



## Project Administration Memorandum

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Project Number: 32124-02  
Loan Number: 2242/2243-PNG  
June 2006

# PNG: ROAD MAINTENANCE AND UPGRADING (SECTOR) PROJECT – SUPPLEMENTARY LOANS

The project administration memorandum is an active document, progressively updated and revised as necessary, particularly following any changes in project or program costs, scope, or implementation arrangements. This document, however, may not reflect the latest project or program changes.

Asian Development Bank

## PREAMBLE

The **Project Administration Memorandum (PAM)** is a guide to the Borrower, Implementation Agency and other Donors on the administration requirements of Asian Development Bank (ADB). The PAM provides concise and detail aspects of project implementation as follows;

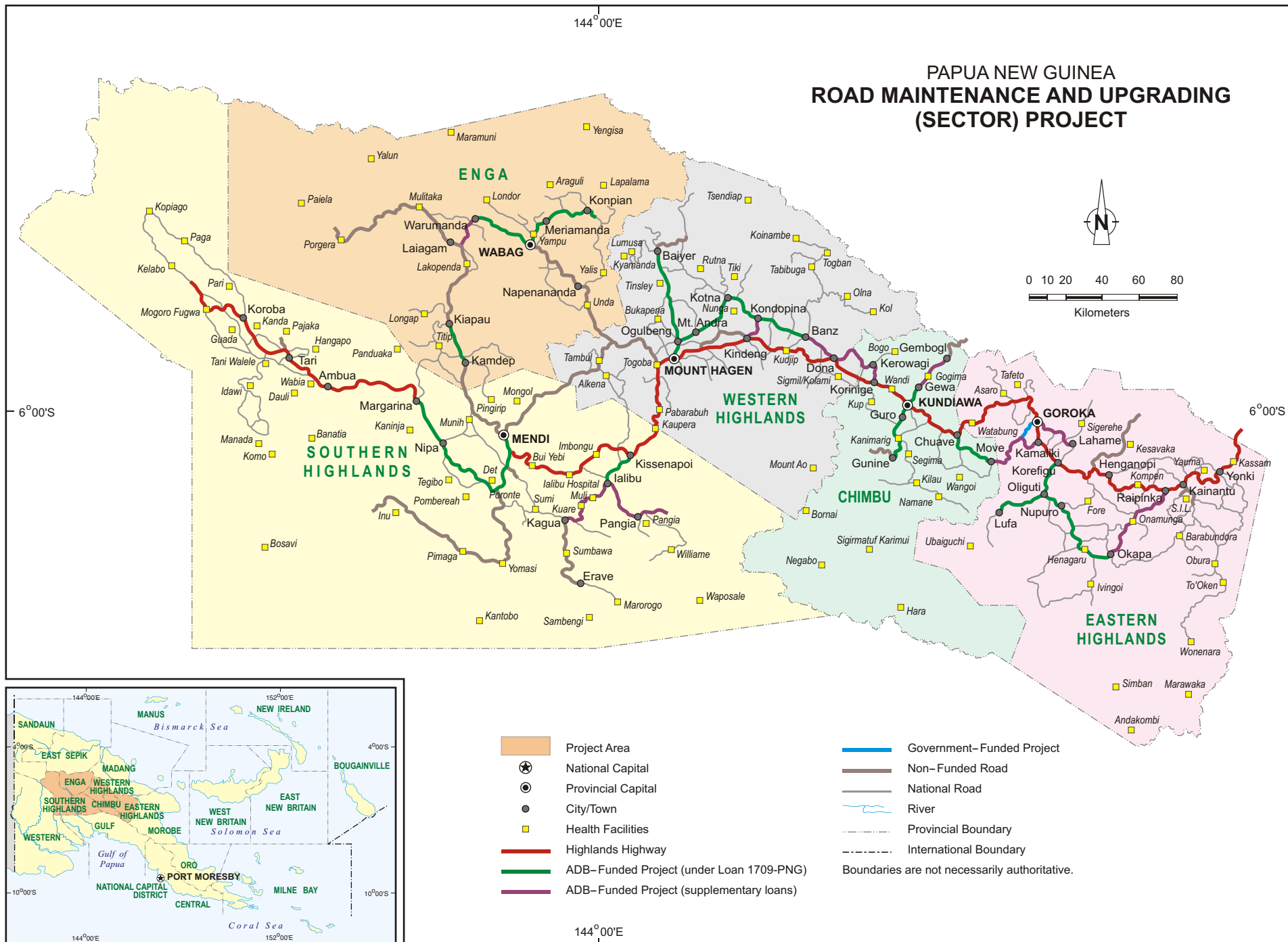
- specifies roles and responsibilities of the EA, implementing agency, consultants, and ADB for the various actions required for satisfactory project implementation;
- contains a logical framework, including subsequent revisions that confirm the goal, purpose, outputs, activities, inputs, targets, indicators, key assumptions, and risks;
- provides a framework and checklist for monitoring progress to allow remedial actions and midstream modifications to meet project objectives;
- promotes systematic monitoring and evaluation of project objectives, and assessment of impacts on project beneficiaries through surveys, studies, and periodic and midterm reviews;
- provides the format and instructions for the EA and implementing agency to periodically update the project performance report in its current revised format; and
- references ADB's Anticorruption Policy, indicating how ADB may be contacted about allegations of corruption and fraud.

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## SECTION 2: PROJECT SUMMARY

### A. ADB Processing Activities

a.	Fact-Finding	26 Feb. – 13 Mar 2006
b.	MRM	31 Mar 2006
c.	Appraisal Mission	Not required
d.	SRC Meeting	11 May 2006
e.	Loan Negotiations	1-2 June 2006
f.	Board Approval	29 June 2006
g.	Loan Signing	-
h.	Loan Effectiveness	-
i.	Loan Closing Date	30 June 2010

### B. Amount and Terms of Loan in ADB

a.	Loan Amount	\$15.0 million
b.	Terms	32 years
c.	Percent of Commitment Charge	1% and 1.5%
d.	Grace Period	8 years

### C. Amount and Terms of Loan in OCR

a.	Loan Amount	\$35.0 million
b.	Terms	24 years
c.	Percent of Commitment Charge	0.75%
d.	Grace Period	4 years

## SECTION 3: PROJECT DESCRIPTION

### A. Project Area and Location

1. The Project covers 5 highlands provinces of Papua New Guinea (PNG): Chimbu, Eastern Highlands, Enga, Southern Highlands, and Western Highlands.

