

Productive Partnerships In Agriculture (PPAP) PROJECT IMPLEMENTATION MANUAL

Section 3 - Component 3 Implementation

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Abbreviations

Abbreviation	Description
BOQ	Bill(s) of Quantities
BPF	Beneficiaries' Participation Framework
CB	Cocoa Board
CIC	Coffee Industry Corporation
CLO	Community Liaison Officer
DA	District Administrator
EMSF	Environmental and Social Management Framework
EMP	Environmental Management Plan
ESSF	Environmental and Social Screening Form
GoPNG	Government of Papua New Guinea
ICC	Industry Coordination Committee
IDA	International Development Association (World Bank)
IFAD	International Fund for Agricultural Development
IT	Intermediate Transport
ITS	Intermediate Transport Specialist
LCPF	Land Compensation Policy Framework
LLG	Local level government
M&E	Monitoring and Evaluation
MAI	Market Access Infrastructure
MOU	Memorandum of understanding
NDAL	National Department of Agriculture and Livestock
PAP	Project affected people
PCU	Project Coordination Unit
PDO	Project Development Objective
PGK	Papua New Guinea Kina
PMU	Project Management Unit
PNG	Papua New Guinea
PPAP	Productive Partnerships in Agriculture Project
PSC	Project Steering Committee
RMTS	Road Maintenance Training Specialist
TAC	Tender Appraisal Committee
TPSE	Transport Planner / Senior Engineer
US\$	United States of America Dollar

Introduction

This document provides details of the proposed implementation arrangements for Component 3: Market Access Infrastructure. This is section 3 of the Project Implementation Manual (PIM). Separate sections are available for Components 1 & 2 (Institutional Strengthening & Coordination, Productive Partnerships), Procurement, Financial Management and Monitoring & Evaluation

Purpose of the Manual

The purpose of this manual is to provide a detailed plan for implementing Component 3 of PPAP. It is designed to guide and instruct all those involved in the implementation and monitoring of the project activities proposed under Component 3.

The manual consists of the following sections:

- Brief description of Sub-components;
- Procedures and guidelines for Sub-component 3A and 3B;
- Management arrangements;
- Reporting requirements;
- Outline of procurement methods;
- Arrangements for maintenance of infrastructure;
- Environmental and social safeguards; and
- Monitoring and Evaluation arrangements.

Objectives & Key Indicators

Project Development Objective

The development objective of the proposed project would be to improve the livelihoods of smallholder cocoa and coffee producers through the improvement of the performance and the sustainability of value chains in cocoa- and coffee-producing areas..

Component 3 Objective

The objective of Component 3: Market Access Infrastructure is to improve and maintain the condition of market access infrastructure to targeted cocoa and coffee producers in a sustainable manner.

To ensure the sustainability objectives are delivered, a rigorous screening and evaluation process will be employed. A key element of the screening process will be the availability of maintenance resources to ensure the ongoing operational performance of the improved infrastructure.

Component 3 Project Outcome Indicators

The key outcome of Component 3 will be the length of serviceable transport routes, resulting from a number of rehabilitated routes and nodes, providing improved market access for project beneficiaries, and placed under a sustainable maintenance regime.

The project and intermediate outcome indicators are presented in Appendix A.

Detailed Component Description

In meeting the objectives of Component 3, investments under this component will be directed at the rehabilitation of existing transport links (these will generally be short – maximum length 5km - feeder roads and access tracks/footpaths, but could possibly also include wharves or jetties) that provide access between smallholder farming communities in both the coffee and cocoa sectors, and marketing or processing points (located on a trafficable route), and for which a sustainable maintenance regime can be introduced (or strengthened) during the project.

Specific investments in infrastructure under Component 3 will only be identified following the selection of individual Component 2 project activities. Once the scope of a Component 2 investment is agreed, the potential market access infrastructure interventions that will directly impact on the market access of the target beneficiary smallholder communities can be identified and undergo a rigorous selection process for prioritization for funding under PPAP.

Strategic Framework

The strategic framework for selecting investments in market infrastructure under Component 3 of the project is based on the following four considerations:

1. Selection and prioritisation of investments in market access infrastructure will be undertaken within the scope of productive partnerships identified under Component 2, to maximise the provision of complementary benefits through reduction of constraints in geographical target areas of the selected productive partners.
2. Infrastructure investments will only be implemented once sustainable, resourced commitments for their long-term maintenance are secured.
3. A sustainable framework for maintenance of facilities and transport routes will most likely be achieved through partnership between the private sector and LLG and/or provincial governments, sharing responsibility and costs.
4. Investments will focus primarily on rehabilitation and maintenance of existing assets to avoid increasing the burden of maintenance on stakeholders through provision of new facilities.

A key element of the Component 3 framework, therefore, is the relationship with the Partnerships identified in Component 2. The Partnerships established in Component 2 will be formed before any consideration is given to identification of market access infrastructure under this component. Individual partners and the Project Management Unit (PMU) will work together to identify, screen and prioritise market access infrastructure within the Partner's geographical area of operation.

Project location and scope

Initially the project, and therefore the market access infrastructure will be implemented within five provinces; coffee-growing districts of Eastern Highlands, Simbu, Jiwaka and Western Highlands Provinces, and the cocoa-growing districts of East New Britain Province and the Autonomous Region of Bougainville. A roll-out of these activities to other coffee- and cocoa-producing provinces (such as Madang, East Sepik and Morobe) would be considered at the end of the second year of project implementation. Data relating to the classified road networks in the initial five provinces are located in Appendix B.

The scope of Component 3 will be limited to the rehabilitation of minor transport routes and nodes. It is anticipated that the scope of rehabilitation works completed over the life of the project will be equivalent to a total of 150km of local access or district feeder roads, divided approximately equally

between the provinces. If this is done on four or five annual cycles, then each PMU will be expected to manage the rehabilitation of the equivalent of between 15 and 20 km of minor roads per annum.

Sub-component 3A: Preparation of Market Access Infrastructure Investments

The purpose of Sub-component 3A is to identify and evaluate market access infrastructure investments that will improve market access in support of activities performed under the Productive Partnerships.

The preparation of market access infrastructure investments will involve a process of identification, data collection, consultation with stakeholders screening and evaluation of individual candidate sections of infrastructure

The prospective sub-projects will be identified in collaboration with the established Partnerships formed under Component 2, which will determine the location of the sub-projects.

Identification of the scope of infrastructure in each sub-project will be performed after the Productive Partner has been selected. The nature and scope of the infrastructure will be designed to support the improvement strategy of the Productive Partner and considering the market access infrastructure constraints identified after performing a technical review of the existing situation. The nature and scope of the infrastructure in the prospective sub-projects can potentially include the full range of cocoa and coffee market access infrastructure in the Partnership target areas. As the infrastructure will support the Productive Partnerships identified in Component 2, it is expected the infrastructure will be focused on the Productive Partner's area of activity. It is therefore expected that the infrastructure improvements will focus on tertiary level infrastructure with a limited geographic impact that matches the Partnership objectives.

The following steps will be followed during the preparation process for infrastructure within the target area of each partnership:

1. In collaboration with stakeholders, identification and scoping of all infrastructure that provides market access within the target area of the partnership, and selection of discrete sections for consideration as sub-projects;
2. Screening the sub-projects to eliminate those that do not meet the project eligibility criteria.
3. Ranking of the individual sub-projects based on a rigorous comparative socio-economic cost / benefit analysis;
4. Maintenance sustainability assessment of top-ranked sub-projects
5. Approval of a recommendation to implement the top-ranked sub-project.

The preparation of individual sub-projects will involve consultation with, and the active participation of, all stakeholders to obtain their agreement to the scope and nature of the investment, and the roles and responsibilities of each party in the future operation and maintenance of the infrastructure, once rehabilitation is complete. The range of possible stakeholders includes various levels of government, community groups, customary landowner and corporations. Individual sub-projects will not proceed without support from communities.

The output of the Sub-component will be an approved list of sub-projects, most likely on an annual basis, following two cycles of Partnership establishment.

Sub-component 3B: Market Access Infrastructure Development

Sub-component 3B will implement the approved market access sub-projects approved for funding in Sub-component 3A..

The implementation phase can be considered as three separate, repeated stages:

1. Pre-construction stage: Site investigation and consultations leading to detailed design of rehabilitation works, preparation of tender invitation documents, bidding and evaluation process, and award of works contracts;
2. Construction stage: construction of the infrastructure; and
3. Operation and maintenance stage: introduction of sustainable maintenance regime for completed sub-projects.

The output of the Sub-component will be completed sub-projects placed under a sustainable maintenance regime.

Types of market access infrastructure improvements

The objective of the market access infrastructure improvement is to reduce the critical physical market access constraints by rehabilitating critical sections of transport routes or nodes that are currently in a permanently or partially untrafficable condition. The project will identify, select, design, construct and establish a sustainable maintenance regime for the top-ranked section of infrastructure for each partnership. This process will be achieved through extended consultation with all interested and affected parties, including project partners and their target communities, district administrations, provincial and local level governments.

Approved market access infrastructure sub-projects will therefore include rehabilitation of transport routes and nodes based on priorities identified jointly by the industry / community partnership and supported by the respective authorities, to ensure that infrastructure investments are closely coordinated with increases in production and improvements in quality.

The transport components of the market access infrastructure chain can be a combination of formal, classified transport infrastructure owned and managed by national or provincial governments, and less formal, unclassified district level roads or pathways which may be community developed and managed. The national/provincial transport networks traditionally connect district centres with provincial and national centres. The PPAP-funded improvements on the formal transport networks could therefore comprise rehabilitation of short sections of district feeder and local access roads, rehabilitation of coastal shipping infrastructure like landing barge sites and jetties and possibly rehabilitation of remote airstrips.

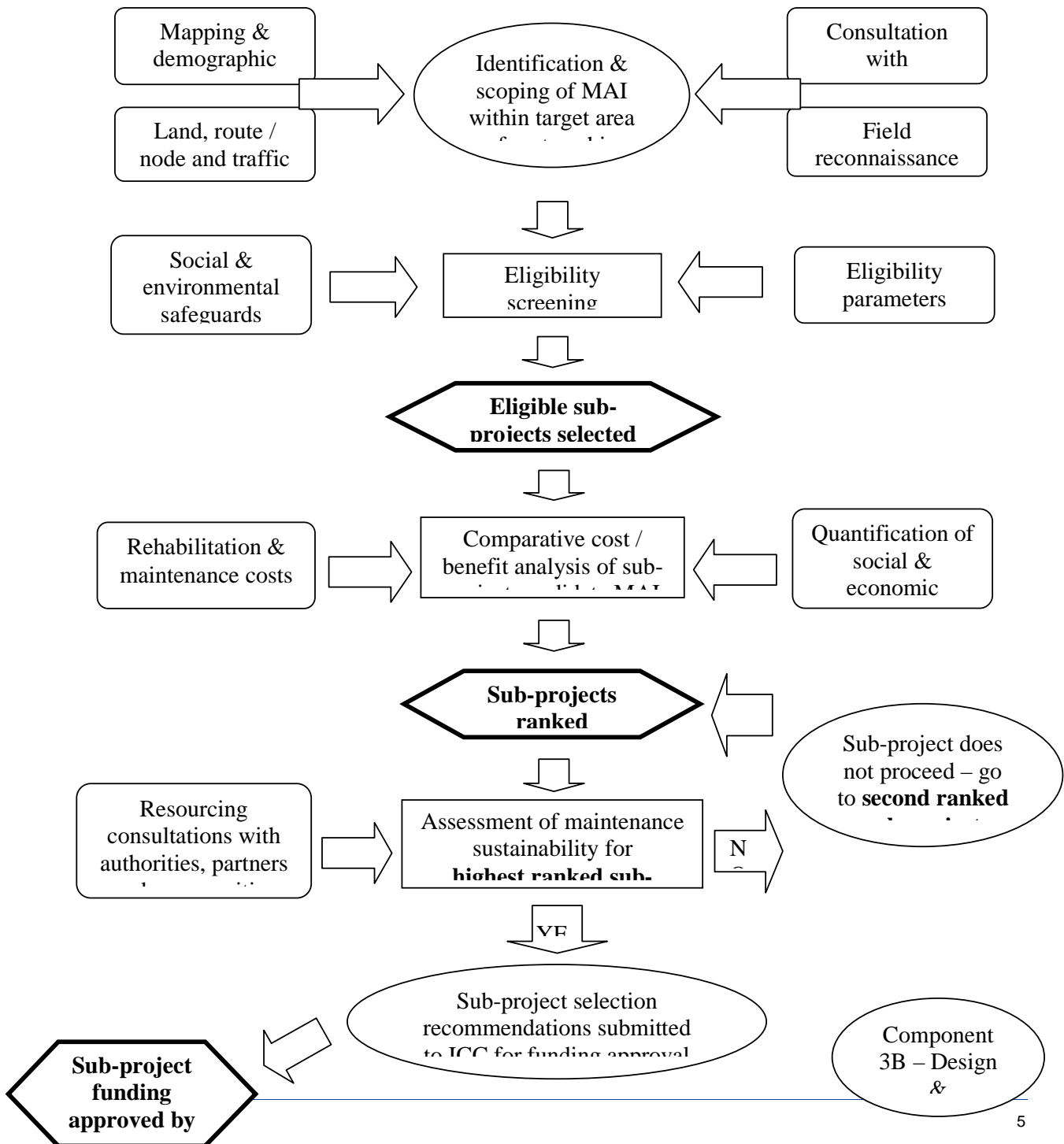
The district and community level infrastructure links the community with the national/provincial transport systems. The district/community network is characterised by low transport volumes and non-motorised transport systems. Development of the district/community network is constrained by the low economic returns. Intermediate transport solutions, comprising low cost simple transport systems, may be employed in the district/community network while fully motorised transport solutions will be employed on the provincial/national road network. In most countries in the world, people benefit from local transport solutions, such as riding or pack animals, micro-vehicles, carts, bicycles and motorcycles. Improving rural transport in remote areas will therefore benefit from the introduction of a range of transport technologies that address the physical, economic and social constraints in rural areas. These transport technologies should be appropriate to the users and the local environment and could be supplied and/or supported by the private sector. They may include flying foxes, formed walking paths, bicycles, motorcycles, handcarts, animal powered carts, riding and pack horses and pack donkeys and mules.

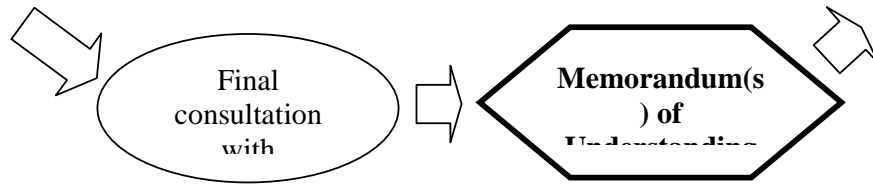
Implementation Arrangements

Sub-component 3A: Preparation of Market Access Infrastructure Investments

Implementation of Sub-component 3A will be managed by the Transport Planner/Senior Engineer in each of the PMUs, with support from the Program Manager and assistance of the Province's Community Liaison Officer (CLO) and Lands Officer, as shown and described below.

Figure 0-1 Sub-component 3A: Preparation of Investments (per partnership) – Flow Chart





1. Identification & scoping

The PMU will compile a schedule of all the sections of infrastructure - with a concise but definitive description of each - that may be considered for further assessment, and will circulate this list to the stakeholders for comment. The identification and scoping will be the outcome of a data collection and consultation process set out as follows

- a) **Mapping & census data:** All available topographic mapping should be obtained, at 1:100,000 scale or better, covering the target area(s) of the established partnership, to initially identify all existing roads and other transport infrastructure within the target area(s). Demographic data relating to the beneficiary households and communities should be obtained from the 2000 census results.
- b) **Land, route/node & traffic data:** Information on agriculture potential and systems can be sourced from NDAL and the partners, while historical road and traffic data is obtainable from the respective Provincial Government Technical Division.
- c) **Consultation with stakeholders:** The PMU will be required to consult directly and extensively throughout the process with all the potential stakeholders - in both the private and public sector - that might have an interest in the selection of sub-projects. This will include the partners, all affected communities - there may be communities within the target area that are not directly involved with the partnership but which might be affected by the project activities – the LLG(s), district(s) and provincial government(s) where the partnership operates. The purpose of this consultation will be not only to disseminate information and report on project progress, but to ensure that all parties contribute and consent to decisions affecting the selection process as it develops.
- d) **Field reconnaissance:** the purpose of the reconnaissance is to confirm the accuracy or otherwise of secondary data obtained from various sources, to identify existing transport infrastructure, and to carry out an initial visual inspection and condition survey of each route / node that might be considered candidates for rehabilitation under PPAP Component 3

2. Selection of eligible sub-projects

Sections of infrastructure identified above will undergo an initial screening to ensure that those selected for comparative ranking fully meet the objectives of the project and the sub-component. Only those sections which pass the screening test will be selected to proceed to the next stage. The screening form is shown in Appendix C, and comprises two sections:

- a) **Eligibility screening parameters:** candidate sub-projects should broadly fit within the framework envisaged for Component 3. They should be existing routes or nodes in need of rehabilitation, should serve the partnership's target communities, should provide access between farmers and buying point, all routes should be minor roads of short length, should not present serious physical challenges to rehabilitation or maintenance, and should not result in any land compensation claims.
- b) **Environmental & social safeguards:** to minimize the possibility of project infrastructure development resulting in serious adverse social or environmental impacts, all candidate sub-projects will be screened against a wide range of potential impacts. The screening form (ESSF) is shown in **Appendix D**Error! Reference source not found..

3. Ranking of sub-projects

Due to the limited scope and funding of Component 3, only one or possibly two infrastructure sub-projects will be implemented under each partnership. The selection of sub-projects will therefore be undertaken by means of a rigorous comparative cost / benefit analysis leading to a ranking of the individual candidates. The comparative analysis will be based on:

- a) **Assessed whole-life cost of rehabilitation and maintenance:** the rehabilitation cost will be estimated from the visual condition survey undertaken as part of the identification process above, while the maintenance cost will be taken over a nominal 20-year asset lifetime.
- b) **Assessed value of social and economic benefits:** for the purposes of this exercise, only the benefits accruing to the partner and its target community/ties served by the sub-project will be assessed. The direct financial benefits of increased market prices for farmers, and reduced vehicle operating costs for both the partner and smallholders, will be added to assessed indirect benefits of improved access to health and education, policing, public transport etc. The detailed formula for quantifying and weighting benefits will be prepared and given to all stakeholders during the initial consultation stage, but a commentary on the process is provided in Appendix E.

4. Assessment of maintenance sustainability

The guiding principle of this component is that the project will only provide funding for rehabilitation of infrastructure for which there is a firm commitment to a sustainable maintenance regime. To meet this requirement therefore, the PMU will consult with all the stakeholders - partners and community/ties, local, district and provincial governments - of the highest ranked sub-project to obtain a commitment from all parties to resource the routine, periodic and emergency maintenance for the infrastructure as a condition for funding the rehabilitation works. Should such a commitment not be forthcoming within a reasonable period – say one month – or if any affected party decides that they do not wish to proceed with the sub-project, then the PMU will notify all the parties and move to negotiating with the stakeholders of the sub-project ranked second highest in the comparative analysis.

