food security and improving the marketing of foodstuffs so as to substitute for imported food.

3) Problems to be solved in agricultural sector

(To be filled by DAL/PENB)

4) Outline and objectives of the project

The recent twin eruptions of Tavurvur and Vulcan volcanoes have destroyed the Rabaul city and its surrounding affecting the livelihood over 50,000 people. These displaced people have been temporarily located in over 33 care centers throughout the Gazelle Peninsula. The Government of PNG has acquired agriculture plantation over 320 ha of land and 100 ha of state land for the objective of resettling the displaced people.

On the other hand, development of the smallholder rice production project is one of the most important initiatives of the Government of PENB to overcome the difficulty in feeding the affected population within the care centers and in resettlement areas.

In order to solve the problems mentioned above, the project aims at the following objectives;

- To facilitate the necessary rehabilitation and reconstruction of Rabaul rural area after the volcanic disaster on 19 September 1994;
- To relocate and settle displaced people from those villages affected by eruption;
- To promote the return of displaced people to the other big cities and to recover the public peace and order in the big cities such as Port Moresby, Lae;
- To introduce the irrigation agriculture and to encourage the irrigated food production in order to achieve self-sufficiency of national food requirements;
- To increase the export of agricultural products and to activate the rural economy;
- To increase employment in the agricultural sector and to reverse recent rise in unemployment; and
- To promote a market economy in the agricultural sector and agricultural supporting services.

5) Prospected beneficiaries

(To be filled by DAL/PENB)

6) Project priority in National Development Plan

(To be filled)

7) Desirable Commencement of the Project

In consideration of the above circumstances, the project shall be commenced as soon as possible.

2. Terms of Reference

(1) Necessity of the Project

Rabaul, the Provincial capital of East New Britain, has been built on a vast volcanic crater which has three active volcanoes inside it. The enormous crater also forms a safe, natural harbor for the town, and in the hundred years or so since the establishment of the Rabaul the town has grown extensively around the foreshores of this harbor.

Rabaul and its surrounding area is basically agricultural province with farming as the main livelihood. Most of farmers are dependent on a combination of subsistence production and cash cropping. Main cash crops are cocoa and coconut.

On 19 September 1994, two of the volcanoes fringing Simpson Harbor, Vulcan and Tavurvur, erupted. As a result, Rabaul town suffered extensive damage to the north and north west of both volcanoes due to ash, and also in the case of Vulcan, due to pyroclastic flows which flattened trees and buildings. The livelihood of over 50,000 people were effected.

These displaced population have been temporarily located in over 33 care centers throughout the Gazelle Peninsula. The Government of PNG has acquired agriculture plantation and state land for the objective of resettling the displaced people. Over 20,000 people have resettled in the above mentioned land. Cocoa and coconut sector have been troubled by eruption and there has been a continuous lack of funding for research and extension activities at the Cocoa and Coconut Research Institute (CCRI) in Kerevat.

The study on urban volcanic disaster was already conducted by Australian International Development Assistance Bureau (AIDAB) but the study for rural area is not conducted. The Government is now preparing a comprehensive agricultural programme which will include cash-crops rehabilitation, introduction of new food-crop (i.e. rice) and improvement of agriculture extension programme.

(2) Necessity of the Japanese Technical Cooperation

In consideration of the project scale, difficulty and its circumstances, the Government of the Papua New Guinea has decided to request the Government of Japan for the implementation of the Master Plan.

(3) Objectives of the Study

Objectives of the Study are as follows:

Inventory Study: To collect and compile the existing data in the Study Area and to prepare an inventory of care centers and resettling areas.

Master Plan Study: To formulate a master plan for the integrated agricultural development and to select priority projects.

Feasibility Study: To conduct a feasibility study on the high priority projects.

(4) The Study Area

The Study Area of approximately 100,000 ha lies on Gazelle Peninsula in the New Britain Island, as shown in Appendix 1. Presently cocoa and coconut plantation are grown in the Study Area. There are three active volcanic mountains in the northern part. Warangoi river is the largest river in the Study Area and a relatively flat area lies along the Warangoi River.

Rabaul and its surrounding area fall under the tropical rain forest climate which has two pronounced season, dry from May to October, wet during the rest of the year. Annual rainfall is around 2,000 mm.

(5) Scope of Study

The Study shall be divided into three (3) Phases, each phase consist of the field survey, data collection and study and analysis at the job site also at the home office in Japan.

During the volcanic eruption, most of the data available at the governmental organizations have been lost, an Inventory Study should be carry out before the Master Plan, to collect the data from the disaster areas.

Detailed study items are as follows:

Phase I: Inventory Study

- To collect and process all available hydrology, soil, land use, geology data;
- To collect and process all available agriculture, forestry, rural economy and environment data;
- To collect and study the reference reports of Rabaul volcanic disaster;
- To survey the conditions of care centers and resettlement area; and
- To identify basic development policies.

Phase II: Master Plan Study

- To survey and analyze the existing conditions of the Study Area; (meteorology, hydrology, geology, soil, land use, agriculture, rural infrastructures, care center, irrigation & drainage, environment, socio-economy, agro-economy and reference development plans etc.)
- To identify potential rice cultivation;
- To conduct the remote sensing for volcanic disaster and land use survey;
- To identify development constraints and potential;
- To formulate the master plan for Rabaul Area Rural Reconstruction Project;
 - a) Rural infrastructure development plan
 - b) Resettlement area development plan

- c) Rice development plan
 - d) Agriculture diversification plan
 - e) Agricultural marketing and processing plan
 - f) Agricultural supporting plan
 - g) Environmental impact assessment
- To select the high priority projects; and
 - To specify necessary topographic and geological survey items.

Phase III: Feasibility Study

- To conduct a feasibility study on the high priority projects identified in the master plan;
- To carry out topographic survey, boring and soil mechanical test for priority project;
- To prepare design and cost estimation;
- To prepare economic analysis and determine economic values for all agricultural inputs; and
- To prepare financial plan for priority project.

(6) Schedule of the Study

The Study shall be conducted in accordance with the tentative work schedule, as shown in Appendix 2.

(7) Expected Outcome

(To be filled by DAL/PENB)

(8) Reports

The following reports are required to be submitted to the Government of Papua New Guinea.

- Inception Report
At the commence of the Study.
- Progress Report (I)
At the end of field work of Phase I Study stage.
- Plan of Operation
At the commence of Phase II Study.
- Progress Report (II)
At the end of field work of Phase II Study stage.
- Interim Report
At the end of home office work of Phase II Study stage.

- Progress Report (III)
At the end of field work of Phase III Study stage.
- Draft Final Report
At the end of home office work of Phase III Study stage.
- Final Report
Within two (2) months after receiving the comments from DAL on the Draft Final Report.

3. Facilities and Information for the Study Team

(1) Assignment of Counterpart Personnel

In accordance with the assignment of the Japanese Study Team (tentative assignment schedule is attached in Appendix 2), the counterpart personnel, one for each Japanese expert in general, will be assigned from DAL and PENB/DPI to assist the Japanese Study Team and to work together for success of the Study.

(2) Available Data, Documents, Maps, etc.

DAL/PENB shall provide the available data, documents, maps etc. as required for the Study.

