

Project Administration Manual

Project Number: 40173-044
July 2016

Multi-tranche Financing Facility: Papua New Guinea:
Highlands Region Road Improvement Investment
Program – Project 3

CONTENTS

I.	PROJECT DESCRIPTION	1
II.	IMPLEMENTATION PLANS	3
A.	Project Readiness Activities	3
B.	Overall Project Implementation Plan	4
III.	PROJECT MANAGEMENT ARRANGEMENTS	5
A.	Project Implementation Organizations – Roles and Responsibilities	5
B.	Key Persons Involved in Implementation	7
C.	Project Organization Structure	8
IV.	COSTS AND FINANCING	9
A.	Detailed Cost Estimates by Expenditure Category	10
B.	Allocation and Withdrawal of Loan Proceeds	11
C.	Allocation and Withdrawal of Grant Proceeds	12
D.	Detailed Cost Estimates by Financier	13
E.	Detailed Cost Estimates by Outputs	14
F.	Detailed Cost Estimates by Year	15
G.	Contract and Disbursement S-curve – Project 3	16
H.	Fund Flow Diagram	17
V.	FINANCIAL MANAGEMENT	18
A.	Financial Management Assessment	18
B.	Disbursement	21
C.	Accounting	21
D.	Auditing and Public Disclosure	21
VI.	PROCUREMENT AND CONSULTING SERVICES	22
A.	Advance Contracting	22
B.	Procurement of Goods, Works and Consulting Services	22
C.	Procurement Plan	23
D.	Consultant's Terms of Reference	25
VII.	SAFEGUARDS	30
A.	Environment	30
B.	Involuntary Resettlement and Indigenous Peoples	31
C.	Timeline for Major Safeguards Activities	32
D.	Gender and social dimensions	32
VIII.	PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION	34
A.	Project Design and Monitoring Framework	34
B.	Monitoring	38
C.	Evaluation	39
D.	Reporting	39
E.	Stakeholder Communication Strategy	39
IX.	ANTICORRUPTION POLICY	39
X.	ACCOUNTABILITY MECHANISM	40
XI.	RECORD OF PAM CHANGES	41

Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The Department of Works (DOW), National Road Authority (NRA), Road Traffic Authority (RTA) are wholly responsible for the implementation of the Highlands Region Road Improvement Investment Program, as agreed jointly between Papua New Guinea and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by the DOW, NRA and RTA of their obligations and relevant responsibilities for project implementation in accordance with ADB's policies and procedures.

In the event of any discrepancy or contradiction between the PAM and the Framework Financing Agreement and Loan and Grant Agreements, the provisions of the FFA and Loan and Grant Agreements shall prevail.

After the President's approval of the project's Periodic Financing Request Report, changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.

CURRENCY EQUIVALENTS

(as of 8 July 2016)

Currency unit – kina (K)

K1.00 = \$0.32

\$1.00 = K3.16

\$1.00 = €0.89

ABBREVIATIONS

ADB	=	Asian Development Bank
ADF	=	Asian Development Fund
AGO	=	Auditor General Office
APs	=	affected persons
CEMP	=	construction environmental management plan
DOF	=	Departments of Finance
DOW	=	Department of Works
EA	=	executing agency
EMP	=	environmental management plan
ESO	=	environmental and safety officer
ESSU	=	Environmental and Social Safeguards Unit
EU	=	European Union
FMA	=	financial management assessment
HCRN	=	Highlands Region Core Network
HRMG	=	Highlands Road Management Group
HRRIIP	=	Highlands Region Road Investment Improvement Program
ICB	=	international competitive bidding
IEE	=	initial environmental examination
MFF	=	multitranchise financing facility
MOA	=	memorandum of agreement
NCB	=	national competitive bidding
NGOs	=	nongovernment organizations
NRA	=	National Roads Authority
NTDP	=	National Transport Development Plan
NTS	=	National Transport Strategy
PAI	=	project administration instructions
PAM	=	project administration manual
PFM	=	public financial management
PFR	=	periodic financing request
PIU	=	project implementation unit
PNG	=	Papua New Guinea
PSC	=	project steering committee
QCBS	=	quality- and cost based selection
RP	=	resettlement plan
RTA	=	Road Traffic Authority
SPS	=	Safeguard Policy Statement
STI	=	sexually transmitted infections
TOR	=	terms of reference

I. PROJECT DESCRIPTION

1. The Highlands Region Road Improvement Investment Program (the Investment Program) focuses on the Highlands core road network (HCRN)¹ of 2,500 kilometers (km) of major national and some provincial roads, which carry the bulk of the traffic in the region. The Investment Program includes (i) projects to improve about 1,400 km of the HCRN, under this multi-tranche financing facility (MFF); (ii) design and supervision of road improvement works, preparation and administration of long-term road maintenance contracts for the entire 2,500 km of the HCRN, and capacity development of road agencies; and (iii) monitoring the socioeconomic benefits of the improved and maintained roads in the Highlands region. In addition, technical assistance was provided to support the Department of Transport to prepare a new National Transport Strategy (NTS) for 2014–2030.²

2. The Highlands region is a major contributor to the PNG economy through its agricultural and mineral exports. It is also home to 40% of the country's population, who rely almost exclusively on the road network for movement of people and goods. The road network is vulnerable because of the mountainous terrain, the fragile geological conditions, and the climate. The Government and its development partners have invested significantly in improving the road network, but a lack of regular maintenance has left the network in a poor condition. There is a need to (i) initiate a program of regular maintenance on all HCRN roads that are in good condition, and (ii) improve those HCRN roads that are in a poor condition and ensure that routine maintenance begins on these roads as soon as the improvement works are done.

3. The current NTS provides a framework of policies and strategies for a sustainable road system in PNG. Under the previous long term plan, the National Roads Authority (NRA), with responsibility for maintaining the road network and a road fund financed through road user charges to finance road maintenance, was established. The program is designed to support long term performance based contracts for road maintenance of the HCRN.

4. **Impact and Outcome.** The impact is export-driven economic growth and rural development in the areas served by roads financed from the investment program. The outcome is improved accessibility and reduced transport cost in the areas served by roads financed from the investment program.

5. **MFF Outputs.** The Investment Program focuses on the HCRN of 2,500 km of major national and some provincial roads. The HCRN carries the bulk of the traffic in the region. The Investment Program will include (i) investment projects covering improvements to about 1,400 km of HCRN (Ref. RRP, Appendix 4) to be funded through four or more tranches; (ii) consulting services for (a) preparation of investment projects for ADB approval and design and supervision of civil works, and (b) preparation and administration of long-term road maintenance contracts for the entire 2,500 km of HCRN; (iii) support for capacity development, resource mobilization for maintenance funds, and improving road transport services; and (iv) monitoring the socioeconomic benefits of improved and maintained roads in the Highlands region. In addition, technical assistance is provided to support the DOT to prepare a new National Transport Development Plan (NTDP) for 2011–2020.

¹ HCRN represents 65% of the total road network in the Highlands region.

² Government of PNG, Department of Transport. 2013. National Transport Strategy, Vol 1. Port Moresby.

6. **Project 1 Outputs.** The first tranche financed: (i) improvements to 115 km of national roads³ that are part of the priority corridors identified in the NTDP, 2006–2010; (ii) support to the Department of Works (DOW) for (a) the design, preparation of bidding documents, and procurement for 115 km of roads, (b) preparation of investment proposals for subsequent projects and tranches for ADB approval, and (c) the design, preparation of bidding documents and procurement support for subsequent projects and tranches; (iii) support to the NRA for (a) preparation of bidding documents and procurement support for the maintenance of 2,500 km of the HCRN, and (b) implementation of policies to improve road maintenance financing through road user charges, road damage charges, a tax credit scheme, and other means; (iv) consulting services to the DOW and the NRA for the supervision of (a) road improvement contracts for 115 km of roads, and (b) long-term maintenance contracts for these 115 km of roads and an additional 360 km of roads that are already in a maintainable condition; (v) consulting services for capacity development and improving road transport services; and (vi) a socioeconomic monitoring study. Of the total loan amount of \$99.42 million, the cumulative contract awards achieved is \$98.55 million (99.12 %) and disbursements at 98% as of 4 February 2016.

7. **Project 2 Outputs.** Project 2 outputs will include (i) improvements to 118 km of priority national roads⁴ identified in the NTDP, 2006-2010 of the HCRN, with design considerations for all road users including pedestrians and public motor vehicles; (ii) maintenance arrangements for 500 km of the HCRN; (iii) improved capacity of the NRA to plan and manage long-term road maintenance contracts; (iv) more efficient DOW capable of implementing and delivering road improvements with attention to safeguards capacity, and an improved asset management system of the HCRN; and (v) improved road safety capacity of the Road Traffic Authority. For Project 2, three contracts were awarded in December 2015 and January 2016 totaling \$60.4 million (58%) with disbursement for mobilization of \$12.9 million (12%) by 30 April 2016.

8. **Project 3 Outputs.** Project 3 outputs will include (i) improvements to 113.5 km of priority national roads⁵ identified in the NTDP, 2006-2010 of the HCRN, with design considerations for all road users including pedestrians and public motor vehicles; (ii) maintenance arrangements for 113.5 km of the HCRN; (iii) improved capacity of the NRA to plan and manage long-term road maintenance contracts; (iv) more efficient DOW capable of implementing and delivering road improvements with attention to safeguards capacity, an improved asset management system of the HCRN and consulting support to pilot community-based road maintenance (see Appendix 1); and (v) improved road safety capacity of the Road Traffic Authority (RTA).

³ Nipa–Magarima (26 km), Magarima–Ambua (41 km), Hiwanda Junction–Koroba (29 km), Mendi–Kandep (50 km), and Laiagam–Porgera (65 km). The government postponed implementation of 96 kms (Nipa–Magarima, Magarima–Ambua, and Hiwanda Junction–Koroba) to avoid disruption of the PNG liquefied natural gas (LNG) mega-project site.

⁴ Kotna–Lapram (31 km), Ialibu–Kagua (31 km), Mendi–Tambul (56 km).

⁵ Gewa–Gembogl (20 km), Nipa–Munihu (28 km), Pangia–Wiru Loop (31.5 km) and Henganofi–Nupuru (34 km).

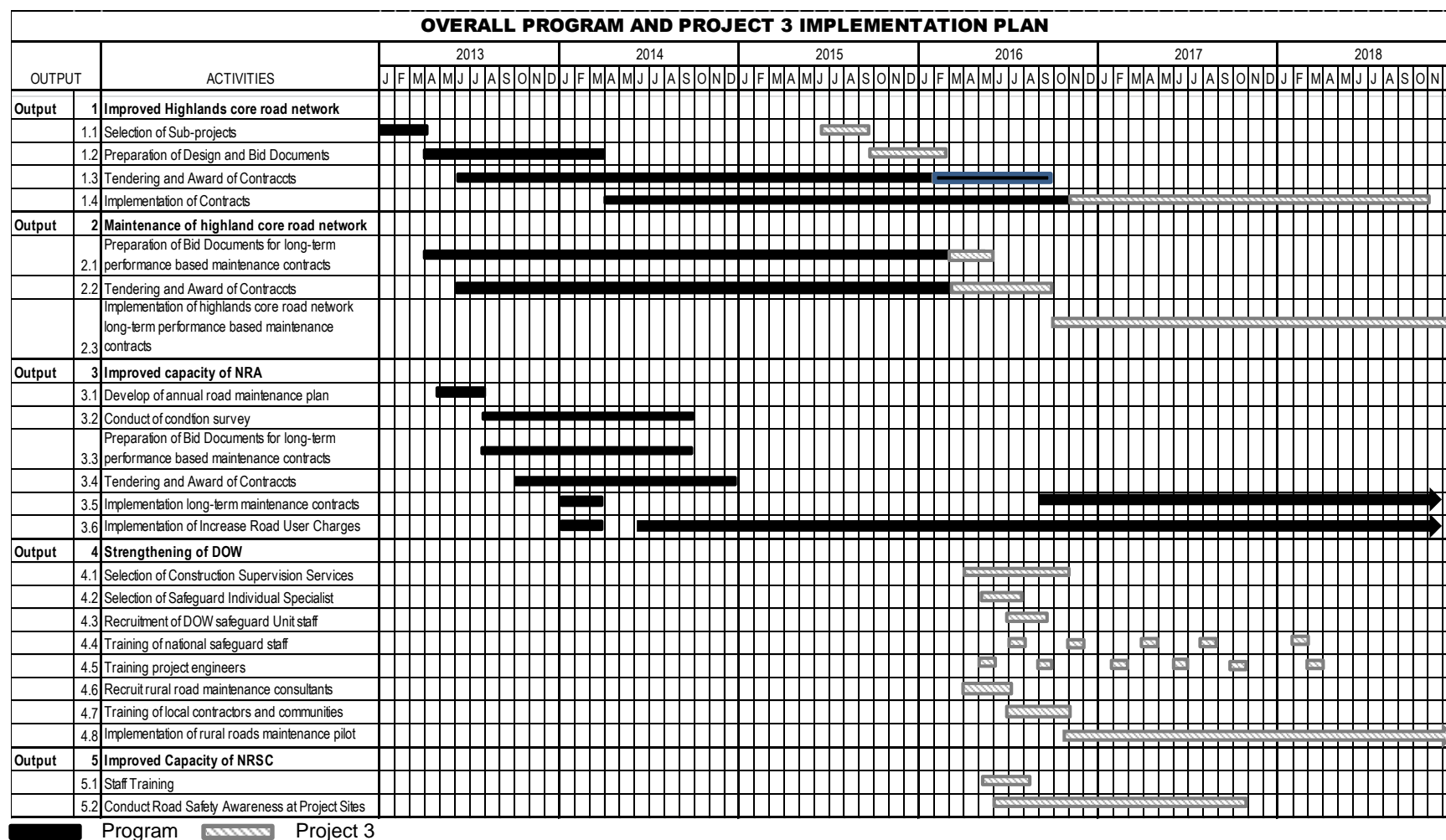
II. IMPLEMENTATION PLANS

A. Project Readiness Activities

2015		2016									
Q3	Q4	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Indicative Activities		Who responsible									
Selection of road improvement sub-projects for inclusion	✓										DOW
Establish project implementation arrangements	✓										DOW
Preparation of design and bidding documents for road improvement sub-projects	✓	✓	✓								DOW
Advance contracting			✓	✓	✓	✓	✓	✓			
ADB President approval								✓			ADB
Loan signing									✓		GoPNG and ADB
Government legal opinion provided										✓	GoPNG
Loan effectiveness										✓	ADB

B. Overall Project Implementation Plan

9. Throughout project implementation, the government will ensure that the project complies with ADB's guidelines and policies in all areas of project administration, management, reporting, procurement, disbursement, financial management, and social and environmental safeguards.



III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

Project implementation Management Roles and Responsibilities organizations

Borrower: Government of PNG	<ul style="list-style-type: none"> • Endorsing to ADB the authorized staff with approved signatures for WAs processing
Executing Agency: Department of Works	<ul style="list-style-type: none"> • Timely provision of agreed counterpart funds for project activities • Overall project oversight and management through the Project Implementation Unit (PIU) • Establishing the Project Implementation Units with the required staffing • Preparation and submission to ADB of withdrawal applications • Processing and submitting to ADB any request, when required, for reallocating the loan and grant proceeds • Public disclosure of project outputs • Establishing strong financial management system and submitting timely withdrawal applications to ADB, conducting timely financial audits as per agreed timeframe and taking recommended actions • Complying with all loan covenants (social and environmental safeguards, financial, economic, and others) • Submit subsequent PFRs to ADB • Ensuring projects' sustainability during post implementation stage and reporting to ADB on the assessed development impacts • Provide oversight for community-based rural road maintenance pilot
Implementing Agencies: National Road Authority Department of Works Road Traffic Authority Central Supply Tenders Board	<ul style="list-style-type: none"> • Timely provision of agreed counterpart funds for project activities • Established the Project Implementation Units and increasing the required staffing • Processing and submitting to ADB any request through EA, when required, for reallocating the loan proceeds • Public disclosure of project outputs • Established strong financial management system and submitting timely withdrawal applications to ADB through EA, conducting timely financial audits as per agreed timeframe and taking recommended actions • Complying with all loan covenants (social and environmental safeguards, financial, economic, and others) • Preparation of an overall implementation plan and annual budgets • Overall interagency coordination • Recruitment of the consultants • Award procurement and consulting contracts • Management of the bidding process for the construction all ICB procurement transactions mandatory require internal review prior award of contracts

	<ul style="list-style-type: none"> • Finalizing surveys, detailed design, bidding documents, and contract award • Co-ordination with government agencies for getting requisite clearances (power and water connections, access roads etc.) • Management of capacity development activities • Planning and appraisal for other projects in the pipeline • Project safeguards document preparation, state agencies clearance coordination and safeguard plans implementation • Consolidation, review, and submission of regular progress and financial reports to ADB • Preparation of periodic financing requests for other tranches • Involving value chain stakeholders in all stages of project design and implementation • Quality assurance of works, and services of consultants and counterpart staff • Monitoring and evaluation of project outputs and results, including periodic review, preparation of review reports reflecting issues and time-bound actions taken (or to be taken)
Project Steering Committee	<ul style="list-style-type: none"> • Oversee the Investment Program implementation • Monitor progress • Provide approval of roads for subsequent projects • Provide guidance to the EA and IAs • Meet quarterly to discuss project implementation • Review the Facility performance • Facilitate central government clearances, as required
ADB	<ul style="list-style-type: none"> • Assist the EA and their PIUs in providing timely guidance at each stage of the project for smooth implementation in accordance to the agreed implementation arrangements • Review all the documents that require ADB approval • Conduct periodic loan review missions, a mid-term review, a completion mission for each project under the MFF, and an overall program completion mission • Timely process withdrawal applications and release eligible funds • Ensure the compliance of financial audit recommendations • Regularly update the project performance review reports • Regularly post on ADB web the updated project information documents for public disclosure, and also the safeguards documents as per disclosure provision of the ADB safeguards policy statement