5. Approval by Industry Coordinating Committee

It is expected that Component 3 implementation, and hence the preparation process of sub-component 3A, will follow an annual cycle, covering two half-yearly cycles of partnership establishment under Component 2. On this basis it is most likely that the PMU will repeat the process described above for all the partnerships over a period of 6 months, and submit the list of highest ranked sub-projects under each partnership, as part of a Sub-project Selection Report to the Industry Coordinating Committee (ICC) for funding approval.

6. Memorandum of understanding

Once the funding approval is secured, it is expected that the stakeholder commitment to sustainable maintenance of the highest-ranked infrastructure under each partnership will be formalised through a concise Memorandum of Understanding negotiated between and willingly consented to by all the parties, facilitated by the PMU, setting out the roles and responsibilities of each. A sample MOU is provided in Appendix F. Once the MOU is formalised, the process of implementation under sub-component 3B will start.

Sub-projects should be implemented in the order they are approved. There should be no ranking or priority given to any sub-project that causes a delay in the implementation of other sub-projects.

Component 3B: Implementation of Market Access Infrastructure

The implementation process will comprise three stages, repeated on a nominally annual basis.

Stage 1: Pre-construction Stage

This stage involves site investigation, detailed design and bid documentation, procurement of works and consulting services.

1. Procure technical support services

The PMU will need to procure the services of a local firm or agency to provide engineering survey, materials testing and other site investigation services as required to support the rehabilitation design. The final method of selection for this work will depend on the local availability of service providers and the scope of services required, but it is expected that it will be through Least Cost Selection (LCS). The PMU will prepare the necessary documentation – Terms of Reference, Request for Proposals – and will lead the procurement process. It will be important for the PMU to allow sufficient time for the procurement process to ensure that the service provider(s) can commence their duties immediately following approval of the sub-projects in sub-Component 3A.

2. Site investigation

- a. Inventory / detailed condition survey: The Transport Planner will undertake a road inventory and detailed condition survey of all the approved sub-projects. The output of this survey will be schedules that provide the basis for measurement of the works activities
- b. Materials sampling and testing: in-situ profiling and sampling, and laboratory testing of existing and proposed pavement materials are all likely to be required to a varying degree, to ascertain the materials' characteristics and strengths for design and construction
- c. Engineering survey: it may be necessary to carry out local engineering surveys of and around existing drainage structures and/or routes, and of cuttings and/or embankments, to inform the design and measurement of drainage and erosion protection improvements.

3. Detailed design of rehabilitation works

The rehabilitation design will take into account existing ground and asset conditions, required design standards and expected traffic. For roads, the design will centre on:

- a. reinstatement of trafficable surface and underlying pavement layers,
- b. rehabilitation and improvement of longitudinal and cross drainage,
- c. removal of landslips, unstable side slopes and embankments, and improvement of erosion protection measures

The output of the design will be a brief report setting out the design parameters and calculations, records of field surveys and tests, typical cross-sections and drainage details, and drawings of specific local improvements required. The report will also include technical specifications and Bill of Quantities (BOQ) for each sub-project, and engineer's estimates based on the priced BOQs. The report will also contain recommendations for how the construction works will be packaged, depending on the value and geographical spread, so as to maximise opportunities for local contractors.

4. Approval of rehabilitation works design and cost estimates

The PMU will submit the design report to its respective advisory committee for approval of the

rehabilitation proposals and authority to proceed with the procurement process. The report will also be submitted to the respective provincial department of works for technical review, comment and approval.

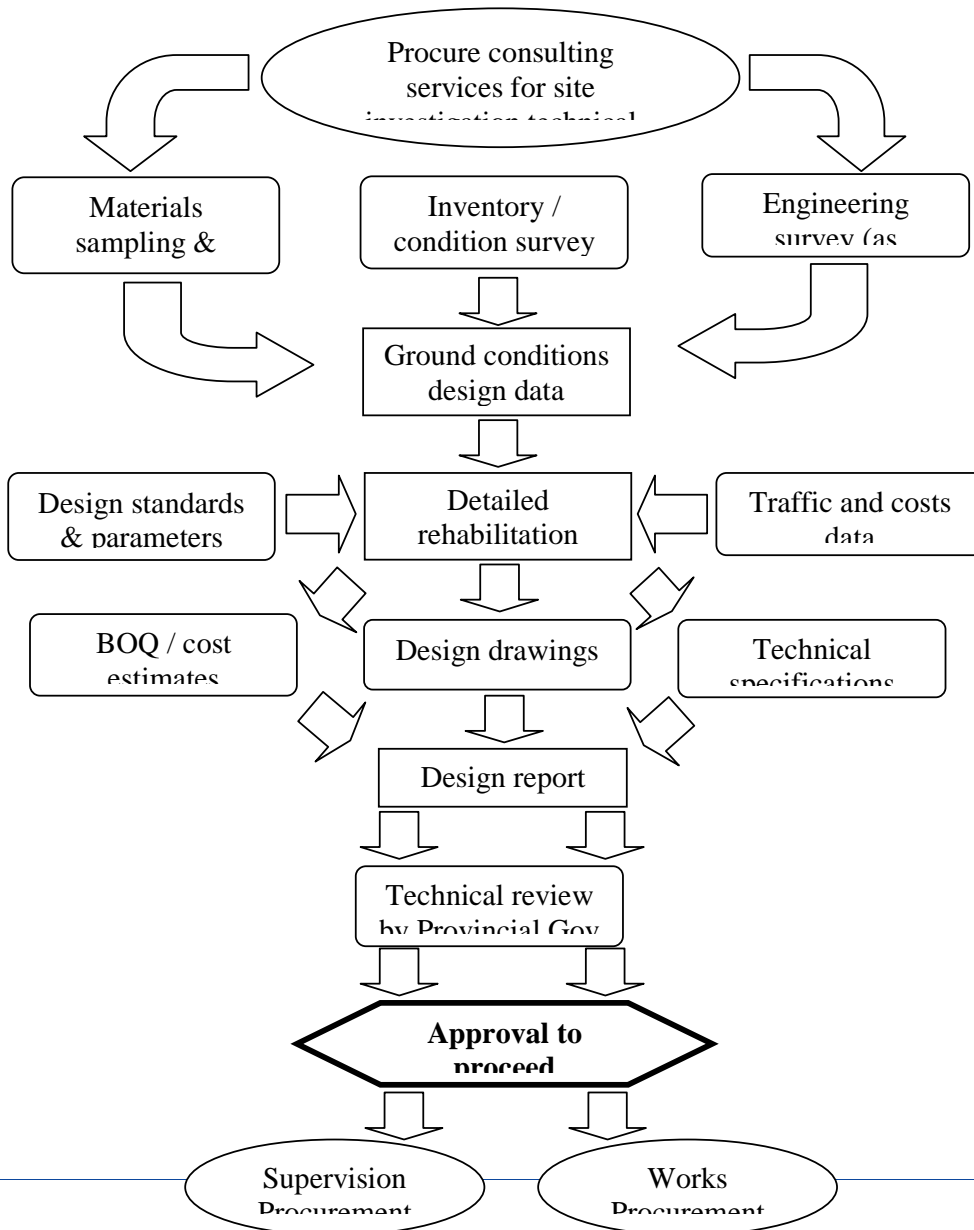
5. Bid documentation

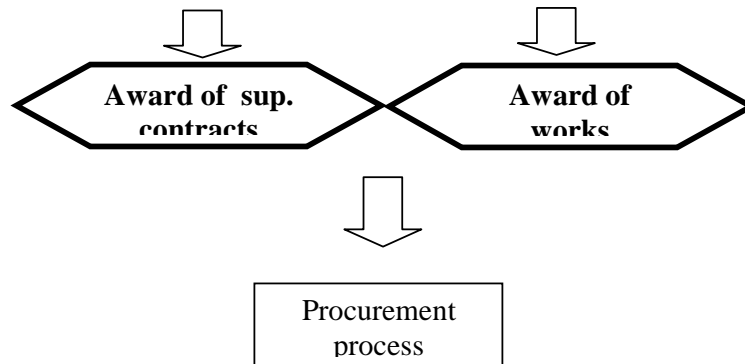
The Transport Planner will prepare bidding documents for the construction contracts, based on the standardised documents provided in the Procurement Manual, and packaged accordingly. The documents will incorporate technical specifications, drawings and Bills of Quantities and any other relevant technical information (materials test results, location of borrow pits etc)

6. Procurement process

- a. Works contracts: The bidding process, evaluation of bids and award of construction contracts will be undertaken in full accordance with the Procurement Manual.
- b. Construction supervision: selection of consultants (firms or individuals) to undertake construction supervision will be carried out in accordance with the Procurement Manual

Figure 0-2 Sub-component 3B: Implementation – Pre-construction stage – Flow Chart





Stage 2: Construction stage

The management of all rehabilitation works will be under the responsibility of the two implementing agencies; the Cocoa Board (CB) and the Coffee Industry Corporation (CIC), and administered on their behalf by the respective PMU.

Following award of the works contracts and mobilisation of the contractors, the rehabilitation works will be carried out according to a construction program agreed in advance, and in full accordance with the contract provisions. The works will be inspected on a regular basis to ensure the contractors comply fully with the drawings and technical specifications, environmental and social safeguards and other contract conditions, and maintain progress according to the program.

The works contracts will be administered by the PMU. During the course of each contract, monthly site meetings will be held to review progress and program, and to resolve technical and/or contractual issues that have arisen.

All construction works contracts will include a defects liability period, of between 6 and 12 months, to provide for rectification of any construction defects that appear after the works are certified as complete and the route or node is in use.

Stage 3: Operation & maintenance stage

Once the works contracts are certified as complete, they will be formally handed over by the implementing agency to the asset owner to the appropriate authority for operation and maintenance purposes. Prior to the completion of each works contract, the PMU Maintenance Training Specialist will engage with each the maintenance stakeholders – communities, PPAP partner, local authorities – to support the introduction of the maintenance regime as set out in the Memorandum of Understanding (MOU) for that sub-project. The precise program will depend on the terms agreed in the MOU, but is likely to involve the following:

- a. All parties: plan, arrange and facilitate a series of workshops / discussions with senior representatives to reinforce the roles and responsibilities of each party, as well as the benefits accruing to all from a sustainable maintenance regime
- b. Community: a sustained program of training in community-based routine maintenance, featuring a combination of classroom- and site-based sessions, sufficient to enable the community to undertake a regular repeating cycle of routine maintenance activities.

Once the asset is operational, oversee the first year’s routine maintenance program and work with the parties to plan for ensuring that sufficient resources will available for all maintenance – routine, periodic and emergency - in future years.

Implementation cycle

The preparation and development of the market access infrastructure in Component 3 will follow the cyclical nature of the establishment of the Productive Partnership agreements under Component 2. While the Productive Partnerships are intended to be established in six monthly cycles, the implementation cycle for Component 3 will be annual.

It is expected that the implementation procedures described above will therefore be performed annually following every two six-month Partnership cycles.

Implementation schedule

The implementation schedule for Component 3 is provided in Table 2-1 below.

Table 0-1 Component 3: Indicative implementation schedule

	Year																							
	1				2				3				4				5				6			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Preparation phase: 4 cycles			1				2				3				4									
Dev. Phase Stage 1: Pre-construction				1				2				3				4								
Dev. Phase Stage 2: Construction (1)					1																			
Dev. Phase Stage 2: Construction (2)									2															
Dev. Phase Stage 2: Construction (3)													3											
Dev. Phase Stage 2: Construction (4)																	4							
Dev. Phase Stage 3: Op & Maint									1				2				3				4			

Cost Plan

An indicative cost plan, based on the Implementation schedule provided in Table 2-1 is provided in Table 2-2. The costs assume works and related services for the rehabilitation of a nominal 150km of local access and/or district feeder roads per annum. The two tables show base costs in thousand PNG Kina and including contingencies in thousand US dollars, respectively.

Table 0-2 Component 3: Indicative cost plan¹

Component 3 Costs (PNGK base costs)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Preparation	(TA - Part of Component 1 costs)						-
Pre-construction	63	105	105	105	105	42	525
Construction	-	3,780	6,780	6,780	6,780	6,780	30,900
Operation & maintenance	-	250	340	340	340	340	1,610
TOTAL		4,135	7,225	7,225	7,225	7,162	33,035
Component 3 Costs (USD w ith contingencies)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Preparation	(TA - Part of Component 1 costs)						-
Pre-construction	26	44	45	46	47	19	228
Construction	-	1,588	2,915	2,983	3,051	3,119	13,656
Operation & maintenance	-	105	146	150	153	156	710
TOTAL	26	1,737	3,107	3,179	3,251	3,295	14,594

¹ For exact cost estimates, please refer to the project Cost tables which are part of section 1 of the PIM.

Implementation Management

Institutional Framework

The institutional framework for PPAP implementation is described more fully in other sections of the Project Implementation Manual, but a brief description is provided here.

Project general oversight and guidance will be provided by a Project Steering Committee (PSC) chaired by the Secretary of the National Department of Agriculture and Livestock (NDAL) and comprising representatives from relevant government departments and agencies as well as the private sector. The role of the PSC would be to provide guidance on policy matters and quality control for annual work programs and budgets, and to facilitate critical decisions for the implementation of the project components.

At national level, a small Project Coordination Unit (PCU) will be established in NDAL with primary responsibility for reporting to the PSC and to financiers (IDA and IFAD) and for overall monitoring and evaluation (M&E) of project activities.

In addition to NDAL, the two project implementing agencies are the Cocoa Board and the Coffee Industry Corporation. Project management units (PMUs) will be established within these two institutions in Kokopo (with a sub-unit in Buka) and Goroka respectively. In both instances, the PMU will be responsible for daily management of project implementation in their respective sector. Each PMU will be headed by a PMU Manager with expertise in the implementation of large investment programs in that respective industry.

Component 3 management functions

The management of Component 3 implementation will be under the responsibility of the two Transport Planner / Senior Engineers (TPSE) employed within the two PMUs at Goroka for the coffee sector and Kokopo/Buka for cocoa. The two TPSEs will be required to work closely with PPAP partners and affected communities, with provincial works divisions, as well as district administrators and local level government representatives.

The functional responsibilities for the primary activities associated with Component 3 are as follows:

1. **Project Management:** the two TPSEs will be responsible for the overall management of Component 3 activities, reporting to the PMU Program Manager in their sector.
2. **Project Preparation:** the two TPSEs assisted by the Land Control Officer and Community Liaison Officer, with input from consultant Intermediate Transport Specialist (ITS) as required.
3. **Pre-construction site investigation:** local consultants (individuals or firms) will be selected and contracted by CIC and CB to provide materials testing and engineering surveys as required, while the TPSEs will undertake the condition survey and inventory.
4. **Pre-construction detailed design and documentation, procurement process:** by TPSEs with input as required by Intermediate Transport Specialist
5. **Construction works:** by local contractors selected through National Competitive Bidding or local shopping methods and contracted by CIC / CB (individual contracts expected to be less than PNGK0.3 million), with requirement to provide maximum employment opportunities to affected communities.
6. **Construction Supervision:** local consultants (individuals or firms) will be selected and contracted by CIC and CB to provide construction supervision and contract administration services.

7. **Management of rehabilitated assets:** rehabilitated assets will be formally handed over on completion of construction works for operation and maintenance management by the implementing agency (CIC/CB) to the appropriate authority; provincial, district or local level government.
8. **Maintenance training & liaison:** the PMU Maintenance Training Specialist will be responsible for post-construction training of communities and liaison with the maintenance authority/ties, reporting to the TPSEs.

The organisational structures for Sub-components 3A and 3B are provided in Figures 3-1 and 3-2 respectively.

Figure 0-1 Sub-component 3A organisation chart

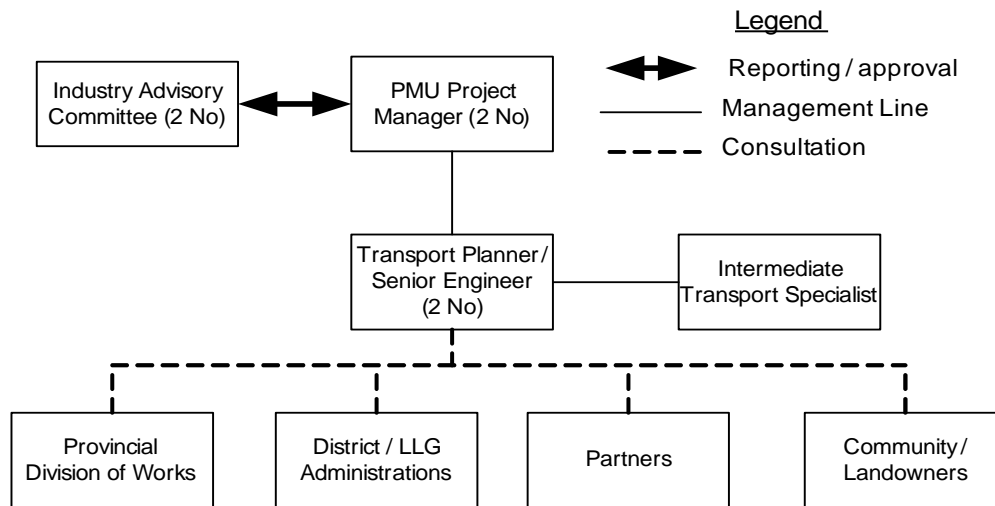
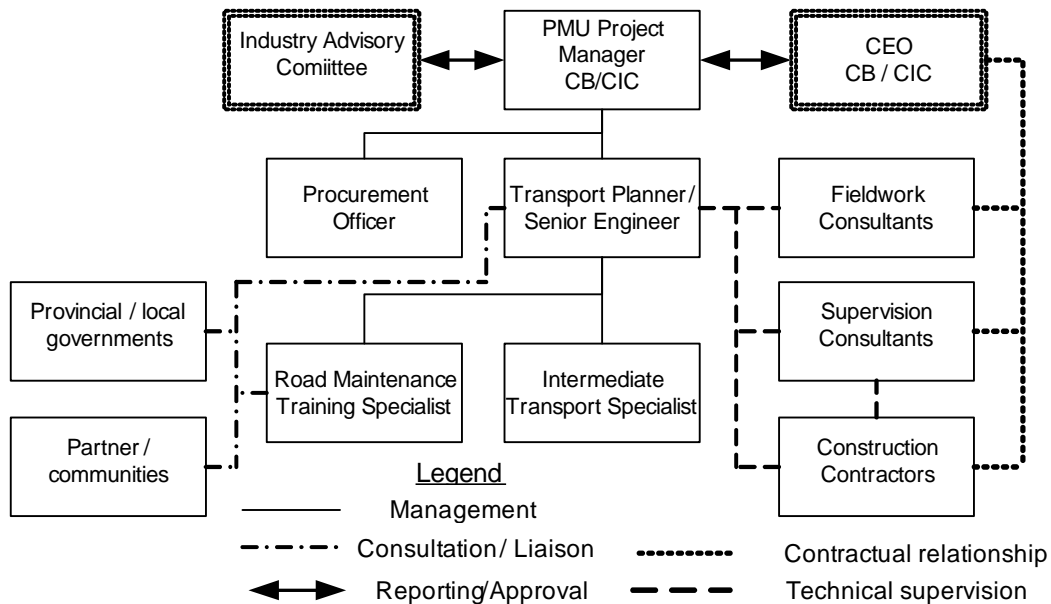


Figure 0-2 Sub-component 3B organisation chart



Transport Planner / Senior Engineer

The Transport Planner / Senior Engineer (TPSE) will be the principal transport and engineering specialist in each PMU. S/he will be primarily responsible for the management of all Component 3 activities and performing planning and engineering functions relating to transport infrastructure in that sector of the project. The TP/SE will provide the following range of services, as reflected in the draft Terms of Reference included in Appendix G.1:

- 1. Project Management:** The TPSE will direct and manage all Component 3 activities, reporting to the PMU Program Manager. The TPSE will be responsible to the PMU Program Manager for the timely completion of Component 3 activities in strict compliance with the project and component objectives;
- 2. Transport Planning:** The TPSE will be responsible for identifying, screening and scoping market access infrastructure sub-projects in collaboration with Partners. The TPSE will negotiate the future arrangements for the funding and implementation of maintenance of rehabilitated infrastructure with public and private stakeholders.² The top-ranked recommendations will be submitted to the ICC for funding approval. The TPSE will consult and collaborate with the Intermediate Transport Specialist as required in the development of sub-projects;
- 3. Site Investigation:** The TPSE will lead and manage all site investigation activities, undertaking asset inventory and condition surveys, instructing and overseeing consultants on materials sampling and testing, and any engineering surveys required.
- 4. Detailed Design:** The TPSE will undertake the design process with input from local consultants as required, based on analysis of data from surveys, design parameters and standards, and prepare design calculations, sketches / drawings as required, specifications

² It is expected these stakeholders will include Provincial and Local Governments, Productive Partners and Communities.