(3) Security Condition in the Study Area

DAL/PENB shall arrange for the safe security of the Study Team.

4. Undertaken of the Government of Papua New Guinea

In order to facilitate the smooth and efficient implementation of the Study, the Government of Papua New Guinea shall take the following necessary measures:

- To secure the safety of the Study Team;
- To provide medical services as needed. Its expenses will be chargeable to the members of the Study Team;
- To arrange for quick and smooth customs clearance of the equipment and materials brought into the PNG for the implementation of the Study free of any charge;
- To permit the members of the Study Team to enter, leave and sojourn in the PNG for duration of their assignment, and exempt them from alien registration requirements and consular fees;
- To exempt the members of the Study Team from taxes, duties and other charges on equipment, machinery and other materials brought into PNG for the implementation of the Study;
- To exempt the members of the Study Team from income tax and other charges imposed on or in connection with any emolument or allowance paid to the members of the Study Team for their services in connection with the Study;

- To provide necessary facilities to the Study Team for remittance as well as utilization of funds introduced into PNG from Japan in connection with the Study;
- To permit the members of the Study Team to take to Japan all data and documents (including photographs and maps) related to the Study; and
- To ensure permission of entry into the private properties or restricted areas in connection with the performance of the Study.

The Government of PNG shall bear all claim, if any arise against the member of the Study Team, arising from, occurring in the course of, otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of Japanese Study Team.

The DAL shall act as counterpart agency of the Japanese Study Team also as coordinating body in relation with other governmental organization concerned for the smooth implementation of the Study, and shall take the following necessary measures:

- To provide the Japanese Study Team with the following in cooperation with other relevant organizations;
- Available data and information related to the Study;
- Counterpart personnel to assist the Study Team and participate in the various activities for the Study;
- Necessary vehicles with drivers and running cost; and
- Suitable office space with necessary equipment.

The Government of the Papua New Guinea assured that the matters referred in this form will be assured for a smooth conduct of the Development Study by the Japanese Study Team.

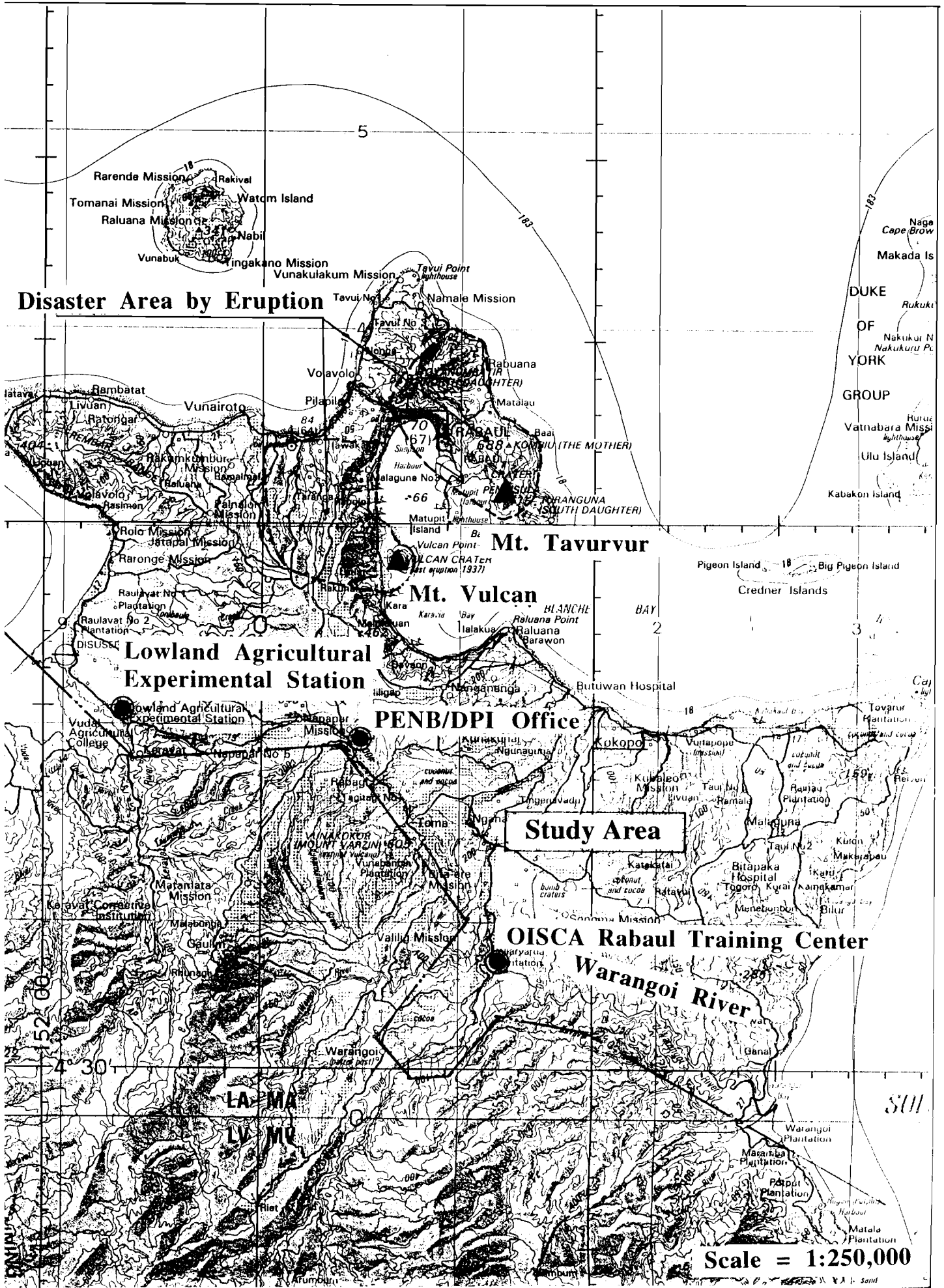
Signed:

Titled:

On behalf of the Government of Papua New Guinea

Date:

Appendix 1 Location Map



Appendix 2 TENTATIVE WORK SCHEDULE

Division	Month																			
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	15th	16th	17th	18th	19th	20th	
1. Work Items																				
1.1 Phase I: Inventory Study																				
Work in PNG	■	■																		
Work in Japan																				
1.2 Phase II: Master Plan Study																				
Work in PNG				■	■	■	■	■												
Work in Japan								□	□											
1.3 Phase III: Feasibility Study																				
Work in PNG											■	■	■							
Work in Japan													□	□	□					
1.4 Explanation of Draft Final Report																				■
2. Reports																				
2.1 Inception Report	▲																			
2.2 Progress Report (I)		▲																		
2.3 Plan of Operation			▲																	
2.4 Progress Report (II)							▲													
2.5 Interim Report									▲											
2.6 Progress Report (III)													▲							
2.7 Draft Final Report																▲				
2.8 Final Report																				▲