### B. Objectives

2. The Project aims to (i) improve road access for the private businesses and communities, (ii) reduce their travel costs and time to major commercial and service centers, and (iii) enable them to tap economic and social opportunities in the Highlands provinces. It supports the Government's efforts to enhance export-led economic growth, generate income for local communities, and reduce poverty.

### C. Project Scope

3. The Project will provide financing for (i) additional upgrading<sup>1</sup> and rehabilitation of road sections corresponding to the 11 subprojects, with a total length of 270 km in the five Highlands provinces, and (ii) related consulting services for detailed engineering design, preconstruction activities, construction supervision, project performance monitoring and evaluation, and training on road maintenance, road safety, and STI/HIV/AIDS prevention. The names of the provinces, road sections, types of treatment, and length are shown in Table 1.

**Table 1: Road Sections**

Province	Road Section	Length (km)	Treatment
Eastern Highlands	Okapa–Raipinka	51	Rehabilitation
	Kamaliki–Move	34	Rehabilitation
	Goroka–Lahame	13	Upgrading
Western Highlands	Kindeng–Kondopina	11	Upgrading
	Banz–Dona	19	Upgrading
Chimbu	Gewa–Gembogl	21	Rehabilitation
	Kerowagi–Dona	29	Rehabilitation
	Korinige–Kerowagi	7	Upgrading
Enga	Warumanda–Laiagam	31	Upgrading
Southern Highlands	Ialibu–Kagua	32	Rehabilitation
	Ialibu–Pangia	22	Rehabilitation

km = kilometer

Source: Asian Development Bank.

<sup>1</sup> Upgrading means sealing, without widening and realigning the road.



## SECTION 4: DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<b>Impact</b> Increased economic activity and social improvement	Increased trading activity for villagers in the corridors of influence  Increased freight traffic  Increased visits to health facilities in major town centers by villagers in the corridors of influence, particularly by women  Improved income and health indicators  Increased school enrollment	Government reports  Socioeconomic monitoring reports	<b>Assumptions</b> Favorable weather conditions  Favorable international commodity prices  Agricultural services delivered  Highlands Highway rehabilitated and maintained  Adequate health and education services in city centers
<b>Outcome</b> Improved rural access to market centers	Growth in informal transport services  Change in farm gate prices  Reduction in travel time  Change in livelihood patterns	Socioeconomic monitoring reports	<b>Assumption</b> Local business sector and communities respond to improved road conditions
<b>Outputs</b>  1. Improved road conditions for villagers and businessmen to access market opportunities, social services, and imported daily necessities  2. Baseline data and performance monitoring and evaluation system for the Project established  3. Socioeconomic impacts of the Project assessed	1.1 Reduced roughness on 270 kilometer (km) roads to 6 m/km by end 2009  1.2 Reduced vehicle operating cost starting in 2010  1.3 Increased frequency of public transport services  1.4 Imported foodstuffs and household consumables more reliably available  2.1 Consultant recruited and fielded from 2007 to 2010  2.2 Baseline data for the 11 roads  3.1 Socioeconomic impact assessment results	Road condition survey  Sample surveys of vehicle operators/owners  Project progress and completion reports  Consultants' reports	<b>Assumptions</b> No interruptions from force majeure  Timely provision of counterpart funds  Crime under control  Low staff turnover in international consulting team and Highlands Region Maintenance Group

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<b>Activities with Milestones</b> <ol style="list-style-type: none"> <li>1. Prepare technical design and bidding documents, undertake bidding processes, and award contracts from April 2007.</li> <li>2. Commence civil works in the second quarter of 2007.</li> <li>3. Upgrade and rehabilitate 270 km of roads by December 2009.</li> <li>4. Provide training to local counterpart staff on road design, preparation of bidding documents, contract administration, construction supervision, and quality control from January 2006 to December 2009.</li> <li>5. Monitor performance and socioeconomic impacts of the Project.</li> </ol>			<b>Inputs</b> ADB: \$18 million ADF loan \$35 million OCR loan; <ul style="list-style-type: none"> <li>• Civil works (\$42.58 million)</li> <li>• Consulting services (\$3.21 million)</li> <li>• Contingencies (\$7.21 million)</li> </ul> Government: \$25.07 million <ul style="list-style-type: none"> <li>• Civil Works</li> <li>• Consulting services</li> <li>• Contingencies</li> <li>• Financial charges on ADB loans</li> </ul> <b>Beneficiaries</b> <ul style="list-style-type: none"> <li>• Government, private sector, villagers, vehicle operators and/or owners, and international and domestic nongovernment organizations</li> </ul>

ADB = Asian Development Bank, ADF = Asian Development Fund, OCR = ordinary capital resources.

## SECTION 5: COST ESTIMATES AND FINANCING PLAN

### A. Cost Estimates

1. The total cost of the proposed subprojects is estimated at \$78.07 million equivalent. Cost estimates for the proposed subprojects are summarized in Table 1 below and detailed in Annex 1 of Section 5.