B. Key Persons Involved in Implementation

Executing Agency

DOW

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Asian Development Bank

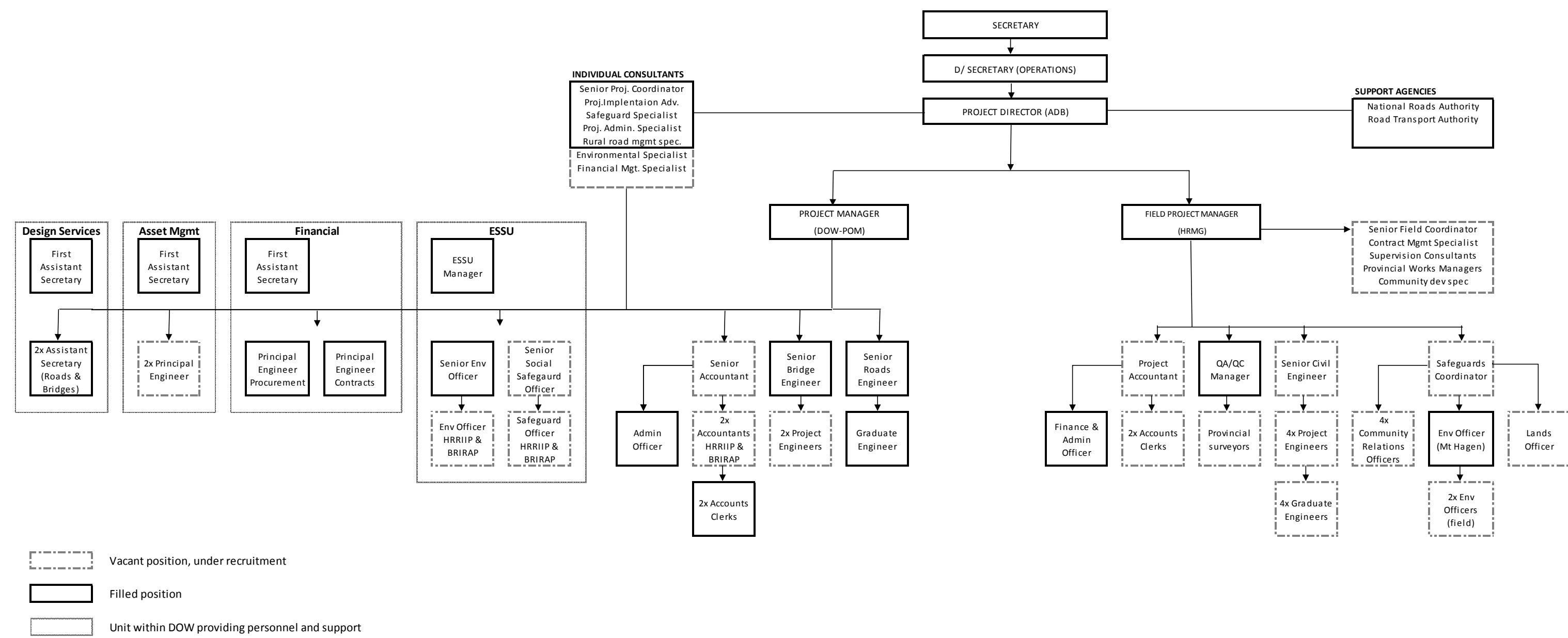
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C. Project Organization Structure



IV. COSTS AND FINANCING

10. The total Investment Program cost is estimated at \$750 million equivalent.

Table 1: Investment Program

Item	Amount (\$ million)
Investment Program^a	
A. Road Improvements	562.80
B. Program Support and Capacity Development	40.75
C. Program Administration and Other Costs	146.45
Total	750.00

11. The total cost of **Project 3**, including taxes, duties, physical and price contingencies, interest, and other charges, is estimated at \$142.37 million equivalent (Table 2). The Investment Plan is summarized below, and details are shown in Tables A through F.

Table 2: Project 3 Investment Plan

Item	Amount ^a
A. Base Cost^b	
1. Improved Highlands Core Road Network	114.61
2. Sustainable maintenance arrangements for HCRN	0.15
3. Improved capacity of NRA	0.15
4. Strengthening DoW	1.77
5. Strengthening RTA	0.40
Subtotal (A)	117.08
B. Contingencies^c	22.53
C. Financial Charges During Implementation^d	2.76
Total (A+B+C)	142.37

^a Includes taxes and duties totaling \$9.72 million computed at 10% of civil works and locally procured goods and services.

^b Physical contingencies are computed at 10% of base cost. Price contingencies are computed at 8.22% (ADB = 7.19%; GoPNG = 1.16%). Includes provision for potential exchange rate fluctuation.

Source: Asian Development Bank estimates

A. Detailed Cost Estimates by Expenditure Category

Item	(PGK million)			(\$ million)			% of Total Base Cost
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost ^a	
A. Base Cost ^a							
1 Civil Works	324.00		324.00	106.93		106.93	91.33
2 Consulting	19.78		19.78	6.52		6.52	5.56
3 Land Acquisition and Resettlement Plan		3.07	3.07		1.01	1.01	0.86
4 Project Management	7.95		7.95	2.62		2.62	2.24
Subtotal (A)	351.73	3.07	354.80	116.07	1.01	117.08	100.00
B. Contingencies ^b							
1 Physical	35.63	3.39	39.02	11.76	1.12	12.88	11.00
2 Price	25.57	3.70	29.27	8.42	1.22	9.64	8.24
Subtotal (B)	61.20	7.09	68.29	20.18	2.34	22.52	19.24
C. Financial Charges During Implementation							
1 Interest During Implementation	7.88		7.88	2.70		2.70	2.31
2 Commitment Charges	0.49		0.49	0.06		0.06	0.05
Subtotal (C)	8.37		8.37	2.76		2.76	2.36
Total Project Cost (A+B+C)	421.30	10.16	431.46	139.01	3.35	142.37	121.60

^a Taxes and duties of \$9.72, computed at 10% of civil works and locally procured goods and services, to be financed by government in cash.

^b Physical contingencies are computed at 10% of base cost. Price contingencies are computed at 8.22% (ADB = 7.19%; GoPNG = 1.16%). Includes provision for potential exchange rate fluctuation.

Notes: In 2016 prices.

Exchange rate used in this table is \$1 = K3.03; \$1 = €0.90 (4 February 2016), Xe.com.

Share of civil works financing for ADB = 79.11% and EU = 11.80%.

Figures may not sum due to rounding.

Source: Asian Development Bank estimates.

B. Allocation and Withdrawal of Loan Proceeds

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (Highlands Region Road Improvement Investment Program – Project 3)				
CATEGORY				ADF FINANCING
Number	Item	Amount Allocated SDR		Percentage and Basis for Withdrawal from the Loan Account
		Category	Subcategory	
1	Works	22,668,000		
1a	Gewa-Gembogl		6,773,000	30% of total expenditure claimed
1b	Nipa-Munihu		5,346,000	30% of total expenditure claimed
1c	Pangia-Wiru Loop		5,301,000	30% of total expenditure claimed
1d	Henganofi-Nupuru		5,248,000	30% of total expenditure claimed
2	Financing Charges	847,000		100% of amounts due
3	Unallocated	3,952,000		
	Total	27,467,000		

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (Highlands Region Road Improvement Investment Program – Project 3)				
CATEGORY				OCR FINANCING
Number	Item	Amount Allocated US\$		Percentage and Basis for Withdrawal from the Loan Account
		Category	Subcategory	
1	Works	52,493,000		
1a	Gewa-Gembogl		15,696,000	49% of total expenditure claimed
1b	Nipa-Munihu		12,391,000	49% of total expenditure claimed
1c	Pangia-Wiru Loop		12,284,000	49% of total expenditure claimed
1d	Henganofi-Nupuru		12,122,000	49% of total expenditure claimed
2	Consulting Services	2,379,000		36% of total expenditure claimed*
3	Project Administration	1,383,000		53% of total expenditure claimed*
4	Financing Charges	1,563,000		100% of amounts due
5	Unallocated	12,592,000		
	Total	70,410,000		

*Exclusive of taxes and duties imposed within the territory of the Borrower.

C. Allocation and Withdrawal of Grant Proceeds

ALLOCATION AND WITHDRAWAL OF GRANT PROCEEDS (Highlands Region Road Improvement Investment Program – Project 3)				
CATEGORY				EU FINANCING
Number	Item	Amount Allocated US\$		Percentage and Basis for Withdrawal from the Grant Account
		Category	Subcategory	
1	Works	12,613,000		
1a	Gewa-Gembogl		3,779,000	12% of total expenditure claimed
1b	Nipa-Munihu		2,983,000	12% of total expenditure claimed
1c	Pangia-Wiru Loop		2,957,000	12% of total expenditure claimed
1d	Henganofi-Nupuru		2,894,000	12% of total expenditure claimed
2	Consulting Services	4,139,000		64% of total expenditure claimed*
3	Project Administration	1,235,000		47% of total expenditure claimed*
4	Unallocated**	2,003,000		
	Total	19,990,000		

*Exclusive of taxes and duties imposed within the territory of the Borrower.

** Includes ADB's 7% administration fee and other charges pursuant to the contribution agreement

D. Detailed Cost Estimates by Financier

(\$ million)		OCR		ADF		EU		GoPNG		Total Cost
Item		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	
A. Investment Costs										
1 Civil Works		52.49	49.09	32.10	30.02	12.61	11.79	9.72 ^b	9.09	106.93
1a Gewa-Gembogl		15.70	49.09	9.59	30.02	3.78	11.79	2.91	9.09	31.97
1b Nipa-Munihi		12.39	49.09	7.57	30.02	2.98	11.79	2.30	9.09	25.24
1c Pangia-Wiru Loop		12.28	49.09	7.51	30.02	2.96	11.79	2.28	9.09	25.02
1d Henganofi-Nupuru		12.12	49.09	7.43	30.02	2.89	11.79	2.25	9.09	24.69
2 Consulting		2.38	36.50	0.00	0.00	4.14	63.50	0.00	0.00	6.52
3 Land Acquisition and Resettlement Plan		0.00	0.00	0.00	0.00	0.00	0.00	1.01	100.00	1.01
4 Project Management ^a		1.38	52.83	0.00	0.00	1.24	47.17	0.00	0.00	2.62
Total Base Cost		56.26	48.05	32.10	27.42	17.99	15.36	10.73	9.17	117.08
B. Contingencies^c		12.59	55.88	5.60	24.86	2.00^d	8.88	2.34	10.39	22.53
C. Financing Charges During Implementation		1.56	56.52	1.20	43.48	0.00	0.00	0.00	0.00	2.76
Total Project Cost (A+B+C)		70.41	49.46	38.90	27.32	19.99	14.04	13.07	9.18	142.37

^a ADB loan financed project staff costs will be claimed through reimbursement to the government; annual audit costs will be covered by the loan.

^b Taxes and duties of \$9.72, computed at 10% of civil works and locally procured goods and services, to be financed by government in cash.

^c Physical contingencies are computed at 10% of base cost. Price contingencies are computed at 8.22% (ADB = 7.19%; GoPNG = 1.16%). Includes provision for potential exchange rate fluctuation.

^d Includes ADB's 7% administration fee and other charges pursuant to the contribution agreement

Note: Figures may not sum due to rounding.

Source: Asian Development Bank estimates

E. Detailed Cost Estimates by Outputs

(\$ million)													
Item		Improved Highlands Core Road Network		Increase in HCRN Maintenance Contracts		Improved Capacity of NRA		Strengthening DOW		Strengthening RTA		Total Cost	
A. Investment Costs		\$	%	\$	%	\$	%	\$	%	\$	%	\$	
1	Civil Works	106.93	100.00									106.93	
2	Consulting	6.52	100.00									6.52	
3	Land Acquisition and Resettlement Plan	1.01	100.00									1.01	
4	Project Management	0.15	5.67	0.15	5.73	0.15	5.73	1.77	67.60	0.40	15.28	2.62	
	Subtotal (A)	114.61	97.89	0.15	0.13	0.15	0.13	1.77	1.51	0.40	0.34	117.08	
B. Contingencies^b													
1	Physical	12.63	97.90	0.01	0.13	0.01	0.13	0.22	1.68	0.04	0.34	12.90	
2	Price	9.35	96.94	0.06	0.65	0.06	0.65	0.14	1.45	0.03	0.33	9.63	
	Subtotal (B)	21.98	97.56	0.07	0.31	0.07	0.31	0.36	1.60	0.07	0.31	22.53	
C. Financial Charges During Implementation													
1	Interest During Implementation											2.70	
2	Commitment Charges											0.06	
	Subtotal (C)											2.76	
Total Project Cost (A+B+C)		135.46	95.14	0.23	0.16	0.23	0.16	2.11	1.48	0.47	0.33	142.37	

^a Taxes and duties of \$9.72, computed at 10% of civil works and locally procured goods and services, to be financed by government in cash.

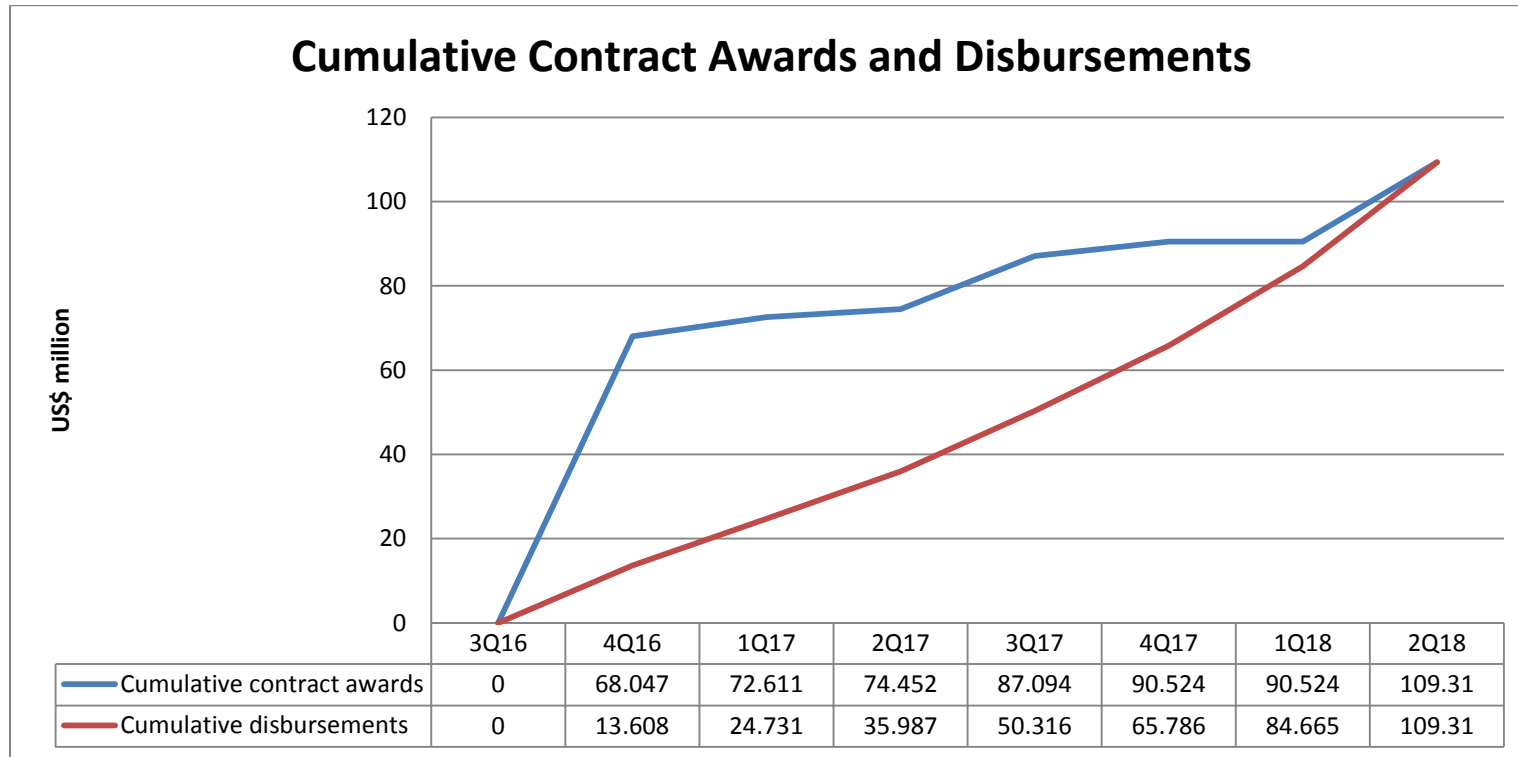
^b Physical contingencies are computed at 10% of base cost. Price contingencies are computed at 8.22% (ADB = 7.19%; GoPNG = 1.16%). Includes provision for potential exchange rate fluctuation.