Field Work
 Home Office Work

Appendix 3 TENTATIVE ASSIGNMENT SCHEDULE

資料-33

Expertise	Month																	Field	Home	Total
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	15th	16th	17th				
1. Team Leader	■			■				■				■			■			7.0	2.0	9.0
2. Irrigation & Drainage Eng.	■			■				■				■			■			7.0	4.0	11.0
3. Hydrologist				■		■		■			■		■					2.5	2.5	5.0
4. Geologist				■		■		■			■		■					2.5	2.5	5.0
5. Soil Specialist				■		■		■			■		■					2.5	2.5	5.0
6. Agronomist	■			■				■				■			■			6.5	3.5	10.0
7. River Eng.				■		■		■			■		■					3.0	2.5	5.5
8. Forestry Specialist	■			■		■		■			■		■					3.0	2.5	5.5
9. Design & Cost Estimate Eng.				■		■		■			■			■				4.0	2.5	6.5
10. Rural Water Supply Eng.				■		■		■			■		■					3.0	2.5	5.5
10. Environmentalist				■		■		■			■		■	■				3.0	2.5	5.5
11. Economist	■			■				■				■			■			7.0	4.0	11.0
Total																		51.0	33.5	84.5

Field Work
 Home Office Work

(H) The Application Form for Japan's Grant Aid (Draft)

The Application Form for Japan's Grant Aid (Draft)

Applicant:

Government of Papua New Guinea

Project Title:

Papua New Guinea Grain and Rice Development
Strengthening Project - Phase I
(Project for the Establishment of the ERAP Grain
& Rice Development Center)

Economic Sector:

Agriculture

Project Type:

1. Facilities Construction
2. Equipment Supply

Total Project Cost: 1,000,000,000 Yen

Responsible Ministry:

Department of Agriculture & Livestock
(DAL)

Implementing Agency:

Food Management Division (DAL/FMD) and
ERAP Agricultural Station (DAL/ERAP)

I. Project Description

1. Background**(1) Current Situation of the Sector**

The agricultural sector still plays an important role in Papua New Guinean economy as well as in its social aspects, although its economic share has been reducing in recent years. The sector accounts for about 30% of total Gross Domestic Product (GDP) and about 80% of Papua New Guineans have depended on agriculture for their livelihood.

In these circumstances, the Government has given the highest priority to agricultural development policy in the series of the National Public Investment Programme and has taken several steps to develop the sector to improve farmers' incomes and increase food production. The Department of Agriculture and Livestock (DAL) is in the forefront of this ambitious exercise.

In the past, the Government policy has stressed the production of export tree crops, and emphasis on food production has been secondary to some extent. The Government policy now recognizes that food production is important not only to improve nutrition, but also from a crop diversification and import substitution point of view. The Government places high priority on improving the nutrition, increasing the food security and improving the marketing of foodstuffs so as to substitute for imported foods.

(2) Problem to be solved in the Sector

Since the project was rejuvenated in 1988, DAL's activities for food production development has been mainly directed at the smallholder and subsistence levels through development of technology, training, extension, seed production and milling infrastructure. However, food production development in PNG has not been successful. Some of the major constraints of production are given below:

- Undeveloped farming technology
- Lack of research
- Lack of research facilities
- Lack of trained personnel
- Ineffective extension

The Government of Papua New Guinea has drawn up a policies to solve the above mentioned constraints and to increase food production as mentioned below:

- To establish the Grain & Rice Development Center
- To increase the production of PNG grain and rice to a significant level by improving current production systems and facilitating the development of selected new sites for sustainable commercial irrigated rice production to assure national food security.
- To facilitate the establishment of the institutional and physical infrastructure required to encourage and sustain commercial rice production at both estate and smallholder levels.
- To develop and provide suitable research results and extension methods to the rice producers in Erap (Markham Valley), Maprik, Bereina, Nuku, Cape Rodney, Finchafen and other areas in PNG.
- To strengthen extension capabilities for better delivery at the farm level.

(3) Necessity and importance of improvement in the sector which lead to the formulation of the Project

In order to achieve the above basic objectives, the Grain & Rice Development Project was commenced in 1988. The project component include: (i) Rice Research and Development, (ii) Food Grain Research and Development, (iii) Cattle Research and Development, (iv) Peanut Research and Development.

Rice production sites for the project increased during the early stages. But, it declined in recent years because of the lack of the Governmental budgets and facilities/equipment for research & extension services. Therefore, reorganization of the project implementation structure will be required. DAL decided that the existing ERAP agricultural station grain will be strengthen as Development Center for grain and rice development in PNG.

(4) Relation between the Sector and the Project

Grain and Rice Development Project is one of the most important initiatives of the Department of Agriculture & Livestock (DAL) to improve the national sufficiency in food and to save the foreign exchange. This project was already registered as Public Investment Programme (PIP) project and commenced in 1988. The basic policies are mentioned in section 2. (1).

(5) Reasons why Japan's Grant Aid is requested for this particular Project

The Government of Japan has been executing a lot of projects and several technical cooperation programs in grain and rice development in the Asian countries. The Government of Papua New Guinea is expecting that such abundant experiences will contribute much to carry out the Project for ERAP Grain & Rice Development Center successfully. And this project will contribute to more effective management for grain & rice production in Markham Valley, Maprik and Bereina. Furthermore, the Japanese Grant Aid for Increase Food Production (The 2KR) was already started from 1995. Relationship between this Project and 2KR Project is very deep since the 2KR's fertilizers and agro-machinery will be kept and maintained in ERAP Grain & Rice Development Center.

2. Objectives and outline of the Project

(1) Objectives of the Project

1) Short-term Objectives

- a) To strengthen administrative capability of the ERAP agricultural station as Grain & Rice Development Center.
- b) To conduct the more effective research and seed production for grain & rice development.
- b) To establish of efficient agro-technical services and 2KR's machinery distribution system to all project sites through establishment of Erap Grain & Rice Development Center.
- c) To accelerate a better linkage between DAL stations and farmers

2) Medium and Long-term Objectives

- a) To save foreign exchange through the production of grain & rice.
- b) To develop production methods and investigate major agronomic constrains facing producers of feed grain, peanuts, rice and cattle.
- c) To monitor production and assist producers.
- d) To develop infrastructure.
- e) To identify potential production sites and explore marketing opportunities both domestically and overseas.
- f) To achieve self-sufficient in food.

3) Please fully describe the relations between the Project and objectives and how the Project will contribute to the accomplishment of the activities

To achieve the objectives mentioned above, the ERAP Grain & Rice Development Center will have the following functions.

- a) Coordinating the functions of organizations/agencies concerning grain and rice seed production and distribution.
- b) Making a annual seed production and distribution plan.
- c) Giving each province a guidance in planning of seed production and distribution.
- d) Verification and registration of new varieties.
- e) Management of data base of registered varieties.
- f) Collecting and distributing data and information about grain and rice development.
- g) Demonstration of irrigated rice production and other farming systems
- h) Training for rice producers and provincial rice development officers
- i) Supervising the activity of other DAL grain and rice development stations (Maprik, Bereina, Warangoi).
- j) Operation & maintenance of the 2KR's agricultural machinery.
- k) Mechanical service for other DAL grain and rice development stations.

(2) Outline of the Project

1) Organizational Structure

ERAP Grain and Rice Development Center will consist of the following 6 sections

- a) General affairs section
- b) Grain and rice development section
- c) Horticulture development section
- d) Livestock development section
- e) Seed laboratory section
- f) Machinery management section

Remark: Proposed organization structure is shown in **Appendix 1**.

2) Staff Allocation

The outline of staffing plan is shown below. All staff will be transferred from existing staff of the department of Agriculture and Livestock (DAL).