**Table 1: Cost Estimates for Proposed Subprojects**  
(\$ million)

Item	Total Cost
<b>A. Base Cost</b>	
1. Civil Works	<b>53.25</b>
<b>B. Consulting Services</b>	<b>10.43</b>
1. Engineering Design, Preconstruction Activities, Construction Supervision, Performance Monitoring and Evaluation, and Training on Road Main & Safety, and STI/HIV/AIDS Prevention	3.21
2. Project Design	2.66
3. Construction Supervision	4.26
4. Financial Auditing	0.06
5. Training on Road Main, Safety, and STI/HIV/AIDS	0.24
<b>C. Contingencies</b>	<b>9.99</b>
1. Physical Contingencies	5.32
2. Price Contingencies	4.67
<b>Subtotal (A+B+C)</b>	<b>73.67</b>
<b>D. Interest during Construction and Commitment Charge</b>	<b>4.40</b>
<b>Total</b>	<b>78.07</b>

Source: Asian Development Bank estimates.

### B. Financing Plan

2. ADB will finance 68% of the total cost of the additional road subprojects in the Project, while the Government will provide \$25.07 million equivalent to finance the remaining cost.<sup>1</sup> The financing plan is summarized in Table 2 and detailed in Annex 2 of Section 5.

**Table 2: Financing Plan for Proposed Subprojects**  
(\$ million)

Source	Total Cost	Percentage
Asian Development Bank	53.00	68
OCR	35.00	45
ADF	18.00	23
Government	25.07	32
<b>Total</b>	<b>78.07</b>	<b>100</b>

ADF = Asian Development Fund, OCR = ordinary capital resources.

Source: Asian Development Bank estimates.

### C. Allocation of Loan Proceeds

3. ADF and OCR loans will be disbursed on a pro rata basis as shown in Table 3 below:

<sup>1</sup> Budgeted in the Government's development budget as a separate line item. The Government has provided counterpart funding for Loan 1709-PNG. With its improved financial position, the Government is willing and able to provide the counterpart funding for the supplementary financing subprojects.

**Table 3: ADF and OCR Loans Financing Arrangement**  
(\$ million)

<b>Item</b>	<b>Loan Allocation</b>	<b>ADF</b>	<b>OCR</b>	<b>ADF Financing Percentage</b>	<b>OCR Financing Percentage</b>
1. Civil Works	42.58	14.46	28.12	27	53
2. Consulting Services	3.21	1.09	2.12	34	66
3. Contingencies	7.21	2.45	4.76		
<b>Total</b>	<b>53.00</b>	<b>18.00</b>	<b>35.00</b>		

ADF = Asian Development Fund, OCR = ordinary capital resources

Sources: Asian Development Bank estimates.

## COST ESTIMATES AND FINANCING PLAN

Item	A Foreign Exchange (K mn)	B Foreign Exchange (\$ mn)	C Local Currency (K mn)	D Foreign Exchange (\$ mn)	E Total (E=A+C) (K mn)	F Total (F=B+D) (\$ mn)	Govt. (K mn)	Govt. (\$ mn)	ADB (K mn)	ADB (\$ mn)
<b>A. Base Cost<sup>a</sup></b>										
1. Civil Works										
a. Okapa–Raipinka	12.89	4.16	7.57	2.44	20.46	6.60	4.09	1.32	16.37	5.28
b. Goroka–Lahame	6.31	2.03	3.71	1.20	10.02	3.23	2.00	0.64	8.02	2.59
c. Kamaliki–Move	10.74	3.46	6.31	2.04	17.05	5.50	3.41	1.11	13.64	4.39
d. Kindeng–Kondopina	7.48	2.41	4.39	1.42	11.87	3.83	2.37	0.77	9.50	3.06
e. Banz–Dona	11.28	3.64	6.63	2.14	17.91	5.78	3.58	1.15	14.33	4.63
f. Gewa–Gembogl	6.68	2.15	3.92	1.27	10.60	3.42	2.12	0.68	8.48	2.74
g. Kerowagi–Dona	7.96	2.56	4.67	1.51	12.63	4.07	2.53	0.82	10.10	3.25
h. Korinige–Kerowagi	2.14	0.69	1.26	0.41	3.40	1.10	0.68	0.22	2.72	0.88
i. Warumanda–Laiagam	18.36	5.92	10.78	3.48	29.14	9.40	5.83	1.88	23.31	7.52
j. Ialibu–Kagua	12.23	3.94	7.19	2.32	19.42	6.26	3.88	1.26	15.54	5.00
k. Ialibu–Pangia	7.94	2.56	4.66	1.50	12.60	4.06	2.52	0.82	10.08	3.24
<b>Subtotal (A)</b>	<b>104.01</b>	<b>33.52</b>	<b>61.09</b>	<b>19.73</b>	<b>165.10</b>	<b>53.25</b>	<b>33.01</b>	<b>10.67</b>	<b>132.09</b>	<b>42.58</b>
<b>B. Consulting Services</b>										
1. Engineering design, preconstruction activities, construction supervision, performance monitoring and evaluation, and training on STI/HIV/AIDS Prevention	9.95	3.21	0.00	0.00	9.95	3.21	0.00	0.00	9.95	3.21
2. Project design	0.00	0.00	8.26	2.66	8.26	2.66	8.26	2.66	0.00	0.00
3. Construction supervision	0.00	0.00	13.21	4.26	13.21	4.26	13.21	4.26	0.00	0.00
4. Financial auditing	0.00	0.00	0.20	0.06	0.20	0.06	0.20	0.06	0.00	0.00
5. Road maintenance, safety, and HIV/AIDS prevention	0.00	0.00	0.75	0.24	0.75	0.24	0.75	0.24	0.00	0.00
<b>Subtotal (B)</b>	<b>9.95</b>	<b>3.21</b>	<b>22.42</b>	<b>7.22</b>	<b>32.37</b>	<b>10.43</b>	<b>22.42</b>	<b>7.22</b>	<b>9.95</b>	<b>3.21</b>
<b>C. Contingencies</b>										
1. Physical contingencies <sup>b</sup>	10.40	3.35	6.11	1.97	16.51	5.32	4.59	1.47	11.92	3.85
2. Price contingencies <sup>c</sup>	6.32	2.04	8.15	2.63	14.47	4.67	4.05	1.31	10.42	3.36
<b>Subtotal (C)</b>	<b>16.72</b>	<b>5.39</b>	<b>14.26</b>	<b>4.60</b>	<b>30.98</b>	<b>9.99</b>	<b>8.64</b>	<b>2.78</b>	<b>22.34</b>	<b>7.21</b>
<b>D. IDC and Commitment Charge</b>	<b>13.64</b>	<b>4.40</b>	<b>0.00</b>	<b>0.00</b>	<b>13.64</b>	<b>4.40</b>	<b>13.64</b>	<b>4.40</b>	<b>0.00</b>	<b>0.00</b>
<b>Total</b>	<b>144.32</b>	<b>46.52</b>	<b>97.77</b>	<b>31.55</b>	<b>242.09</b>	<b>78.07</b>	<b>77.71</b>	<b>25.07</b>	<b>164.38</b>	<b>53.00</b>