Source: Asian Development Bank estimates

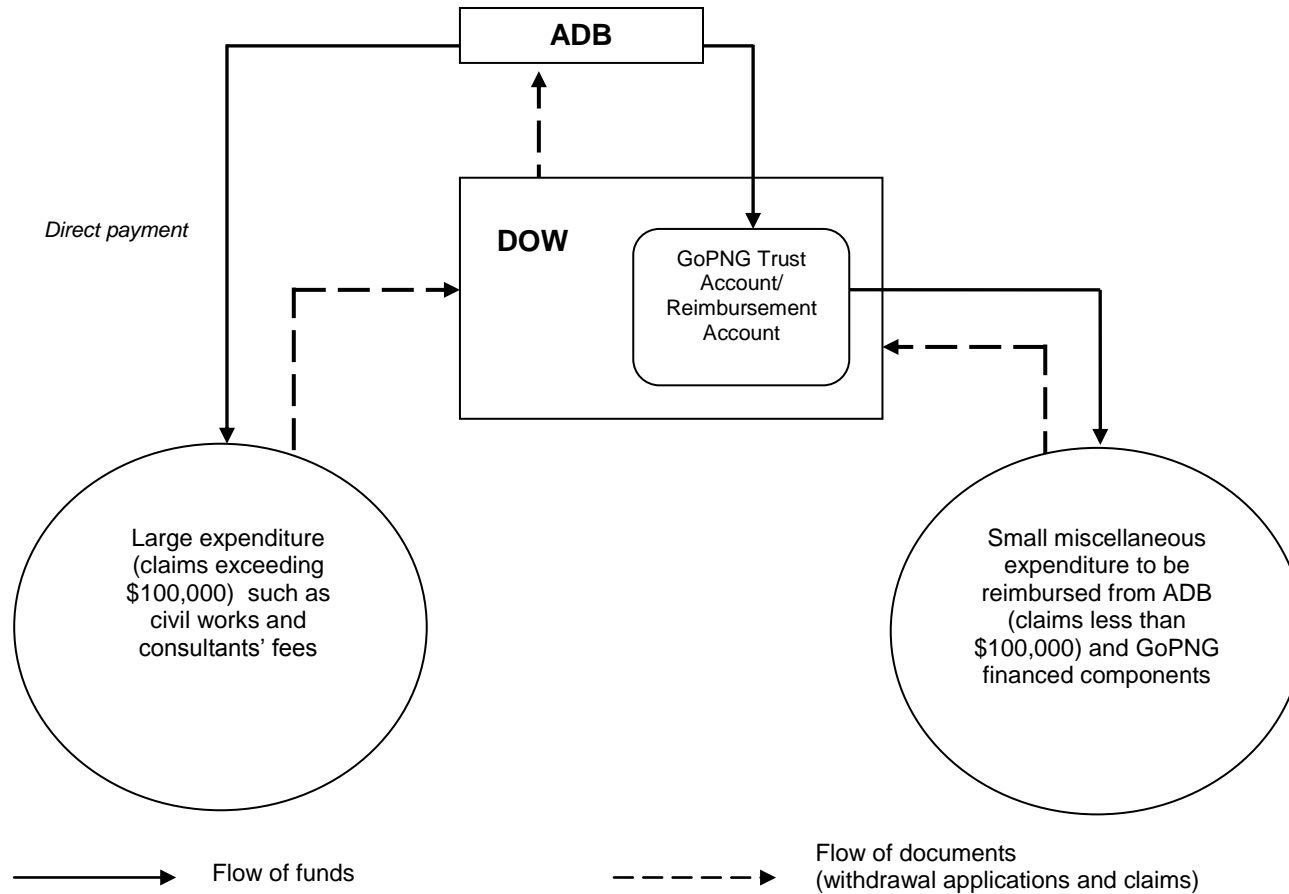
F. Detailed Cost Estimates by Year

(\$ million)	2016	2017	2018	Total Cost
Item				
A. Investment Costs				
1 Civil Works	26.73	53.46	26.73	106.93
2 Consulting	2.15	2.15	2.22	6.52
3 Land Acquisition and Resettlement Plan	0.51	0.51		1.01
4 Project Management	0.73	1.31	0.58	2.62
Total Base Cost	30.12	57.43	29.53	117.08
B. Contingencies	5.23	10.14	1.16	22.53
C. Financial Charges During Implementation	0.59	1.35	0.82	2.76
Total Project Cost (A+B+C)	35.94	68.92	37.50	142.37
% Total Project Cost	25%	48%	26%	100.00

G. Contract and Disbursement S-curve – Project 3



H. Fund Flow Diagram



ADB = Asian Development Bank, DOW = Department of Works, GoPNG = Government of Papua New Guinea

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

12. ADB conducted a Financial Management Assessment (FMA) of the proposed Program financial management arrangements in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects. The FMA considered the DOW, in its role as the proposed project executing agency (EA). During the processing of Tranche 3 an FMA was prepared⁶ to ensure DOW's fulfillment of ADB fiduciary requirements.

13. **Public financial management.** PNG has made progress in strengthening its budgeting system through broad adherence to three successive five-year medium-term fiscal strategies since 2002. However, while the budget process aligns allocations well with priority sectors, many of the projects which are funded have often not had sufficient levels of preparatory and feasibility work undertaken to enable timely implementation. This misalignment requires government agencies to rush designs, cost estimates, and tenders, which often leads to delays in contract implementation. Delays lead to underspending, and the practice of "parking" funds in trust accounts. Other concerns include a lack of adherence to established rules and processes and the weakness of government agencies with regard to accounting and financial reporting, cost recovery mechanisms.

14. **Public procurement.** The government reformed its procurement processes in 2003–2009, which included the creation of the Central Supply and Tender Board to develop and oversee the procurement system. However, capacity limitations within the board and within implementing agencies responsible for procurement continue to delay project execution and reduce transparency. Additional concerns exist about project management, supervision, and monitoring, as well as the limited albeit growing capacity of private sector contractors.

15. The main challenge is to ensure that the institutions and staff involved have the capability to put into practice the rules, procedures, and controls that are already in place. This makes the continued development of a professional cadre in public procurement important, as is the need to undertake skills development of frontline staff to properly execute government procedures. Particular vulnerabilities in the procurement system include (i) low internal audit capability and poor procurement planning in public sector agencies, and (ii) inadequate monitoring of implementation of procurement decisions and appropriate quality assurance of services provided.

16. **Combating corruption.** Despite recent attempts to create new anticorruption institutions, the general perception remains that corruption is endemic in PNG. The results of Transparency International's 2013 Corruption Perceptions Index gives PNG a score of 25 (out of 100), placing the country 144 out of 177. This is an improvement on results in previous years (equivalent score 21, rank 154 out of 180 in 2009), but it indicates serious problems persist. Some observers go so far as to say official corruption and the misappropriation / theft of public funds are the country's most significant governance issue.

17. **Management and skills capacity.** Human resource capacity remains a key challenge for PNG at the national, provincial and local government levels. The few qualified and skilled persons available are often lured into private sector employment or into development partners' funded projects that pay a far higher salary than that paid by the public service. Given this

⁶ Supplementary Appendix 1. Periodic Financing Request Report.

scenario, development partners' funded projects have often relied on the use of project management units (PMUs) to manage and report on funding of public work programs delivered through the different ministries. In an effort to close the skills gap between finance staff employed by the PMUs and those employed in the mainstream ministries, the development partners often include as part of their exit strategies, a training and capacity building component in the funding assistance provided.

18. **Entity FMA.** The assessment found that while the EA is currently employing capable and committed staff, the agency needs further strengthening of the procurement and internal auditing functions.

19. **Staffing.** The HRRIP is managed through the existing DOW's Project Implementation Unit (PIU) for ADB financed projects. As such Projects 1 and 2 under HRRIP are under the PIU which is headed by a Director. The Project Director is assisted by an international Senior Project Coordinator, an experienced international Financial Analyst and national technical, accounting and administrative staff. Based on assessment done under Tranche 2, it was suggested to strengthen the unit in areas of project implementation and social and environmental safeguards.

20. This has been accomplished with appointment of an experienced Project Director and engagement of senior advisors in project implementation and safeguards. Also additional national staff including two project engineers and a project accountant for the PIU located in DOW Headquarters and two project engineers, an accountant and a community development officer for the main field office located in Mount Hagen (HRMG) have been recruited. Accordingly the PIU is reasonably robust to undertake the portfolio of ongoing ADB projects.

21. The procurement function in the DOW, including provincial DOW offices, is effectively managed by an experienced First Assistant Secretary with support of qualified staff and opportunities for training. Generally, staff at the DOW and in the provinces appears to be familiar with the process and apply it methodically, although the process is not documented in a systematic way.

22. Government has approved a 2016 DOW organizational structure based on performance and current needs for major infrastructure development programs as well as sustainable maintenance works for the road network. The new structure with improved salaries and conditions will attract relevant professionals with knowledge, skills and experiences.

23. **Financial Procedures and Reporting.** Financial control procedures for the DOW-PIU follow the Department of Treasury's financial management manual. No significant financial management issues have been raised in external audit reports, or in other reports used by the DOW and key stakeholders for monitoring existing PIU projects. It is envisaged that the financial management arrangements in place by the DOW-PIU will continue to be followed for this project.

24. The PIU will ensure project outputs are produced on time and within budget, and ensure effectiveness in achieving the project's outcome by (i) managing the planning and implementation of the project; (ii) undertaking project management, including coordination within the DOW and with outside stakeholders; (iii) engaging and managing consultants (for detailed design, construction supervision and implementation support); (iv) managing project financing, accounting, and auditing; (v) undertaking monitoring, evaluation, and reporting of project progress; (vi) monitoring key project approvals.

25. Reflecting the need for coordination across all aspects of the project, the DOW has already established a project steering committee (PSC), chaired by the DOW secretary. PSC comprises of representatives of key stakeholders from Government and provinces. The same PSC will oversee all tranches under HRRIP and will meet quarterly, or more frequently as required, for the duration of the program.

26. **Information Systems.** The DOW has recently upgraded its financial management system (FMS). The new integrated FMS is the main business critical financial application that has enhanced the coordination between DOW headquarters and the provinces. Moreover, the upgraded DOW system allows integration with the Departments of Finance (DOF) and shares budgetary items and expenditures through a monthly report system.

27. **Asset management and planning.** The management of all maintenance aspects of the HRRIP is being undertaken by the NRA-PIU. The Project Director and key management and administrative staff are based in the NRA HQ in Port Moresby. A field unit of technical staff with administrative support is based in Mount Hagen. The NRA-PIU is responsible for ensuring the planning, implementation and management of maintenance of HCRN roads through the procurement of long term performance based maintenance contracts. The NRA-PIU will also be responsible for the supervision, management and administration of the maintenance of roads improved under the HRRIP. The current staffing levels are adequate to meet the present workload. However, lack of adequate funding remains an issue that prohibits NRA-PIU to carry out its responsibilities.

28. **Internal Audit.** The DOF has strengthened internal audit in government departments and provinces through the establishment and operation of audit committees. In addition, DOF has seconded a Financial Controller to DOW that has resulted in promoting good governance, transparency, and accountability. This also enables issuance of audit certificates to various donor-funded projects on a timely basis.

29. The DOW internal audit unit was re-established in 2008 and is now operational. The internal audit division is gradually expanding its operations to the field offices to verify the progress and expenditures incurred in the respective province. As its capacity and resources grow, the internal audit division will undertake regular audit of the provincial and special project offices. 2014 DOW audit report of project financial statements stated that there were improvements in internal controls compared to the previous year.

30. **External Audit.** The project financial statements of ongoing Tranches are audited annually by an independent external auditor. Audit is carried out in accordance with the auditing standards and requirements of the Government. The Auditor General Office (AGO) engages independent external auditors acceptable to ADB. DOW submits to ADB certified copies of audited annual project financial statements as well as the auditor report in English within 6 months of each financial year-end during implementation. The AGO has issued unqualified reports for previous financial years.

31. The risk mitigation measures have been reflected in the design of the project and are incorporated into the financial management procedures as set out in this FAM. In particular, the project will be managed through the existing DOW PIU structure, reinforced with additional national staff including two project engineers and a project accountant for the PIU located in DOW Headquarters and two project engineers, an accountant and a community development officer for the main field office located in Mount Hagen (HRMG), as well as additional support staff. Strict compliance with loan financial covenants will be enforced.

B. Disbursement

32. The Loan and Grant proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2015, as amended from time to time),⁷ and detailed arrangements agreed upon between the Government and ADB. Online training for project staff on disbursement policies and procedures is available at: http://wpqr4.adb.org/disbursement_elearning. Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

33. Only reimbursement and direct payment procedures will be used under the project. The HRMG will be responsible for preparing disbursement projections. DOW will maintain project accounts. Reimbursement will be forwarded to DOW maintained project accounts. The HRMG will coordinate internally within DOW to arrange allocation of counterpart funds for individual projects. The HRMG will be responsible for collecting supporting documents, preparing withdrawal applications and submitting to ADB through DOW.

34. Before the submission of the first withdrawal application, the government should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the government, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is US\$100,000 equivalent. Individual payments below this amount should generally be paid by the EA/IA and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB.

35. For government contribution, contractors will submit claims to DOW which will be met from DOW budget.

C. Accounting

36. DOW will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project. DOW will prepare consolidated project financial statements in accordance with the government's accounting laws and regulations which are consistent with international accounting principles and practices.

D. Auditing and Public Disclosure

37. The costs of annual audits to be undertaken by independent auditors will be funded by the ADB. Compliance with project financial reporting and auditing requirements will be monitored by review missions and during implementation, and will be followed up regularly with all concerned.

38. ADB's guidelines require that the borrower and the project executing agency have the required financial statements for each year prepared under an acceptable financial reporting framework audited by an independent auditor acceptable to ADB and that the audit be conducted in accordance with auditing standards that are also acceptable to ADB.

To ensure that ADB is provided with reliable, comprehensive, and timely information, the following is required on an annual basis:

⁷ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

- (i) Audited Project Financial Statements
- (ii) Specific additional audit opinions on:
 - a. Use of project financing - to confirm whether the borrower or executing agency has utilized all proceeds of the project financing only for purposes of the project.
 - b. Compliance with financial covenants (where applicable) - to confirm or otherwise, that the borrower or executing agency was in compliance with the financial covenants of the loan or grant agreement.
 - c. Management Letter

39. **Public Disclosure.** ADB's Public Communication Policy 2011 requires disclosure of project documents including uploading of audited financial statements to the ADB website within 14 calendar days upon receipt by ADB. Financial statements of the implementing agency and the management letter are not disclosed.

40. The government has been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

VI. PROCUREMENT AND CONSULTING SERVICES

41. No ADB member countries eligibility restriction will apply to the project for the procurement of goods, works and services and consulting services.⁸

A. Advance Contracting

42. All advance contracting will be undertaken in conformity with ADB's *Procurement Guidelines* (2015, as amended from time to time) (ADB's *Procurement Guidelines*)⁹ and ADB's *Guidelines on the Use of Consultants* (2013, as amended from time to time) (ADB's *Guidelines on the Use of Consultants*).¹⁰ The issuance of invitations to bid under advance contracting will be subject to ADB approval. The government, DOW, and NRA have been advised that approval of advance contracting does not commit ADB to finance the Project.

43. Advance recruitment of the Construction Supervision Consultants and civil works packages have been approved by ADB.

B. Procurement of Goods, Works and Consulting Services

44. All procurement of goods and works will be undertaken in accordance with ADB's *Procurement Guidelines*.

45. International competitive bidding (ICB) procedure will be used for civil works contracts estimated to cost \$5,000,000 or more, and for goods contracts estimated at \$2,000,000 or more. National competitive bidding (NCB) procedure will be used for civil works contracts estimated to cost up to or equal to \$ 5,000,000 and for goods up to or equal to \$ 2,000,000. Shopping will be used for contracts works and goods contracts worth less than \$300,000.

⁸ Enhancing Operational Efficiency of the Asian Development Bank (R167-15).

⁹ Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>

¹⁰ Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>

46. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

47. All consultants will be recruited according to ADB's *Guidelines on the Use of Consultants*.¹¹ The terms of reference for all consulting services are detailed in Section D.

48. An estimated 520 person-months (160 international, 360 national) of consulting services are required to (i) provide construction supervision of road improvement work, and strengthen the safeguards capacity of DOW; (ii) support capacity development of long term maintenance arrangements in NRA; (iii) improve the road safety function of RTA, and (iv) improve capacity of the road asset management branch of DOW. For construction supervision, consulting firms will be engaged using Quality and Cost Based Selection (QCBS) (90-10) and for NRA and RTA, individual consultant selection method. A new recruitment is underway for supervision consultancy

49. An estimated 311 person-months (23 international, 288 national) of consulting services are required to support DOW at the PIU and the HRMG in safeguards, contracts management and engineering supervision and will be recruited under Project 3. An estimated 726 person-months (25 international, 674 national) of consulting services are concurrently being recruited under Project 2 using Quality and Cost Based Selection (QCBS) (90-10).

50. An estimated 9 person-months (international) of consulting services are required to improve the road safety capacity of the Road Traffic Authority. The consultant will be engaged using individual consultant selection methods.

C. Procurement Plan

Basic Data

Project Name: Highlands Region Road Improvement Investment Program, Tranche 3	
Project Number: 40173-044	Approval Number:
Country: Papua New Guinea	Executing Agency: Department of Works
Project Procurement Classification: Category B	Implementing Agency: N/A
Project Procurement Risk: Low	
Project Financing Amount: ADB Financing: Cofinancing (ADB Administered): US\$ 20,000,000 Non-ADB Financing: US\$ 13,070,000	Project Closing Date: 30 June 2018
Date of First Procurement Plan: 27 January 2016	Date of this Procurement Plan: 27 February 2016

a. Methods, Thresholds, Review and 18-Month Procurement Plan

1. Procurement and Consulting Methods and Thresholds

Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works

¹¹ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>

Method	Threshold	Comments
International Competitive Bidding for Works	US\$ 5,000,000 and Above	Prior review
International Competitive Bidding for Goods	US\$ 2,000,000 and Above	Prior review

Consulting Services	
Method	Comments
Quality- and Cost-Based Selection for Consulting Firm	Prior review
Individual Consultants Selection for Individual Consultant	Prior review

2. Goods and Works Contracts Estimated to Cost \$1 Million or More

The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Procurement Method	Review (Prior/ Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
1	Improvement of Gewa-Gemboji	31,970,000	ICB	Prior	1S1E	Q1 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: N Advance Contracting: Y Bidding Document: Large Works
2	Improvement of Nipa-Munihi	25,240,000	ICB	Prior	1S1E	Q1 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: N Advance Contracting: Y Bidding Document: Large Works
3	Improvement of Henganofi-Nupuru	24,690,000.00	ICB	Prior	1S1E	Q1 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: N Advance Contracting: Y Bidding Document: Large Works
4	Improvement of Pangia-Wiru Loop	25,020,000.00	ICB	Prior	1S1E	Q1 / 2016	Prequalification of Bidders: N Domestic Preference Applicable: N Advance Contracting: Y Bidding Document: Large Works

3. Consulting Services Contracts Estimated to Cost \$100,000 or More

The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

Package Number	General Description	Estimated Value	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
5	Construction Supervision	6,520,000.00	QCBS	Prior	Q1 / 2016	FTP	Assignment: International Quality-Cost Ratio: 80:20
6	Project Implementation Unit	2,620,000.00	ICS	Prior	Q2 / 2016		Assignment: International Expertise: Project Management

4. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

The following table lists smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

Goods and Works								
Package Number	General Description	Estimated Value	Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Advertisement Date (quarter/year)	Comments
None								

Consulting Services								
Package Number	General Description	Estimated Value	Number of Contracts	Recruitment Method	Review (Prior/Post)	Advertisement Date (quarter/year)	Type of Proposal	Comments
None								

b. Indicative List of Packages Required Under the Project

The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

Goods and Works							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Review (Prior/Post)	Bidding Procedure	Comments
None							

Consulting Services							
Package Number	General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Review (Prior/Post)	Type of Proposal	Comments
None							

D. Consultant's Terms of Reference

51. Consulting services will be provided for construction supervision, support to the DOW project implementation unit, and capacity building of RTA. The summary of these services is below and the outline terms of reference (TORs) are in Appendix 2.