Position/Section	Number of Officer	Number of Other Staff
Director	1	
General affairs	3	5
Grain & rice development	6	15
Horticulture development	3	6
Livestock development	4	6
Seed laboratory	3	6
Machinery management	3	10
Total	23	48

3) Facilities and Equipment Plan

- a) Rehabilitation of Seed Production and Demonstration Farm
(Farm land consolidation with wells, irrigation facilities, farm road etc.)

Seed production farm: 10 ha
Demonstration farm: 5 ha

- b) Building Construction

The main buildings and facilities in the Project are planned below:

Item	Area (m ²)	Note
1. Main office	680	
2. Training center	500	
3. Agricultural machinery & equipment storage shed	600	
4. Workshop	400	
5. Seed processing room	350	
6. Storage for rice or grain	250	
7. Storage for chem. fertilizer	300	
8. Dormitory	350	for 20 trainees
	3,430	

c) Equipment

Equipment for the Project are planned below:

- Irrigation facilities: (See Appendix 2.1)
- Seed processing equipment: (See Appendix 2.2)
- Seed Laboratory Equipment: (See Appendix 2.3)
- Agricultural machinery and Vehicle: (See Appendix 2.4 and 2.5)
- Meteorological equipment: (See Appendix 2.6)
- Training equipment
- Dormitory equipment
- Office equipment

(3) Location plan of each Facility and Equipment

See attached layout plan in **Appendix 3.1 and 3.2.**

(4) Cost Estimates

1) Civil Works for Farm, Road and Wells	100,000,000 Yen
2) Building Construction	434,900,000 Yen
3) Equipment	345,100,000 Yen
4) Engineering Fee	120,000,000 Yen
<hr/>	
Total	1,000,000,000 Yen

See attached detailed cost estimation in **Appendix 4.**

3. Benefit, Effect and Publicity of the Project

(1) Population that will benefit directly from the Project

- 1) Papua New Guinean scientists and technician who are participating in grain and rice development.
- 2) About 2,000 farmers and 14,000 persons around DAL/ERAP Grain & Rice Development Center.

(2) Population that will benefit indirectly from the Project

- 1) All personnel who participates in Grain & Rice Development Project
- 2) All farmers in Papua New Guinea

(3) Area that will benefit from the Project

Central, Morobe, Gulf, Milne Bay, Oro, Madan, East Sepik, Sandaun and East New Britain Provinces.

(4) Economic and Social Effects of the Project

1) Current situation

In 1992, 130,000 tons of rice and 111,000 tons of wheat were imported into Papua New Guinea (PNG) at a cost of approximately K95 million. Therefore, the government of PNG recognizes that Grain & Rice development is a key element to save foreign exchange, and placed high priority on food production.

Despite numerous attempts to promote rice production, food grain imports have doubled during the past five years. Because of the following reasons, irrigated rice production schemes in the PNG have little prospect of competing with capital-intensive Australian exports.

- Unskilled cultivation technics
- Undeveloped seed multiplication and distribution system
- Lack of DAL's agricultural services
- Lack of rice mill
- Undevelopment of irrigation
- High rural wages
- Undeveloped farmer's association and agro-industry

2) Expected effect of the Project

DAL/ERAP Grain & Rice Development Station is constituted as headquarters for the Grain & Rice Development Project. It is expected that the function of the ERAP station shall be strengthened by the Project. This effect will lead to activation of grain and rice production in Papua New Guinea.

(5) Publicity (How many people are expected to notice the benefit or positive effect of the Project implementation with Japan's grant aid when it is completed?)

- 1) All personnel who participates in seed production and agricultural extension servicesrice.
- 2) All farmers in Papua New Guinea
- 3) Related international organizations such as World Bank, ADB, FAO, IRRI etc.

4. Requested to other Donors

Is there any request made to other donors for assistance closely related to this project?

No

5. Priority (Please describe priority of this project among other projects for which requests are made to Japan)

The Government gives top priority to agricultural development, because agriculture sector still plays important role in PNG's economy and many population depend on this sector. In the past, Government policy has stressed the production of export tree crops. However, on the viewpoint of food security and saving foreign exchange, the Government now places high priority on food production.

The Grain & Rice Development Project is one of the top priority project among other projects for which requests are made to Japan.

(Please attach project list with priorities)

6. Ministry and Agency in charge of the Project

(1) Outline of Implementing Agency

1) Organization chart of the Agency

The implementing agency for this project are Food Management Division (FMD) and ERAP Agricultural Development Station. Its organization chart is shown in **Appendix 1**.

2) Authorities and duties of the Agency

Food Management Division executes the following functions.
(Please describe below)

- a) -----
- b) -----
- c) -----
- d) -----
- e) -----

ERAP Grain & Rice Development Station executes the following functions.

- a) Seed production of grain and rice
- b) Research and development for grain & rice, horticulture and livestock
- c) Training for farmers and officers
- d) Agricultural extension services
- e) Operation & maintenance of the 2KR's agricultural machinery

3) Personnel

<u>Personal</u>	<u>Food Management Division</u>	<u>ERAP Station</u>
Officers	14	14
Drivers/Operators/Labours	10	22
Total	24	36

(2) Outline of Supervising Agency

1) Organization chart of the DAL

See attached DAL's organization chart in **Appendix 5**.

2) Authorities and duties of the Deputy Secretary Field Services

(please describe about authorities and duties of the Deputy Secretary Field Services)

The Deputy Secretary Field Services is responsible to -----

3) Personnel

(Please mention the number of staff, workers, and employees of the division and section in charge of the Project)

4) Budget (Revenue and Expenditure)

According to Public Investment Programme: 1995 - 1999, budgets for the Grain & Rice Development Project are below:

<u>Year</u>	<u>KINA</u>	<u>US\$</u>	<u>YEN</u>
1994:	936,700	724,400	65,200,000
1995:	1,276,900	987,500	88,900,000
1996:	1,000,000	773,400	69,600,000

(Note: 1US\$ =1.293KINA=90YEN)

7. Preparation

(1) Project site

1) a) Address of the site

DAL/ERAP Grain & Rice Development Station
Erap
P.O.Box 1984
Lae, Papua New Guinea

(Location map is shown in Appendix-5)

b) Total Area of the Site

200 ha (Check Please)

2) Land Preparation

All of the Project Site is governmental land

(2) Electricity, Water supply, Telephone, Drainage and other Facilities

Electricity, water supply and telephone were already provided in the Project site.

(3) Is there any information, statistics and data regarding geographical, geological, meteorological, oceanographical situations, etc.

(If any, please attach those information)

8. Capabilities of the Implementation Agency (Please describe the capabilities of the agency to manage, sustain, and operate the Project)

(1) Current Situation

Main key staff were already assigned and their technical capacities for operation & maintenance is excellent. But, facilities and equipment are lacking and out of date for the Project.

(2) Problem of the Agency

There is no multi-purpose storage in ERAP station and the 2KR's fertilizer have been exposed to weather. ERAP Station will be responsible for maintenance & operation the 2KR's agricultural machinery. But, there is no garage and workshop for these machinery.