ADB = Asian Development Bank, IDC = interest during construction, govt. = government, m = million.

Note: Numbers may not sum precisely due to rounding.

<sup>a</sup> At 2006 prices, including taxes and duties of approximately 14% and the cost of environmental mitigation measures.<sup>b</sup> Computed at 10% of base cost for civil works.<sup>c</sup> Computed using ADB cost escalation factors. For foreign exchange cost, 2.8% in 2006 and 1.9% in 2007 and onwards.

For local currency cost, 4.8% in 2006, 4.9% in 2007, 5.0% in 2008, and 5.1% in 2009.

Source: Asian Development Bank estimates.

## **SECTION 6: IMPLEMENTATION ARRANGEMENTS**

### **A. Project Management**

1. The Department of Works (DOW) will continue as the Executing Agency. The Highlands Region Management Group (HRMG), assisted by a team of international and local consultants, will continue as the project implementation unit. HRMG headed by a field project manager will maintain an office in each province, comprising an implementation advisor, a community relations officer, and other necessary staff. HRMG will:

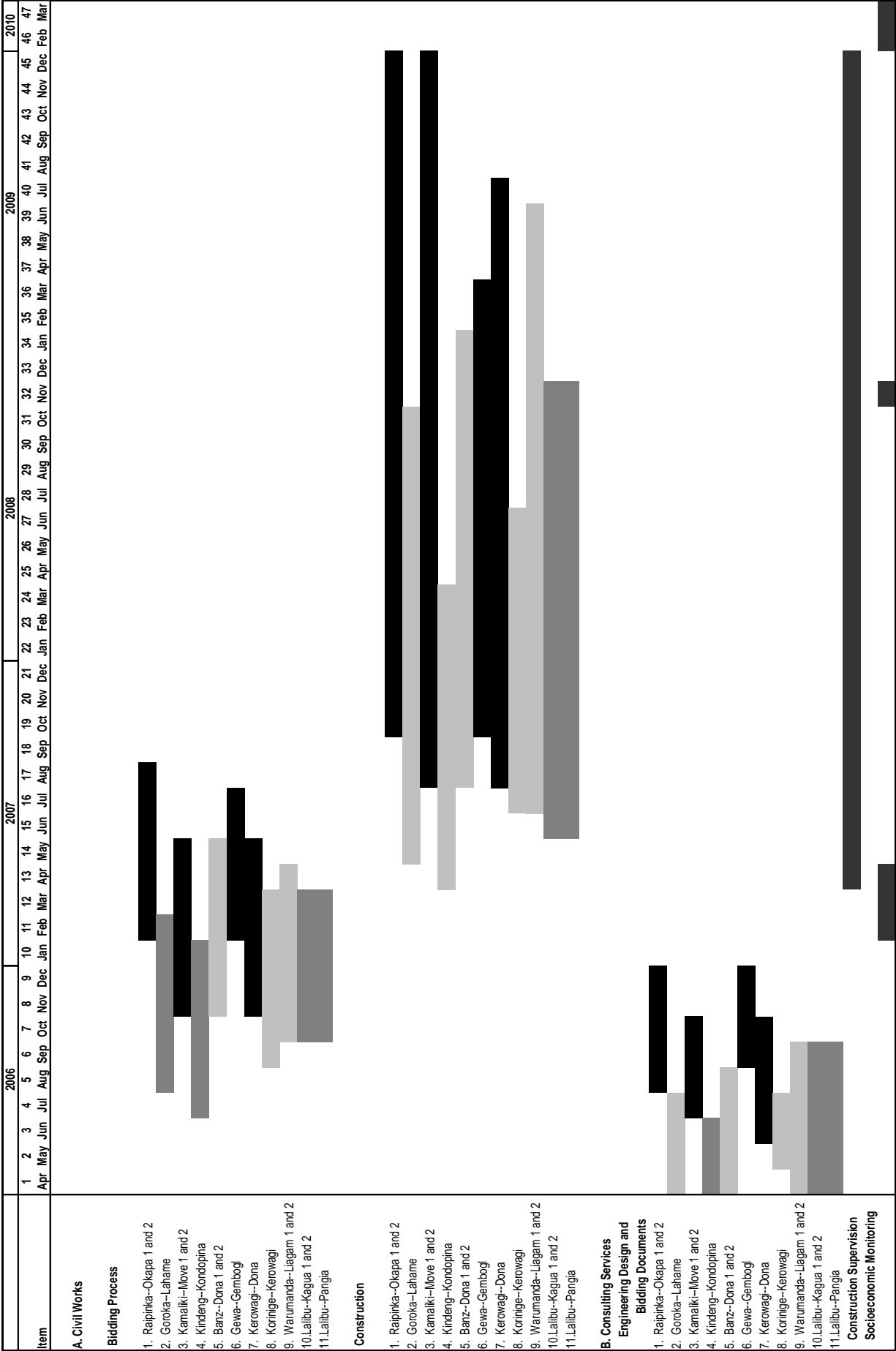
- (i) design the subprojects and prepare the bidding documents,
- (ii) handle the bidding process,
- (iii) provide construction supervision and manage contracts,
- (iv) monitor the project progress,
- (v) prepare withdrawal applications,
- (vi) maintain project accounts and complete the financial records for auditing,
- (vii) prepare project progress reports and the project completion report,
- (viii) monitor environmental and socioeconomic impacts,
- (ix) implement a cost-effective contracting-out system for road maintenance and so ensure the roads completed under Loan 1709-PNG and supplementary loans are properly maintained, and
- (x) provide training on road maintenance, road safety, and STI/HIV/AIDS prevention.