1. Construction Supervision

52. Supervision consultancy services are to be provided for Project 3. The Project 2 supervision team may be maintained to cover Project 3 supervision for a period of 6-months or so, as an interim arrangement, if needed. The general objective of the construction supervision consulting services is to successfully complete the supervision of the construction works of the selected Project 3 roads. The construction supervision consultancy services will support the Project Manager in his/her specific specialized areas to successfully supervise implementation and completion of Project 3 roads in accordance with all provisions, terms and conditions, and drawings set forth in the approved contracts within the allowable duration and budget, and ensure that the records of purchases and expenses in relation to the contracts are duly kept, in accordance with international accounting requirements.

53. The construction supervision consultants will:

- (iii) Perform and carry out its services with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe and effective equipment, machinery, materials and methods;
- (iv) Advise DOW on matters pertaining to the efficient and timely implementation of contracts and shall at all times support and safeguard DOW legitimate interests in any dealings of the contracts;
- (v) Maintain an organizational structure that meets DOW requirements for the proper execution of contracts by the contractors and report directly to DOW through the HRRIP PIU. The PIU and Environmental and Social Safeguards Unit (ESSU) will then coordinate with relevant DOW management offices and other stakeholders concerning all administrative and policy matters in-line with DOW operational procedures and government laws and regulations;
- (vi) Assist in processing of claims and handling of any disputes arising out of payments by any concerned party;
- (vii) Provide up-to-date reports and information on the contracts implementation and achievements, including issues and solutions to DOW.
- (viii) Implement safeguard requirements in accordance with the project agreements, design and contracts and in compliance with ADB SPS and government's laws. Amongst other things this includes providing progress and safeguards monitoring reports as required and assist in the overall monitoring of the project's safeguards compliance;
- (ix) Design, implement and monitor internal audit controls of DOW;
- (x) Assess logistics chain, from ex-works shipment to on-site delivery for all goods and services to be procured and installed under the project;
- (xi) Support design of the procurement schedule;
- (xii) Establish procedures to facilitate communications and processes between ADB, PIU, selection committees, and government; and
- (xiii) Capacity building of DOW staff to perform financial management functions.

Supervision Consultant Positions

Position	Number	Total Person-months
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International		
Chief Resident Engineer	1	22
Resident Engineer	3	66
Materials Engineer	1	22
Cost/Quality Engineer	1	22
Resettlement Safeguards Specialist	1	14
Environment Safeguards Specialist	1	14
National		
Site Engineer	4	88
Materials Engineer	4	88
Environment Safeguards Specialist	1	22
Resettlement Safeguards Specialist	1	20
Surveyors	4	88
Community specialist	1	8
Senior supervision engineer	1	16
Field engineers	2	30
Total	26	520

54. **Strengthening safeguards capacity.** The requirements for environmental assessment and management, involuntary resettlement, and indigenous peoples of Project 3 will comply with the requisite laws of PNG including Environment Act and any regulations applicable to environment, land acquisition and resettlement, and the SPS. Two (a national and an international) environmental specialists will provide support to the DOW's ESSU in application of environmental safeguards and capacity building. Two (a national and an international) social/resettlement specialists will support the ESSU in application of involuntary resettlement and indigenous peoples safeguards requirements, and capacity building. The tasks are divided into four main activities:: (i) review of design of Project 3 roads including updating inputs to design and updating of safeguards documents as required; (ii) supervision of construction of Project 3 roads including updating of, and support to the contractor(s) for preparation and implementation of construction environmental management plan (CEMP), and resettlement plans (RPs), and monitoring and reporting; (iii) assisting the ESSU and DOW establish and maintain a system for implementing environmental and social safeguards commensurate with the effects of labour-based equipment supported repair and maintenance, and (iv) capacity building specific to tasks (i) - (iii) and more generally on application of best practice safeguards in road development, construction and maintenance.

55. **Community based rural road maintenance.** A national senior supervision engineer (16 person-months), two national road engineers (15 person-months each) and a national community specialist (8 person-months) will be required to implement the community based rural road maintenance pilot.

2. DOW Project Implementation Unit Staffing and Consultants

56. DOW has recently reorganized its structure and is substantially increasing their staffing for project administration with 12 additional staff positions and 40 consultants, including three international consultants using Project 2 and Project 3 funds. The national consultants will be recruited under government procedures with no-objection from ADB. The international consultants will be recruited using *ADB's Guidelines on the Use of Consultants* and advertised through CMS.

57. **Community based rural road maintenance.** An international rural road management specialist (4 person-months) and national community specialist (24 person-months) will be recruited to support the PIU in developing the community based rural road maintenance pilot.

They will be recruited using Project 2 funds for early implementation with the potential for Project 3 to continue financing the contracts.

New DOW Staff Positions

Name of Position	Number and Location
Project Director	01 - H/Q
Field Manager	01 - H/Q
Principal Engineer	01 - HRMG
Senior Engineer - Roads	01 - H/Q
Senior Engineer - Bridges	01 - H/Q
Project Engineers	02 - H/Q
Project Accountants	01 - HRMG
Administration Officer	01 - H/Q
Environmental Officer	01 - H/Q
Lands Officer	01 - HRMG
Graduate Engineer	01 - H/Q
Total	12

HRMG = Highlands Region Maintenance Group; HQ = Department of Works Project Implementation Unit in Port Moresby

DOW Project Implementation Unit Consultants financed under Project 2 and Project 3

Position	Project 2		Project 3	
	Number and Location	Person-months	Number and Location	Person-months
International^a				
Environment Safeguards Specialist	01 - HQ	11	(01 – HQ)	11
Financial Management Specialist	01 - HQ	6	(01 – HQ)	6
Contract Management Specialist	01 - HQ	6	(01 – HQ)	6
Rural Road Management Specialist	01 - HQ	4		
National				
Community Specialist	01 - HQ	24		
Field Project Manager	01 - HRMG	26		
QA/QC Manager	01 - HRMG	26		
Project Engineers	04 - HRMG	104	02 - HRMG	48
Senior Accountant	01 - HRMG	26		
Project Accountants	02 - HQ	52		
Finance and Administration Officer	01 - HRMG	26		
Senior Environment Officer	01 - HQ	26		
Environmental Officer	02 - HRMG, 01 - HQ	78	02 - HRMG	48
Senior Social Safeguard officer	01 - HQ	26		
Safeguard Coordinator	01 - HRMG	26	01 - HRMG	24
Community Relations Officer	04 - HRMG	104	04 - HRMG	96
Surveyor	01 - HRMG	26	01 - HRMG	24
Graduate Engineer	04 - HRMG	104	02 - HRMG	48
Total	30	699	12	311
Cost estimates (\$)	2,600,000		1,300,000	

^a The international consultants will continue under the Project 2 contract while being financed by Project 3; () indicates continuation of contract.

Note: HRMG = Highlands Region Maintenance Group; HQ = Department of Works Project Implementation Unit in Port Moresby

3. Capacity Building

58. **Strengthening of RTA.** An international road safety specialist (9 person-months) will be engaged to support RTA. The objective of the assignment is to improve the road safety capacity of RTA by (i) establish a crash database for the HCRN; (ii) identifying black spots; (iii) preparing remedial measures to eliminate black spots; (iv) conduct road safety audits; and (v) improve capacity of RTA to conduct road safety audits.

59. **Support to NRA.** The current consulting services contract to supervise long term road maintenance under Project 1 is scheduled to end in June 2016. To continue support to NRA to implement long term road maintenance arrangements, a subsequent consulting services contract will be selected for two and a half years. These services will ensure the successful implementation of the proposed 6 additional long term maintenance contracts for roads improved under Project 1 of the HRRIP which will be handed over to NRA in September 2016. The consulting services will support the output to improve the capacity of NRA by advising on the implementation of increased road user charges, and production of annual maintenance plans. The services will be provided by a Team Leader/Project Manager with two maintenance engineers and four national engineers together with admin support, vehicles, and equipment.

60. **Strengthening of RAMB DOW.** An international institutional specialist (1 person-month) and an international road network management specialist (RNMS) will be required for a period

of 17 months to support and strengthen the Road Asset Management Branch of DOW. The principal objectives will be to establish a road inventory data base for the HCRN and conduct surveys to collect missing inventory data and current road conditions data. The RNMS will work with RAMB and Provincial Works Officers in the Highlands Region to establish systems and programs for data collection, implementation of the surveys and the establishment of the database in RAMB. He will possess a master's degree or equivalent in transport or engineering with at least 10 years of experience in asset management systems in the Pacific.

VII. SAFEGUARDS

61. **Staffing.** Evolving from the earlier environmental management unit, DOW has now established an ESSU. The ESSU comprises a Senior Environment Officer and Senior Social Safeguards Officer, each supported by an Environment Officer and Social Safeguards Officer. Currently, the Senior Environment Officer position is filled, while the others are vacant and under recruitment.

A. Environment

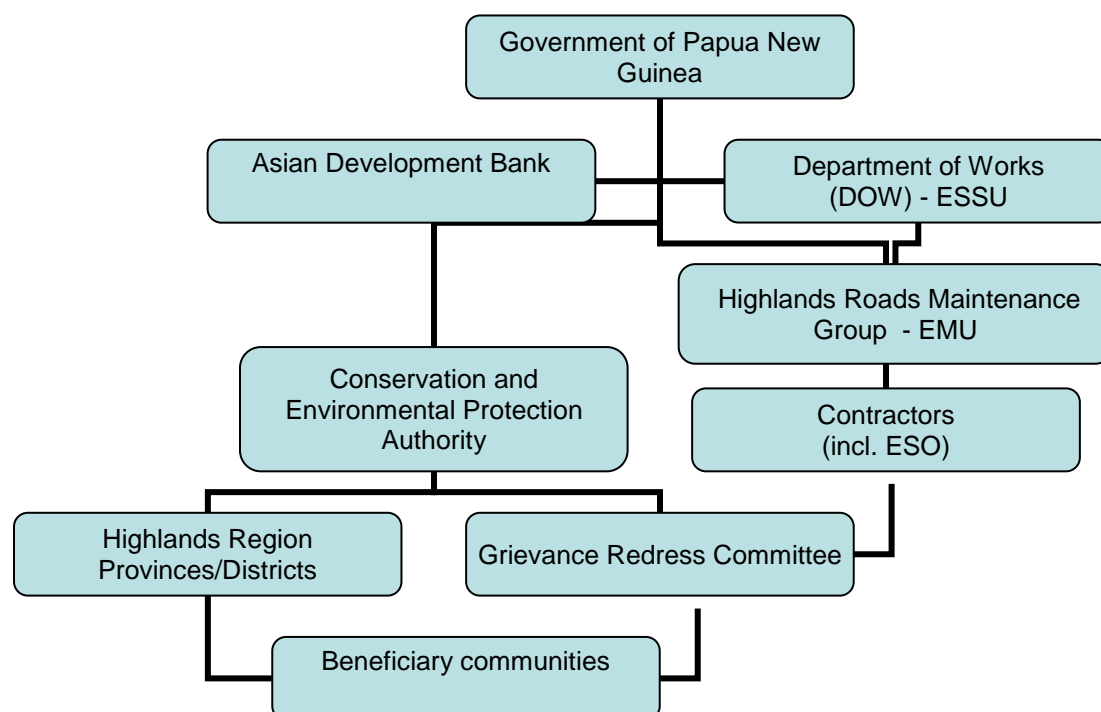
62. Project 3 has been classified as category B for environment following the SPS. Following the requirements of the SPS, the overall project's environmental assessment and review framework and PNG's Environment Act, environmental assessments – initial environmental examinations (IEEs) – for four sub-projects have been prepared. The IEEs found that there will be no major long term adverse impacts on the environment due to the proposed activities. Short-term construction phase impacts will be managed and mitigated through implementation of the environmental management plan (EMP) included in each IEE. The EMPs for each sub-project will be incorporated into the design and implementation of the works. The EMP will guide the HRMG, supervision consultants, and contractors in managing, monitoring, and reporting environmental impact mitigations and compliance. Civil works will not commence until (i) the contractor has received induction training on environmental management delivered by the HRMG or supervision consultant and submitted the construction EMP (CEMP) for review and clearance; (ii) the CEMP has been reviewed and cleared by the HRMG and supervision consultant; and (iii) environment permits as required have been obtained from the Conservation and Environmental Protection Authority (CEPA). Once the contractor has identified the sources of materials to be used for the works, land/resource owner consultations and agreements, an environmental assessment, extraction plan, and permit applications will need to be prepared and submitted to PMU and CEPA.

63. During project implementation the environmental management capacity of the DOW and HRMG will be further strengthened in accordance with best practice and to ensure compliance with government and ADB safeguards requirements. The supervision consultants will include one full time national consultant until DOW recruits safeguard officers to the ESSU, one national environmental specialist (22 person-months) and part-time and intermittent inputs by an international environmental specialist (14 person-months). In accordance with ADB requirements for consultant recruitment, DOW, as executing agency for the project, will engage an environment specialists with relevant qualifications and experience to assist in implementing the safeguards activities of HRRIP Project 3 and provide capacity building training and other assistance to HRMG and other participants in the HRRIP where needed related to environmental management. The consultants will be (i) specialists and/or specialized in environmental sciences, (ii) experienced in environmental assessment, EMP preparation and implementation, (iii) understand requirements for and delivery of monitoring and reporting, and (iv) experienced in capacity building and training in environmental safeguards. For the

international environment specialist, experience in application of environmental safeguards in PNG will be considered an advantage. As well, the TOR for the international specialist requires that at least two-thirds of their time be devoted to capacity building of the ESSU, HRMG, contractors and national consultants and to provide wider awareness raising and strengthening of DOW (including management) and contractors in safeguards.

64. Figure 1 outlines the environmental management organization and its linkages with the project. The contractor will be required to include an environmental and safety officer (ESO) on their team.

Figure 1: Environmental Management Organization



B. Involuntary Resettlement and Indigenous Peoples

65. Project 3 has been classified as category B for involuntary resettlement and category C for indigenous peoples following the SPS. While the widening of roads will require additional land and clearances of trees/crops and some structures it will not cause major impacts on the livelihood of affected persons (APs). Tranche 3 affects a total of 193 persons from economic and physical displacement, with its most sensitive sub-project affecting 110 persons. Resettlement plans (RPs) for each subproject including the memorandum of agreement (MOA)—signed by land owning units—have been prepared. The RPs describe principles, entitlements, implementation arrangements and other necessary details according to the SPS. The RPs were prepared based on detailed measurement survey and assessment of impacts. It will be updated for each road section to revise the compensation rate based on existing market prices at the time of payment. The updates, with clearance from ADB, will be the basis of payment to the APs and subsequently the award of contracts. APs have been consulted and they will be further consulted during implementation. DOW has endorsed the resettlement

planning documents and these will be posted on ADB website before ADB's staff review meeting. DOW will ensure that APs receive their compensation before their displacement and the start of civil works affecting land or property. Relevant information including an information brochure in local language will be disseminated to APs and local stakeholders. DOW has established procedures for the grievance redress mechanism in Project 1 and 2, these will be adapted as necessary for Project 3, to receive and address project related concerns or grievances that may arise during project implementation. APs will be informed by DOW how they can access to the grievance redress mechanism.

66. The project will comply with both ADB safeguard requirements and PNG laws and regulations applicable to land acquisition and resettlement. To ensure that acquisition of customary land and resettlement activities are carried out properly, DOW will follow the measures included in the overall program's resettlement framework and Project 3 RPs including: entitlement and compensation policies, assessment of impacts and preparation/update of RP, consultation, disclosure and grievance redress, capacity building and support, RP implementation, and monitoring and reporting. Based on the lessons from Projects 1 and 2, DOW will adopt the following measures for Project 3: (i) updated RPs with signed MOAs and updated compensation rates, are prepared and implemented prior to the commencement of civil works; and (ii) additional safeguard capacity is available under the PIU.

67. The DOW has established an ESSU which includes three full-time staff. DOW and HRMG will coordinate with the Department of Lands and Physical Planning (DLPP), provincial authorities, and other relevant agencies to implement land acquisition and resettlement activities. Project 3 will continue to support the strengthening of DOW's social safeguard capacity, including recruiting social safeguards specialists (14 months international and 22 months national) and conducting training. The TOR for the international specialist requires that at least two-thirds of their time be devoted to capacity building of the ESSU, HRMG, contractors and national consultants and to provide wider awareness raising and strengthening of DOW (including management) and contractors in social safeguards. The government will finance costs of land acquisition and resettlement.

C. Timeline for Major Safeguards Activities

68. A matrix showing the major safeguards activities and the timing for each activity during project preparation and implementation before civil works is included in Appendix 3. The matrix is intended to help DOW efficiently prioritize safeguards resources.

D. Gender and social dimensions

69. **Gender.** DOW will ensure that the project is designed to include gender friendly infrastructure incorporating road safety features including footpaths, road shoulders, public motor vehicle stops at markets, and guard rails to ensure safety of women and children. Road safety education programs for women and children will be developed through a Rural Road Safety Education Program to address safety issues associated with school children, and personal safety concerns of women and young children. DOW, NRA and RTA will ensure ADB's Policy on Gender and Development (1998) is followed during implementation of the Project; and (b) encourage local contractors to employ women in road improvement and maintenance (target of 30%). The road safety program and HIV/STIs awareness and prevention will ensure that both men and women participate in awareness training.

70. **Consultation and participation.** The implementing agency for the investment program, the HRMG will engage community relations officers, who will establish a consultation program for each subproject. The purpose of the consultation program is to (i) inform communities about the investment program and the subprojects to rehabilitate and maintain the road; (ii) provide information about the expected benefits, potential adverse impacts, and measures to manage such impacts through compensation, environmental management, and community based initiatives; and (iii) provide a forum for communities to participate in the project by expressing their interests, preferences, and concerns about subprojects. The supervision consultants and ESSU will assist in the preparation of a Consultation and Communications Plan to guide the program.

71. **Sexually transmitted infections.** PNG is characterized by a generalized HIV epidemic, with prevalence rates of 0.7% among 15–49 year olds. Awareness about the risk of exposure and prevention measures is slowly increasing. In 2013, 40.9% of women and men aged 15–24 years correctly identified ways of preventing the sexual transmission of HIV and rejected major misconceptions about HIV transmission.¹² In the Highlands Region friends, relatives and health workers are the leading sources of information about sexually transmitted infections (STI). There is a risk of STI transmission with improved access, increased road traffic and greater connectivity. Risk mitigation measures to be adopted under the Project include (i) specific assurances to ensure STI awareness and prevention programs are implemented by road contractors; and (ii) community-based STI awareness and prevention training along project roads. The awareness and prevention programs will be delivered by a DOW staff, trained under Project 1, in collaboration with the provincial AIDS and health administration. HRMG and the contractor(s) will ensure that construction workers participate in the STI/HIV/AIDS and gender awareness training provided by the NGO. Participation and training records will be the subject of monitoring and reporting.