(3) Improvement Plan (If any, please describe in detail the contents of such a plan that will enable the Agency to handle the project more effective and efficiently)

9. Operation and Maintenance of the Project

(1) Personal (Please fill in the number of Personal)

Agency		Current	When the Project is completed
Supervising Ministry	(All of DAL)	???	???
Implementing Agency	Food Management	24	30
	ERAP Station	36	48
Directly Responsible Personal		40	58

(2) Budget

(Unit: K1000)

Agency		1993	1994	1995
Supervising Ministry	(All of DAL)	???	???	???
Implementing Agency	Food Management	???	???	???
	ERAP Station	???	???	???
Directly Responsible Personal		1,299,500	936,700	1,276,900

(3) Technical Abilities of Local Staff

1) Please describe technical abilities of local staff operating the project

2) Please describe in detail educational background of those who are in charge of the operation and management of the facilities and equipment.

----- -----
----- -----
----- -----

10. List of Related Project

(1) Project Title

(2) Name of Donor

(3) Project Outline

(4) Type of Assistance

(5) Project Period

(6) Relation with this project

11. Technical Assistance

(1) Has technical assistance been extend to this Project ?

- a) Yes b) No X

(2) Is technical assistance needed for the implementation of this Project ?

- a) Yes X b) No

(3) If no, please Describe the reasons why technical assistance is not needed ?

(4) If yes, please fill in below.

1) **Short term experts**

The experts on the following fields are requested.

- Irrigation and drainage engineer (1 person)
- Rice cultivation specialist (1 person)
- Mechanical engineer on agro-machinery (1 person)

2) **Long term experts**

No need

3) **Acceptance of trainee**

- Irrigation and drainage (3 persons)
- Agro-machinery (3 persons)
- Plant breeding (2 persons)
- Soil analysis (2 persons)

4) **Project type technical cooperation**

(If needed, please describe the proposed project outline)

No need

5) **Japan Overseas Cooperation Volunteers**

(If need, please describe the proposed sector and related information)

- Agricultural civil engineer (1 person)
- Mechanical engineer (1 person)
- Plant breeding (1 person)

6) **Development Survey Programme (Feasibility Study and Master Plan)**

(If need, please describe the outline of the proposed development survey programme.)

(5) Has an official request for technical assistance been already made ?

1) Yes 2) No X

3) If yes, please mention the date of the request.

4) If no, please describe the reason why the official request has yet been made.

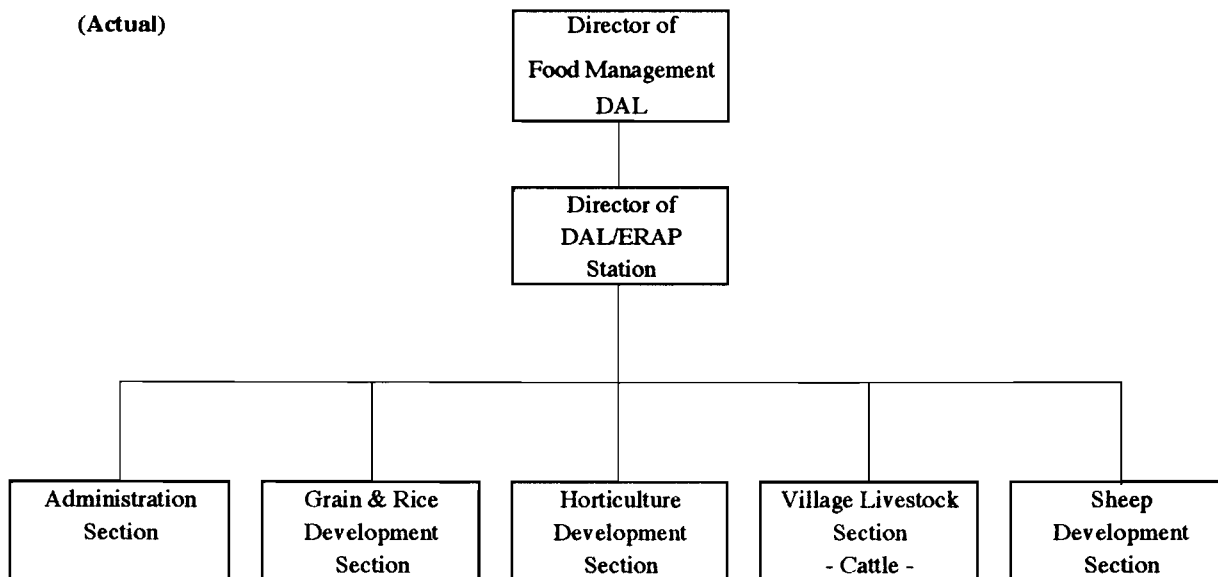
The request letter is in preparation now.

5) When will the request be made to the Embassy of Japan ?

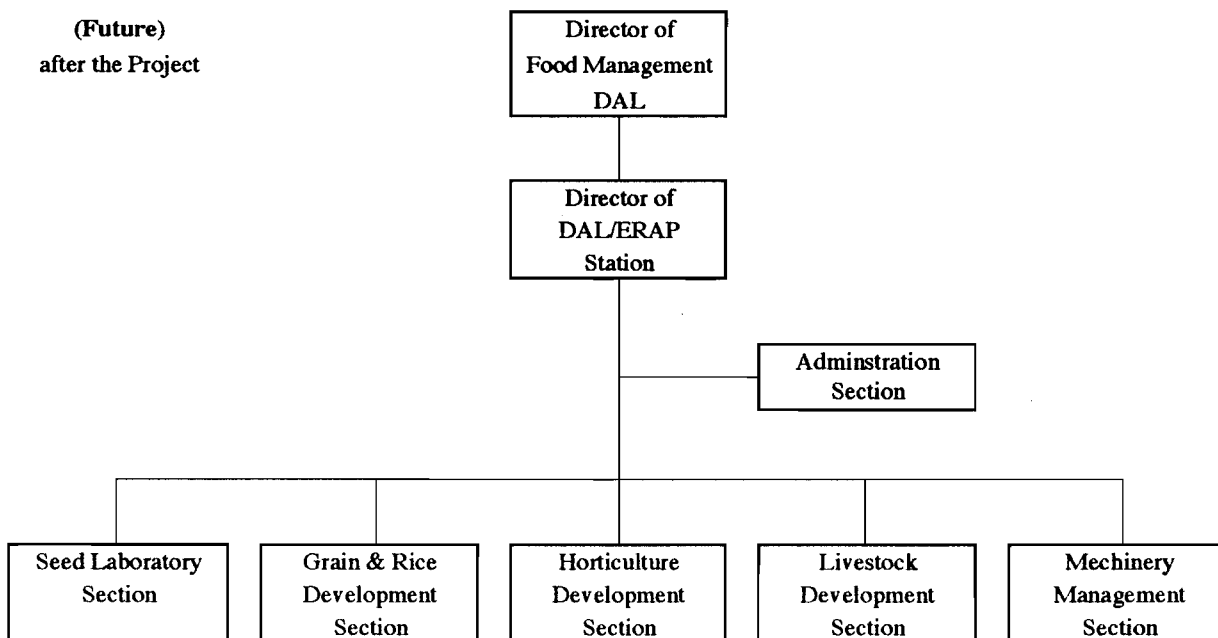
The request will be made as soon as possible after completion of the preparation.