- and Bills of Quantities sufficient to define the scope and cost of the works. The TPSE will prepare a brief design report for each sub-project for submission to the authorities for technical approval and to the PMU manager for approval to proceed to the next step.
5. **Procurement Assistance:** The TPSE will assist the PMU Procurement Officer to plan procurement, prepare bidding documents and provide technical support during the bidding and evaluation process;
 6. **Construction supervision and contract administration:** The TPSE will oversee and monitor the construction supervision consultants and act as Engineer/Project Manager on all construction contracts, and will chair monthly site meetings;
 7. **Maintenance systems:** The TPSE will provide technical assistance in maintenance planning and organisation to the district administrations during the preparation activities, and will support the Training Specialist in post-construction activities;
 8. **Reporting:** In addition to the specific reporting above, the TPSE will support the PMU Program Manager to comply with reporting requirements by preparing regular progress reports relating to Component 3 activities.

Intermediate Transport Specialist

The Intermediate Transport Specialist (ITS) will support the TPSE as and when required in the preparation process (sub-component 3A) to identify and scope alternative market access infrastructure sub-projects. Where appropriate and following consultation with all stakeholders, the ITS will propose possible Intermediate Transport solutions for submission to the Industry Advisory Committee.

Where any such schemes are approved for development, the ITS will provide input into site investigation, detailed design and documentation of works in sub-component 3B, and work with stakeholders to establish a sustainable operations and maintenance regime on completion of construction.

A draft Terms of Reference for the Specialist is provided in Appendix G.2. Key tasks to be performed include:

9. **Consultation:** Undertake in target areas identified by the Partners, an appraisal of the community transport needs through a community consultative process, and consultation with relevant industry groups. Relevant industry groups could include individually or jointly growers groups, cooperatives or buyer organisations;
10. **Feasibility Assessment:** Assess the feasibility of using intermediate transport options considering the physical environment, attitude of Productive Partners and community to the new technology, technological support capacity and economic viability;
11. **Operational Study:** Scope infrastructure elements of the transport plan and identify suitable owners and operators of the transport systems and required infrastructure. Develop terms of reference for the design, development and provision of goods and infrastructure; and
12. **Operational Design:** Develop with the identified owners and operators of the infrastructure and systems their respective roles in the development and operation of the transport systems. Responsibility for the operation and maintenance of the developed assets will need to be developed. The capacity of the appointed entities to perform their tasks should be assessed and technical assistance identified and sourced to develop skill gaps. Contractual arrangements or networks should be established for the provision of ongoing technical and logistical support needed to ensure operational sustainability.

Road Maintenance Training Specialist

The Road Maintenance Training Specialist (RMTS) will support the TPSE in sub-component 3B, working with stakeholders – affected communities, partners, provincial and district administrations, local level government – to establish a sustainable maintenance regime on assets where rehabilitation works are complete. A draft Terms of Reference is included in Appendix G,3 but the key tasks to be performed are as follows:

1. **Community-based road maintenance training:** undertake a sustained program of training in community-based routine maintenance, featuring a combination of classroom- and site-based sessions, sufficient to enable the community to undertake a regular repeating cycle of routine maintenance activities
2. **All stakeholders:** plan, arrange and facilitate a series of workshops / discussions with senior representatives to reinforce the previously agreed roles and responsibilities of each party, and the benefits accruing to all from a sustainable maintenance regime.
3. **Technical support / liaison:** remain accessible and provide ongoing technical support to, and liaison between, all parties to assist in addressing any technical issues arising, and to ensure that all parties are kept informed of progress, problems and their resolution.
4. **Monitoring & evaluation:** generally monitor the cycle-by-cycle and year-on-year progress of maintenance activities on completed PPAP sub-projects to evaluate the success or otherwise of individual programs, and use lessons learned to modify existing and future programs accordingly. Maintain a level of contact with other road maintenance projects in PNG, particularly those involving minor roads and/or community-based maintenance, to exchange ideas and experiences.

Consultants

Specialist engineering consultants will be procured on an as-required basis to undertake site investigation, to supervise construction and administer construction contracts. Consulting services may also be sought to provide support to the TPSE in aspects of the detailed design process. The need for these specialist services will be identified after the sub-projects have been approved by the ICC. It is expected that one or two consultancy contracts will be awarded in each annual cycle for each PMU. Although the scope of services provided is not expected to vary in each cycle, the scope of infrastructure is likely to change from year to year. The infrastructure included in each consultancy contract will be determined by the nature of the recently approved sub-projects and the geographic spread of the infrastructure. The rationale when packaging the consultancy contracts will be to increase efficiency by minimising the number of contracts while ensuring implementation is performed in a timely manner.

Site investigation

Consultants will provide the following range of services:

13. **Materials sampling and testing:** The Consultant will conduct site sampling of existing pavement and embankment, and proposed borrow materials, conduct in-situ and laboratory testing of materials, process and analyse site investigation data required for the design and documentation of the required works;
14. **Local engineering survey:** carry out surveys at critical locations if and where necessary to provide accurate ground data for the detailed design of drainage structures, slope stability improvements or erosion protection measures.

Design and documentation

Depending on the number of partnerships and the resultant workload of either TPSE at a particular time during the life of the project, it may be necessary to outsource the design and/or documentation of part or all of some sub-projects to local engineering consultants. Services could include the detailed design, drawings, technical specification and Bills of Quantities (BOQ) for the rehabilitation of routes or nodes.

Construction supervision

The consultant will provide the following range of services

15. **Construction supervision:** The Consultant will supervise construction to ensure compliance with construction quality standards; and
16. **Contract Administration:** The Consultant will administer the construction contracts to ensure compliance with contract terms and conditions.

A Terms of Reference template for engineering consultants is provided in Appendix G.4.

Reporting Requirements

The following types of reports will be generated under Component 3:

17. **Sub-project Selection Reports:** These reports will be prepared under Sub-component 3A, and will be prepared following one or two cycles of partnership agreements, so once- or twice-yearly depending on the number of partnerships per cycle. The reports will include a detailed account of the identification, screening and ranking process relating to each sub-project, with supporting documentation, consultation records, screening forms etc. The reports will be prepared by the TPSE with input where appropriate from the ITS, and submitted by the PMU to the ICC for approval of the recommendations;
18. **Detailed Design Reports:** in sub-component 3B the TPSE will prepare a brief report for each batch of sub-projects setting out the design parameters and calculations, records of field surveys and tests, typical cross-sections and drainage details, and drawings of specific local improvements required. The report will also include technical specifications and Bill of Quantities (BOQ) for each sub-project, and engineer's estimates based on the priced BOQs. The report will also contain recommendations for how the construction works will be packaged.. The report will be submitted to the respective provincial department of works for technical review, comment and approval before the PMU Project Manager gives his/her approval to proceed with implementation;
19. **Bid Evaluation Reports:** These documents will be prepared under Sub-component 3B. The reports will be prepared in accordance with the requirements of the Procurement Manual. The documents will be prepared by the Evaluation Committees selected by CIC and CB, supported by the TPSE and Procurement Officer. The frequency of these reports will be defined in the respective Procurement Plans but is likely to be annual;
20. **Construction Supervision reports:** These reports will be prepared under Sub-component 3B. The reports will be prepared by the Supervision Consultant and submitted to the PMU monthly. The reports will cover the physical progress of construction and financial details, contractual compliance and a discussion on exceptions and issues arising;
21. **Progress Reports:** These reports will be prepared by the TPSE and submitted to the relevant PMU Program Manager for consolidation into six monthly sector-based progress reports;

22. **Maintenance Reports:** prepared six-monthly by the RMTS to record progress on establishing and continuing routine maintenance on rehabilitated infrastructure through training and workshop programs, and provisions for periodic and emergency maintenance; and
23. **Monitoring and Evaluation Reports:** These will be prepared in accordance with the requirements of the Monitoring and Evaluation Manual.

The type and timing for submitting documents and reports is provided in Table 3-1.

Table 0-1 Documentation and Reporting Schedule

Report Title	Prepared By	Prepared When
Preparation		
Sub-project Selection Report	TPSE with assistance of ITS	At six monthly or annual intervals after establishment of partnerships
Pre-construction		
Site Investigation Reports	Consultants	To follow the design cycle (1 or 2 / annum)
Detailed Design Report	TPSE	To follow the design cycle (1 or 2 / annum)
Construction		
Construction Supervision reports	Construction Supervisor	Monthly + final on completion
Operation & Maintenance		
Progress Report	RMTS	Twice yearly following rehabilitation
Procurement Documents		
Terms of reference for consulting services	TPSE / ITS	As required to suit the Procurement Plan
Requests for Proposal for consultant services	Procurement Specialist	As required to suit the Procurement Plan
Bid documents for Infrastructure Works	Procurement Specialist, TPSE / ITS	As required to suit the Procurement Plan
Bidding documents for goods	Procurement Specialist, ITS	As required to suit the Procurement Plan
Bid evaluation reports for works, goods and services	Bid Evaluation Committee	As required to suit the Procurement Plan
Draft contracts	Procurement Specialist	As required to suit the Procurement Plan
Progress reports		
Six monthly progress reports	PMU Program Manager, TPSE	Twice yearly
Monitoring & Evaluation Reports		
For information on Monitoring and Evaluation Reports refer to the Monitoring & Evaluation Manual		

Procurement Methods

Procurement for the proposed project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004, revised October 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, revised October 2006, and the provisions stipulated in the relevant Credit Agreement.

Due to the value of the individual packages of procurement it is not intended that any works or goods will be procured using International Competitive Bidding. All procurement should comply with the approved Procurement Plan. The responsibility for the implementation of the project, and therefore for the award and administration of contracts under the project, rests with the Implementing Agencies supported by the industry based PMUs and the Project Coordinating Unit located in the NDAL. The objective of the procurement activities is to ensure all projects funds are used for the purpose they were intended and all procurement is completed in an efficient manner. Procurement Planning

The procurement methods (or consultant selection methods), the need for pre-qualification and prior review requirements are detailed in the Procurement Manual. A Procurement Plan for the first eighteen months of the project has been developed as part of the project preparation activities. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacities. The updates of the Procurement Plan will be based and clearly linked to the annual program of activities. The PMUs will develop industry based Procurement Plans and forward these to the Project Coordination Unit for consolidation into a project Procurement Plan for the respective period.

The following sections summarize the main procurement processes expected to be used under Component 3. The Procurement Manual should be consulted for detailed information on each step of the process.

Preparation of Bidding Documents

The technical specifications, terms of reference and bills of quantities are used to define the procured items. These are normally prepared by relevant technical specialists employed by the Implementing Agency. The relevant Procurement Officers will manage the preparation of bid invitation documents and contract documents. The Procurement Officers will ensure the documents comply with the Project Procurement Manual and the approved Procurement Plan.

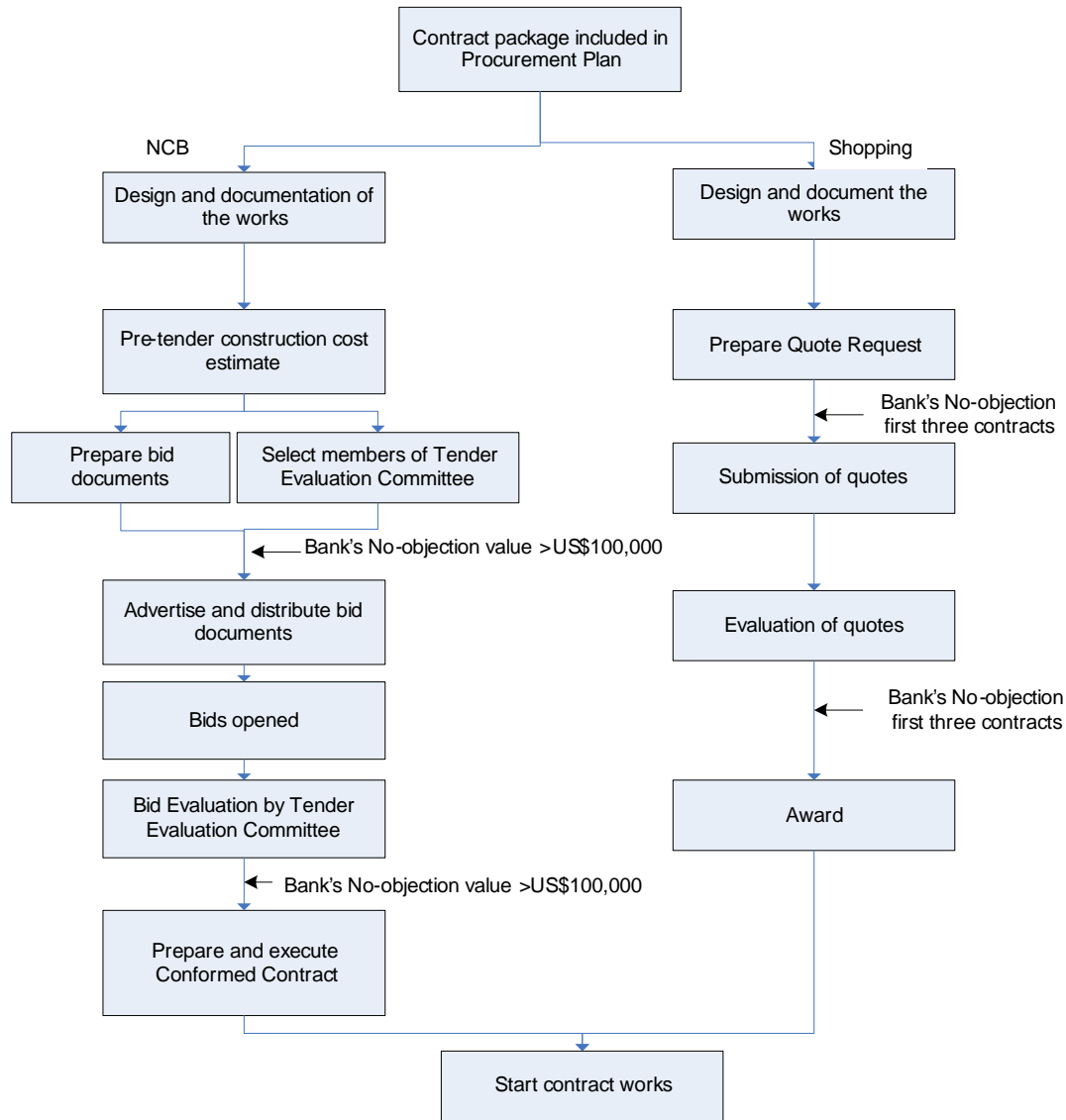
Details of the engineering codes and standards to be used in the design and construction of infrastructure are provided in Appendix H.

Procurement Methods

Works

1. **National Competitive Bidding:** Contracts for Works estimated to cost US\$500,000 or less but more than US\$50,000 will be procured under National Competitive Bidding.
2. **Shopping:** Contracts for Works estimated to cost less than US\$50,000. Implementation steps in the procurement of Works are detailed in Figure 4-1. Details on the procurement steps are provided in the Procurement Manual.

Figure 0-1 Implementation steps for procurement of works



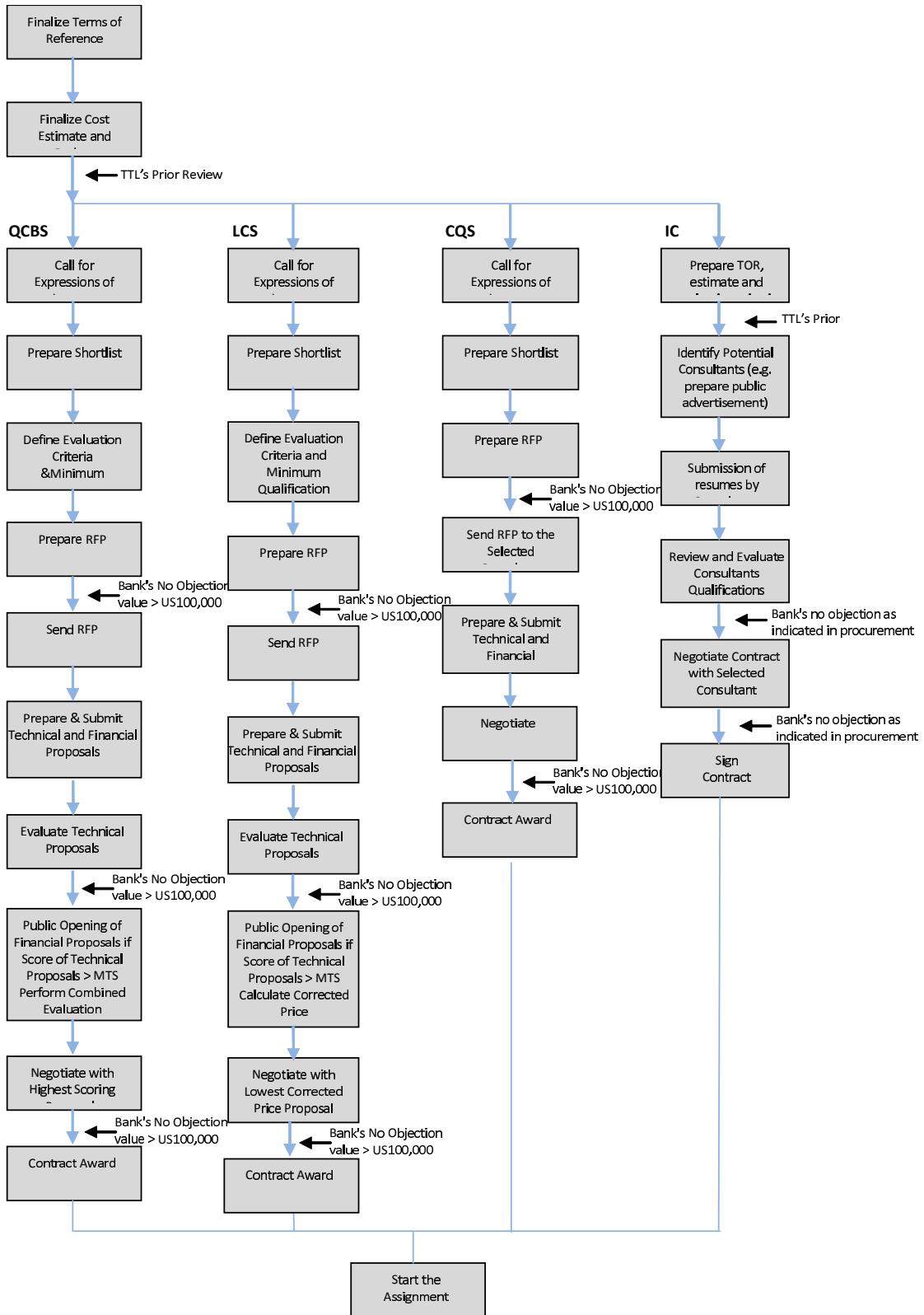
Consultants

1. **Quality and Cost Based Selection (QCBS):** QCBS will be used where large value and complex consulting services are procured.
2. **Consultants Qualifications' Selection (CQS):** CQS may be used for small value consulting assignments for which the need for preparing and evaluating competitive proposals is not justified. Small value consulting assignments are defined to have a value less than US\$100,000.
3. **Least Cost Selection (LCS):** With regards to the assignments where the scope of work of the assignment can be precisely defined and the Terms of Reference (TOR) are clear and well specified the recommended method is LCS. LCS will be used to procure market access infrastructure designers and construction supervisors.
4. **Individual Consultants:** International consultants, as well as local ones, may be appointed by the IAs or the PMUs acting on behalf of the CEOs of IAs, to assist in project implementation and to provide technical assistance. They will be selected through a comparison of qualifications of at

least three qualified consultants among those who have expressed interest in the assignments or have been approached directly by the PMU. Individual consultants will be employed to provide project management, financial administration, procurement, transport planning, intermediate transport planning and design, industry expertise and management advice.