¹² UNAIDS. 2014. Interim Global AIDS Response Progress & Universal Access Reports: Papua New Guinea. Reporting Period January 2013 – December 2013. Port Moresby.

VIII. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

Impacts the Project is aligned with:

Project is aligned with export-driven economic growth and rural development in the Highlands region

Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
Outcome			Assumptions
Accessibility improved and transport cost reduced in the areas served by Project 3 roads.	<p>By 2018: For Program:</p> <p>Highlands core road network (HCRN) sustained at an international roughness index of less than 4 (2015 Baseline: 315 km)</p> <p>6% annual increase in traffic (2015 baseline)</p> <p><u>Road</u> <u>vpd</u>: Gewa-Gembogl 954; Nipa-Munihi, 510; Heganofi-Nupuru, 412; Pangia-Wiru Loop, 553)</p> <p>Overloaded vehicles reduced from 15% to less than 5%</p> <p>5% annual reduction in road accidents (2015 Baseline to be established during implementation)</p> <p>At the end of Project 3:</p> <p>25% reduction in travel time for a typical trip to markets, schools, and health facilities– (2015 baseline:</p> <p><u>Road</u> <u>Time</u> Gewa-Gembogl, 1.5 hrs; Nipa-Munihi, 2.0 hrs; Heganofi-Nupuru 2.0 hrs; Pangia-Wiru Loop 2.5</p>	<p>NRA and DOW reports</p> <p>Social and economic monitoring study report available under Project 1</p> <p>DOW asset management unit</p> <p>RTA database</p>	<p>Sustainable financing of road maintenance</p> <p>Increased availability of contractors for road maintenance works</p> <p>Long-term maintenance contracts extended to other regions</p> <p>PMV owners will invest in larger fleet</p> <p>Risks</p> <p>Higher oil price raises PMV fares and suppresses the use of PMVs</p>

Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks										
	hrs) ^c Increase in the number of PMV services by 100% upon completion of road improvements and thereafter by about 6% a year for maintained roads (2015 baseline: <table><tr><td>Road</td><td>PMV</td></tr><tr><td>Gewa-Gembogl</td><td>10;</td></tr><tr><td>Nipa-Munihu,</td><td>6;</td></tr><tr><td>Heganofi-Nupuru,</td><td>12;</td></tr><tr><td>Pangia-Wiru</td><td>0)</td></tr></table>	Road	PMV	Gewa-Gembogl	10;	Nipa-Munihu,	6;	Heganofi-Nupuru,	12;	Pangia-Wiru	0)		
Road	PMV												
Gewa-Gembogl	10;												
Nipa-Munihu,	6;												
Heganofi-Nupuru,	12;												
Pangia-Wiru	0)												
Outputs 1. Core road network in Highlands Regions improved to national standards for all road users including pedestrians	At the end of Project 3: Length of core road network improved from 1,333 km to 1,446.5 km (2009 Baseline: 1,100km) 113.5 km roadway improved with appropriate road signage, markings, and setbacks to ensure safe access for pedestrians and PMVs at 8 locations (2015 baseline: 0)	Quarterly project Reports ADB review Missions National Road Safety Council Reports Project completion reports DOW reports HRRIP consolidated reports and NRA monthly reports	Assumptions DOW/Provinces to proceed with acquisition of rights of way for all project roads Adequate counterpart funds are available Government takes action in accordance with the governance assessment and risk management plan Risks Security conditions Availability of capable contractors willing to work in the Highlands region Major cost increases.										
2. Sustainable maintenance arrangements for core road network established	Maintenance contracts in place for 347 km core road network (2015 Baseline: 233 km)	NRA monthly reports											
3. Capacity of DOW and NRA to plan and manage long-term road maintenance contracts improved	Pilot for community based rural road maintenance successful and replicable Maintenance plans produced annually (2015 Baseline: 200)	NRA annual road development and maintenance plans Consultant reports DOW reports											

Design Summary	Performance Targets and/or Indicators	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
	Additional length of roads maintained increased to 1200 km Baseline: 850 km		
4. Efficiency and capacity of DOW to implement road improvements enhanced	12 consultants recruited for DOW PIU	HRRIIP monthly consolidated reports DOW reports	
5. Road safety capacity of RTA ^d improved	Accident database for HCRN updated with 2011 – 2017 data (2013 Baseline: no) Road safety audits undertaken (2013 Baseline: no)	RTA accident reports under Project 3	
Project 3 Activities with Milestones 1. Improved core road network In Highlands Regions to national standards for all road users including pedestrians: 1.1. Selection of sub-projects for inclusion (Q3 2015) 1.2. Preparation of design and bid documents (Q1 2016) 1.3. Tendering and award of civil work contracts (Q3 2016) 1.4. Implementation of civil work contracts (Q3 2016) 2. Maintenance of Highlands Core Road Network: 2.1 Preparation of maintenance plans (Q3 2016) 2.2 Allocation of DOW maintenance funds to core road network (Q2 2017) 2.3 DOW provincial works managers to award contracts and manage implementation (Q3 2017) 3. Improved DOW and NRA capacity to plan and manage long term road maintenance contracts: 3.1 Development of annual road maintenance plan (Q2 every year) 3.2 Undertake condition surveys (Q3 2013-Q2 2014) 3.3 Recruitment of community based rural road maintenance consultants (Q1 2016-Q2 2016) 3.4 Training of local contractors and communities (Q 2016-Q3 2016) 3.5 Implementation of rural roads maintenance pilot (Q4 2016-Q2 2018) 4. Strengthening of DOW PIU 4.1 Recruitment of DOW Staff and PIU Consultants (Q1 2016) 4.2 Delivery of training and capacity building as per the approved plan 4.3 Development of road survey program (Q4 2015 – Q1 2016) 5. Improved road safety capacity of RTA: 5.1 Selection of road safety consultant (Q2 2016) 5.2 Establish road safety database (Q2 2016- Q2 2018)			Inputs MFF – Project 3 ADB (ADF): \$38.90 million ADB (OCR): \$70.41 million Government : \$13.07 million European Union Cofinancing: \$19.99 million

ADB = Asian Development Bank, DOW = Department of Works, HCRN = Highlands Core Road Network, IRI = international roughness index, PMV = public motor vehicle, RFP = request for proposal, RAMB = Road asset Management branch, RTA = Road Traffic Authority

^a As per the Government's Medium-Term Development Strategy.

- ^b National target for MDG monitoring using the 1996 national average figure of 30% below the lower poverty line as the benchmark figure.
- ^c Unless otherwise specified in project documents, the target reduction in travel times for road sections improvement under the Investment Program is 25%. This target also applies to road sections improved earlier.
- ^d The function of road safety capacity has been transferred to the Road Traffic Authority in 2015, merging Land Transport and NRSC.

B. Monitoring

72. **Project performance monitoring.** DOW will establish a project performance and monitoring system within six months of loan effectiveness. ADB and DOW will agree on a set of indicators for monitoring and evaluating how well the project achieves its goals and purposes. These indicators will be refined and monitored during implementation of Project 3. The indicators will include data for monitoring economic development, road safety, socioeconomic development, environmental impact, and institutional development. Monitoring and evaluation will be based on gender-disaggregated data for social and poverty impact indicators. DOW will monitor and evaluate the indicators according to the agreed framework on a quarterly basis to determine the efficiency and effectiveness of the Project. Sex and income disaggregated baseline data for output and outcome indicators gathered during project processing will be updated and reported quarterly through the DOW's quarterly progress reports (QPR) and after each ADB review mission. These QPR will provide information necessary to update ADB's project performance reporting system.¹³

73. **Compliance monitoring:** The Government and ADB will jointly undertake a mid-term review of Project 3 within one year of commencement. The midterm review will focus on (i) project impacts, (ii) implementation progress, (iii) progress on policy framework, (iv) performance of consultants and contractors, (v) progress in capacity building and institutional strengthening, (vi) status of compliance with undertakings in the financing framework agreement and covenants in the individual loan agreements, and (vii) the need for any mid-term changes in the scope or schedule of the investment program to ensure full achievement of the impacts.

1. Safeguards monitoring

74. **Environment.** The DOW and HRMG through their ESSU and EMU respectively and with support from the supervision consultant, will monitor the contractor and check compliance with the approved CEMP and any other contract requirements on a regular basis. The QPR will cover a summary of the contractor's monthly reports, details of monitoring data collected, and analysis of monitoring results, recommended mitigation measures, environmental training conducted, and environmental violations and corrective actions taken. The DOW/HRMG will include safeguards activities (including training) in the QPR and based on the QPR prepare semi-annual safeguards monitoring reports and submit to the EA and ADB. The checklist in Appendix 4 can be used for safeguards monitoring. The table in Appendix 4 sets out the suggested contents for the semi-annual safeguards monitoring report.

75. **Land acquisition and resettlement.** DOW will monitor activities associated with land acquisition and resettlement. The monitoring will include reporting on progress of activities in the implementation schedule with particular focus on public consultations, land acquisition, timeliness of payment of compensation, , and level of satisfaction among APs. As noted above, the DOW will include safeguards activities in the QPR and prepare and submit semi-annual safeguard monitoring reports to ADB. DOW recruited an external monitoring organization for Project 1 and 2 and will extend monitoring of safeguards activities for Project 3. The RPs describe detailed arrangements for monitoring and reporting following the suggested contents and checklist provision included in Appendix 4. The resettlement specialist will assist DOW in monitoring of safeguard activities and preparation, review and disclosure of the safeguard monitoring reports.

¹³ ADB's project performance reporting system is available at:
<http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool>.

C. Evaluation

76. Review missions will be conducted semi-annually to monitor project implementation, including progress of civil works, financial management, safeguards, and compliance with loan covenants and assurances. A mid-term review mission will be fielded in 2017 and as outlined in PAI 3.11 it is to include a procurement review for effective implementation (PREI) during to evaluate key indicators and risks that are associated with the executing agency's procurement performance. Within six months of physical completion of the Project, DOW will submit a project completion report to ADB.¹⁴

D. Reporting

77. DOW will provide ADB with (i) QPR in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the Project. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency audited financial statements, together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

78. Within six months of the start of Project 3, a consultation and communications plan will be prepared by DOW (supported by supervision consultants) that will identify stakeholder groups, indicate the types of information, means of communication, who will provide what and to whom including at what intervals, and how and when disclosure will be undertaken. The plan will be cleared by ADB.

IX. ANTICORRUPTION POLICY

79. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.¹⁵ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all Project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the Project.¹⁶

80. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the loan regulations and the bidding documents for the project. In particular, all contracts financed by ADB in connection with the project shall include provisions specifying the right of ADB to audit and examine the records and accounts of DOW, NRA, RTA, all contractors, suppliers, consultants, and other service providers as they relate to the project. The project design and implementation arrangements provide for mitigation of corruption risks. Risks associated with project management, including procurement and disbursement, will be mitigated by (i) engaging international and national consultants to advise and assist in the procurement of

¹⁴ Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>

¹⁵ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

¹⁶ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

goods and services, procurement and supervision of civil works, and the engagement of other consultants; (ii) introducing a dual signing system in which the civil works contractor awarded the contract will also sign an anticorruption contract with the employer; and (iii) periodic inspection by the PIU of the contractors' activities relating to fund withdrawals and settlements. The project will also establish a website in which it will disclose implementation progress; bid notifications and their results; and provides grievance mechanism against any corrupt practice. References on ADB's Anticorruption Policy can be accessed through the following link: <http://www.adb.org/Integrity/>.

X. ACCOUNTABILITY MECHANISM

81. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.¹⁷

¹⁷ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

XI. RECORD OF PAM CHANGES

APPENDIX 1: COMMUNITY BASED RURAL ROAD MAINTENANCE

A. Introduction

1. The rural road network in Papua New Guinea's is in generally poor condition. While rural road maintenance is the responsibility of provincial governments, there is weak infrastructure implementation capacity and funding constraints. In addition to provincial governments, national government rural road maintenance funding is provided to members of parliament through the District Support Implementation Program (DSIP) and Provincial Support Implementation Program (PSIP).

2. While funding constraints have been a major cause for the poor road condition, the high cost of maintenance exacerbates the problem. Factors contributing to the high cost of maintenance are lack of clear planning and implementation responsibilities, shortage of technical expertise and inefficient maintenance models. This project seeks to improve the condition of the rural road network by developing and piloting a more efficient and cost effective maintenance implementation model utilizing local resources and effective maintenance planning criteria.

B. Key Activities

3. This subcomponent will finance preventative maintenance and minor repairs and/or rehabilitation of rural roads in the Highlands region.

4. **Road selection.** The rural roads will be selected to improve access in areas where the National Agricultural Research Institute farmers resources centers are/will be located. Detailed road selection criteria will be developed during implementation.

5. **Maintenance activities.** The maintenance activities will include preventive routine maintenance activities aimed at avoiding damage occurring to the roads and keeping them open year-round. Many of the roads are not in maintainable conditions, requiring minor repairs or, in some cases, rehabilitation. Minor repairs are aimed at correcting any minor damage to the road in order to bring it back to its original condition and avoid the need for more costly repairs in the future. The proposed activities are listed below. These activities will be further reviewed during implementation:

- Preventive routine maintenance
 - Clearing landslides and other obstacles from the road pavement and shoulder
 - Pothole fixing
 - Clearing side drains
 - Clearing culverts
 - Cleaning bridges
 - Clearing vegetation
- Minor repairs
 - Pavement patching (edge break, depressions, etc.)
 - Sealing cracks and joints in the pavement
 - Repairing the road shoulder
 - Repairing the drainage system
 - Repairing retaining walls

6. The preventive routine maintenance can easily be carried out by local labor using simple hand tools. The minor repairs require some minimum skills, materials and equipment to ensure

quality and efficiency. It is therefore preferable to involve local contractors employing community labor who may cover several roads, resulting in a more efficient use of equipment, while at the same time facilitating access to the necessary materials and skilled personnel.

7. **Road maintenance groups.** While community labor will be employed under contracts it is expected that number of person-days per kilometer per year feasible will be determined to carry out all preventive routine maintenance activities and minor repairs. The size and road lengths for each RMG will be determined during implementation. While community labor will be employed directly by contractors, the employment conditions and occupational health and safety issues will be monitored to ensure the community receives a fair share of the benefits.

8. **RMG member selection.** The RMGs provide an employment opportunity in rural areas to augment income from farming and small retail activities. The RMGs form an opportunity to supplement incomes in rural areas and the selection of the RMG members needs to be well structured. Apart from minimum eligibility criteria in the selection such as age and where people live, it is recommended to include preferential criteria to give preference to disadvantaged groups such as women and the poor. The selection criteria to be applied under this pilot will be defined during implementation.

9. **Output-based payments.** In line with current practice in PNG, it is recommended to apply an outputs-based approach. The local contractors will be paid on the quantity of work completed that complies with the required work standard. The contract value will be determined by the quantity of work to be performed and the contract unit price rates. The actual payments will be based on the quantity of work completed and the contract unit price rates.

10. **Safeguards.** During implementation, DOW will avoid any safeguards issues in the maintenance and minor repairs of road sections rehabilitated under HRRIP and mitigate any unanticipated impacts. Safeguard Specialist (environment and resettlement) will be employed during construction to assist DOW's environment and social safeguards unit to establish an environmental and social management system to be developed for identifying, avoiding and mitigating any impacts of LBES repair and maintenance works.

11. **Training, design and supervision.** The initial training of the contractors' management and staff and community labor will be carried out as part of this pilot. The supervision of the contractors will be carried out by the supervision consultants under the management of DOW.

C. Cost and Financing

12. The works will be financed from government budgets, for example provincial governments, Provincial Support Improvement Programs and the District Support Improvement Programs. The estimated maintenance costs per kilometer are in Table 1. A detailed cost estimate will be prepared during implementation for each road selected.

Table 1: Estimated Maintenance Costs.

Works	Cost (Kina/km)
Routine maintenance	K25,000 per km
Minor works	K50,000 per km
Minor rehabilitation	K350,000 per km
Full rehabilitation	K600,000 per km

D. Implementation Arrangements

13. Government will finance the rural road maintenance works, supported by significant technical assistance from a consultant team. DOW will maintain an oversight role, with Secretary approving contracts worth up to K500,000. The Highlands Region Management Group (HRMG) will manage all consultants and provide support services. Provincial Governments will provide local assistance communicating with local communities and supplying community health professionals.

14. Procurement of works will be undertaken by DOW in compliance with government procurement guidelines. All consultants, both individual and firms, will be recruited by DOW in compliance with ADB's Guidelines on the Use of Consultants.

E. Consultant Terms of Reference

15. A sustainable improvement in the condition of the feeder road network depends on developing an efficient road maintenance planning and implementation model. The project will implement a program of feeder road maintenance using a road maintenance approach employing a high proportion of local resources.

16. The Consultants will work with the DOW to identify suitable roads and plan and implement road maintenance in a technically and socially sustainable manner. It is envisaged that community mobilization services, relating to health, violence and gender issues will be sourced from existing provincial government sources but coordinated by project personnel. The consultants are expected to accomplish the following activities:

- a. Undertake engineering and social investigations and complete feasibility studies to identify the most suitable roads.
- b. Brief Provincial, District and Local Level Governments on the project goals and implementation arrangements. Agree with these agencies their role in implementation and ongoing support to the feeder road network.
- c. Undertake baseline social surveys and develop social risk mitigation strategies.
- d. Undertake site investigations, design and document rehabilitation and maintenance works and prepare construction tender documents.
- e. Undertake training of contractors' management and technical staff in labour based maintenance techniques.
- f. Consultants employed in planning and preparation of maintenance contracts will be employed individually while construction supervision consultants will be employed through a consultancy company.

17. One international and four national consultants will be required to implement this pilot (Table 2). All candidates must have at least ten years of working experience in road maintenance and/or capacity building in the road sector. The basic requirements of qualification and terms of reference for consultants are in Appendix 2: Consultant Terms of Reference. Two consultants will be recruited for early implementation of the community-based rural road maintenance pilot using funds from Project 2 initially as part of the Project Implementation Unit consulting services; Project 3 fund may be used to continue to finance these consultants upon loan effectiveness.