Appendix-1 Organization of DAL/ERAP Agricultural Station

(Actual)



(Future)
after the Project



Appendix 2-1 List of Irrigation Facilities

	Item	Quantity	Unit Price (Yen)	Amount (Yen)
1	Submersible Pump Set for Seed Production Farm [Capa.: 1.2 m ³ /min at 40m (total head) , Dia 125mm]	1 unit	6,000,000	6,000,000
2	Submersible Pump Set for Demonstration Farm [Capa.: 0.6 m ³ /min at 40m (total head) , Dia 80mm]	1 unit	4,230,000	4,230,000
3	Sprinkler Irrigation System for Seed Production Farm : HMS-2D	2 units	6,850,000	13,700,000
4	Sprinkler Irrigation System for Demonstration Farm : HMS-2D	1 unit	6,850,000	6,850,000
	Total			30,780,000

Appendix 2.2 List of Seed Processing Equipment

No.	Item	Quantity	Unit Price (Yen)	Amount (Yen)
1	Seed Cleaning Line for Rice Seed (0.5-1.0ton/hr)	1 line	33,750,000	33,750,000
2	Unit Type Seed Cleaner for Other Grain (0.5ton/hr)	1 unit	12,200,000	12,200,000
3	Weighting and Bagging Line (10-60kg/bag)	1 line	11,160,000	11,160,000
4	Dryer (Flat Type HD-180, Max. capacity 800kg)	2 set	550,000	1,100,000
5	Treater SS-LA	2 set	2,820,000	5,640,000
6	Compressor	1 set	380,000	380,000
7	Cleaner	1 set	950,000	950,000
	Total			65,180,000

Appendix 2.3 List of Seed Laboratory Equipment

No.	Item	Model	Quantity	Unit Price	Amount
1	Fixed thermostetic germinater	112/TG-10	1	610,000	610,000
2	Constant thermostatic geminator	112-D/TGL-30LS	1	7,140,000	7,140,000
3	Thermostatic water shaker	B-603	1	990,000	990,000
4	Grain sample divider	103-B/Large	1	340,000	340,000
5	Seed counter	132-C/DC-1UR	1	2,430,000	2,430,000
6	Dissecting binoculars	KYOWA/SDZ-PL	1	360,000	360,000
7	Stalk balance	1041-B/200g	1	60,000	60,000
8	Direct reading balance	A&D/ER-180A	1	370,000	370,000
9	Infrared moisture tester	1904/FD-230	1	990,000	990,000
10	Drying oven	3865/PSN-60	1	1,290,000	1,290,000
11	Seed refrigerator	MRP-311	1	510,000	510,000
12	High pressure soil sterilizer	273/Horizontal	1	2,430,000	2,430,000
13	Steam sterilizer	3710-B	1	370,000	370,000
14	Laboratory seed blower	HF-1/757	1	910,000	910,000
15	Temperature & moisture indicator	1401-C	1	100,000	100,000
16	Agrichemical mixer	VK-5	1	1,070,000	1,070,000
17	Grain grinding mill	4211/WT-100	1	640,000	640,000
18	Microscope specimen making instrument set	12-item	1	2,140,000	2,140,000
19	Biological microscope	KYOWA/83-483D	1	510,000	510,000
20	Microphotographic equipment	KYOWA/RFB-7	1	270,000	270,000
21	Jet washer	LA-2S	1	3,740,000	3,740,000
22	Lab. glass dryer	DO-TS	1	1,020,000	1,020,000
23	Universal projector		1	4,300,000	4,300,000
24	Photoelectiric whiteness meter	142/C-3000	1	580,000	580,000
25	Grain moisture meter	149/HR-400	1	890,000	890,000
26	Straw fracture tester	135-C/TR-2S	1	410,000	410,000
27	Diaphanoscope	133/Lencic	1	140,000	140,000
28	Grain cutter	137/Heinsdolf	1	160,000	160,000
29	Ferility counter	HF/11/95BGV	1	2,000,000	2,000,000
30	Ferility counter	132-C/DC-1	1	1,570,000	1,570,000
31	Testing rice huller	185-C/ST-50	1	690,000	690,000
32	Grain volume-weight tester	127/Brauer	1	170,000	170,000
	Total				39,200,000

Appendix 2.4

List of Equipment for Agricultural Machinery & Storage Shed

	Item	Model	CIF (Yen)	ERAP		BEREINA		MAPRIK		Total	
				Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount
1. Agricultural machinery	60HP Tractor	MS400DT	4,100,000	4	16,400,000	1	4,100,000	1	4,100,000	6	24,600,000
	Front loader	TLH6030	1,000,000	2	2,000,000	1	1,000,000	1	1,000,000	4	4,000,000
	Manure spreader	MB2530	1,800,000	2	3,600,000	1	1,800,000	1	1,800,000	4	7,200,000
	Broadcaster	MBC5530	420,000	2	840,000	1	420,000	1	420,000	4	1,680,000
	Disk plow	DDP263	690,000	4	2,760,000	1	690,000	1	690,000	6	4,140,000
	Rotary tiller	KT80	810,000	4	3,240,000	1	810,000	1	810,000	6	4,860,000
	Drive harrow	HL-2801B-3L	800,000	2	1,600,000	1	800,000	1	800,000	4	3,200,000
	Power sprayer	HD-150P	1,200,000	1	1,200,000	1	1,200,000	1	1,200,000	3	3,600,000
	Combine harvester	PR0481	6,500,000	2	13,000,000	1	6,500,000	1	6,500,000	4	26,000,000
	Spare parts				8,928,000		3,464,000		3,464,000		15,856,000
	sub-total				53,568,000		20,784,000		20,784,000		95,136,000
2. Vehicle	Service vehicle	2000cc	3,000,000	1	3,000,000	1	3,000,000	1	3,000,000	3	9,000,000
	Truck	5ton	5,500,000	1	5,500,000	1	5,500,000	1	5,500,000	3	16,500,000
	Trailer for harvester		1,350,000	2	2,700,000	1	1,350,000	1	1,350,000	4	5,400,000
	Mobile workshop car		1,500,000	1	1,500,000	0	0	0	0	1	1,500,000
	Tractor connected trailer		1,500,000	4	6,000,000	1	1,500,000	1	1,500,000	6	9,000,000
	Spare parts				3,740,000		2,270,000	3	2,270,000		8,280,000
	sub-total				22,440,000		13,620,000		13,620,000		49,680,000
3. Other equipment					28,000,000		0		0		28,000,000
4. Additional items requested by Erap Station					12,000,000						12,000,000
Total					116,008,000		34,404,000		34,404,000		184,816,000