2. The project steering committee will continue to ensure close interagency coordination and monitor implementation of the Project. Its composition and mode of functioning will not change.

### **B. Implementation Period**

3. The proposed subprojects will be implemented over 3.5 years, with civil works commencing in April 2007 and project completion by the end of 2009. The detailed implementation schedule is attached as Annex 1 to Section 6. The project completion date for Loan 1709-PNG will be extended to 31 December 2009 to accommodate the proposed subprojects under the supplementary loans.

IMPLEMENTATION SCHEDULE



## **SECTION 7: CONSULTANTS**

### **A. Basic Principles**

1. Consultants will be recruited following the ADB Guidelines on the Use of Consultants. ADB's policies on recruiting consultants are based on the following 6 principles:

- consulting services should be high quality;
- engagements should be economical and efficient;
- all qualified consultants should have the opportunity to compete for assignments;
- ADB aims to develop and use consultants from developing member countries (DMCs);
- the selection process should be transparent; and
- anticorruption and ethical behavior are especially important.

### **B. Anticorruption Policy**

2. ADB requires the consultants, borrowers, EAs, and beneficiaries, under ADB-financed projects to observe the highest standards of ethics during the consultant selection process and in executing contracts. If ADB decides that representatives of a consultant, a borrower, an EA, or a beneficiary, engaged in corrupt, fraudulent, collusive or coercive practices during consultant selection or the execution of a contract, ADB may take any of the steps listed in section 1.23 of the *Guidelines on the Use of Consultants*. Staff should refer allegations of corrupt, fraudulent, collusive or coercive behavior to the Integrity Division.

### **C. Conflict of Interest**

3. ADB considers a conflict of interest to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations. A conflict of interest may contribute to or constitute a prohibited practice under ADB's anticorruption policy. ADB will take appropriate steps to address conflicts of interest and may reject a consultant selection if it decides that a conflict of interest has flawed the integrity of the selection process.

4. Examples of circumstances in which ADB will not select a consultant or approve a borrower's selection include:

- A consultant that can also provide goods, works, and/or non-consulting services will not be selected to provide both consulting services and goods, works and non-consulting services for the same project. The consultant must choose to offer either consulting services or goods, works and non-consulting services for each project.
- A consultant will not be engaged for an assignment that conflicts with another of the consultant's assignments. For example, a consultant: that prepares engineering design for a project will not be engaged to prepare an independent environmental assessment of that project; advising a



government on privatizing assets should not purchase or advise purchasers of the assets; and that prepares terms of reference (TOR) for an assignment will not be engaged for that assignment.

- A consultant with a business or family relationship with an ADB or borrower's staff member who is involved in preparing TOR, recruiting or supervising the consultant for an assignment will not be selected for the assignment unless ADB is satisfied that the conflict has been resolved.

5. Consultants should not bid for assignments when they have an actual or potential conflict of interest. A consultant also should not bid for an assignment when the schedule conflicts with or overlaps the schedule for another of the consultant's assignments.

#### **D. Recruitment Restrictions**

6. The following restrictions apply to all proposed consultants, whether engaged as individuals or through a firm:

- Government-owned enterprises and institutions may only work as consultants in their own countries if they can establish that they are legally and financially autonomous, operate under commercial law, and do not depend on the borrowing government or a government agency. However, ADB may approve on a case-by-case basis a government-owned university or research center, or one of their staff, participating in an assignment when the enterprise or staff member has exceptional or unique qualifications and its participation is critical to the assignment.
- Current employees of EAs for ADB-financed loan or TA projects may not work as consultants on those projects.
- DMC government employees may not work as consultants in their own countries if there is a real or potential conflict of interest.
- ADB's preference is not to recruit current DMC government employees who don't work in EAs to work in their own countries. When government employees who don't work in EAs must be engaged, as individuals or as members of a consulting firm's team, and there is no real or potential conflict of interest:
  - the government must provide written approval, confirming that the employees are on leave without pay from their official positions and available to work full-time on the assignments; and
  - they must not work in their own departments.
- Former DMC government employees may work as consultants in their former ministries, departments, or agencies provided there is no real or potential conflict of interest.

7. The following additional restriction applies to loan project assignments:

- Borrowers may exclude consultants from countries that the borrowing country cannot make payments to, because it is complying with a decision of the United Nations Security Council.

**E. Requirements under the Project**

8. A total of 132 person-months of international consulting services will be recruited to assist in (i) detailed engineering design, (ii) preconstruction activities, (iii) construction supervision, (iv) project performance monitoring and evaluation, and (v) training on road maintenance and safety and on STI/HIV/AIDS prevention. Consultant recruitment will follow single source selection in accordance with ADB *Guidelines on the Use of Consultants* which became effective on 1 April 2006.