Table 2: Summary of Consulting Services

Area of Expertise	Duration (person-months)
Project Implementation Unit	
Rural road management specialist (international)	4
Community specialist (national)	24
Supervision Consultant	
Community specialist (national)	8
Senior supervision engineer (national)	16
Field engineers (x2) (national)	30
Total	67

Source: Asian Development Bank estimates.

APPENDIX 2: CONSULTANT TERMS OF REFERENCE

1. Construction Supervision

1. An estimated 520 person-months (160 international, 360 national) of consulting services are required to (i) provide construction supervision of road improvement work, and strengthen the safeguards capacity of DOW; (ii) support capacity development of long term maintenance arrangements in NRA; (iii) improve road safety function of RTA, and (iv) improve capacity of the road asset management branch of DOW. Consulting firms will be engaged using QCBS (90-10) or individual consultant selection methods.

Position	Number	Total Person-months
International		
Chief Resident Engineer	1	22
Resident Engineer	3	66
Materials Engineer	1	22
Cost/Quality Engineer	1	22
Resettlement Safeguards Specialist	1	14
Environment Safeguards Specialist	1	14
National		
Site Engineer	4	88
Materials Engineer	4	88
Environment Safeguards Specialist	1	22
Resettlement Safeguards Specialist	1	20
Surveyors	4	88
Community specialist	1	8
Senior supervision engineer	1	16
Field engineers	2	30
Total	26	520
Cost estimates (\$)		

A. Engineering

2. Chief Resident Engineer/Team Leader (international, 22 person-months)

- a. Manage the Supervision Consultant staff and resources, ensure timely implementation of the Contracts according to PNG Government's requirements and in accordance with the Guidelines of Asian Development Bank.
- b. Review contract documents, Bills of Quantities and Cost Estimates, construction drawings, specifications etc. and ensure all documents related to contracts are satisfactory.
- c. Ensure all pre-contractual obligations by the Contractor are complied with prior to commencement of work.
- d. Arrange a pre-construction meeting with the Contractor and all matters related to Contract commencement, delegation of authority, communication methods, construction programs, Contractors facilities, sub contract work, security and community related matters are fully discussed and agreed between the Contractor and the Client and its representatives.
- e. Arrange monthly meetings with the Contractor, assess the progress of work, provide assistance to resolve matters related to the Contract, delays etc.
- f. Provide an effective and regular project management and construction management leadership and ensure work is executed to the standards, specifications, procedures and in accordance with the approved environmental, social, safety and quality management plans.

- g. Ensure that all project records are maintained in safe environment and also to maintain copies in alternative locations.
- h. Liaise with the local authorities and local communities on a regular basis, ensure required awareness programs are carried out, encourage the Contractor to utilize their services in order to minimize disturbances.
- i. Check and endorse monthly Interim Payment Certificates for final approval by the Engineer for the Contract.
- j. Provide timely assistance to the Contractor in all matters related to interpretation of the Contract documents including ground survey control quality and control testing etc.
- k. Prepare monthly and quarterly reports describing the progress of the works as well as identifying problem areas and actions taken to overcome them. The report will summarize the work performed, equipment and human resources utilized during the reporting period together with an outline of the work to be performed during the next reporting period.
- l. Incorporate on the job training for field staff of DOW and Provincial Administration when undertaking project tasks.
- m. Assist the Client to prepare the project Completion Report as required by the Asian Development Bank.

3. **Resident Engineer (3, international, 22 person-months)**

- a. Inspect regularly the contractor's construction equipment, installation, staff availability, and safety measures etc and ensure they are adequate and in accordance with the terms and conditions specified in civil works contracts.
- b. Administer and supervise contracts on a day to day basis on behalf of the Client and undertake inspections prior to and during construction work.
- c. Ensure the Contractor complies with the agreed Construction Programs and provide assistance whenever necessary.
- d. Maintain regular meetings with local communities and encourage the Contractor to ensure participation of the local community including women in contracts, wherever necessary.
- e. Ensure the Contractor fully complies with the PNG labor Laws and other regulations.
- f. Approve all survey checks and ensure that the work conform to the specified requirements.
- g. Identify environmentally sensitive and protected areas which could be affected or indirectly when sourcing materials for construction work.
- h. Ensure adequate measures are taken to maintain regular testing procedures and systems in order to maintain highest standards of quality in construction and provide supervision for post construction testing.
- i. To ascertain the properties of materials needed for construction of various phases in conformance with all aspects of the Contract.
- j. To promote the use of improved methods for drainage problems and drainage structures.
- k. Identify Erosion Management Technique; develop erosion monitoring programs including rehabilitation measures and re-vegetation in order to minimize disturbances to topsoil by construction, transport, storage etc.
- l. Evaluate and make recommendations to the Engineer on the Contractor's claims, disputes, contract time extensions, variations and other changes outside the scope of the contract.

4. **Materials Engineer (international, 22 person-months)**
 - a. Provide assistance to the Contractor in establishing Construction camps, housing, borrow pits and quarries and storage for materials, equipment etc.
 - b. Ensure adequate measures are taken to maintain regular testing procedures and systems in order to maintain highest standards of quality in construction and provide supervision for post construction testing.
 - c. To ascertain the properties of materials needed for construction of various phases in conformance with all aspects of the contract.
 - d. To promote the use of improved methods for drainage problems and drainage structures.
 - e. Identify Erosion Management Technique; develop erosion monitoring programs including rehabilitation measures and re-vegetation in order to minimize disturbances to topsoil by construction, transport, storage etc.
5. **Cost/Quantity Surveyor (international, 22 person-months)**
 - a. Provide all assistance to the Project Manager/Team Leader to ensure that the financial management of the project is satisfactorily fulfilled.
 - b. Prepare an elemental format for all construction activities and monitor the costs regularly.
 - c. Prepare monthly contract payment estimates and certificates for payment, including a cost estimates for construction and supervision.
 - d. Maintain a permanent record of all measurements for the work quantities to be paid.
 - e. Assist in preparing Bills of Quantities and make recommendations for certification of all monthly and other payments for the Engineers consideration.
 - f. Ensure procedures are adopted to maintain an efficient Project Cost Control System.
 - g. Establish realistic costs for escalation, contingency, site allowances etc. and include these cost plans to provide a total project cost estimate for budget purpose.
 - h. Provide assistance in the Tenders, Estimates and Quotations as required.
 - i. Assist the Client in preparation of Cash Flow forecasts in the preparation of Interim and Final Account valuations.
 - j. Ensure timely advice is given to the Project Manager when cost overruns are expected due to valuations, time extensions etc. and provide guidance to overcome them.
 - k. Attend meetings as required by the Project Manager and continue to monitor, update and control the costs.
6. **Site Engineer (4, national, 22 person-months)**
 - a. Oversee contract administration of the Contractor's work and assist the other site engineers and Work Supervisors and ensure correct interpretation of the contract documents.
 - b. In conjunction with the Resident Engineer, establish with the contractor requirements for conducts and standards of performance, lines of authority and lines of communications on site within limits set by the Contract.
 - c. Ensure the contractor performs the work in accordance with the technical requirements of the Contract.
 - d. Advise the Resident Engineer of potential delays, quantity variations etc. and the revised programs and estimates properly reflects actual delays and price differences.
 - e. Coordinate inspection of work, survey checks and ensure adequate testing programs are regularly followed.
 - f. Ensure that the Contractor fully conforms to the approved traffic and safety management, environmental management and quality management plans.

- g. Maintain cordial relationships with the local communities and ensure their participation in routine maintenance and similar minor work programs.
 - h. Ensure that the Resident Engineer and the Project Manager are kept informed of all issues that may affect the performance of the Contract.
 - i. Ensure that the site staff assigned for various activities carry out their duties responsibly.
7. **Materials Engineer (4, national, 22 person-months)**
- a. Provide assistance to the International Materials Engineer in setting out procedures for testing materials, construction methods, specified test methods etc.
 - b. Ensure material inspection and regular tests are carried out for soil, concrete, bitumen etc. and ensure they fully conform to the specifications of the Contract.
 - c. Assess the quality and quantity of construction materials from quarries and borrow pits and ensure their conformity with the required specifications.
 - d. Carry out necessary tests for liquid limit, CBR, grain size distribution etc. and assist the Materials Engineer to approve their use for construction activities.
 - e. Provide assistance and advice to the contractor during construction of drainage structures, estimating the load carrying capacity and other relevant features.
 - f. Maintain records of tests carried out including all calculation and check sheets.
 - g. Provide on-the-job training facilities for DOW soils technicians and Provincial staff.
8. **Surveyor (4, national, 22 person-months)**
- a. To ensure efficient surveys for all aspects of construction as per the approved drawings of the contract.
 - b. Arrange and execute necessary field surveys to demarcate boundaries for construction limits as per the approved drawings.
 - c. Assist the local survey staff to carry out acquisition surveys as determined by the construction limits.
 - d. Ensure that construction surveys are carried out to determine the pre-construction and post construction levels as directed by the field staff and all calculations are submitted to the Resident Engineer or Project Engineer as required.
 - e. Assist the Resident Engineer when assessing monthly interim payments submitted by the Contractor, examine accounts and recommend payments.
 - f. Incorporate on-the-job training for local survey staff when undertaking the project tasks.
 - g. Carry out post construction surveys for the final payment and provide assistance to the Project Manager when preparing the Completion report.

B. Safeguards

9. **Environment Specialists (1 international, 14 person-months; 1 national, 22 person-months).** In accordance with ADB requirements for consultant recruitment, DOW as executing agency for the project will engage environmental consultants to assist in implementing the safeguards activities of HRRIP Project 3 and provide capacity building training and other assistance to ESSU and HRMG and other participants in the HRRIP where needed. The tasks will be as follows:

- a. **Strengthening of Environmental Management Procedures.** The consultants will collaborate with DOW to familiarize themselves with the methods and procedures, including the Code of Practice, implemented by DOW and HRMG and the requirements of the CEPA. The consultants will strengthen procedures as required

to reflect international best practice and support the ESSU in the implementing of HRRIP Project 3 subprojects according to PNG laws and requirements, SPS and international best practice. This will include, among others, the following:

- In coordination with the resettlement specialists, and following the Communications and Consultation Plan (including the grievance redress mechanism [GRM]) to be prepared for Project 3, establish procedures to facilitate consultation and collaboration with all affected communities and provincial and district authorities; and
- Coordinating with the consultant recruited separately to undertake an institutional capacity assessment of DOW's ESSU and HRMG's EMU, in respect of environmental safeguards, assess the personnel and logistical requirements of DOW and HRMG and other participants and prepare a training plan and a capacity building program to ensure that adequate and qualified personnel and other resources will be available for environmental management during Project 3. The training plan and capacity building program will be submitted to DOW and ADB within 6 weeks of first mobilization.

b. Updating, Implementation and Monitoring of Environmental Management Plans. The consultants will assist DOW, ESSU, HRMG, and EMU to undertake the following:

- Review the detailed design of each subproject and where necessary update the IEEs and EMPs;
- Undertake, as required, consultation with affected persons and key stakeholders during project implementation to ensure their satisfaction on safeguards implementation;
- Work with the engineers and procurement specialists to ensure that the EMPs updated based on detailed design are integrated into the bidding documents;
- Provide training to ESSU, EMU and contractors in respect of environmental management generally and preparation and implementation of CEMPs specifically. At least two-thirds of the specialists' time will be spent on capacity building and training to ESSU, EMU and contractors in accordance with the training plan and capacity building program outlined in item a second bullet above. All capacity building and training activities will be documented in the quarterly progress reports (QPR) and semi-annual safeguards monitoring reports;
- Ensure that prior to any works commencing the appropriate baseline studies are conducted and reported to facilitate the implementation of the monitoring plans included in the EMPs;
- Review and clear the CEMP for each road section submitted by the contractor(s) and advise ADB that the CEMPs have been cleared to facilitate ADB's no objection to works commencing;
- Ensure that the contractor designates a staff member as environmental, health and safety officer (ESO) to be responsible for overseeing implementation of the CEMP, maintenance of the site diary and register of complaints and implementation of the GRM. The contractor, as part of the their monthly report, will include CEMP implementation and GRM issues;
- Undertake frequent spot-checks and monitoring (at least every two months) to ensure that the contractor is fully implementing the provisions of the

approved CEMP and this is being checked by the Resident Engineer as part of the construction supervision;

- Coordinate with the resettlement specialists to prepare inputs to the QPR to be prepared by PMU and the semi-annual safeguards monitoring reports. This will include summary of the contractor's monthly reports and any issues registered through the GRM. An outline table of contents and review checklists are provided in Appendix 4;
- Coordination of all safeguards requirements with civil works contractors to ensure measures are taken to complete the civil works in an efficient manner and;
- Support, as required, the facilitation of resolution of complaints and grievances through local mediation processes and as per the established GRM.

c. Support to DOW's maintenance of road sections rehabilitated under HRRIP.

The specialists will guide DOW to avoid any safeguards issues in the maintenance and minor repairs of road sections rehabilitated under HRRIP and mitigate any unanticipated impacts. Assistance may include the following:

- Assist ESSU to establish an environmental and social management system to be developed for identifying, avoiding and mitigating any impacts of LBES repair and maintenance works. This will include, at a minimum, the preparation of environmental and social management guidelines (as simplified EMP) to be included in the contracts for minor repair and LBES maintenance works and systems for training community groups and small-scale contractors;
- Visit, where necessary, DOW's maintenance work to identify any safeguards compliance issues and guide DOW to prepare and implement corrective actions;
- Review best practice as implemented in other countries, for e.g. Solomon Islands through the Transport Sector Development Project, for training of community-based contractors in, and application of, safeguards in LBES type works; and
- Assist DOW in community consultation during the implementation of the maintenance work.

10. Resettlement Specialists (1 international, 14 person-months; 1 national, 20 person-months). In accordance with ADB requirements for consultant recruitment, DOW as executing agency for the project will engage social/resettlement consultants to assist in implementing the safeguards activities of HRRIP Project 3 and provide capacity building training and other assistance to DOW, HRMG and other participants in the HRRIP related to land acquisition and compensation activities. The consultants will be (i) specialists and/or specialized in social sciences, (ii) experienced in implementing, and monitoring of, resettlement activities as required international agencies, and (iii) knowledgeable about customary land tenure and other relevant conditions in PNG. All candidates will be academically trained as social anthropologists and/or sociologists or equivalent qualifications. The tasks will be as follows:

- a. Review of Land Acquisition Resources.** The consultants will collaborate with HRMG and relevant groups at DOW (e.g., Lands and Survey Division) to identify methods and procedures to assist DOW and HRMG to integrate land acquisition

activities into the process of implementing HRRIP Project 3 subprojects. This will include, among others, the following:

- Following the process set out in the program's Resettlement Framework, establish procedures to facilitate consultation and collaboration with all provincial and district authorities involved in land acquisition and compensation activities for HRRIP Project 3 subprojects. This will include, among others, the Provincial Land Office (PLO) and District Land Office (DLO) that will be directly involved in land acquisition activities; the LLG and Ward Councilors who will assist with village consultations; and, the Provincial Administrator who will be responsible for ensuring compensation funding for provincial roads;
- In coordination with the environment specialists, based on the plans for Projects 1 and 2 and updated as necessary to reflect the specific requirements of Project 3, prepare the Communications and Consultation Plan including the GRM for the Project; and
- Assess the personnel and logistical requirements of DOW and HRMG and other participants and draw up strategies to ensure adequate and qualified personnel and other resources will be available for RP implementation.

b. Implementation and Monitoring of Resettlement Plans. The consultants will assist DOW, HRMG, PLOs and DLOs in subproject areas and other stakeholders in the following areas:

- Review the required resources and procedures to support the work of HRMG to carry out activities related to acquiring land to upgrade and rehabilitate roads in compliance with the HRRIP policies;
- Review of project design and standards that are related to additional land requirements to minimize safeguards impacts and facilitate safeguards compliance.
- Consultation with affected persons and key stakeholders during project implementation to ensure their satisfaction on safeguards implementation;
- Update of the Resettlement Plans for each subproject and undertaking necessary assessment, where required, such as social impact assessment and/or detailed measurement survey with full participation of affected persons and confirm/reassess affected persons entitlements and compensation in accordance with HRRIP policies;
- Supervision, monitoring and assessment of safeguards compliance for each subproject according to the approved RPs and recommend corrective actions where needed in collaboration with IMO;
- Coordination of safeguards requirements with civil works contractors to ensure measures are taken to complete the civil works in an efficient manner
- Application of best practice safeguards in road development and construction and lessons learned from safeguards implementation of Project 1 and 2; and
- Reporting of the RP implementation by (i) preparing inputs to QPRs and semi-annual monitoring reports on resettlement/social safeguards; and (ii) coordinating with other specialists and with the IMO for external monitoring and ensure that the Terms of Reference are properly and effectively achieved. An outline table of contents and review checklists are provided in Appendix 4; Facilitation of resolution of complaints and grievances through local mediation processes.

- c. **Support to DOW's maintenance of road sections rehabilitated under HRRIP.** The consultant will guide DOW to avoid any safeguards issues in their maintenance of road sections rehabilitated under HRRIP and mitigate any unanticipated impacts. Assistance may include the following:
- Provide inputs into the system to be developed for LBES to avoid any safeguards impacts of proposed activities;
 - Visit, where necessary, DOW's maintenance work to identify any safeguards compliance issues and guide DOW to prepare and implement corrective actions; and
 - Assist DOW in community consultation during the implementation of the maintenance work.
- d. **Capacity Building on Resettlement and Social Assessment.** The consultant will assist with capacity building and upskilling on safeguards building on the ongoing capacity building work of HRRIP Project 1 and 2. Activities may include as follows:
- In coordination with other DOW institutional capacity building and assessment on safeguards, develop and implement capacity building strategy for DOW, HRMG and PLO/DLO to sustain and coordinate all resettlement, social impact/assessment, gender and social development-related activities for HRRIP P3. The training plan and capacity building strategy will be submitted to DOW and ADB within six weeks of first mobilization. All capacity building and training activities will be documented in the QPR and semi-annual safeguards monitoring report.
 - Capacity building and upskilling activities may include:
 - (i) Formal and on-the-job training for DOW, HRMG, PLOs and DLOs related to resettlement, gender assessment and social impact assessment;
 - (ii) Training sessions on, but not limited to the following: (a) policies, procedures and best practices related to resettlement, social preparation, social impact/assessment, gender and social development; (b) social assessment methodologies; (c) stakeholder analysis; (d) participatory rapid appraisal; (e) participatory monitoring and evaluation; (f) basic social research methodologies; and HIV/AIDS and STI.
 - (iii) Training and assistance on consultation and public participation methods, including methods to increase the participation of women and other vulnerable groups.