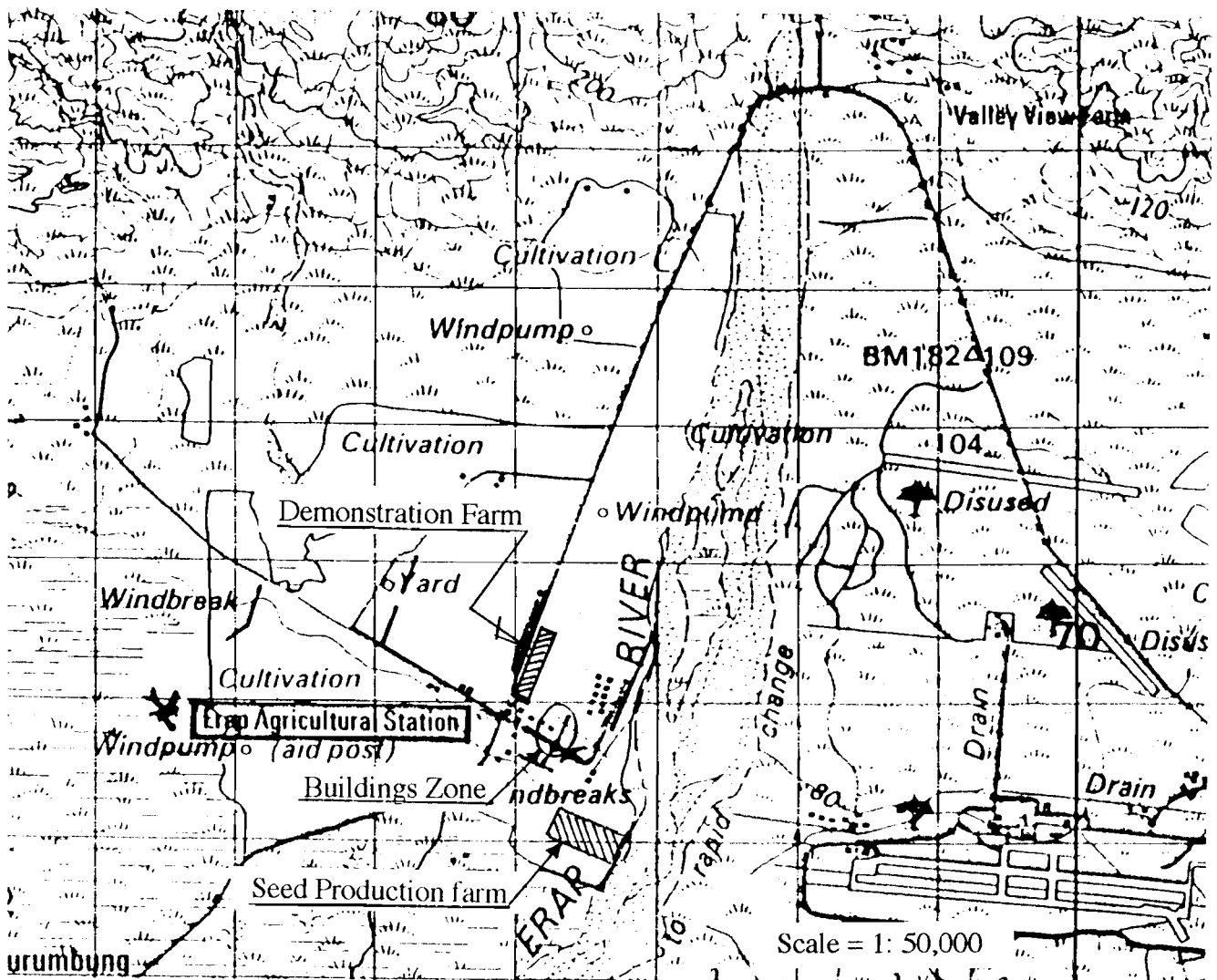
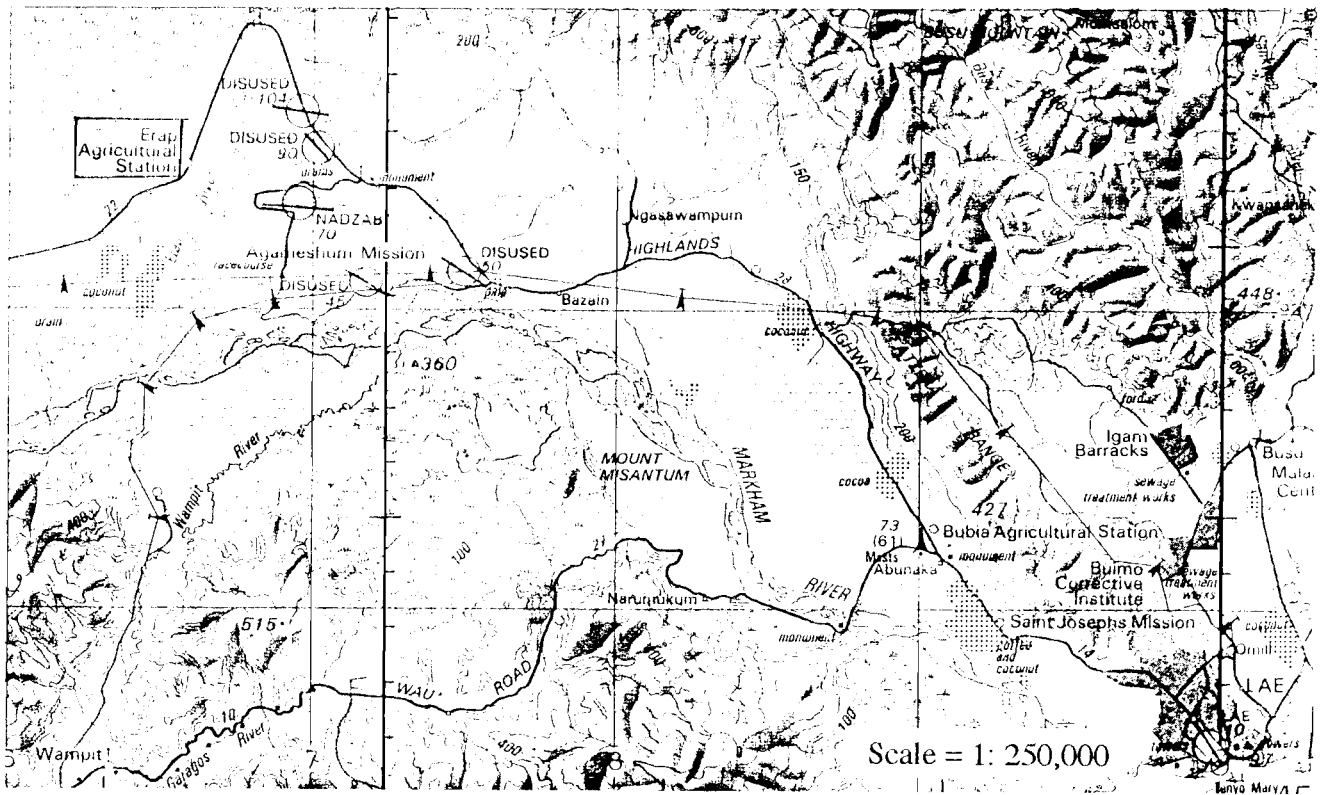
Appendix 2.5 Additional items requested by Erap Station

Item	Model	CIF (yen)	Note
1. Power tiller with rotary tiller	K120xRK125	600,000	
2. Attachment for K120			
Reversible plow	MR83N	65,000	
Ridger		21,000	
Paddy wheel		48,600	
Cage wheel		55,300	
Trailer	DZ-2B-2	240,000	
3. Dick harrow		980,000	
4. Seeder for peanut		688,000	
5. Rice milling unit with cleaner	KRD-1000C	2,400,000	
6. Maize sheller	KMS750-OCR	670,000	
7. Peanut sheller	PT-1	700,000	
8. Paddy dryer	HD-360	920,000	
9. Oil expeller	H-54	4,500,000	
10. Power mist duster	ADM-40D	50,000	
11. Hand sprayer	SH18	16,000	
Total		11,953,900	