Implementation steps in the selection of Consultants are detailed in Figure 4-2. Information on the procurement steps are provided in the Procurement Manual.

Figure 0-2 Implementation steps for the selection of consultants

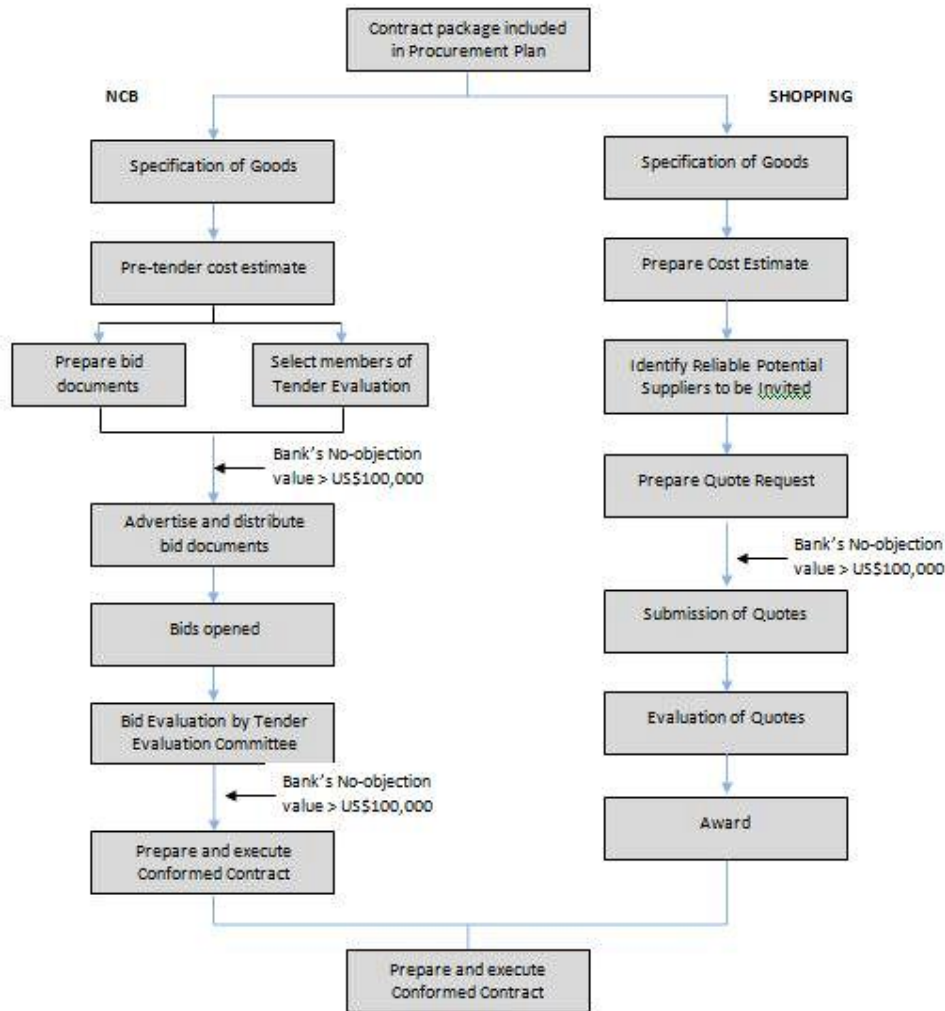


Goods

1. **National Competitive Bidding:** Contracts estimated to cost US\$ 500,000 or less but more than US\$ 50,000 will be procured under NCB.
2. **Direct Contracting:** Contracts estimated to cost US\$10,000 or less can be procured under Direct Contracting. **Shopping: Goods** estimated to cost less than US\$ 50,000.

Implementation steps in the selection of Goods are detailed in Figure 4-3. Information on the procurement steps are provided in the Procurement Manual.

Figure 0-3 Implementation steps for the procurement of goods



Sustainable Maintenance of Completed Works

Implementation of Component 3 of PPAP will involve the rehabilitation of market access infrastructure, most likely to be short lengths (less than 5km) of local access or district feeder roads. However, the approval to fund and proceed with the physical implementation of any sub-projects will be contingent on obtaining a prior formal commitment by the stakeholders (PPAP partners and their target community on the one hand, local level governments supported by provincial and district administrations on the other) to place the rehabilitated asset under a sustainable maintenance regime once construction works are completed.

A proposed mechanism for achieving this commitment is set out in section 0above and involves consultation with the interested parties, leading to the signing of a Memorandum of Understanding (MoU) between those parties on their respective roles and responsibilities (see Appendix F).

It is envisaged that ownership of intermediate transport systems will be vested in either the Partner or a competent community based organisation with a good management track record. The operation and maintenance of intermediate transport systems will be the responsibility of the owner. Approval to invest in intermediate transport systems will require a prior agreement with the Owner to fund and perform routine, periodic and emergency maintenance. To ensure the Owner understands his obligations under the agreement to maintain the asset the Intermediate Transport Advisor will develop and cost an indicative operation and maintenance plan and present it to the Owner. During the construction phase the Owner will be instructed in the proper performance of maintenance and given assistance to establish operation and maintenance capacity. It is expected that the predominate form of implementing maintenance of intermediate transport systems will be labour based or labour intensive. The principal source of labour will be the community who owns or benefits from the system.

Environmental & social safeguards

As Components 2 and 3 of the PPAP follow a demand-driven approach the specific locations and scope of PPAP activities are not known at the time of project preparation. In preparing the PPAP the GoPNG has therefore prepared and publicly disclosed the Environmental and Social Management Framework (ESMF) and the Compensation Policy Framework (CPF) to provide environmental and social safeguard frameworks for all activities to be undertaken during the project's implementation. These two separate and stand alone documents are accessible in-country by the general public, local communities, potential project-affected groups, local NGOs and all other stakeholders, but are also available through the World Bank *infoshop*.

The CPF is presented in Appendix J and sets out the framework under which affected parties will be consulted and compensated for any losses or negative impacts incurred as a result of project activities.

The ESMF establishes the guidelines and procedures to be followed to determine and assess future potential environmental and social impacts of project activities to be financed under PPAP, and to set out mitigation, monitoring and institutional measures to be taken during implementation and operation of each sub-project to eliminate, offset or reduce its potential adverse environmental and social impacts to acceptable levels.

For Component 3 implementation all sub-projects will be required to meet the safeguards set out in the two documents. The ESMF contains an Environmental Management Plan (EMP) covering the potential environmental and social impacts from anticipated program/ PPAP sub project activities. For ease of reference this EMP is reproduced as Appendix K of this manual. The EMP contains mitigation measures and indicators for environmental monitoring purposes.

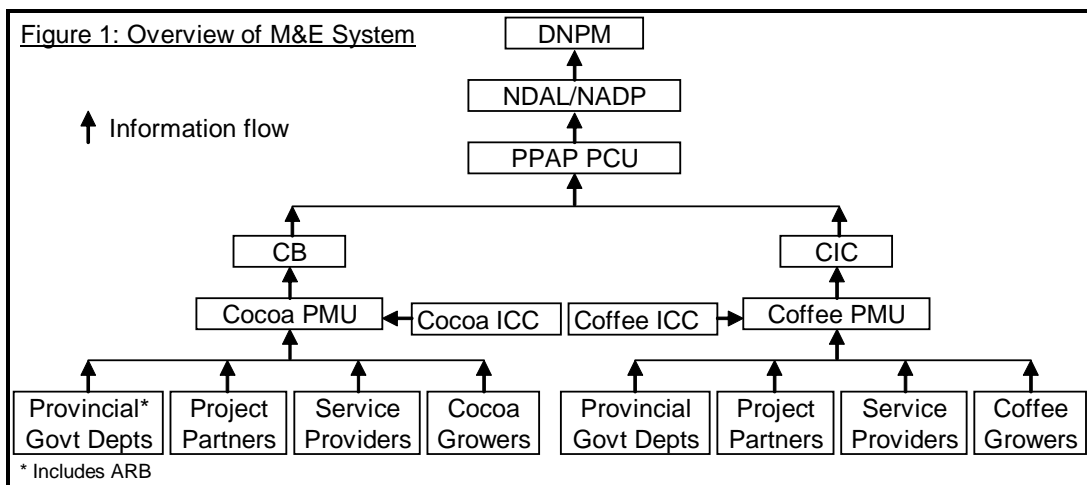
The Beneficiaries' Participation Framework (BPF – see Appendix L) is designed to ensure that project beneficiaries have continued participation and involvement in all stages of the PPAP that may directly impact upon them. Activities that affect beneficiaries will follow a process whereby beneficiaries participate in decisions over implementation, management, and M&E of PPAP activities. It is a requirement that all dealings with affected communities under Component 3 should be conducted fully in accordance with the BPF.

Monitoring and Evaluation

When implementing Component 3 the project should comply with the monitoring and evaluation requirements provided in the Monitoring and Evaluation Manual.

The focal point for M&E will be the PCU located in NDAL in Port Moresby. Primary information gathering will be undertaken by the Cocoa PMU in the CB and the Coffee PMU in CIC. Partnership agreements with commercial partners will define the obligations of each partner to report progress against specific performance indicators. Contracts with service providers will also specify reporting requirements. The overall system showing the direction of information flows is summarised in Figure 1-1.

Figure 0-1 Overview of M&E System



M&E will be coordinated by the PPAP Senior M&E Officer based in the NDAL PCU in Port Moresby. The role of the M&E Officer will mainly be to facilitate the M&E function of PPAP, by refining appropriate tools and procedures; by strengthening the capacity of the PCU and implementing partners to carry out their monitoring tasks; by recruiting specialists for impact assessment and other specialised studies; and by consolidating and analysing the data. The M&E findings will be summarised in half-yearly and annual progress reports.

Within each PMU, at industry level, the Project Manager will be responsible for the management and consolidation of all M&E activities. The TPSE would consolidate all data and information required for M&E of Component 3 activities and support the Project Manager in this task with regards to Component 3.

Appendix A Component 3 Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
<p>To improve the performance and sustainability of value chains in cocoa- and coffee-growing areas, in order to improve the livelihoods of smallholder cocoa and coffee growers.</p>	<p>The livelihoods of small farmers engaged in coffee and cocoa-based farming systems have improved in targeted areas, as measured by:</p> <ul style="list-style-type: none"> • the number of farm households applying improved farming practices • the number and coverage of partnerships achieving the agreed outcomes • the share of the export price quality premiums received by farmers 	<p>These indicators will help assess the extent to which the activities of the project resulted in improved livelihoods for small producers engaged in coffee and cocoa production in project areas.</p>
Intermediate Outcomes (Component 3)	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
<p>Result 10: Critical transport infrastructure has been improved in project areas</p>	<ul style="list-style-type: none"> • Number of Km of roads rehabilitated and maintained • Amount of viable investment in alternative transport facilities 	<p>Ensure that the objective of component 3 is achieved</p>

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Appendix B PPAP Provinces – Classified Road Network Details

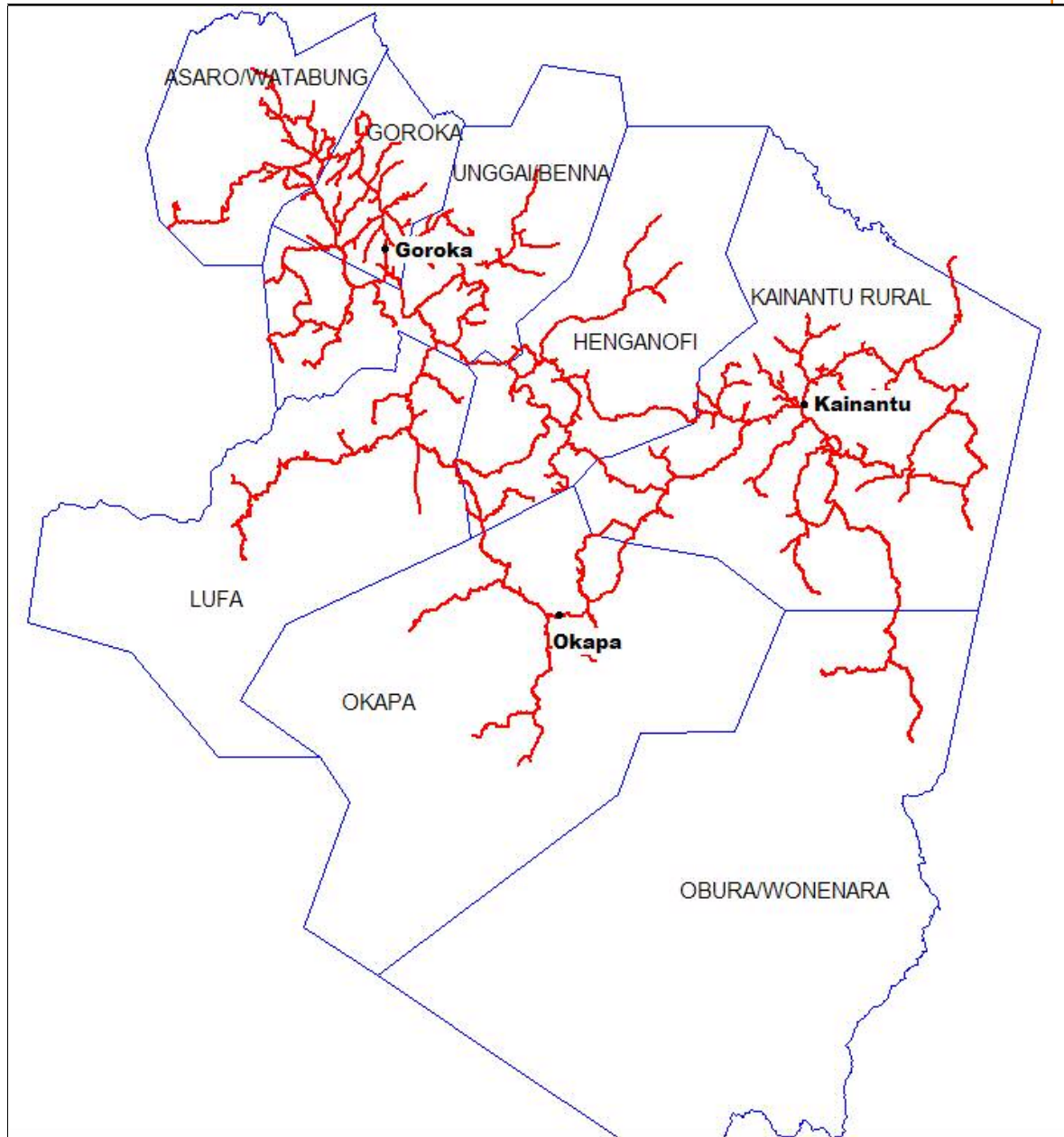
Road Network Length by Province and Classification

Province	National Roads	Provincial Roads	District / Local Roads ³	Total
Coffee Provinces				
Southern Highlands	721	224		945
Enga	238	354		592
Western Highlands	311	1014		1325
Chimbu	203	182		385
Eastern Highlands	306	878	651	1184
Sub-total	1779	2652		4431
Cocoa Provinces				
East New Britain	190	190	342	380
Autonomous Region of Bougainville	444	184	178	628
Sub-total	634	374		1,008
Total	2413	3026		5439