C. Community-based Rural Road Maintenance

11. **Senior Supervision Engineer (national, 16 person-months).** He or she must have a tertiary degree in civil engineering from an approved university and at least 20 years experience in road maintenance including at least 5 years in labor-based road maintenance.
- a. Undertake role of Engineer's Representative as defined in the road maintenance contracts.
 - b. Undertake the role of Team Leader.
12. **Field Engineers (2 nationals, 15 person-months each).** They must have a tertiary qualification in civil engineering from an approved university and at least 4 years experience in the supervision of the construction of road rehabilitation and maintenance works. Experience in

labour-based road rehabilitation and maintenance techniques are highly desirable but not essential.

- a. Supervise road rehabilitation and maintenance construction performed by Contractors. Identify non-compliances with contract conditions and inform the contractor.
- b. Inform the Road Maintenance Specialist of any design issues that may affect the physical sustainability of the road.
- c. In collaboration with the Community Specialist monitor social impact issues and provide field support to the Community Specialist during the construction phase and also target and mobilize local women for employment in road maintenance.

13. **Community Officer (national, 8 person-months).** They must have a tertiary qualification in social sciences from an approved university and at least 10 years experience in planning and implementing community impact and mitigation strategies on rural infrastructure projects in the highlands of PNG.

- a. Establish and operate grievance dispute mechanisms as designed by the Community Specialist.
- b. Coordinate community development activities designed by the Community Specialist and provincial officers.
- c. Liaise with and inform Provincial Governments and District and Local Level Government administrations and Members of Parliament on project activities, progress and development achievements.
- d. Coordinate STI and HIV/AIDS awareness and prevention programs implemented by the road contractors and training along the project roads; and prepare participation and training records for monitoring reports.

2. PROJECT IMPLEMENTATION UNIT CONSULTANT TERMS OF REFERENCE

14. The Department of Works and Implementation (DOW) will be substantially increasing its staffing in Port Moresby and at the Highlands Road Management Group (HRMG). An estimated 311 person-months (23 international, 288 national) of consulting services are required to support DOW at the PIU and the HRMG in safeguards, contracts management and engineering supervision and will be recruited under Project 3. An estimated 726 person-months (25 international, 674 national) of consulting services are concurrently being recruited under Project 2.

Position	Project 2		Project 3	
	Number and Location	Person-months	Number and Location	Person-months
International^a				
Environment Safeguards Specialist	01 - HQ	11	(01 – HQ)	11
Financial Management Specialist	01 - HQ	6	(01 – HQ)	6
Contract Management Specialist	01 - HQ	6	(01 – HQ)	6
Rural Road Management Specialist	01 - HQ	4		
National				
Community Specialist	01 - HQ	24		
Field Project Manager	01 - HRMG	26		
QA/QC Manager	01 - HRMG	26		
Project Engineers	04 - HRMG	104	02 - HRMG	48
Senior Accountant	01 - HRMG	26		
Project Accountants	02 - HQ	52		
Finance and Administration Officer	01 - HRMG	26		
Senior Environment Officer	01 - HQ	26		
Environmental Officer	02 - HRMG, 01 - HQ	78	02 - HRMG	48
Senior Social Safeguard officer	01 - HQ	26		
Safeguard Coordinator	01 - HRMG	26	01 - HRMG	24
Community Relations Officer	04 - HRMG	104	04 - HRMG	96
Surveyor	01 - HRMG	26	01 - HRMG	24
Graduate Engineer	04 - HRMG	104	02 - HRMG	48
Total	30	699	12	311
Cost estimates (\$)	2,600,000		1,300,000	

^a The international consultants will continue under the Project 2 contract while being financed by Project 3.

Note: HRMG = Highlands Region Maintenance Group; HQ = Department of Works Project Implementation Unit in Port Moresby

A. International Consultants

15. Environmental Specialist – HQ (international, 22 person-months)

- Oversee all environmental assessments of maintenance activities and project being undertaken by DOW,
- Prepare and/or oversee and evaluate road maintenance environmental studies, and play a strong role in the coordination of annual environmental training for government and contractors involved in highway maintenance.
- Prepare and deliver environmental training modules as required and visit prefectures where project roads are being rehabilitated to audit them and prepare audit reports.
- Prepare all necessary environmental documentation and review submissions received, assessing technical quality and applicability.

- e. Establish and maintain an environmental network, liaise and co-ordinate with designated focal points in General and Maintenance Sections on field audits and other related tasks; and,
 - f. Supervise and co-ordinate closely with the ESSU
16. **Financial Management Specialist – HQ (international, 12 persons-months)**
- a. Prepare and maintain a detailed project implementation schedule for all project activities, and identify key milestones to be achieved, in accordance with the Project Administration Manual ;
 - b. Review and design sound project financial management manual, which includes acceptable accounting standards, policies, and procedures. In designing accounting standards, policies, and procedures the expert should ensure that they lead to the production of: relevant; reliable; neutral; and comparable financial information for the users of financial statements;
 - c. Design the form and content of the key financial reports and statements; in setting up accounting system with Chart and Code of Accounts accommodate all categories outlined in Schedule III of the Grant Agreement in accordance with International Accounting Standards
 - d. Develop strategies for improving computerized systems of DOW.
 - e. Develop and submit PMU's budget to input into DOW's overall budget;
 - f. Develop new standard procedures for procurement and control of finances; develop payroll systems and capability;
 - g. Develop recommendations in the areas of organizational structuring, management responsibilities (staffing, budgets, strategic planning, etc.), addressing staffing issues, expanding the management information system, developing and documenting internal operating procedures and establishing an internal training, and procedures;
 - h. Develop an in-depth financial management training programs for DOW staff to ensure that accounting staff understand the procedures and practices of the new project financial management system;
 - i. Conduct training sessions on government financial legislation and on application of the accounting policies and procedures manuals, including international accounting standards;
 - j. Prepare a training manual for continual training by the Accounting Department on the new accounting procedures. The manual should include the topics and contents to be covered as well as a schedule for regular, ongoing training programs to be conducted by the Accounting Department in association with the Office of the Auditor General on accounting and auditing issues for public entity staff.
 - k. Prepare year end project financial statements and ensure timely recruitment of independent audit firm and submission of audited project financial statements to ADB within required period of time.
 - l. Ensure that all recommendations reflected in management letters by the auditors are implemented, monitor and ensure integrity of financial management information on daily basis.
17. **Contract Management Specialist – HQ (international, 12 person-months)**
- a. Advise and assist counterparts with the procurement of contractors and consultants.
 - b. Advise and assist counterparts including the Field Project Manager with project management.
 - c. Advise and assist counterparts with the preparation of design and construction briefs.
 - d. Work with counterparts to review tender documentation and evaluate tenders.

- e. Advise and assist with contract management, including variations and reporting.
- f. Assist the Department to maintain and improve communications among senior personnel,
- g. Project Management Consultants, contractor staff, and other stakeholders.
- h. Contribute to improvements in Departmental procurement practices.
- i. Identify and implement appropriate capacity building strategies for counterpart staff/groups including the provision of on-the-job training, workshops, mentoring and coaching as well as monitor, evaluate and report on capacity building progress.
- j. Conform with and support overarching Government of Papua New Guinea and ADB priorities such as gender, HIV and AIDS, environment/climate change.
- k. Conform with Program and Departmental Codes of Conduct.

18. Rural Road Management Specialist – HQ (international, 2 person-months). He or she must have a tertiary degree in civil engineering from an approved university and at least 20 years experience in road maintenance including at least 5 years in labour-based road maintenance.

- a. With assistance from the Community Specialist prepare technical feasibility studies on potential roads to identify roads suitable for inclusion in the program.
- b. Develop the capacity of contractors to tender and successfully complete labour-based road maintenance projects. Undertake pre-tender workshops to train contractors in pricing and preparing labour-based tenders.
- c. In association with the Community Specialist liaise with and inform Provincial Governments and District and Local Level Government administrations and Members of Parliament of the project goals, activities and implementation.
- d. Carry out preliminary survey of potential roads and provide technical input into the technical feasibility studies.
- e. Undertake detailed condition survey of sub-project links. The survey shall document the current infrastructure scope and condition. Assess site conditions for pavement design and locate construction material sources. Undertake an assessment of the need for slope protection and drainage works.
- f. Prepare detailed drawings, quantities for rehabilitation and maintenance works in accordance with current DOW design standards.
- g. Train other team members in labour-based road construction techniques as it is appropriate for their respective roles in the project.
- h. In collaboration with the Community Specialist prepare road maintenance tender invitation documents.

B. National Consultants

19. Community Specialist – HQ (national, 24 person-months). They must have a tertiary qualification in social sciences from an approved university and at least 10 years experience in planning and implementing community impact and mitigation strategies on rural infrastructure projects in the highlands of PNG.

- a. Undertake a preliminary social survey of potential sub-project roads in collaboration with the Rural Road Management Specialist.
- b. Undertake detail social surveys of sub-project links to identify landowners, social risk factors and social constraints to project implementation. The willingness of the community to be employed on road works should be assessed.
- c. Develop a community development plan based on social constraints. The plan should identify the need for awareness raising, improving social infrastructure and

addressing gender related issues. Develop grievance mitigation mechanisms and incorporate them into project and road maintenance contracts.

- d. In association with the Road Maintenance Specialist liaise with and inform Provincial Governments and District and Local Level Government administrations and Members of Parliament of the project goals, activities and implementation. Coordinate with local agencies on the provision of social services to communities associated with sub-projects.
- e. Develop and support grievance dispute mechanisms with communities associated with sub-projects.

20. **Field Project Manager – HRMG (national, 26 person-months)**

- a. Ensure efficient management and operations of all field work connected to Program in the assigned Provinces
- b. Establish cordial relationship with the Provincial Administrations and liaise with relevant officials prior to project commencement and during project implementation with matters related to land acquisition, road construction material purchase etc.
- c. Ensure that the community relations officers carry out effective awareness programs for the relevant road side communities
- d. Ensure land acquisition processes are completed prior to the contract commencement
- e. Assist the Program Support Consulting Team and the Project Director during Tender preparation, Procurement, Tender Evaluation, and Contract Management
- f. In consultation with the Consultant Team Leader arrange survey and soil investigation teams for the selected sub projects and ensure smooth and timely progress of the required tasks
- g. Ensure admin and supervision funds are managed efficiently and effectively in the assigned provinces
- h. Assist the Project Director(DOW) in resolving technical and administrative issues affecting the progress of the project
- i. Proactively identify, evaluate and manage potential risks threatening the success of the project and recommend cost effective methods and solutions to the Project Director
- j. Compile monthly and quarterly progress reports as required in the Loan agreement with the assistance of the Consulting Team leader
- k. Assist various senior officials including those from the Asian Development Bank visiting the Projects to review the progress

21. **QA/QC Manager – HRMG (national, 26 person-months)**

- a. Provide assistance to the Contractor in establishing Construction camps, housing, burrow pits and quarries, and storage for materials, equipment etc.
- b. Ensure adequate measures are taken to maintain regular testing procedures and systems in order to maintain highest standards of quality in construction and provide supervision for post construction testing.
- c. To ascertain the properties of materials needed for construction of various phases in conformance with all aspects of the Contract.
- d. To promote the use of improved methods for drainage problems and drainage structures.
- e. Identify Erosion Management Technique, develop erosion monitoring programs including rehabilitation measures and re-vegetation in order to minimize disturbances to topsoil by construction, transport, storage etc.

- f. In consultation with the community relations officers, assist to identify and implement measures to improve community relations, and minimize the risk of obstruction or disruption to the works
22. **Project Engineer – HQ/HRMG(4 nationals, 26 person-months; 2 nationals, 24 person-months)**
- a. To provide Quantity Surveying and Estimating for the HRRIP and BRIRAP projects
 - b. To provide Quality Assurance Planning advice for the HRRIP and BRIRAP projects.
 - c. Review Engineer's certification to ensure the certification is correct before preparing withdrawal applications to draw down the loans and GoPNG funds.
 - d. To provide Contract Management advice and conduct audit works upon disagreements between Employer and Contractor.
 - e. Adopt to the internal processes for project approvals and reduce time getting approvals
 - f. Working with the Engineer to maintain Quality of Works in accordance with Contract Specifications
 - g. Supporting Project Director in administering the Contract Management of the Contracts
 - h. Assist Environmental Specialists and Social Safeguard Specialist to resolve issue during implementation of works
 - i. Prepare the Project Budget for the ADB roads (HRRIP) and bridges (BRIRAP) Project on quarterly basis – outlining the Resettlement Plans implementation budget, Civil Works, and Operational Budget, and prepare accounting documents and reports for the Project Director management and other stakeholders
23. **Senior Accountant – HRMG (national, 26 person-months)**
- a. Reporting to the Project Director on a monthly basis on project expenses
 - b. Preparation of monthly financial reports, create and maintain individual ledger Accounts for sub-projects
 - c. Coordinate with Provincial accountants in the five Highlands Provinces and NRA and ensure disbursements and monthly Bank reconciliations are submitted timely.
 - d. Maintenance of the respective asset registers in the Head Quarters and the Provinces
 - e. Ensure efficient management and operations, assist during the preparation of the annual budgets and its implementation
24. **Project Accountants – HQ (2 nationals, 26 person-months)**
- a. Coordinate and liaise with ADB and Department of Treasury for the withdrawal applications and draw down of financing from the National Budget.
 - b. Attend meetings and prepare written communication with to Secretary DoW through PD and FAS Budget
 - c. Perform general accounting functions, including the maintenance of Contractor's Subsidiary Accounts
 - d. Provide Advice (in liaison with PwC and IPBC) on GST, and Foreign Contractor Taxes to Contractors. Attend meetings and prepare written communication with Contractors when issues arise relating to the GST and Foreign Contractor taxes as required
 - e. Review and certify or endorse submissions and requests in line with the approved delegation of authority, Purchase Order Requests and Petty Cash Requisitions, to

- the Project Director or for FAS Finance and Budget for Secretary DoW's final approval.
- f. Perform general accounting procedures involving -
 - g. Journal entries (Monthly)
25. **Finance and Administration Officer – HRMG (national, 26 person-months)**
- a. Provide general administrative support to the Office of the Project Director (ADB Projects). And maintaining a effective and efficient administration and clerical duties.
 - b. To provide Administrative support to the superior to ensure tasks are implemented timely.
 - c. To oversee and do all administrative jobs in relation to Bridge Replacement for Improved Rural Access Program.
26. **Senior Environment Officer – HQ (national, 26 person-months)**
- a. Provide and coordinate advisory service to DoW on all environmental safeguards issues in dealing with roads and bridges projects in the country
 - b. Provide guidance and leadership in the preparation of donor safeguard (environment) requirements on all infrastructure projects in the country
 - c. Reviewing and updating of DoW's Guidelines for the Environmental Assessment of Road and Bridge Infrastructure Projects for inclusion in bidding documents
 - d. Provide inputs to incorporate environmental concerns and requirements into bidding documents
 - e. Developing , supervising and monitoring all DoW implemented projects in compliance with environmental requirements particularly the Environment Act 2000 and other donor requirements
 - f. Finalizing Investigation of claims for environmental damages arising from roads and bridges construction projects
 - g. Representing DoW in all inter-governmental committees dealing with environmental aspects (inclusive of safeguards) of the environment
 - h. Advising and building the capacity of DoW for environment management
 - i. Providing sound training and education on principles and application of environment management for DoW 's staff and contractors in the infrastructure sector
 - j. Develop and up-date training material on environmental issues with regard to all infrastructure projects and programs in the country
 - k. Develop and maintain an environment database
27. **Environmental Officer – HQ/HRMG (3 nationals, 26 person-months; 2 nationals, 24 person-months)**
- a. Contribute to advice to DoW on all environment issues in dealing with roads and bridges projects in the country
 - b. Contribute to the preparation of donor safeguard requirements on all infrastructure projects in the country
 - c. Provide inputs to review and update DoW's Guidelines for the Environmental Assessment of Road and Bridge Infrastructure Projects with regard to the inclusion of relevant environmental issues for inclusion in bidding documents
 - d. Supervising and monitoring all DoW implemented projects in compliance with environment requirements particularly the Environment Act 2000 and other donor requirements
 - e. Providing environment inputs into Investigation of claims for environmental damages arising from roads and bridges construction projects

- f. In the absence of senior environment officer, represent DoW in all inter-governmental committees dealing with environment aspects
 - g. Advising and building the capacity of DoW for environment management
 - h. Providing sound training and education on principles and application of environment management for DoW 's staff and contractors in the infrastructure sector
 - i. Develop and up-date training material on environment with regard to all infrastructure projects and programs in the country
 - j. Provide inputs to the environmental database on aspects of road and bridge activities
28. **Senior Social Safeguard Officer – HQ (national, 26 person-months)**
- a. Take responsibility for and working with other staff in the revision and up-dating of DOW's Guidelines for the Assessment of Roads and Bridge Infrastructure projects in the country
 - b. Provide guidance with regard to social issues including donor safeguard requirements on all infrastructure projects in the country
 - c. Assist prepare social management specifications and standards of all infrastructure projects for inclusion in bidding documents
 - d. Developing and supervising all DoW implemented projects in compliance with social requirements particularly the Environment Act 2000
 - e. Developing, monitoring and supervising all DoW implemented projects for compliance in social requirements
 - f. Preparation of social safeguards monitoring reports and the review of relevant reports submitted by other agencies
 - g. Assist investigating social aspects of claims for environmental damages arising from roads and bridges construction projects
 - h. Contribute to capacity building of DoW for social management of infrastructure development activities
 - i. Assist Coordinator to plan and deliver training and education to DoW staff and contractors with regard to social issues of the infrastructure sector
 - j. Work with other staff to establish and manage a database on social aspects of infrastructure development
29. **Safeguard Coordinator – HRMG (national, 26 person-months; national, 24 person-months)**
- a. Plan and coordinate safeguards implementation, monitoring and reporting in respect of all project roads.
 - b. Provide guidance and assistance to all Environmental Officers (EO) and Community Relations Officers (CROs) deployed in project sites and in Mount Hagen;
 - c. Prepare all reports but not limited to progress reports, safeguards reports and compliance monitoring reports;
 - d. Establish a database covering all safeguards operations for all roads under the program;
 - e. Supervision of all EOs, CROs and other staff deployed to undertake safeguards operations in the Highlands Region;
 - f. Assist conduct surveys and studies as directed by the International Safeguards Specialist (ISS);
 - g. Assist conduct social and environment-related training to project and contractor staff in close consultation with ISS;
 - h. Work with project staff, advisors and contractors in the preparation and monitoring of CEMP;