9. Although the current contract with RENARDET S.A. will expire in June 2007, engagement of its services for the project needs to be completed in 2006 so that consulting services for socioeconomic monitoring and evaluation can commence in the first quarter of 2007. To recruit consulting services, DOW needs to issue a request for proposal (RFP) to RENARDET S.A, asking for a simplified proposal and financial proposal at the same time. The RFP should comprise:

**State content of RFP**

10. The standard General Conditions of Contract may not be modified under any circumstances. The Special Conditions of Contract may be used to reflect country and assignment conditions. **A sample of required documents is attached and also provided in word form electronically.**

## **OUTLINE TERMS OF REFERENCE INTERNATIONAL CONSULTING SERVICES**

1. A total of 132 person-months of international consulting services and 450 person-months of domestic consulting services will be required for detailed engineering design, preconstruction activities, construction supervision, environmental monitoring, financial auditing, project performance monitoring and evaluation, and training on road maintenance and safety and STI/HIV/AIDS prevention. The consultant will assist and support the Department of Works (DOW), providing guidance and advise on the (i) detailed design and preconstruction activities, including the preparation of tender documents, tender process, evaluation of bids, and contract awards, and (ii) implementation of civil works for the selected subproject road sections in the provinces of Eastern Highlands, Enga, Chimbu, Southern Highlands, and Western Highlands. The Highlands Region Maintenance Group (HRMG) field project manager will be fully responsible as the engineer, while the provincial work managers will act as the engineer's representatives on the Project. The consultant will help HRMG staff prepare an environmental impact management plan and ensure that the contractor adheres to all aspects of environmental protection and undertakes the action required under the plan.

2. The consultant will compile benchmark project performance baseline data and provide practical on-the-job training to DOW technical field staff and staff members of the provincial administrations when undertaking the task.

### **A. Scope of the Work**

#### **1. Road Upgrading**

3. The responsibilities of the consultant will include the following:

- (i) Assist, advise, and provide guidance in undertaking a topographic survey that encompasses the full extent of the road, bridge sites, and drainage structures in compliance with international and DOW standards. Assist in preparing plans of all survey work for compiling benchmark information and descriptions of features.
- (ii) Provide assistance in carrying out geotechnical tests of pavement strength, thickness, and other characteristics. The frequency of test locations shall be sufficient to determine base and sub-base requirements.
- (iii) Identify and test, using DOW facilities and personnel, material quarry sites to determine compliance with proposed material specifications. Estimate the quantity of material complying with the relevant code that is available from each site. Identify sufficient sites to meet the requirements of the Project. Identify the extent of any construction activities required to excavate, treat (if necessary), and load the material.
- (iv) Prepare road design criteria and design speed in conformity with the scope of works recommended in the approved feasibility study and the current version of the Papua New Guinea (PNG) Road Design Manual, TRL Road Note 31, and PNG Drainage Design Manual. While providing for safe travel, the practical design speed should be selected to minimize land acquisition requirements.
- (v) Help, advise, and provide guidance on preparing preliminary designs of road cross-sections, geometric alignment (horizontal and vertical), pavement type and thickness, road furniture, and drainage structures.
- (vi) Help and advise on carrying out preliminary bridge design in accordance with the PNG Bridge Design Manual, stressing the need for compatibility with the road alignment and the findings of the approved economic feasibility study.

- (vii) Help and advise on carrying out bridge foundation investigations based on the approved preliminary design.
- (viii) Prepare construction contract packaging to ensure that the Government receives value for money, and facilitate construction activities.
- (ix) Help and advise on preparing detailed design drawings of all construction items, including longitudinal sections in the minimum scales of horizontal 1:2000 and vertical 1:200, and cross-sections minimum horizontal scale of 1:100. All drainage structures will be detailed in plan, longitudinal, and sections.
- (x) Prepare work quality and materials specifications based on current DOW workmanship and materials specifications with approved modifications.
- (xi) Help and advise on preparing an environmental impact management plan in accordance with the Asian Development Bank (ADB) *Environmental Guidelines for Selected Infrastructure Projects (Highways and Roads)* and international standards to identify any unacceptable environmental impacts during construction and measures to mitigate them.
- (xii) Assist in updating subproject-specific environmental management and monitoring plans at engineering design stage, and incorporate them in bidding documents and civil works contracts. Assist DOW in monitoring the updates and implementing the environmental management plans (EMPs), and prepare environmental reports.
- (xiii) Prepare bidding documents in compliance with ADB's *Procurement Guidelines*. Submit these documents to DOW and ADB for approval as soon as they are completed. Provide technical support to DOW during the tendering and contract negotiation stages. Participate in bid evaluation and contract negotiations. Prepare final contract documents based on the results of the contract negotiations.

## **2. Road Rehabilitation**

### **4. The consultant's responsibilities will include the following:**

- (i) Help and advise on carrying out geotechnical tests of pavement strength, thickness, and other characteristics. The frequency of test locations will be sufficient to determine base and sub-base requirements.
- (ii) Identify and test, using DOW facilities and personnel, material borrow areas to determine their compliance with proposed material specifications. Estimate the quantity of material that complies with the relevant code available from each site. Identify sufficient sites to meet the requirements of the Project. Identify the extent of any construction activities required to excavate, treat (if necessary), and load the material.
- (iii) Prepare design criteria in conformity with the scope of works recommended in the approved feasibility study and the current version of the PNG Road Design Manual, TRL Road Note 31, and PNG Drainage Design Manual.
- (iv) Help and advise on preparing preliminary designs of road cross-sections, pavement types and thickness, road furniture, and drainage structures.
- (v) Prepare construction contract packaging to ensure that the Government receives value for money, and facilitate construction activities.
- (vi) Help and advise on preparing detailed design information of the final cross-section, minimum depth, and type of pavement overlay. All drainage structures will be detailed in plan, longitudinal, and sections.
- (vii) Prepare work quality and materials specifications based on current DOW work quality and materials specifications with approved modifications.

- (viii) Prepare bidding documents in compliance with ADB's *Procurement Guidelines*. Submit these documents to DOW and ADB for approval as soon as they are completed. Provide technical support to DOW during the tendering and contract negotiation stages. Participate in bid evaluation and contract negotiations. Prepare final contract documents based on the results of contract negotiations.
- (ix) Assist in updating subproject specific environmental management and monitoring plans at engineering design stage, and incorporate them in bidding documents and civil works contracts. Assist DOW in monitoring the updates and implementing the EMPs, and prepare environmental reports.