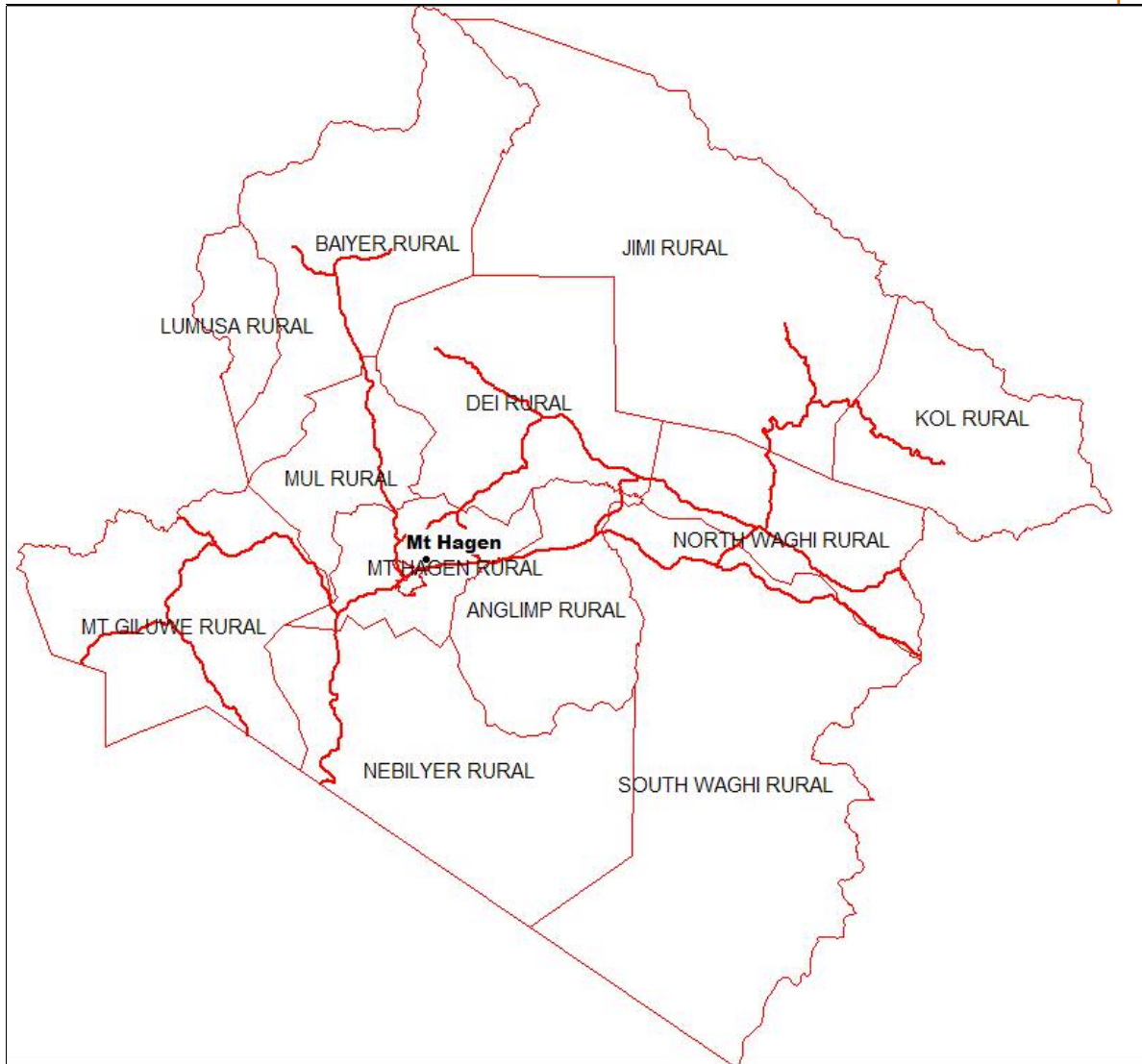
Source: Road Asset Management Unit, Department of Works

³ Data needs to be obtained from RAMS Director, DOW

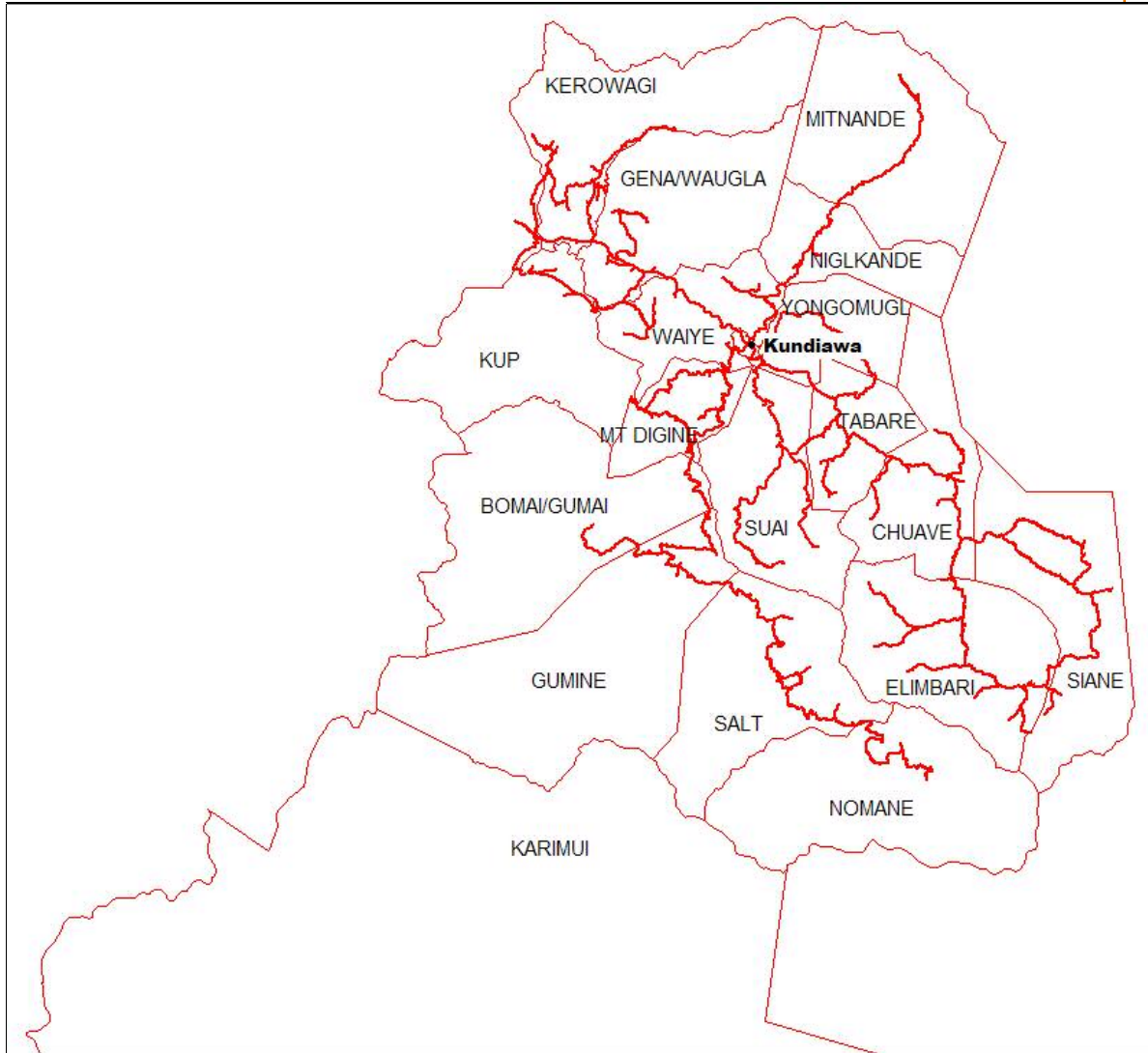
Location of key roads in initial target provinces – Eastern Highlands Province



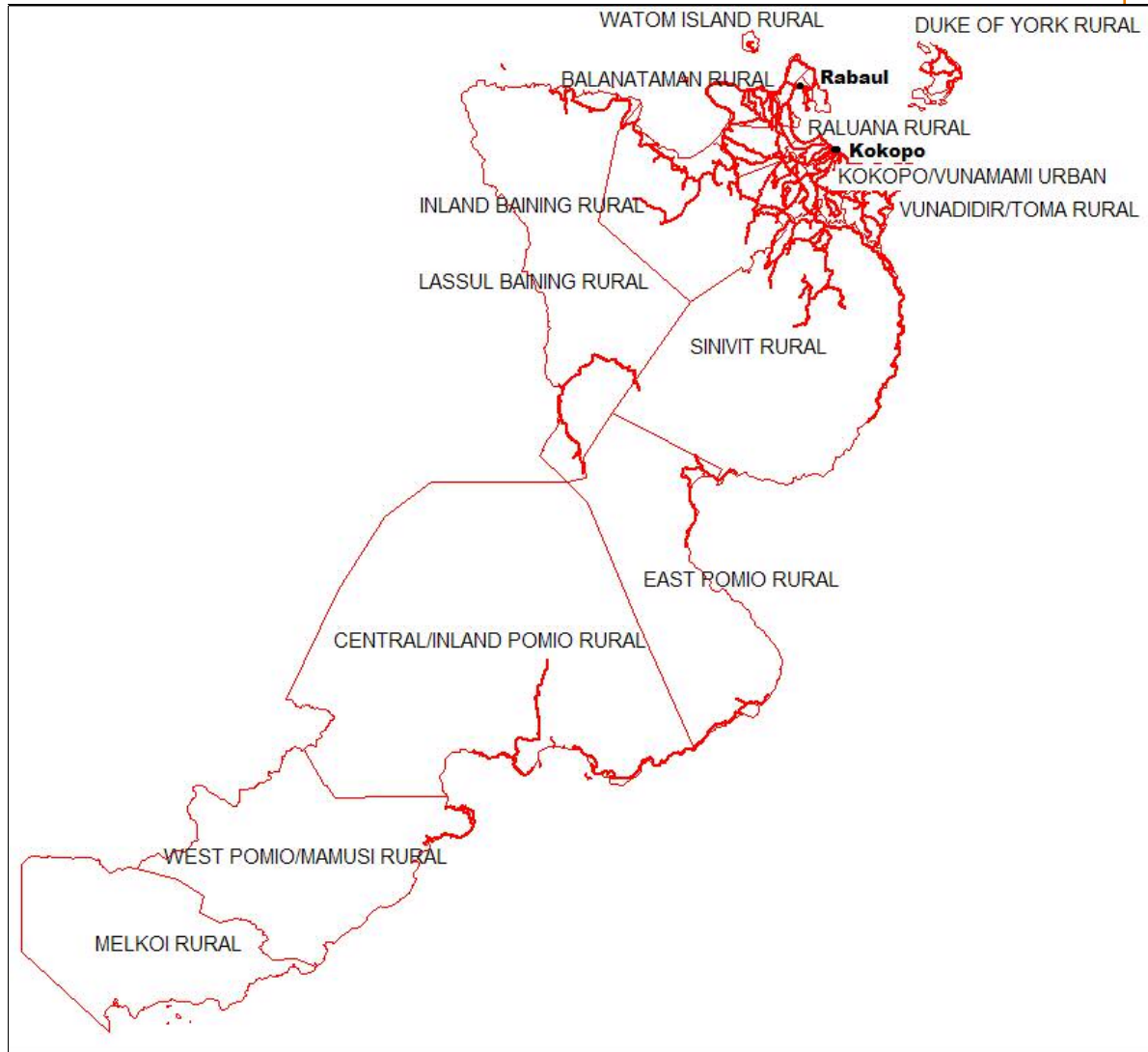
Location of key roads in initial target provinces – Western Highlands Province



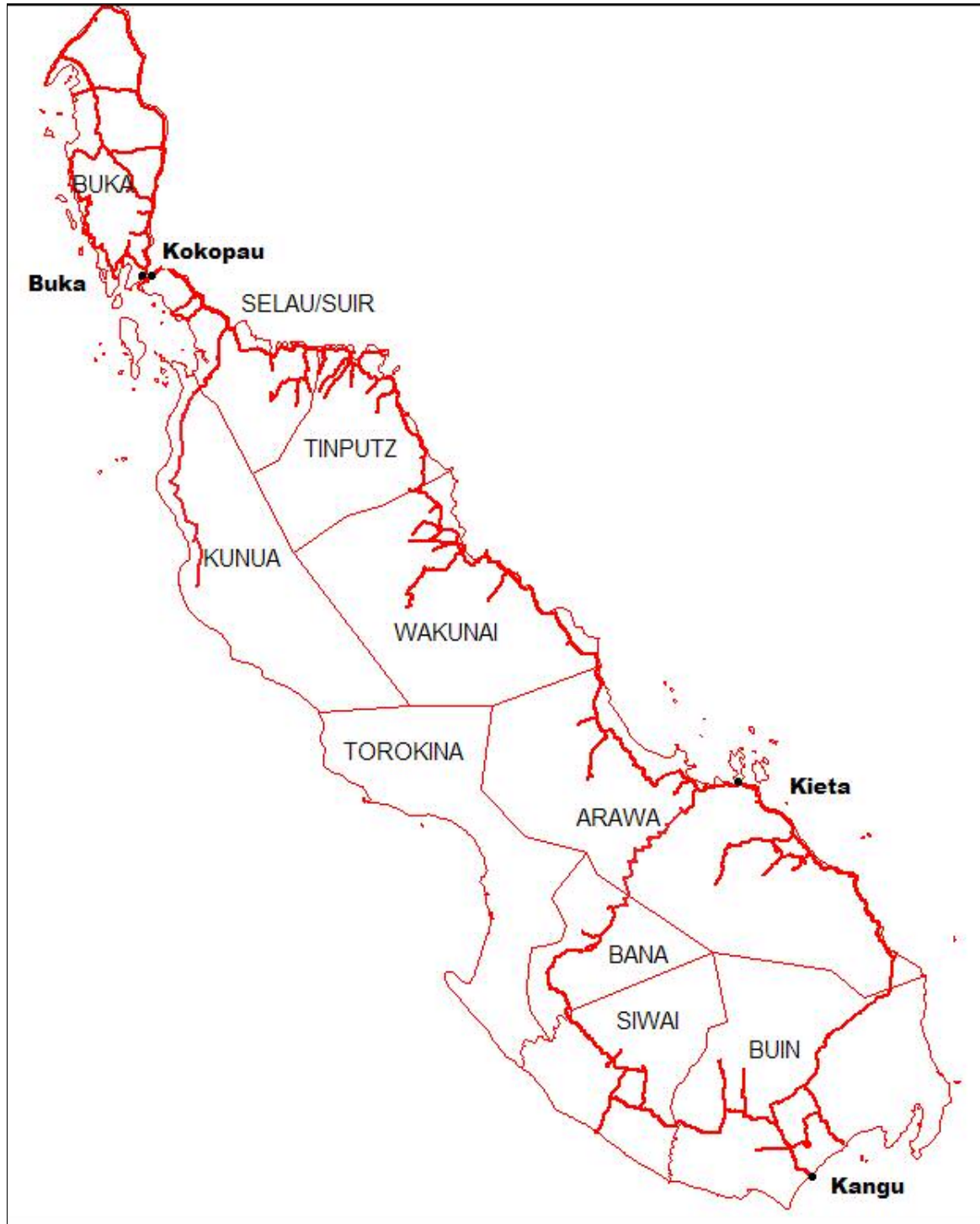
Location of key roads in initial target provinces – Simbu Province



Location of key roads in initial target provinces – East New Britain Province



Location of key roads in initial target provinces – Autonomous Region of Bougainville



Appendix C Eligibility Screening Template

Partnership PMU ref

Province

District LLG

From To

Description of Infrastructure

.....

Screening criteria	Data relating to this route or node	YES / NO
Existing infrastructure route or node		
Primarily serves a target population of partnership		
Provides critical access to market for target population		
Will rehabilitated route / node by itself reduce an access constraint?		
RAMS road classification DF or LA, or unclassified route / node		
Maximum 5km length of section to be rehabilitated		
Route / node is in need of rehabilitation		
No serious obstacles to feasible routine & periodic maintenance		
No land compensation claims issues (
No serious adverse environmental or social issues*		
Eligible? (only MAI providing 'YES' to all criteria will be eligible)		

* Separate Environmental & Social Screening Form (ESSF – see Appendix D) to be completed

Screened by Date

Approved by Date

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Appendix D Environmental & Social Screening Form (ESSF)

The Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of sub-projects in the PPAP. The form is designed to place information in the hands of reviewers so that mitigation measures, if any, can be identified and/or that requirements for further environmental analysis be determined.

The ESSF contains information that will allow reviewers to determine if endangered or threatened species or their habitat, protected areas or forest are likely to be present, and if further investigation is, therefore, required. The ESSF will also identify potential socioeconomic impacts that will require mitigation measures and or resettlement and compensation.

Name of Sub project:

Name of Sub-project's sponsor:

Name of the District:

Name of the Province and LLG:

Details of the person who is responsible for filling out this form

Name:

Department and title:

Name of Provincial Body:

Telephone number:

Fax number:

E-Mail address:

Date:

Signature:

1. Sub project Description

Please provide information on the type and scale of the sub project, sub project area, area of plants and buildings if relevant, amount of waste (solid, liquid and air generation), location and lengths of works, buried and or surface located pipes, etc. including construction work areas and access roads. (Complete on a separate sheet of paper if necessary).

2. The Natural Environment

a) Describe the vegetation/trees in/adjacent to the sub project area

b) Estimate and indicate where vegetation/trees might need to be cleared

c) Are there any environmentally sensitive areas or threatened species (specify below) that could be adversely affected by the sub project? YES / NO

i) Natural Forests YES / NO

ii) National Parks YES / NO

iii) Rivers YES / NO

iv) Lakes YES / NO

v) Wetlands (swamps, polder areas, seasonally inundated areas) YES / NO

vi) Habitats of endangered species for which protection is required under Papua New Guinea laws and/or international agreements. YES / NO

vii) Others (describe). YES / NO

3. River Ecology

Is there a possibility that, due to installation of structures and proposed works, the river ecology will be adversely affected? Attention should be paid to water quality and quantity; the nature, productivity and use of aquatic habitats, and variations of these over time.

YES / NO

4. Protected areas

Does the sub project area (or components of the sub project) occur within/adjacent to any protected areas designated by government (national park, national reserve, world heritage site etc.)

YES / NO

If the sub project is outside of, but close to, any protected area, is it likely to adversely affect the ecology within the protected area areas (e.g., interference with the migration routes of mammals or birds)

YES / NO

5. Geology and Soils

Based upon visual inspection or available literature, are there areas of possible geological or soil instability (erosion prone, landslide prone, subsidence-prone)?

YES / NO

Based upon visual inspection or available literature, are there areas that have risks of large scale increase in soil leaching and/or erosion?

YES / NO

6. Landscape/aesthetics

Is there a possibility that the sub project will adversely affect the aesthetic attractiveness of the local landscape?

YES / NO

7. Invasive plant species along minor road routes

Is the sub project likely to result in the spread of invasive plant species (along minor road routes)?

YES / NO

8. Historical, archaeological or cultural heritage site

Based on available sources, consultation with local authorities, local knowledge and/or observations, could the sub project alter any historical, archaeological or cultural heritage site (including cemeteries, memorials and graves) or require excavation near same?

YES / NO

9. Resettlement and/or Land Acquisition

Will involuntary resettlement, land acquisition, or loss of access to land as defined by World Bank OP4.12 be caused by sub project implementation?

YES / NO

10. Loss of Crops, Fruit Trees and Household Infrastructure

Will the sub project result in the permanent or temporary loss of crops, fruit trees and household infra-structure (such as granaries, outside toilets and kitchens, etc)?

YES / NO

11. Noise pollution during Construction and Operations

Will the operating noise level exceed the allowable decibel level for that zone?

YES / NO

12. Natural Habitats

Will the project have adverse impacts on Natural Habitats and not have acceptable mitigation measures according to OP 4.04 Natural Habitats?

YES / NO

13. Solid or Liquid Wastes.

Will the sub-project generate solid or liquid wastes?

YES / NO

If "Yes", does the sub project include a plan for their adequate collection and disposal?

YES / NO

14. Public Consultation Process:

Briefly describe the sub project consultation process in terms of when consultations took place, where they took place, who participated and how the criteria used to select participants in this process, what were the contributions from the participants, was it recorded and were contributions from participants included in decision making. Use separate sheet if necessary and *attached a consultation report*.

15. Vulnerable Groups:

Were members of associations from the following vulnerable groups consulted?

Women:

YES / NO

Youth groups:

YES / NO

Other groups (e.g. orphans, widows/widowers, the elderly)

YES / NO

If answer is Yes, provide names of groups consulted

:

16. Will these groups (in 15. above) have access to and benefit from this sub project?

YES / NO

If answer is Yes, specify which groups and describe how they will benefit.