- i. Plan and conduct awareness and training to community members on relevant issues;
 - j. Maintain documentation on all safeguards-related activities and up-date as required;
 - k. Work with safeguards monitoring teams (environment and social) and preparation of reports and submit to ISS for advice and approval;
 - l. Conduct field visits and prepare reports on specific aspects as directed by the ISS;
 - m. Any other task as assigned by the ISS
30. **Community Relations Officer – HRMG (4 nationals, 26 person-months; 4 nationals, 24 person-months)**
- a. Develop good relations with the community in the assigned place of work;
 - b. Plan, conduct and document community meetings and discussions;
 - c. Plan and deliver in-kind assistance to the community in affected areas as directed by the Senior Coordinator;
 - d. Assist in the preparation of Resettlement Plans, Resettlement Completion reports and up-dating of reports for all subprojects as directed;
 - e. Assist conduct social development and safeguards -related training to community and others;
 - f. Assist conduct field studies, data collection and data processing;
 - g. Assess grievances and collect relevant data;
 - h. Collect copies of various documents from the community and store them securely before delivery to the Senior Coordinator based in Mount Hagen;
 - i. Conduct lectures on social safeguards to community including schools, health centres and others as required;
 - j. Work with social safeguards monitoring team based in the Highlands Region to deliver all outputs;
 - k. Conduct field visits to undertake various project-related activities as directed ;
 - l. Work closely with the project staff and Grievance Redress Committees in managing project-related grievances. The CRO is expected to collect and deliver all reports and meeting minutes as required;
 - m. Any other task as assigned by the Senior Coordinator
31. **Surveyor – HRMG (national, 26 person-months; national, 24 person-months)**
- a. Execute necessary field surveys to demarcate boundaries for construction limits as per the approved drawings.
 - b. Carry out acquisition surveys as determined by the construction limits.
32. **Graduate Engineer – HRMG (4 nationals, 26 person-months; 2 nationals, 24 person-months)**
- a. To carry out various tasks assigned by the Senior Project Coordinator/Project Director/Project Implementation Manager(NRA)/Field Project Manager from time to time and facilitate implementation tasks of the project
 - b. To undergo relevant training for career development under the various training programs outlined in the Program Support Consultancy Contract
 - c. To perform the role of a counterpart for expatriate advisors/consultants and participate in their under-study programs effectively

3. CAPACITY BUILDING

A. Road Traffic Authority

33. Road Safety Specialist (international, 9 person-months). The international road safety specialist will possess a master's degree or equivalent in transport with an emphasis on road safety, and at least 10 years of experience in road crash databases, road safety audits, and blackspot programs. The expert will preferably have experience in the Pacific with a focus on rural roads.

- i. Provide strategic management advice and support on road safety to the Chief Executive Officer (CEO), Road Traffic Authority (RTA) and the agency's senior Management or other designated staff;
- j. In collaboration with designated RTA staff;
 - o Undertake consultations with relevant stakeholders within the highlands region to identify and document road safety issues and concerns;
 - o Using the findings as well as the Road Safety Discussion Paper (developed under the Transport Sector Support Program by AusAID) devise options for the way forward;
- k. Assist RTA with planning a Road Safety Strategy;
- l. Assist and support RTA on the development or upgrading of the accident database;
- m. Assist in standardizing accident data analyzing, reporting and dissemination;
- n. Assist with the development, implementation and reporting on the results of road safety audits (preferably on the HCRN);
- o. Identify and implement appropriate capacity building strategies for counterpart staff/groups (example police) including the provision of on-the-job training, workshops, mentoring and coaching as well as monitor, evaluate and report on capacity building progress.

APPENDIX 3: TIMELINE FOR MAJOR SAFEGUARDS ACTIVITIES

STAGES OF PROJECT PREPARATION	Road selection	Draft PFR with draft IEE and RP	Fact-Finding mission	ADB management meeting	CSRN/Pre-bidding	ADB approval / Contract award	Contractor mobilization	During construction
ACTIVITIES TO COMPLETE								
RESETTLEMENT								
I. Road Selection and Preparation of Resettlement Plans								
a. Confirmation that the proposed works cause no significant displacement of residential structures or other permanent structures (not more than 200 or more persons will experience major impacts, which are defined as (i) being physically displaced from housing, or (ii) losing 10% or more of their productive (income generating) assets).								
b. Confirmation that the candidate road is on State-owned land (as per the Land Act), or there is a negotiated agreement (MOA) with affected communities and landowners to use customary land. MOAs to also identify assets to be potentially removed and therefore compensated.								
c. Conduct social impact assessment in candidate roads to gather initial socio-economic baseline information of affected persons and nature and magnitude of land acquisition impact, if any, and confirmation if there are vulnerable groups which will be affected. Extensive consultation with affected persons and key stakeholders undertaken.								
d. Preparation of resettlement plan according to the approved resettlement framework. When third party validation ¹ has been undertaken should be included in the resettlement plan.								
e. Government's disclosure of resettlement plans to affected persons and general public.								
f. ADB posting of government-endorsed resettlement plan on its website prior to management meeting.								
II. Update Resettlement Plans								
a. If applicable, set cut-off date and disseminate to project areas (normally determined by the Government's existing procedure but could alternatively the date of the completion of census or DMS)								
b. Conduct DMS based on detailed engineering design and demarcation of land to be acquired. Conduct census and inventory of assets. Additional social impact assessment if there are unanticipated impacts.								
c. Third-party validation , where necessary, completed for use of customary land negotiated through a MOA with the community leaders and affected landowners; report submitted to ADB.								
d. Revise/update the resettlement plan including revision of resettlement budget based on status of livelihood restoration activities and validation of the plan and actual compensation.								
e. Present updated RPs to APs and other stakeholders in a public meeting.								
f. Government-endorsed RPs cleared by ADB and disclosed on ADB website.								
III. RP Implementation								
a. Recruitment of (i) supervision consultants including safeguards specialists to support DOW, provincial/local governments, and the contractors in the finalization and implementation of various safeguards documents and plans, (ii) IMO to conduct external monitoring, and (iii) third-party validator .								
b. Pay compensation to all eligible economically and physically displaced persons, including provision of in-kind compensation (e.g. community works) before clearance of land and start of civil works. With consent from landowners, With consent from landowners, contractor mobilization may occur contractor mobilization may occur in cases of partial payment of the subproject but no works may begin on unpaid sections of that subproject. Must not begin until IMO is recruited.								
c. Establish a comprehensive income and livelihood restoration program in accordance with the RP and implement during construction or earlier								
d. Internal monitoring of all activities associated with land acquisition and compensation payment to APs.								
e. IMO oversees resettlement process (i.e. payments, third-party validation and internal monitoring) and outcomes (i.e. whether APs have been able to restore, and preferably improve their pre-project living standards, incomes, and productive capacity, identify corrective measures required).								

ACTIVITIES TO COMPLETE	STAGES OF PROJECT PREPARATION							During construction
	Road selection	Draft PFR with draft IEE and RP	Fact-Finding mission	ADB management meeting	CSRN/Pre-bidding	ADB approval / Contract award	Contractor mobilization	
f. Qualified APs given priority for employment by contractors for civil works and/or maintenance works.								
g. Coordinate safeguards requirements with civil works contractors to ensure measures are taken to complete the civil works in an efficient manner.								
ENVIRONMENT								
I. Selection								
a. Confirmation that the candidate road and the works to upgrade, rehabilitate and maintain do not endanger or provide access to at-risk fauna or flora ; supported by site specific studies, maps etc.								
b. Confirmation that the candidate road and the works to upgrade, rehabilitate and maintain have <i>no other significant adverse environmental impacts</i> .								
II. Preparation								
a. IEE prepared for each subproject each including a <i>site-specific EMP</i> for mitigating measures to avoid or reduce impacts of proposed works.								
b. IEEs cleared by ADB and DOW-EMU. Verify no clearances required from CEPA. Disclose IEEs on ADB website.								
III. Pre-construction								
a. Recruit supervision consultants including safeguards specialists that are providing support to DOW, provincial/local governments, and the contractors in the finalization and implementation of various safeguards documents and plans.								
b. EMP from approved IEE is updated by supervision consultants, as required, and integrated into civil works construction contracts. EMP section of contracts to incorporate the general environmental safeguards and practices, modified specific to each subproject to ensure that all special or particular safeguard requirements and mitigation measures, recommended in the EMP provisions based on detailed design, are incorporated within the contract of each subproject.								
c. HRMG or the supervision consultants provide the contractor with induction training on environmental management.								
d. Contractor prepares CEMP including mitigation and monitoring measures stipulated in the contract (as adapted from the IEE/EMP).								
e. HRMG and the supervision consultants review and approve the contractor's CEMP.								
f. Additional assessments undertaken, as required, to support application for environmental permits obtained from the CEPA, including permits and clearances for any quarry development or materials extraction, etc.								
IV. Construction								
a. Contractor strictly implements the approved CEMP , including any quarry management plans and employs the best engineering practices in the works to eliminate or adequately mitigate the adverse impacts that will accrue from the implementation of the works.								
b. Contractor includes compliance with CEMP in monthly reports.								
c. Supervision consultants and DOW undertake internal monitoring (every 2 months) and include reports in quarterly progress reports from supervision consultants to ADB and DOW. Semi-annual safeguards monitoring reports submitted and disclosed on ADB website.								

= hard deadline for completion

Note: ¹Third-party validation: verify that the donation is in fact voluntary and did not result from coercion, using verbal and written records and confirmation through consultations by an independent third party such as a designated nongovernmental organization or legal authority. The third-party validator is not the IMO.

AP = affected person; CEMP = construction EMP; CEPA = Conservation Environment Protection Authority; DEC = Department of Environment and Conservation; DMS = Detailed measurement survey; DOW-EMU = DOW environment management unit; EMP = environment management plan; HRMG = Highlands Road Management Group; IEE = initial environmental examination; IMO = independent monitoring organization; MOA = Memorandum of Agreement; RF = resettlement framework; RP = resettlement plan

Sources: HRRIP Project 2 – Resettlement Framework and Environmental Assessment and Review Framework and Loan Agreement

APPENDIX 4: SAFEGUARDS MONITORING CHECKLISTS

Checklist for Safeguard Supervision/Monitoring (Environment)

PARD Safeguards Implementation Checklist: Environment									
Date: _____									
PROJECT INFORMATION									
Loan/Grant No.: _____		Project Name: _____							
Approval Date: _____			Closing Date: _____			Cumulative Progress (%): _____			
Project Team Leader(s): _____						Implementing Agency: _____			
1) Categorization									
(Original)		A		B		C		FI	
(additional financing, if any)		A		B		C		FI	
<i>(Please complete the following sections if the project has been categorized as A, B or FI)</i>									
2) Planning									
Documents:		EARF	<input type="checkbox"/>	IEE/EIA	<input type="checkbox"/>	No. of IEE/EIA	_____	EMP	<input type="checkbox"/>
IEE/EIA Disclosed and Posted on ADB Website:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
EMP Finalized or Updated after Detailed Design:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
CEMP submitted, reviewed and approved:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
(Attach a list of subprojects and status if necessary.)									
3) Institutional Setup									
PIU/PMU Environment Staff Assigned:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
		If yes, Name: _____				Since: _____ / _____		(month) (year)	
Environmental Specialist/Consultant Mobilized:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
		If yes, National Specialist's Name: _____				Since: _____ / _____		(month) (year)	
		If yes, International Specialist's Name: _____				Since: _____ / _____		(month) (year)	
Participation of Gov. Environment Agency/Division:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
		If yes, Name: _____				Since: _____ / _____		(month) (year)	
Grievance Redress Mechanism Established:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, why?		_____	
Allocation of Government Budget:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
		If yes, amount\$: _____							
4) Monitoring and Reports									
Internal Monitoring System Established:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
Compliance monitoring incorp. into Q Progress Reports:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
External Monitor Engaged (if needed):		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
		If yes, Name: _____				Since: _____ / _____		(month) (year)	
Monitoring Report Submitted to ADB:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
If Yes, provide information below									
	Baseline Report	Report 1	Report 2	Report 3	Report 4				
Submission Date (m/yr)									
ADB Review Date (m/yr)									
Web-posting Date (m/yr)									
Name of ADB Reviewer									
5) Field Review with Participation of Safeguard Specialist/Officer/Staff Consultant									
		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?		_____	
If Yes, provide information below									
Mission Date (m/yr)									
Type of mission:									
Participants (safeguard specialist/officer/staff consultants)									

List of key covenants in loan and project agreement

*Note: Yes ; No; Not yet due									
Overall safeguard rating (e-Operation):									
S = Satisfactory; PS = Partly Satisfactory; US = Unsatisfactory									

[illegible]

Item		Description
1	Issue	
	Proposed Action(s)	
	Follow-up Issues/Actions	
	Final Resolution of Issue	
2	Issue	
	Proposed Action(s)	
	Follow-up Issues/Actions	
	Final Resolution of Issue	

To: Sector Director/Country Director
cc: Project Team Leader, PARD Safeguard Specialist

Follow Karmawork, CC – Safeguard Specialists.

Suggested Outline of Quarterly Monitoring Report – Environment

Heading/Section	Contents
Introduction	Brief background on the project and subproject; Institutional arrangements for project management and environmental management;
Monitoring Activities	Who participated in the monitoring; Methodology for monitoring (whether checklists prepared etc); When the monitoring was undertaken and what period it covers; Summary of other monitoring undertaken in the period (i.e. from contractor's monthly reports and if any survey/sample monitoring undertaken); Main activities – observations/inspections, consultations, interviews with contractor staff etc
Works in Progress	Details of the works being undertaken, (with photographs); Include whether any environmental training/awareness has been provided to contractor staff in the period (what, by whom etc)
Monitoring Results and Actions Required	Whether works and measures comply with the approved EMP/CEMP; Should follow sequence of items identified in EMP/CEMP and verify that all mitigations measures noted are being implemented; Corrective actions cited (date to be resolved and person responsible on contractor team and verification by IA/HRMG)
Summary and Conclusions	Summary of main findings; Main issues identified and corrective actions noted; Can include summary table which can be updated each period to track completion of actions required
Attachments	Monitoring checklist (based on items identified in the EMP/CEMP) refer annex 1 Additional photographs Additional information as required

Checklist for Safeguard Supervision: Involuntary Resettlement

PROJECT INFORMATION									
Loan/Grant No.:		Project Name:							
Approval Date:				Closing Date:				Cumulative Progress (%):	
Project Team Leader(s):									
1) Resettlement Categorization									
(Original)		A	<input type="checkbox"/>	B	<input type="checkbox"/>	C	<input type="checkbox"/>	FI	<input type="checkbox"/>
(additional financing, if any)		A	<input type="checkbox"/>	B	<input type="checkbox"/>	C	<input type="checkbox"/>	FI	<input type="checkbox"/>
<i>(Please complete the following sections if the project has been categorized as A, B or FI involving land acquisition/resettlement issues)</i>									
2) Resettlement Planning									
Resettlement Planning Documents:		RF	<input type="checkbox"/>	RP	<input type="checkbox"/>	Number of RPs			ESMS <input type="checkbox"/>
RP Finalized or Updated after Detailed Design:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
<small>(Attach a list of subprojects and status if necessary.)</small>									
Final/Updated RP Cleared by ADB and Posted on ADB Website		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
Compensation Rate Approved by the Govt:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
3) Institutional Setup for Resettlement									
PIU/PMU Resettlement Staff Assigned:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
				If yes, Name:				Since: / (month) (year)	
Resettlement Specialist Consultant Mobilized:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
				If yes, Name:				Since: / (month) (year)	
Grievance Redress Mechanism Established:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, why?			
Allocation of Government Budget:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
				If yes, amount\$:					
4) Resettlement Monitoring and Reports									
Internal Monitoring System Established:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
External Monitor Engaged (if needed):		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
				If yes, Name:				Since: / (month) (year)	
Monitoring Report Submitted to ADB:		Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	If no, actions?			
If Yes, provide information below									
	Baseline Report	Report 1	Report 2	Report 3	Report 4				
Submission Date (m/yr)									
ADB Review Date (m/yr)									
Web-posting Date (m/yr)									

Suggested Contents of Resettlement Monitoring Report

Heading/Section	Contents
Introduction	<p>Brief background on the project/subproject and progress status</p> <p>The project's category and planning documents (original, updated or new plans) on resettlement impacts</p> <p>Institutional arrangements and budget allocation for resettlement/social management;</p> <p>Arrangement for the monitoring</p>
Monitoring Activities	<p>Methodology for monitoring (whether checklists prepared etc);</p> <p>What period the monitoring covers</p> <p>Main activities – site visits, consultations, survey etc</p>
Monitoring Results and Actions Required	<p>Progress and performance in implementation of RPs and other programs (how their were implemented, what are the outputs, etc)</p> <p>Results on consultations, disclosure and grievance redress (whether they have been effective, level of satisfaction of APs with various aspects of the RP, public awareness of the compensation policy and entitlements will be assessed among APs.)</p> <p>Whether the implementation comply with the approved RPs (e.g. whether compensation rates were at replacement cost, full payment made to all APs sufficiently before land acquisition; prompt attention to unforeseen damages or losses, to ensure APs are fully compensated for losses)</p> <p>)</p> <p>Results on outcome (whether APs were able to restore livelihoods and productive activities)</p> <p>Compliance on monitoring and disclosure (whether reports have been submitted, posted on website)</p> <p>Whether any issues and corrective measures identified to achieve the RP objective. If yes, actions with target dates and responsible agency/person)</p> <p>Follow-up item/plan for next report</p>
Summary and Conclusions	<p>Summary of main findings;</p> <p>Main issues identified and corrective actions noted;</p> <p>A table on follow-up action which can be updated each period to track completion of actions required including progress of the follow-up of problems and issues identified in the previous report</p>
Attachments	<p>Monitoring checklist (based on items identified in the RPs)</p> <p>Photographs</p> <p>Additional information as required</p>