### **3. Construction Supervision**

5. The responsibilities of the consultant will include the following:

- (i) Help and advise on providing effective and regular supervision of the works. Supervise quality control tests to ensure that the works are executed in accordance with established standards, criteria, specifications, procedures, and approved design and environmental aspects in accordance with the standards of the Fédération Internationale des Ingenieurs-Conseil. Ensure implementation of the civil works in compliance with the prepared environmental management and monitoring plan and the construction schedule.
- (ii) Regularly inspect the contractor's construction requirements, installations, housing, medical facilities, etc., to ensure that they are adequate and in accordance with the terms and conditions specified in the contract for civil works. Minimize disturbance to the local communities and economy.
- (iii) Help and advise on maintaining a permanent record of all measurements for the work quantities to be paid for and the results of all tests carried out for monitoring the quality of civil works.
- (iv) Help and advise on preparing a bill of quantities and make recommendations, for the engineer's consideration, on certifying all payments to be made to the contractor.
- (v) Liaise with and inform the engineer of problems arising with the implementation of civil works and recommend possible solutions.
- (vi) Revise plans and specifications as necessary, prepare variation orders, and assist the engineer in negotiating with the contractor implementation of these changes (if they involve additional cost, ADB will be consulted before implementation).
- (vii) Evaluate and make recommendations to the engineer on the contractor's claims, disputes, contract time extensions, and other changes outside the scope of the contract.
- (viii) Help and advise on preparing monthly contract payments estimates and certificates for payment, including updated cost estimates for construction and supervision.
- (ix) Provide timely assistance to the contractor in all matters related to interpreting contract documents, ground survey controls, quality control testing, and other matters relating to the contract under the Project.
- (x) Assist DOW in preparing a project completion report in a manner satisfactory to the Government and ADB, including as-built drawings, after completion of the works.
- (xi) Incorporate on-the-job training for technical field staff of DOW and provincial administrations when undertaking the project tasks.

#### **4. Socioeconomic Monitoring and Evaluation**

6. The consultant will have the following responsibilities:
  - (i) Review project documents, including the report and recommendation of the President, legal documents, and technical assistance reports, particularly the initial social assessment for the Road Maintenance and Upgrading (Sector) Project covering five Highlands provinces.
  - (ii) Establish, before April 2007, a set of project performance indicators and sex-disaggregated baseline data for road subprojects whose civil works have not commenced, considering the project goal, outcome, and outputs. Indicators may include (a) economic activities and income level in the project area; (b) industrial and agricultural outputs; (c) transport costs and time; (d) transport services and transport charges; (e) accident rates; (f) level of social services, including school enrollment and infant mortality; (g) access to HIV/AIDS information and services; and (h) jobs created by road rehabilitation. Employment impact indicators will include information about unskilled, poor, and female laborers.
  - (iii) Review and update the baseline data during the upgrading and rehabilitation period. Analyze the data and evaluate the project impact.
  - (iv) Review and update the baseline data at project completion. Analyze the data and evaluate the project impact.
  - (v) Monitor and evaluate the performance of ongoing and completed road sections, and prepare subproject completion reports.
  - (vi) Assess the overall impact of the Project. Prepare monitoring and evaluation reports. Submit the reports to the Government and ADB 1 month after the fieldwork.
  - (vii) Provide training to the HRMG community relations officer and other counterpart staff, and ensure knowledge transfer.

#### **5. Training on Road Maintenance, Road Safety, and STI/HIV/AIDS Prevention**

7. Through the HRMG community relations officer, help DOW ensure the timely and effective organization of the following activities: (i) community-based routine maintenance of selected roads completed under Loan 1709-PNG and supplementary loans; (ii) community-based training on road maintenance and road safety under the guidance of the Provincial Works Administration; and (iii) prevention of sexually transmitted infections (STI), including HIV/AIDS, along the prioritized road sections in consultation with Provincial AIDS Council and Health Administration.

**STANDARD REQUEST FOR PROPOSALS  
(Loans)**

# **Selection of Consultants**



**ASIAN DEVELOPMENT BANK**

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## I. PREFACE

1. This document constitutes the Standard Request for Proposals (SRFP) of the Asian Development Bank (ADB). As outlined in the ADB's *Guidelines on the Use of Consultants by the Asian Development Bank and its Borrowers*, (the Guidelines), as amended from time to time, the SRFP must be used whenever possible in the selection of Consultants and can be used with the different selection methods described in the Guidelines, i.e., quality-and cost-based selection (QCBS), quality-based selection (QBS), and direct selection (DS).
2. The use of SRFP is mandatory for contracts estimated to cost more than US\$200,000 equivalent. Borrowers, executing and implementing agencies of ADB-financed and administered projects are encouraged to also use this SRFP for contracts costing US\$200,000 or less.
3. Before preparing a Request for Proposal (RFP), the user must be familiar with the Guidelines, must have chosen a method of selection and the most suitable contract form. The SRFP includes two standard forms of contract: one for time-based assignments and the other for lump-sum assignments. The prefaces of these two contracts indicate the circumstances in which their use is considered most appropriate.
4. The RFP includes a standard Letter of Invitation, standard Instructions to Consultants, Terms of Reference, and a standard Form of Contract. **The standard Instructions to Consultants and the standard General Conditions of Contract may not be modified under any circumstances.** However, the Data Sheet and the Special Conditions of Contract may be used to reflect country and assignment conditions.