Appendix E Comparative cost / benefit ranking analysis

The purpose of this comparative cost / benefit analysis is to determine which sub-project, within the basket of candidates under a single partnership, has the greatest project benefit relative to its cost. The analysis will thus provide the primary basis for deciding which of the candidate sub-projects are approved for funding - and then implementation - under Component 3 of PPAP.

It is essential that the analysis itself is predicated on two fundamental criteria; TRANSPARENCY and RIGOUR, since:

- a) The implementation will represent a considerable value – equivalent to approximately one-third of total project funding – and potentially significant improvements to the quality of life of beneficiaries. The difference between inclusion or rejection of a candidate sub-project will therefore impact heavily on potential beneficiaries, and
- b) There might be strong competition between some candidates (and hence between the communities that will potentially benefit from each), so that the outcome of the decision-making process is likely to be the subject of considerable interest to the affected parties, which may lead to an equally close inspection of the process itself.

It needs to be made clear to all those involved in the process that this is NOT intended to be a feasibility study, where the objective is to determine the economic or financial viability of, or rate of return on, a potential investment. The sole purpose of the comparative analysis is to establish which sub-project has the highest benefit-to-cost ratio, given an equal set of parameters within the context of the project objectives.

The comparative nature of the analysis is fundamental to both criteria. To ensure a fair comparison it is essential that the same set of rules is applied to all competing candidate assets, in terms of both rehabilitation costs and the benefits that accrue from that rehabilitation. The following matrixes give some examples of the factors that should be taken into consideration in developing the analysis.

Assessed whole-life cost of rehabilitation and maintenance

Rehabilitation Cost [R] ⁴	Estimated from the visual condition survey undertaken as part of the identification (NOTE it should be equivalent to a feasibility-grade cost estimate)
Comparative cost factors ⁵ for routes	<ul style="list-style-type: none"> • Classification / width of carriageway and reserve • Ruling gradients / extent of special surfacing required • Condition of existing roadbed / extent of reconstruction • Condition of existing surface / extent of regravelling required • Distance of available gravel from section to be rehabilitated • Extent of new and replacement cross drainage required • Extent of new and replacement longitudinal drainage required • Extent of slope stability measures required to stabilise embankments

⁴ The assessed cost is for COMPARISON purposes only – it is not intended to be an accurate engineer's estimate of the future construction contract cost.

	<ul style="list-style-type: none"> Extent of ancillary works required Transport distances for materials, plant & equipment, labour, fuel
Cost basis for routes	$[R] = [\text{Assessed (approximate) quantities of major rehabilitation works per km}] \times [\text{current local unit rates for each major works item}] \times [\text{length of road}]$

Maintenance cost [M]	Taken over a nominal 20-year asset lifetime
Comparative cost factors for routes	<ul style="list-style-type: none"> Routine maintenance by labour-based or equipment-based methods Difficulty of routine maintenance based on gradients, drainage paths etc Assessed cost of periodic maintenance (grading & regravelling) per cycle Assessed likelihood of emergency maintenance (slope stability etc)
Cost basis for routes	$[M] = [\text{Annual cost of routine maintenance} \times 20] + [\text{Assessed periodic maintenance cost per life}] + [\text{Assessed emergency maintenance cost over life}]$

Assessed whole-life cost = $[R] + [M]$

Assessed value of social and economic benefits

Clearly the assessment of benefits accruing from a rehabilitated section of infrastructure is far less straightforward than the assessment of costs. For the purposes of this analysis, only the benefits – direct and indirect - accruing to the partner and its target community/ties specifically served by the sub-project will be assessed. The detailed formula for quantifying and weighting benefits will be prepared by the PMU and given to all stakeholders during the initial consultation stage. The following matrixes are provided for guidance.

Direct partner benefits [DP]	<ul style="list-style-type: none"> Reduced vehicle operating costs per annum resulting from rehabilitated route
Indirect partner benefits [IP]	<ul style="list-style-type: none"> Improved quality of produce due to better communication / training / outreach opportunities resulting from rehabilitated route?
Cost basis for partner benefits [PB]	$[PB] = [DP \times 20] + [IP \times 20]$

Direct community benefits [DC]	<ul style="list-style-type: none"> Increased income per household due to improved farm gate price of produce Increased income due to increased production resulting from better links Reduced cost of access to private and public transport per household
Indirect community benefits [IC]	<ul style="list-style-type: none"> Improved access to health, education, law-and-order facilities (assessed per household per annum)
Cost basis for community benefits [CB]	$[CB] = [DC \times \text{households} \times 20] + [IC \times \text{households} \times 20]$

Assessed benefit = $[PB] + [CB]$

Benefit-to-cost ration = $\frac{[R] + [M]}{[PB] + [CB]}$

⁵ Differences in costs need to be clearly justified in terms of comparative cost factors

Appendix F Draft Maintenance Memorandum of Understanding

Sustainable Maintenance of Market Access Infrastructure

Template for Public / Private Memorandum of Understanding

Between

[Government organisation(s), likely to be LLG and/or District Administration, with technical support from Provincial Government], referred to as the Public Parties, on the one hand

And

[Private-sector association, likely to be community group(s) with partner organisation], referred to as the Private Parties, on the other hand

For

The sustainable implementation of Routine, Periodic and Emergency Maintenance of the

[Description of infrastructure to be maintained, e.g. Local Access Road between and, beingkm in length]

Date: #####

Background

'Market access infrastructure' in the context of smallholder cocoa and coffee growers generally means the transport routes that are used to convey the grower's produce from the farm to the 'market'; the nearest buying or processing point. The most common transport routes are by land – roads and paths – but can include other means of transport – water and air.

The serviceability of this infrastructure plays a critical role in the functioning and productivity of the entire industry. For example, poor quality or impassable access roads dramatically increase the time and cost of transporting produce outwards, as well as extension services and raw materials inwards, thereby reducing the price to the producer, and with it the incentive to expand production.

The chronically poor condition of market access infrastructure has been identified as a constraint by most stakeholders in the coffee and cocoa industries. As the infrastructure is generally publicly owned, it is primarily the responsibility of government to maintain it. However, in recent years there has been insufficient funding available for provincial and local level government to maintain such low level infrastructure.

To successfully maintain improved market access infrastructure on a sustainable basis will require a new approach, combining all stakeholders – i.e. those in the public and private sector who have a stake in keeping the route in a good and serviceable condition. This Memorandum of Understanding (MOU) defines the roles and responsibilities of the parties in relation to the resourcing and implementation of routine, periodic and emergency maintenance on the infrastructure described above.

Summary of Current Situation

The Productive Partnerships in Agriculture Project (PPAP) aims to improve the livelihoods of smallholder cocoa and coffee producers by improving performance and sustainability of value chains in cocoa and coffee producing areas. As part of the project's Component 3, certain critical sections of existing market access infrastructure, identified within the target areas of partnerships established under Component 2 of the project, have been selected for rehabilitation or some form of improvement.

The primary condition for including a particular section of infrastructure to be rehabilitated under Component 3 of the project is that a sustainable maintenance regime should be in place for that section, which will ensure that the infrastructure remains in a serviceable state for the foreseeable future, for the benefit of all those who use it and depend on it for their livelihoods.

The purpose of this MOU is to set out the roles and responsibilities of the individual parties as agreed amongst them, and by so doing to provide a firm commitment by each of the parties to contribute their share of the resources required to maintain the infrastructure in a sustainable manner, by providing between them the necessary labour, plant, material, technical or financial support, starting from the date when the rehabilitation works are complete and handed over for maintenance.

Scope of Activities

The activities to be resourced and performed are the sustained implementation of routine, periodic and emergency maintenance of the rehabilitated section of market access infrastructure described in this MOU. The specific nature and scope of these activities are detailed in Annex 1.

The different types of maintenance can be described as follows:

- a) **Routine maintenance** involves small-scale work, and needs to be done on a regular basis on all parts of the infrastructure, sufficiently frequently to ensure that the functional purpose of the infrastructure is delivered continuously;
- b) **Periodic maintenance** should be carried out when the functional purpose of the infrastructure cannot be maintained through routine maintenance or to protect the life of the asset; and
- c) **Emergency maintenance** shall be performed in a timely manner when an unforeseen event limits functionality or endangers the life of the asset.

Roles and Responsibilities of the Parties

The Public and Private Parties have agreed among them that the roles and responsibilities of resourcing and implementation of the routine, periodic and emergency maintenance, as described in Annex 1 of this MOU, will be divided as follows:

[insert the framework developed and agreed to by all the parties, setting out which part of the activities that each party will be responsible for under each of the three maintenance categories. This should cover funding, contracting, technical support etc. The following is a possible example]

- a) **Routine maintenance** The community/ties will undertake labor-based routine maintenance (drain cleaning, grass cutting, pothole patching, profiling) to an agreed standard for a set annual fee per kilometre, to be resourced by the partners in agreement between them.
- b) **Periodic maintenance** The DA/LLG will undertake periodic maintenance to an agreed standard, involving annual light grading and 5-yearly resheeting, using the most appropriate implementation means at its disposal through local resources (community-based, force account, equipment hire or contract) and funded through its annual maintenance budget.
- c) **Emergency maintenance** Funding for emergency maintenance, where, when and if required, sufficient to restore lost access, and which in the opinion of the DA is beyond the scope of routine maintenance, would be requested by the DA from the Provincial Government annual maintenance budget allocation, and may be carried out using the most appropriate locally resourced implementation means as above. If this were not forthcoming the DA, LLG and partners would need to seek an alternative solution.

PPAP Project Support

The [CB or CIC], as implementing agent of the PPAP, will contract the services of a Road Maintenance Training Specialist (RMTS) to work with the stakeholders of all completed infrastructure rehabilitation sub-projects. The RMTS will develop a specific maintenance program for the completed section, to best meet the prevailing local conditions, and will facilitate the development of a managed approach to routine maintenance by the community. The RMTS will also work with all parties to engender a positive working relationship between the community, partners and local authorities with regard to mobilizing resources for maintenance. Training will be delivered through a combination of classroom and practical sessions.

Communication

The parties agree to meet at least once per calendar year, at a time, date and venue to be agreed, to review progress and effectiveness of the maintenance regime, and to agree modifications to the regime as necessary.

Resolution of Disputes

In the event that one or more parties to this MOU have a grievance relating to the execution of maintenance, or if one or other of the parties fails to deliver its agreed contribution, or if all the parties are unable to agree modifications proposed by one or more parties, then the parties should seek mediation through the appointment of an independent mediator.

Dated this [insert date] day of [insert month] 20[insert year]

For and on behalf of the Public Parties:

Signed (1):

Name: representing

Signed (2):

Name: representing

Signed (3):

Name representing

For and on behalf of the Private Parties:

Signed (1):

Name: representing

Signed (2):

Name: representing

Signed (3):

Name representing

ANNEX 1 to the Memorandum of Understanding covering [insert description of infrastructure to be maintained]

[insert full description of all works required, and the expected frequency of such works, for routine and periodic maintenance, and the type of works likely to be carried out under emergency maintenance]

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Appendix G Terms of Reference

[The following common sections should be included in each Terms of Reference as background.]

Introduction

The Productive Partnerships in Agriculture Project (PPAP) is an agriculture sector development project designed to improve performance and sustainability of value chains in cocoa and coffee producing areas in order to improve the livelihoods of small holder cocoa and coffee producers. Initially the project will be implemented within five provinces; coffee-growing districts of Eastern Highlands, Simbu, Jiwaka and Western Highlands Provinces, and the cocoa-growing districts of East New Britain Province and the Autonomous Region of Bougainville. A roll-out of project activities to other coffee- and cocoa-producing provinces (such as Madang, East Sepik and Morobe) would be considered at the end of the second year of project implementation.

The project consists of the following components.

Component 1: Institutional Strengthening and Industry Coordination

The specific objective of this component would be to improve the performance of sector institutions and to enhance industry coordination in the cocoa and coffee sectors. The ultimate goal would be to enable those institutions to support the structural changes required in the cocoa and coffee sectors in response to market demand and other major developments such as the impact of the cocoa pod borer on yields and quality. Sub-components will focus on:

1. Industry coordination and policy development. This sub-component would build the capacity of industry level coordination committees (Industry Coordination Committees) to support sector dialogue and policy development respectively in the cocoa and coffee sub-sectors.
2. Communication and information management systems. This sub-component would aim at improving transparency in the sector and support policy development. It would finance targeted communication campaigns identified by the industry coordination committees around key policy and farming practice changes.
3. Quality promotion and sustainability management. This sub-component would strengthen quality promotion in the coffee and the cocoa industries and support, where appropriate, the adoption of sustainability practices.
4. Project management and monitoring and evaluation (M&E). This sub-component would finance all project management functions and the Technical Appraisal Committee (TAC).

Component 2: Productive Partnerships

The specific objective of this component would be to foster the integration of a greater number of smallholder producers in performing and remunerative value-chains, by developing and implementing public-private alliances in the project areas. This component would have two sub-components:

1. Productive partnerships in cocoa growing areas. Result-oriented partnerships in cocoa-growing areas will be developed which improve the profitability, quality and sustainability of smallholder cocoa production, as well as cocoa farming systems.

2. Productive partnerships in coffee growing areas. Result-oriented partnerships in coffee-growing areas will be developed which improve the profitability, quality and sustainability of smallholder coffee production, as well as coffee farming systems.

Component 3: Market access infrastructure

The specific objective of this component would be to improve smallholder market access in targeted areas under the project. Lack of market access is directly correlated with high levels of poverty in the project areas. Investments would be directed at the rehabilitation of existing transport links that provide access between smallholder farming communities and marketing or processing points (located on a trafficable route), for which a sustainable maintenance regime can be introduced or strengthened during the project. There will be two sub-components:

1. Preparation of market access infrastructure investments. This will include identification, screening, assessment and ranking of all candidate routes/ nodes that provide access to and from the targeted communities.
2. Market access infrastructure development. The implementation process will cover the investigation, design and documentation of infrastructure, preparation of bid documents, tendering and construction. The project will also assist district administrations to plan and implement routine, periodic and emergency maintenance of all rehabilitated infrastructure.

The preparation and development of the market access infrastructure in Component 3 will follow the cyclical nature of the establishment of the Productive Partnership agreements under Component 2. While the partnerships are intended to be established in six monthly cycles, the implementation cycle for Component 3 will be annual. It is expected therefore that all implementation activities will be repeated annually, following two consecutive six-month Partnership cycles.

Draft Terms of Reference G.1

Transport Planner / Senior Engineer (TPSE)

Description

The project will require the services of two Transport Planner / Senior Engineers, who will be based in separate Project Management Units, one located within the Coffee Industry Corporation (CIC) in Goroka, Eastern Highlands Province and the other at the Cocoa Board (CB) in Kokopo, East New Britain Province. Each TPSE will report to the Program Manager heading up the respective PMU. Travel will be required to other project provinces as well as to East New Britain and the Autonomous Region of Bougainville. The TPSE will be required to develop good working relationships with the respective provincial and district administrations, and affected local level governments, as well as the PPAP industry partners and their target communities.

Scope of services

The Transport Planner / Senior Engineer (TPSE) will be the principal transport and engineering specialist in each PMU. S/he will be primarily responsible for the management of all Component 3 activities and performing planning and engineering functions relating to transport infrastructure in that sector of the project. The TPSE will provide the following range of services:

1. **Project Management:** The TPSE will direct and manage all Component 3 activities, reporting to the PMU Program Manager. The TPSE will be responsible to the PMU Program Manager for the timely completion of Component 3 activities in strict compliance with the project and component objectives
2. **Transport Planning:** The TPSE will be responsible for identifying, screening and scoping market access infrastructure sub-projects in consultation with all affected parties. The TPSE will negotiate the future arrangements for the funding and implementation of maintenance of rehabilitated infrastructure with public and private stakeholders.⁶ The top-ranked recommendations will be submitted to the ICC for funding approval. The TPSE will consult and collaborate with the Intermediate Transport Specialist as required in the development of sub-projects;
3. **Site Investigation:** The TPSE will lead and manage all site investigation activities, undertaking asset inventory and condition surveys, instructing and overseeing consultants on materials sampling and testing, and any engineering surveys required.
4. **Detailed Design:** The TPSE will undertake the design process with input from local consultants as required, based on analysis of data from surveys, design parameters and standards, and prepare design calculations, sketches / drawings as required, specifications and Bills of Quantities sufficient to define the scope and cost of the works. The TPSE will prepare a brief design report for each sub-project for submission to the authorities for technical approval and to the IAC for funding approval.
5. **Procurement Assistance:** The TPSE will assist the PMU Procurement Officer to plan procurement, prepare bidding documents and provide technical support during the bidding and evaluation process;

⁶ It is expected these stakeholders will include Provincial and Local Governments, Productive Partners and Communities.

6. **Construction supervision and contract administration:** The TPSE will oversee and monitor the construction supervision consultants and act as Engineer/Project Manager on all construction contracts, and will chair monthly site meetings;
7. **Maintenance systems:** The TPSE will provide technical assistance in maintenance planning and organisation to the district administrations during the preparation activities, and will support the Training Specialist in post-construction activities;
8. **Reporting:** In addition to the specific reporting above, the TPSE will support the PMU Program Manager to comply with reporting requirements by preparing regular progress reports relating to Component 3 activities.

Key tasks and responsibilities

Under sub-component 3A (preparation of investments), undertake the following tasks for each partnership:

- In collaboration with stakeholders and with the support of seconded CLO and Lands Officer, identification and scoping of all infrastructure that provides market access within the target area of the partnership, and selection of discrete sections for consideration as sub-projects;
- Screening the sub-projects to eliminate those that do not meet the project eligibility criteria.
- Ranking of the individual sub-projects based on a rigorous comparative socio-economic cost / benefit analysis;
- Maintenance sustainability assessment of top-ranked sub-projects
- Preparation and submission of concise Selection Report for approval to fund and implement the top-ranked sub-project.

Under sub-component 3B (infrastructure development), undertake the following responsibilities during pre-construction, construction and post-construction stages:

- Preparation of Terms of Reference and provision of general technical support to all involved in the selection process and appointment of the engineering consultants for site investigation and construction supervision;
- Managing, coordinating and overseeing activities of all engineering consultants;
- Responsible for detailed design, cost estimates and technical documentation of works contracts, and provision of technical support to all those involved in the procurement process and award of works contracts;
- Acting as Project Manager / Engineer in the works contracts on behalf of the Employer
- Coordinating and managing activities of other PMU Transport Specialists (ITS and RMTS)
- Maintaining close working relationship with technical departments and officers at provincial, district and local level government.
- Oversee and monitor the enforcement of the Environmental and Social safeguards relating to Component 3 implementation

Deliverables

The deliverables by the TPSE will include but not be limited to:

- Infrastructure Identification & Scoping Reports: One month after establishment of each partnership, and following consultation with all stakeholders' representatives, a brief report
-

identifying and scoping all discrete sections of market access infrastructure located within the target area of the partnership that may be considered for screening and ranking under PPAP Component 3. The report will be circulated for comment to stakeholders.