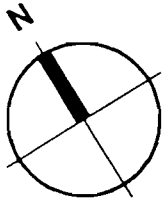
Appendix 2-6 List of Meteorological Irrigation Facilities

	Item	Quantity	Unit Price (Yen)	Amount (Yen)
1	Remote Recording Wind Vane	1 set	1,140,000	1,140,000
2	Steel Pole for Sensor Installation	1 set	186,000	186,000
3	Instrument Screen	1 set	194,000	194,000
4	Evaporator	1 set	122,000	122,000
5	Hydro-Thermograph	1 set	114,000	114,000
6	Max.-Min. Thermometer	1 set	51,000	51,000
	Total			1,807,000

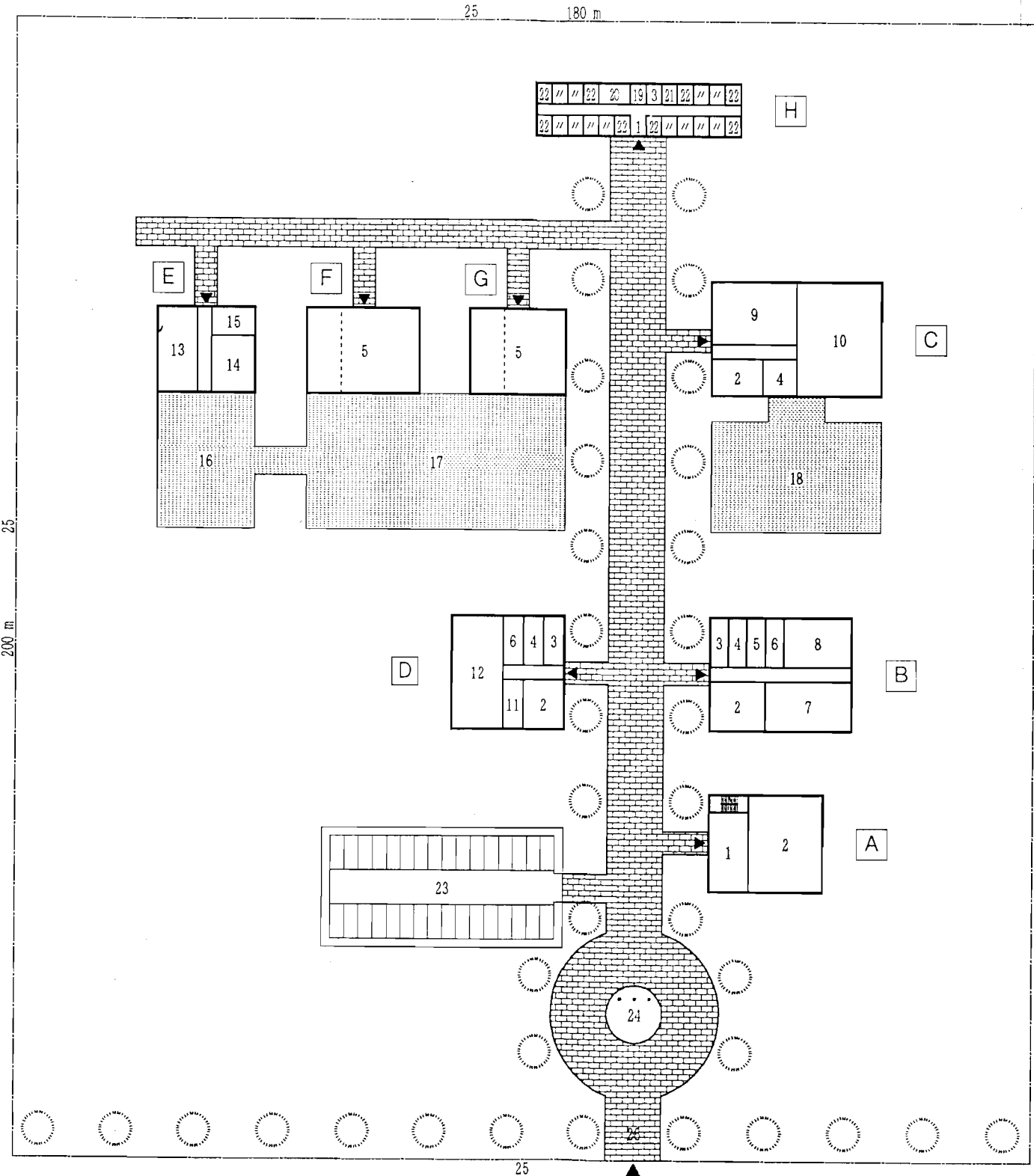
Appendix 3.1 Location of ERAP Grain & Rice Development Center



Appendix 3.2 Layout of Buildings



- 1. ROBBY
- 2. OFFICE
- 3. LAVATORY
- 4. LOCKER ROOM
- 5. STORAGE
- 6. PARTS STORAGE
- 7. CLASSROOM
- 8. EXERCISE ROOM
- 9. IMPLEMENT SHED
- 10. MACHINERY SHED
- 11. WORK ROOM
- 12. WORKSHOP
- 13. SEED STOCK ROOM
- 14. COLD STORAGE
- 15. POWER STATION
- 16. WORK AREA
- 17. DRY AREA
- 18. CAR CLEANING AREA
- 19. KITCHEN
- 20. DINING ROOM
- 21. LAUNDRY ROOM
- 22. BED ROOM
- 23. PARKING AREA
- 24. FLAG POLE
- 25. FENCE
- 26. GATE



- A. Main Office
- B. Training Center
- C. Agricultural Machinery & Equipment Storage Shed
- D. Workshop
- E. Seed Processing Room
- F. Storage for rice or grain
- G. Storage for chem. fertilizer
- H. Dormitory

S 1:1000

ROAD

Papua New Guinea Grain and Rice Development Strengthening Project-Phase I
 (Project for the Establishment of ERAP Grain & Rice Development Center)

Appendix 4 Project Cost

Item	Quantity	Civil Work (Yen)	Building (Yen)	Equipment (Yen)	Engineering Fee (Yen)	Total (Yen)
1.1 Construction of Farm, Road, Well etc.		100,000,000				
1.2 Building						
Main Office	680m2		125,100,000			
Training center	500m2		51,100,000			
Agricultural Machinery Shed	600m2		61,300,000			
Workshop	400m2		40,900,000			
Seed Processing Shed	350m2		35,800,000			
Storage for Rice & Grain	250m2		25,600,000			
Storage for Chem. Fertilizer	300m2		30,700,000			
Dormitory	350m2		64,400,000			
1.3 Equipment						
Irrigation facilities				30,780,000		
Training equipment				10,000,000		
Seed Processing Equipment				65,180,000		
Seed Laboratory Equipment				39,200,000		
Agricultural Machinery & Vehicle				184,816,000		
Meteorological Equipment				1,807,000		
Others				13,317,000		
Total		100,000,000	434,900,000	345,100,000	120,000,000	1,000,000,000

Appendix-5 Organization of Department of Agriculture & Livestock (DAL)