- Ranking Reports: On completion of the preparation process for each partnership, a brief report setting out the eligibility screening and ranking processes and their results will be circulated for comment to the partner and affected communities.
- Sub-project Selection Reports: Annual or twice-yearly reports submitted to the Industry Coordination Committee to obtain funding approval of the recommended top-ranked sub-projects under each partnership. The reports will set out the background, analysis and rationale for the recommendations, and will include details of the identification, consultations, screening, ranking and maintenance assessment processes.
- Detailed Design Reports: To be submitted to the Provincial Government for technical approval before approval by the PMU Manager. Will include design parameters and standards, analysis of data, design calculations, construction cost estimate (based on priced BOQ), drawings and specifications for each sub-project.
- Procurement documents in relation to the appointment of investigation, design and supervision consultants and construction contractors. These include: (i) Consultant Request for Proposal, (ii) Construction Bid Invitation Documents; (iii) Tender Evaluation Report (prepared in collaboration with other Tender Evaluation Committee members) and (iv) Conformed Contracts;
- Contractual documents and reports under the responsibility of the Project Manager /Engineer;
- Progress reports in relation to Component 3 activities.

Level of input required and Duration of Assignment

A total of approximately 40 months input will be required over a period of five years.

Required qualifications and experience

- Degree in civil engineering or transport planning from an internationally recognised tertiary educational institution, and membership of an internationally recognised professional engineering / transport body
 - Minimum 10 years of experience in the public or private sector at management level
 - Minimum of 5 years experience in planning and managing minor road rehabilitation and maintenance programs in developing countries
 - Minimum of 5 years experience in feasibility, preliminary and detailed design and documentation of rural transport infrastructure
 - Experience and/or training in participatory community development programs
 - Experience with donor financed programs.
 - Experience in PNG or the Asia / Pacific region.
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Draft Terms of Reference G.2

Intermediate Transport Specialist (ITS)

Description

The Intermediate Transport Advisor will report to the Transport Planner / Senior Engineer (TPSE), under the overall supervision of the Program Manager (PM). S/he will divide his/her time between project provinces as required by demand for subprojects.

Scope of services

The ITS will support the two TPSE / PMU teams as required to prepare market access infrastructure investments to support partner associations. The ITS will identify, scope screen and rank potential Intermediate Transport (IT) systems for review by stakeholders and for submission to the Industry Advisory Committee (IAC). For maintenance systems, the ITS will provide technical assistance in establishing operations and maintenance systems associated with Intermediate Transport solutions approved by the IAC. The ITS will provide the following services:

1. **Consultation:** Undertake in target areas identified by the Partners, an appraisal of the community transport needs and support for potential sub-projects through a community consultative process, and consultation with relevant industry groups. Relevant industry groups could include individually or jointly growers groups, cooperatives or buyer organisations;
2. **Feasibility Assessment:** Assess the feasibility of using intermediate transport options considering the physical environment, attitude of Productive Partners and community to the new technology, technological support capacity and economic viability;
3. **Operational Study:** Scope infrastructure elements of the transport plan and identify suitable owners and operators of the transport systems and required infrastructure. Develop terms of reference for the design, development and provision of goods and infrastructure; and
4. **Operational Design:** Develop with the identified owners and operators of the infrastructure and systems their respective roles in the development and operation of the transport systems. Responsibility for the operation and maintenance of the developed assets will need to be developed. The capacity of the appointed entities to perform their tasks should be assessed and technical assistance identified and sourced to develop skill gaps. Contractual arrangements or networks should be established for the provision of ongoing technical and logistical support needed to ensure operational sustainability.

Key tasks and responsibilities

The ITS will:

- In consultation with the partnership stakeholders and in collaboration with the TPSE, consider the merits of alternative options and where appropriate prepare recommendations regarding IT solutions for market access infrastructure rehabilitation. Submit the recommendations with clear logical reasoning to stakeholders for review. Complete the following tasks in preparing the recommendations;
 - Review the findings of the TPSE regarding transport demand and constraints to identify possible IT solutions to support partner objectives.

- Identify and locate target communities and their existing access routes/nodes using available mapping and census data;
 - Screen identified routes / nodes to select those that meet project and component objectives (i.e. provide or potentially provide market access, but in their current state impose a constraint to that access) for further investigation;
 - Assess community size and structure, current and potential production of coffee/cocoa and other crops;
 - Determine length of each selected access route between community and market / processing point, assessment of physical condition along its length, current and future traffic (volumes and type), or
 - Investigate appropriate IT systems to suit future transport demand, economic viability, availability of ongoing technological support and available operational interest;
 - Consider and further investigate, including suitability, acceptability and sustainability assessments, initial investment and future operational & maintenance (O&M) cost assessment, of developing IT solutions for selected route(s);
 - Undertake a non-complex comparative socio-economic cost / benefit analysis to rank all selected IT sub-projects within the target area; and
- Assist the TPSE prepare the required deliverables.

Deliverables

The deliverables by the ITS will include but not be limited to:

- Infrastructure Identification & Scoping Reports: Contribution as required to a brief report by the TPSE identifying and scoping all discrete sections of market access infrastructure located within the target area of the partnership that may be considered for screening and ranking under PPAP Component 3, one month after establishment of each partnership, and following consultation with all stakeholders' representatives. The report will be circulated for comment to stakeholders.
 - Ranking Reports: Contribution as required to a brief report by the TPSE setting out the eligibility screening and ranking processes and their results to be circulated for comment to the partner and affected communities on completion of the preparation process for each partnership.
 - Sub-project Selection Reports: Contribution as required to annual or twice-yearly reports by TPSE and submitted by PMU to the Industry Coordination Committee (ICC) to obtain funding approval of the recommended top-ranked sub-projects under each partnership. The reports will set out the background, analysis and rationale for the recommendations, and will include details of the identification, consultations, screening, ranking and maintenance assessment processes.
 - Detailed Design Reports: To be submitted to the Provincial Government for technical approval before approval by the PMU Manager. Will include design parameters and standards for works and/or goods, analysis of data, design calculations, construction cost estimate (based on priced BOQ), drawings and specifications for each sub-project.
 - Contribution as required to procurement documents in relation to the appointment of investigation, design & documentation and construction supervision consultants, goods suppliers and works contractors. These include: (i) Consultant Request for Proposal, (ii)
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Construction Bid Invitation Documents; (iii) Tender Evaluation Report (prepared in collaboration with other Bid Evaluation Committee members) and (iv) Conformed Contracts;

- Contribution to Progress Reports in relation to Component 3 activities.

Level of input required and Duration of Assignment

The actual input will depend on the type of infrastructure identified for selection, but it is anticipated that a total of approximately 6 months input will be required over a period of five years.

Inputs will be timed in response to the annual identification of market access infrastructure performed after selection of industry partners.

Required qualifications and experience

- Degree in civil engineering, transport planning or other appropriate discipline from an internationally recognised tertiary educational institution, and membership of an internationally recognised professional engineering, transport or developmental body
 - Minimum of 10 years experience in research and development and/or implementation of intermediate transport infrastructure systems
 - Experience in participatory community development programs and participatory consultations processes at the community level.
 - Experience with donor financed programs.
 - Experience in PNG or the Asia / Pacific region.
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Draft Terms of Reference G.3

Road Maintenance Training Specialist (RMTS)

Description

The Road Maintenance Training Specialist (RMTS) will report to the Transport Planner / Senior Engineer (TPSE), under the overall supervision of the Program Manager (PM). S/he will divide his/her time between project provinces as required by demand for subprojects

Scope of services

The Road Maintenance Training Specialist (RMTS) will support the TPSE in sub-component 3B, working with stakeholders – affected communities, partners, provincial and district administrations, local level government – to establish a sustainable maintenance regime of infrastructure assets where rehabilitation works are complete, through the following key tasks and responsibilities:

1. **Community-based road maintenance training:** undertake a sustained program of training in community-based routine maintenance, featuring a combination of classroom- and site-based sessions, sufficient to enable the community to undertake a regular repeating cycle of routine maintenance activities.
2. **All stakeholders:** plan, arrange and facilitate a series of workshops / discussions with senior representatives for single or multiple subprojects, to reinforce the previously agreed roles and responsibilities of each party set out in the Memorandum of Understanding, and the benefits accruing to all from a sustainable maintenance regime.
3. **Technical support / liaison:** remain accessible and provide ongoing technical support to, and liaison between, all parties to assist in addressing any technical issues arising, and to ensure that all parties are kept informed of progress, problems and their resolution.
4. **Facilitating emergency maintenance:** where there is a serious failure within a completed section of rehabilitated infrastructure that is a) deemed by both the PMU and appropriate local authority to have not been caused as a result of inadequate design or construction and b) preventing the asset being fit for purpose (i.e. trafficable in the case of a road), the RMTS will facilitate the execution of emergency maintenance works, through procurement of plant, materials and labour by the most appropriate means available.
5. **Monitoring & evaluation:** generally monitor the cycle-by-cycle and year-on-year progress of maintenance activities on completed PPAP sub-projects to evaluate the success or otherwise of individual programs, and use lessons learned to modify existing and future programs accordingly. Maintain a level of contact with other road maintenance projects in PNG, particularly those involving minor roads and/or community-based maintenance, to exchange ideas and experiences.

Deliverables

The deliverables by the RMTS will include but not be limited to:

- **Handing-over Reports:** within one month of formal handover of completed rehabilitated infrastructure sub-projects, prepare and submit a report on the community-based maintenance training undertaken, formal consultations with stakeholders, and the detailed framework put in
-

place and agreed for future maintenance activities. The report should also include the proposed monitoring and evaluation program for road maintenance.

- Emergency maintenance documentation if and as required.
- Contribution to Progress Reports in relation to Component 3 activities.
- Monitoring and evaluation Report: Annual reports to assess the success or otherwise of the maintenance programs, with lessons learned and recommendations for additional action or modifications to the system to overcome serious problems or obstacles encountered.

Level of input required and Duration of Assignment

A total of approximately 24 months input will be required over a period of four years.

Inputs will be timed to coincide with the completion of rehabilitation works contracts.

Required qualifications and experience

- Degree in civil engineering or other appropriate discipline from an internationally recognised tertiary educational institution, and membership of an internationally recognised professional engineering or developmental body
 - Minimum of 10 years experience in road maintenance by labour-based alternative technology (LBAT) methods
 - Experience in participatory community development programs
 - Experience with donor financed programs.
 - Experience in PNG or the Asia / Pacific region.
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Draft Terms of Reference G.4

Template for Site Investigation / Design & Documentation / Construction Supervision Consultancy

Description

[Provide description of the sub-project and location, scope of work and type of services - site investigation / design & documentation / construction supervision - to be undertaken. The description should clearly define the sections/nodes of market access infrastructure covered by the consultancy.]

Key tasks and responsibilities

The consultant will provide the following range of services: *[modify as required to reflect assignment]*

- Civil engineering site survey and investigation: The Consultant will perform site investigation surveys and tests and process and analyse site investigation data required for the design and documentation of the required works;
- Design and documentation of civil infrastructure: The Consultant, will design and document all civil engineering infrastructure as detailed in the Scope of Work;
- Pre-tender construction cost estimating;
- The Consultant will prepare a pre-tender construction cost estimate for all designed works.
- Preparation of procurement data; and
- The Consultant will prepare technical data and information for inclusion in construction bid documents.
- Construction supervision and contract administration.

The Consultant will be required to undertake the following tasks: *[modify as required to reflect assignment]*

- Plan and perform site investigation surveys and testing programs in accordance with the design codes detailed above;
 - Review available data relating to traffic, axle loads, and existing pavement strength; and determine the strength of the existing pavement structures through field and laboratory testing methods;
 - Perform the following based on the survey of the existing drainage systems: (a) identify, design, and quantify any necessary additional, replacement, or amendments to existing structures; (b) check stream beds and cross-drainage channels above and below the road for possible erosion effects; (c) design and quantify any necessary protective works; (d) examine the existing side drainage; (e) specify, design, and quantity new side drainage and line drains where necessary to eliminate scour and erosion or to provide support for narrow road cross-sections;
 - Prepare practical and cost-effective pavement and retaining structure designs on the basis of condition surveys, projected traffic demand and anticipated axle loading and pavement investigation, as determined from activities above and from previous studies;
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- Assess the requirement for slope protection measures adjacent to the road, and design the most cost-effective remedial works;
 - Investigate, test, and define sources and available quantities of construction materials; and prepare the material sources map with indicative properties and quantities;
 - Preparation of pre-tender estimates;
 - Produce complete detailed drawings and tender documentation suitable for procurement under national competitive bidding methods in accordance with the Procurement Manual with post-qualification;
 - Assist the Procurement Engineer in the preparation of bid documents; and
 - Undertake necessary survey for the PMU TSPE to prepare the necessary Compensation Plans based on detailed design in accordance with the Compensation Policy Framework; coordinate with various agencies for timely disbursement of compensation to affected persons.
 - Perform the following Construction Supervision tasks:
 - Ensure full and detailed permanent site records, which will include site correspondence, survey data, quality acceptance data, site diaries, measurement and certification, minutes of meetings, and records of all other contractually relevant matters;
 - Perform the role of Engineer's Representative as defined in the construction contracts;
 - Provide comprehensive day-to-day field contract supervision and administration services at the site;
 - Throughout the services, maintain close liaison with PMU and other relevant agencies, including the police and central and district Government authorities;
 - Provide the contractor with all necessary survey data and reference for setting out the works;
 - Liaise with the appropriate authorities to ensure that all the affected utility services are promptly relocated;
 - Carry out checks on the contractor's setting out and ensuring that the works are carried out in accordance with drawings and other design details;
 - Supervise and monitor the approved program of quality control testing;
 - Measure the works, agreeing and certifying payment certificates for submission to the employer, and
 - Prepare a final report, which will be a compilation and condensation of data presented in regular monthly progress reports, together with copies of as-built drawings within two months of the issue of the Defects Liability Certificate;
 - Provide the contractor with all necessary survey data and reference for setting out the works;
 - Receive and assess the rehabilitation contractors' implementation programs;
 - Ensure that the construction works are executed in accordance with all the provisions of the contract, including those concerning standards of workmanship, and other safety provisions and protections of the environment;
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- Maintain regular estimates of the cost to completion and time to completion for each rehabilitation contract;
- Prepare monthly progress reports for all contracts, in a form agreed upon with the PMU;
- Ensure that as-built drawings are prepared for rehabilitation works; and
- Undertake environmental monitoring as detailed in the safeguard documents and incorporate the findings and supporting data in the project completion reports

Deliverables

The Consultants deliverables will be: *[modify as required to reflect assignment]*

- Market Access Infrastructure Investigation and Design Report. The Report will comprise;
- Details of all site investigation and survey methodology and findings;
- Design calculations and assumptions;
- Detailed design for all infrastructure including workmanship & material specification;
- Recommendations concerning construction issues and operations;
- Pre-tender construction cost estimates including the basis of unit costs and derivation of construction quantities;
- Other documents required for preparation of bid documents; and
- Progress reports in relation to the investigation and design as requested by the Transport Planner.
- Certified payment certificates.
- Monthly progress reports.
- Site records.
- As built drawings.
- Final Completion Report.

The design and documentation of different classes of infrastructure will comply with the following documents.

- Road Design Manual, PNG Department of Works Version June 1994.
- River Training Manual, PNG Department of Works, 1987.
- Manual for the Design of Drainage Structures, PNG Department of Works.
- PNG Flood Estimation Hydrological Manual, PNG Department of Works, 1990.
- Relevant Austroads bridge design codes.

Duration

The assignment will be implemented over ## months starting in ### and ending in ###.

Expertise Required

The Consultant is expected to consist of a number of specialists in the following disciplines: *[modify as required to reflect assignment]*

- Topographic survey.
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- Material testing.
- Geometric design of roads.
- Design of civil engineering structures, e.g. bridges, buildings, retaining structures and river training works.
- Documentation of civil engineering works.
- Quantity surveying.
- Contract administration.
- Construction Supervision

Required qualifications of each specialist *[modify to suit scope of work]*

- Degree in civil engineering from an internationally recognised tertiary educational institution, and membership of an internationally recognised professional engineering body
 - Minimum of 10 years experience in the design, documentation and supervision of road maintenance construction.
 - Experience with donor financed programs and demonstrated operational skills.
 - Experience in PNG or similar environments.
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Appendix H GoPNG Engineering Codes

Standards used in the design of roads

1. Road Design Manual, PNG Department of Works Version June 1994.
2. River Training Manual, PNG Department of Works, 1987.
3. Manual for the Design of Drainage Structures, PNG Department of Works.
4. PNG Flood Estimation Hydrological Manual, PNG Department of Works, 1990.
5. PNG Bridge Loading Code.
6. Relevant Austroads bridge design codes.

Standards used in the design of coastal shipping jetties and wharves

AS 2601 - 1991	SAA Demolition Code
AS 2159 - 1991	SAA Piling Code
AS 3678 - 1990	Piling Material
AS 1579 - 1973	Pile Fabrication
AS 1554 - 1991	Structural Steel welding code
AS/NZS ISO 9002	Quality Assurance Stds
AS 2758.1	Aggregates
AS 3582.1	Admixtures
AS 1379 - 1991	Ready Mixed Concrete
AS 3600	Sampling and testing of concrete
AS 3610	Formwork
AS 3678	Structural steel
AS 1627 pt 4 and pt 9	Blast cleaning
AS 1580	Paint thickness
AS 1273 - 1974	P.V.C. pipes

Construction Workmanship & Materials Specification for Roads

Papua New Guinea Workmanship and Material Specification for the Construction of Roads and Bridges, 1995 version published by the PNG Department of Works

Appendix I Maintenance of rural public sector assets

The maintenance of the road network is the joint responsibility of three levels of government; national, provincial and district administrations. The national government road maintenance agency is the Department of Works, although the responsibility for routine maintenance of national roads is being transferred to the recently formed National Road Authority. The Department of Works operates from a headquarters in Port Moresby with an office in each province. Currently the maintenance of all national roads is the responsibility of the Department of Works and provincial roads is the responsibility of the relevant provincial Division of Works. Maintenance of district roads is the responsibility of District Administrations.

The National Government has established a road inventory for all roads and plans road maintenance through the Road Asset Management System operated by the Department of Works, which performs annual condition surveys of national roads. Generally Provincial Governments and District Administrations do not maintain a formal road maintenance planning system. Planning of maintenance in these institutions is based on a needs assessment and political considerations.

Current Rural Road Maintenance Methods

The maintenance of national roads is normally performed using large value contracts in which full compliance is required to a full workmanship and material specification. This method of performing maintenance is required due to the engineering standards, methods of construction and high economic value associated with national roads.

The maintenance of provincial, and to a lesser degree district, roads is less sophisticated and is normally performed using small to medium value contracts with simplified engineering specifications. A range of contracting models can be employed at the provincial and district level to implement road maintenance. Selection of the maintenance contracting model considers the availability of resources, funds available and the nature of work to be performed. Examples of the contracting models employed include schedule of rates, plant hire, labour based equipment supported and labour intensive. The frequency of the maintenance varies depending on the availability of funding. In addition to the tendered contracts provincial agencies also employ community groups on a negotiated basis to perform simple maintenance tasks employing labour based construction methods.

The following arrangements are normally employed when the following contracting models are used to maintain provincial or district roads. Irrespective of the contracting model employed the provincial government normally plans and manages implementation using public servants with professional engineering qualifications. The District Administrations also use public servants but the individuals may have project management or technical experience rather than professional engineering qualifications.

1. Schedule of rates: In a Schedule of Rates contract the value of the contract is based on a schedule of quantities for individual maintenance tasks provided by the Employer in the bidding documents. A schedule of rates contract is used where the maintenance tasks may be accurately defined but the quantity of work is unclear. The bidding documents will also provide a description of the works so the Bidder can determine the full scope of works to complete each item. The works may be described through drawings and workmanship and material specification or a log of works. The log of works fully describes in simple English the scope of work and, if considered critical, may also specify the work method to be employed. The
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- contractor is paid for the actual quantity of maintenance tasks completed. The Contractor is responsible for providing all construction inputs and managing the construction activities. Payments to the Contractor cannot exceed the Contract value, although the quantities for each item may vary, so long as the contract sum is not exceeded. The role of the Construction Supervisor is to issue variations to the description of the works, ensure the works are constructed in accordance with the requirements of the contract documents and to certify the actual quantities.
2. Plant Hire: In a Plant Hire contract the value of the contract is determined by the number of hours of each type of equipment to be provided. The Employer estimates the type of equipment to be provided and the number of hours the equipment will be used. A Plant Hire contract is used where the physical scope of work cannot be defined when the contract is tendered. Normally a Plant Hire contract is employed due to the urgent need to initiate implementation. The role of the Construction Supervisor is to manage the construction inputs to achieve the Employer's objective in compliance with good engineer practice.
 3. Labour based equipment supported: This type of contract is similar to schedule of rates. The main difference is the Employer specifies the type of construction resources that the Contractor can employ. Labour based equipment supported contracts are used where the Employer decides to maximise the use of labourers and restrict the use of equipment. The scope of work can still be defined through a schedule of quantities although the specification defines the work method and type of equipment to be used. The Contractor is responsible for managing the construction activities. The role of the Construction Supervisor is to issue variation orders, ensure construction complies with the specification and certify progress claims prepared by the Contractor.
 4. Labour intensive Contracts: A labour intensive contract is similar to a Labour based Equipment Supported Contract except the input of labourers has been maximised the use of equipment minimised.
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Appendix J PPAP Land Compensation Policy Framework

1. Background

1.1 Project Description

The development objective of the PPAP is: *To improve the livelihoods of smallholder cocoa and coffee producers through the improvement of the performance and the sustainability of value chains in cocoa- and coffee-producing areas.* This would be achieved by: strengthening industry coordination and institutions, facilitating linkages between smallholder farmers and agribusiness for the provision of market access, technologies and services, and through the provision of critical market access infrastructure.

Project support will be initially focused in the main producing areas for the two industries to be supported, namely East New Britain and the Autonomous Region of Bougainville for cocoa and the Eastern Highlands, Simbu, Jiwaka and Western Highlands Provinces for the coffee industry. These objectives are to be realized through three components:

Component 1, Institutional Strengthening and Industry Coordination: This component would: (a) build the capacity of industry coordination committees to support sector dialogue and policy development in the cocoa and coffee subsectors; (b) strengthen the information management systems to inform policy development and stakeholder decisions in the coffee and cocoa industries; (c) strengthen quality promotion in the coffee and cocoa industries and support, where appropriate the adoption of sustainability practices; and (d) support project management and M&E functions in the PMUs and the Project Coordinating Unit.

Component 2, Productive Partnerships: Through productive partnerships with a range of commercial and not-for-profit organisations, this component would: (a) finance result-oriented partnerships in cocoa-growing areas to increase smallholder cocoa productivity, quality, and sustainability and improve cocoa-farming systems and (b) finance result-oriented partnerships in coffee-growing areas to increase smallholder coffee productivity, quality, and sustainability and improve coffee farming systems. Examples include specialized training, certification, the production of improved planting material through nurseries and budwood gardens, replanting, diversification of farming systems, and investments to improve processing and storage facilities.

It is expected that there will be up to 50 partnerships implemented leading to up to 15,000 smallholder cocoa households receiving support under the project and some 10,000 to 15,000 smallholder coffee households being supported to improve the productivity and quality of their product.

Component 3, Market Access Infrastructure: In response to the priorities identified by the partnerships established in Component 2, this component would: (a) finance the identification and selection of priority investments in support of Component 2

partnerships and (b) finance the related investments in infrastructure rehabilitation and maintenance.

The project would be implemented over a six year period, with a starting date around mid-2010.

1.2 Project Impacts on Land and Mitigation Measures

Component 2 project activities will be voluntary in nature and will occur on land already held by individuals or customary groups.

Component 3 subprojects will focus on improving transport links between the farm gate and processors or other buyers in the coffee and cocoa sub-sectors and as such will focus on roads (and other small market access infrastructure such as jetties) between the farm gate and the current trafficable network.

At this level of the transport networks, virtually all infrastructure is located on customary land that landowners have offered to the state for the express purpose of providing transport links to their community.

The identity, location and scope of all Component 2 and 3 project activities will only be defined after the productive partnerships as detailed in Component 2 are agreed. Impacts on land use and compensation plans will be prepared at the subproject level following the provisions laid out in this Compensation Policy Framework.

Impacts on land may include:

Rehabilitation of existing minor road infrastructure. In an effort to increase functional capacity of infrastructure or facilitate construction activities, areas adjacent to the road could be impacted. Agreements would need to be reached with landowners on land use and compensation for loss of food crops and economic trees.

Rehabilitation road works. Road works could impact sites of social, sacred, religious, or heritage value. "Chance find" procedures would apply when those sites are identified during the design phase or during the actual construction period and the related subproject will not be eligible for financing under the project.

Access paths. This may involve upgrading of existing walking tracks or new alignments on customary land that is not currently subject to any agreement for use.

Temporary use of land. Road works could require the temporary use of land to place machinery and material necessary for the road works. Agreements on temporary land use will be required.

Any temporary land use and minor land acquisition will be voluntary and based on the informed consent of the community.

The project will not finance projects that are likely to result in voluntary or involuntary resettlement and that will result in destruction of housing.

2. Legal Review

2.1 Relevant Legal Framework and Procedures

The laws relevant to the PPAP are those related to customary land and the compensation for assets.

2.2 Tertiary Road Networks on Customary Land

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- The roads at the level targeted by the project is located on customary land that landowners have offered to the state for the express purpose of providing transport links to their community.
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- Customary land in PNG generally refers to land that is under the communal ownership of traditional social and kinship groupings like tribes, clans, sub-clans and lineages. The constitution of PNG and the *Underlying Law Act 2000* recognize customary land tenure principles and practices, but as yet there is only a limited legal framework for dealings in land. Those that exist are primarily related to the acquisition of land by the Government for public use and the formal registration of customary land by individuals.

In the project target areas, communal landowners had previously offered their land to the administration in order to facilitate the construction of access roads to their communities for the purpose of improving access to markets. However, these roads were, and are, still considered to be on customary territory.

2.3 Compensation for food crops and economic trees

The Land Act (1996), Section 14 (1) and (2) provides for compensation claims when a notice of acquisition is applied to land or chattel. However, the Act does not include any provision on compensation for food crops and economic trees.

The Valuer -General's office, under the Department of Lands and Physical Planning provides guidelines for compensation of economic plantings – "*Valuer-General's Compensation Schedule for Trees and Plants, All Regions*" which is updated periodically. The schedule is used as a guide for assessment purposes.

It is against PNG law to cut, bark, or destroy trees; cut, saw, removes or sell timber; or excavate any minerals or stone, sand gravel or other material from Government land or customary land without authority. Section 144 states that:

- (1) *A person who, without authority–*
- (a) *injures, fells, barks or destroys a tree growing on Government land or customary land; or*
 - (b) *cuts, saws, removes or sells timber lying or being on any such land; or*
 - (c) *removes or takes away or severs, excavates, quarries or digs for, with intent to remove or take away, any mineral or any stone, sand, gravel or other material from any such land, is guilty of an offence.*
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Penalty: A fine not exceeding K500.00 or imprisonment for a term not exceeding three months.

2.4 Compliance with Bank Requirements

The main areas where current GOPNG practice and policy does not comply with World Bank requirements are detailed below:

- a) There is no accommodation to protect vulnerable groups. PPAP will include measures to ensure that vulnerable groups are not adversely impacted by the project.
- b) In practice payments to project affected people can be delayed for a considerable period. Any compensation to be provided through PPAP will be provided promptly.

3. Compensation Policy Framework

3.1 Objectives and principles

The Compensation Policy Framework provides guidelines for addressing land use and destruction of economic trees and crops under the PPAP. It is expected that these impacts will be limited.

The following key principles will guide the implementation of the project:

- ⌘ **Participation in PPAP activities will be voluntary.** Road rehabilitation and infrastructure development will be undertaken only after consultations with communities and other stakeholders.
- ⌘ **Consultations with communities will be required as a first stage in sub-project preparation.** These consultations will:
 - Include a representative cross-section of the community and will be structured in ways that maximize input from community members.
 - Provide communities with information on the sub-project goals and impacts (both negative and positive), including impacts on land use or potential damage to food and economic trees (see section 4.3 below).
 - Provide communities with an opportunity *to reject or accept the implementation of the sub-project.*
 - Provide communities with an opportunity to provide input in the design of the sub-projects.
 - Will, through the processes in (i) to (iv) above, ascertain whether or not there is broad community support for the sub-project.
- ⌘ **PPAP will not finance sub-projects which do not have support from the community.** Community support will be documented with copies kept with the community and with the PMU. Any agreements on sub-project design will be included in the consent form.
- ⌘ **PPAP will not finance any sub-projects that have the following impacts on the use of land and property:**
 - a) Proposed sub-projects that involve involuntary resettlement.
 - b) Proposed sub-projects that involve involuntary land acquisition.

- c) Proposed sub-projects on land where customary landowners wish to have the land corridor purchased by the State.
 - d) Proposed sub-projects that involve the destruction of physical infrastructure.
- ☒ **Infrastructure rehabilitation (component 3) will rely on previous arrangements for land use.**⁷ In practice:
- ☒ **Due diligence (a Land Investigation Report) will be conducted to ensure that there are no outstanding land disputes or claims to the land.**
 - ☒ **Consultations (as per 1 above) will ascertain community support of the continued use of customary land for rehabilitation of roads.** This support shall be indicated by signed agreements by the landowners.
- ☒ **Where additional land is required to implement sub-projects and communities offer land for use, the PMU would be required to ensure the following principles:**
- ☒ **The beneficial nature of the donation.** Offering of land would be limited to situations where communities would be clear net beneficiaries from the services offered by the sub-project, resulting in long-term improvements in their economic security.
 - ☒ **The voluntary nature of the donation.** The offer of land use would be entirely voluntary with no evidence of individual users and communities pressured to offer the land. Voluntary offering of land will be documented and filed by both community members and the PMU.
 - ☒ **Protection of vulnerable groups.** Individuals vulnerable to adverse impacts from loss of land use will not be impacted under PPAP.
 - ☒ **The documentation of the agreement.** The offer of land would be documented and validated by communities and the PMU. Copies of the agreement would be filed with communities and with the PMU.⁸
- ☒ **Infrastructure rehabilitation (component 3) should avoid and minimize the destruction of food gardens and economic crops.** If the destruction of food gardens and economic crops cannot be avoided, compensation will be provided to the owners of the food gardens and/or economic crops. Compensation rates will be guided by the guidelines set forth by the Valuer-General. The use of ‘replacement cost’ may also be considered as a guide.

3.2 Procedures: Preparing Compensation Plans

Once the sub-projects have been identified and asset loss (damage to food and economic crops) is recognized as an impact of the sub-project, the PMU will be required to document the agreement on compensation in a Compensation Plan. The Compensation Plan will include the following:

1. Confirmation that consultations with community members has occurred and the impacts on land use have been discussed (see guidelines on consultations in section 4.1 above).
2. A census survey to identify project affected peoples (i.e. those suffering from the impacts of damage to food or economic crops). The survey will identify project affected people and assess the value of impacted assets.

⁷ That is, arrangements where landowners have agreed to provide land for community purposes without the land being acquired by the state.

⁸ Documenting these agreements is necessary in the event that compensation claims emerge after the agreement.

The census should include: the number of individuals and households affected; details on the affected assets; and PAP income sources such as farm-based income, labor, and informal sector activities.

3. Specific details on compensation for economic trees and food crops per project affected person.
4. Detailed procedures for delivery of compensation (including a timeline) and the institutional responsibility for delivering compensation.
5. Arrangements for monitoring and implementation, including a timetable and detailed cost estimate.
6. A description of grievance redress mechanisms available to project affected people.

4. Management Arrangements and Responsibilities

4.1 Institutional responsibilities

The Project Management Units (PMU) will be responsible for enforcement of the Compensation Policy Framework, preparing Compensation Plans, planning and preparing the inventories, and for liaising with customary landowners over land issues. The responsibility for these activities will lie directly with the Community Liaison Officer (CLO) and Provincial Lands Officer (LO) at provincial level.

The CLO and LO will also be tasked with addressing any institutional problems or conflicts or directing them through proper channels, and overseeing the implementation of compensation.

4.2 Costs and Funding Arrangements

All operational costs and payments relating to compensation for the loss of economic trees and food crops should be funded by the GOPNG. A special fund for compensation will be established within the PMU as part of Government counterpart funding for the Project.

4.3 Monitoring

The monitoring should verify/assess the following:

- a) Verify that the baseline survey of project affected peoples is carried out, damaged assets have been valued, and compensation has been paid in accordance with the provisions of the Compensation Policy Framework and Compensation Plan.
 - b) Assess the delivery of compensation to ensure timely and fair payments.
 - c) Assess the implementation and functioning of grievance mechanisms. This will include monitoring the nature of grievances lodged to identify trends, monitoring stakeholder satisfaction with outcomes, and tracking the responsiveness to grievances.
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4.4 Grievance mechanisms

The PMU will be responsible for explaining to PAPs their rights and procedures for resolving grievances. This information should be widely distributed in the project area in a form and manner that is accessible to community members.

Complaints and grievances related to any aspect of the project such as damage to assets and compensation payments should be handled as follows:

1. PAPs should present any complaints and grievances to their clan leaders/village committees involved in decisions relating to land donation and asset damage. Formal customary grievance procedures should be followed to resolve complaints.
2. The nature of the complaint and the solution agreed upon should be presented in written form to the PMU within 14 days of the decision. The PMU will record the grievances and the proposed solution.
3. If the grievances cannot be solved through customary grievance procedures or if the complaint is directed towards the PMU then parties can submit a complaint to the District Administrator. The District Administrator will seek to resolve the grievance using the resources of his office. Should the District Administrator not be able to resolve the grievance within 14 days the matter will be forwarded to the courts.

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Appendix K Environmental Management Plan (EMP)

Please refer to the Environmental and Social management Framework (ESMF) for PPAP; dated February 22, 2010, for guidance and formats for the preparation of Environmental Management Plans as it relates to Component 3 of the project.

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Appendix L Beneficiaries' Participation Framework (BPF)

The Beneficiaries Participation Framework (BPF) is designed to ensure that beneficiaries have continued participation and involvement in all stages of the PPAP that may directly impact upon them. Activities that affect beneficiaries will follow a process whereby beneficiaries participate in decisions over implementation, management, and M&E of PPAP activities.

Given the demand driven nature of the project the BPF provides general guidelines based on the following principles:

1. Stakeholders⁹ will be provided with information on key PPAP activities and processes in a format and manner which is accessible.
2. Stakeholders will be provided with opportunities to contribute ideas to sub-project design so that PPAP activity outcomes are relevant, effective, and sustainable.
3. Communities will be given the opportunity to consent to or refuse assistance or support through activities. Stakeholders will be able to terminate activities at any time in the sub-project cycle if necessary.
4. Communities will be assisted to carry out monitoring and evaluation of activities after they have been completed.
5. Partnerships between civil society organizations and community based organizations will be encouraged.

In addition, PPAP recognizes the roles that women and youth play in the agriculture sector and as core members of the community. As such, community participation should include representation from both women and youth. If necessary, given the nature of power relations at the household and community level, separate discussions and/or gender-specific activities can be conducted.

⁹ Stakeholders refers to smallholders, farmers groups, and/or communities in which they live.



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Participation Strategies: Preparation, Implementation and Management	Risks and Measures to Mitigate Risks and Ensure Benefits
<p>Socialization: Service Providers with skills in community development and smallholder farming will work alongside village extension workers to provide smallholders, farmer groups, civil society organizations, and community based organizations with appropriate information about PPAP activities, how they might be managed, and how they might be involved and benefit from them.</p> <p>Needs assessments: Service providers will assist smallholders, farmer groups, civil society organizations, and community based organizations to identify needs and opportunities, strengths and weaknesses of their organizations. Service providers will assist farmer groups to examine what they can do for themselves, what external assistance might be required, the costs of that assistance, and how those costs may be met.</p>	<p>Low capacity of service providers: Pre-qualification would ensure service providers with skills to work with communities are used in the project. Criteria for pre-qualification could include: size or outreach, history of outreach and access to women and women’s groups; history of successful activities, governance, membership and input, history or potential to enter into partnerships.</p> <p>Exclusion of women and youth: Service providers may not have the requisite skills and gender balance to engage with female smallholders, female laborers, female community members or with the youth. Pre-selected service providers must have demonstrated experience reaching women and women’s groups and/or youth or have partnerships that enable them to reach women, women’s groups, and youth. Service providers must have sufficient women on staff to engage in outreach to communities. Women and youth organizations will be targeted for inclusion as service providers.</p> <p>Inaccessible information: Dissemination materials will be accessible to the wide range of stakeholders, taking into account high levels of illiteracy in communities and specifically among women.</p>
<p>Implementation: Public agreements between smallholders, farmer groups, civil society organizations, and community based organizations, and partners will be made before implementing activities with beneficiaries.</p> <p>Consultations with communities will be undertaken before implementing sub-projects in Component 3 (details included in the Compensation Policy Framework).</p>	<p>Lack of ownership: Beneficiaries should have responsibilities in sub-project implementation and should contribute towards costs wherever possible (in-cash or in-kind).</p> <p>Disengagement of local leadership: Local Level Governments are weak and in some instances not trusted by local residents. Inclusion of the Ward Councilors at the consultations will be necessary for their buy-in and to strengthen the relationship with the community.</p>
Participation Strategies: Monitoring and Evaluation	
Working in pairs or teams service providers will work alongside	Low capacity among industry bodies to undertake participatory M&E: Provide

village extension workers to train smallholders, farmer groups, civil society organizations, and community based organizations in monitoring and evaluation for PPAP activities.

sufficient capacity building to key bodies to ensure they can undertake participatory M&E Training and accreditation of extension workers against the National Standard for Community Development Worker Units associated with M&E. Ensure participatory M&E activities are appropriate and frequent enough to provide timely, responsive and adaptive activity changes where necessary.

Exclusion of women and youth: Service providers may not have the requisite skills and gender balance to engage with female smallholders, female laborers, female community members or with the youth. Pre-selected service providers must have demonstrated experience reaching women and women's groups and/or youth or have partnerships that enable them to reach women, women's groups, and youth. Service providers must have sufficient women on staff to engage in outreach to communities. Women and youth organizations will be targeted for inclusion as service providers.