**REQUEST FOR PROPOSALS**  
**RFP # [insert: RFP number]**

***Country* [insert: name of country]**

***Project Name* [insert: project name]**

***Loan #* [insert: loan number]**

***Title of Consulting Services* [insert: title]**

## Section 1. Letter of Invitation

Loan Number:

[ *Date*]

*[insert: Name and Address of Consultant]*

Attention: Mr./Ms.:

1. The Independent State of Papua New Guinea (hereinafter called “Borrower”) has received financing from the Asian Development Bank (hereinafter called “loan”) toward the cost of Road Maintenance and Upgrading [Sector] Project-Supplementary. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which this Request for Proposals is issued.
2. The Department of Works (DOW) now invites you as the only firm to submit a ***biodata technical proposal*** to provide services described in Section 5 of RFP in accordance with the procedure for single source selection approved by the Asian Development Bank (ADB). Please note that you are not allowed to transfer this invitation to another consulting firm.
3. The RFP includes the following documents:
  - Section 1 - Letter of Invitation
  - Section 2 - Instructions to Consultants (including Data Sheet and evaluation criteria)
  - Section 3 - Technical Proposal - Standard Forms
  - Section 4 - Financial Proposal - Standard Forms
  - Section 5 - Terms of Reference
  - Section 6 - Standard Forms of Contract
  - Section 7 - List of ADB Member Countries
4. Your technical proposal will be subject to review and acceptance by DOW in accordance with the evaluation criteria shown in the Appendix to Section 2 of RFP .
5. You are also invited to submit a financial proposal following instructions given in Section 4 of RFP. The budget ceiling for this assignment is \$3.21 million.
6. To familiarize yourself with the TA and to assess the extent of services to be provided by your firm, you may wish to contact the nominated representative of the ***ADB***. The nominated representative and the contact address are shown in the ***Project Data Sheet*** in Section 2. Your technical and financial proposals should be submitted in two copies marked “Official Documents” with the reference number and name of the TA on the envelope to:

*[ Address of the EA]*

7. Also, one copy of the technical proposal should be sent to the ADB representative as indicated in the Project Data Sheet in Section 2 of RFP, and a copy to the ADB Resident Mission in PNG.
8. Your technical and financial proposals should reach DOW not later than the submission date shown in the ***Project Data Sheet*** in Section 2 of RFP. It is strongly recommended that you send your technical and financial proposals by courier and advise DOW by facsimile of the date of dispatch, airway bill number, and of expected date of arrival of the proposal in Port Moresby.
9. Following further notification, contract negotiations will be done through face-to-face at DOW in Port Moresby. A tentative timetable for contract negotiations and commencement of services is shown in the ***Project Data Sheet*** in Section 2 O RFP. The representative conducting negotiations on behalf of the firm must have written authority to negotiate and sign the contract.
10. Request for clarifications concerning the proposed services maybe sent by fax to *[Fax Number]* addressed to the person who signed this letter. However, any delay caused by seeking such clarification will not be considered a reason for extending the submission date for your proposal.
11. It should be clearly understood that DOW will not reimburse any cost incurred by you for the preparation of proposals; site visit; collection of information; or if you are selected, for contract negotiations.
12. It is ADB's policy to require that consultants under ADB-financed contracts observe a high standard of ethics. In this context, please refer to the provisions in para. 1.05 of the ***“Guidelines on the Use of Consultants by Asian Development Bank and Its Borrowers”***.
13. You are requested to acknowledge receipt of this letter within five days of receipt to the undersigned by facsimile to *[fax number of EA]* with clear indication whether you intend to submit a proposal.

Yours sincerely,

*[insert: signature  
name  
title of Client's representative]*

## DATA SHEET

*[Comments in Italic provide guidance for the preparation of the Data Sheet; they should not appear on the final RFP to be delivered to the shortlisted Consultants]*

Paragraph Reference	
<b>I.</b>	Name of the Client: _____ _____ Method of selection: <u>Single Source Selection</u>
<b>1.2</b>	Financial Proposal to be submitted together with Technical Proposal: Yes <u>  X  </u> No <u>  </u> Name of the assignment is: <u>Consulting Services to Assist in Implementation of Road Maintenance and Upgrading Project (Supplementary Loans)</u>
<b>1.3</b> <b>II.</b>	A pre-proposal conference will be held: Yes <u>  </u> No <u>  </u> <i>[If yes, indicate date, time, and venue]</i> _____ _____ _____ The Client's representative is: _____ Address: _____ Telephone: _____ Facsimile: _____ E-mail: _____
<b>1.4</b>	The Client will provide the following inputs and facilities: _____ _____ _____ _____
<b>1.12</b>	Proposals must remain valid <u>      </u> <i>[Insert number: normally 90 days]</i> days after the submission date, i.e. until: <u>                                    </u> <i>[Insert date]</i>

<b>2.1</b>	<p>Clarifications may be requested not later than ____ <i>[Insert number]</i> days before the submission date.</p> <p>The address for requesting clarifications is: _____</p> <p>Facsimile: _____ E-mail: _____</p>
<b>III.</b>	<p>Proposals shall be submitted in the English language</p>
<b>3.4</b>	<p>The format of the Technical Proposal to be submitted is: FTP ____, or STP ____, or BTP ____ <u>X</u> <i>[check the applicable format]</i></p>
<b>3.6 (iii) b</b>	<p><i>[List the applicable Reimbursable expenses in foreign and in local currency. A sample list is provided below for guidance: items that are not applicable should be deleted, others may be added.]</i></p> <ul style="list-style-type: none"> <li>(1) a per diem allowance in respect of Personnel of the Consultant for every day in which the personnel shall be absent from their home office;</li> <li>(2) cost of necessary international and local air travel, including international travel of the international experts by the most appropriate means of transport and the most direct practicable route;</li> <li>(3) land transportation including vehicle rental;</li> <li>(4) cost of international or local communications such as the use of telephone and facsimile required for the purpose of the Services;</li> <li>(5) cost, rental and freight of any equipment required to be provided by the Consultants for the purposes of the Services;</li> <li>(6) cost of printing and dispatching of the reports to be produced for the Services;</li> <li>(7) miscellaneous administrative and support costs including office operations, support personnel and translation;</li> <li>(8) provisional sums; and</li> <li>(9) cost of such further items required for purposes of the Services not covered in the foregoing.</li> </ul>

<b>3.6 (iii) f</b>	<p><i>[Insert the following two figures only when the QCBS method of selection is indicated in Paragraph Reference 1.1]</i></p> <p>Amount for provisional sums: _____ US\$</p> <p>Contingency amount: _____ US\$</p> <p>Maximum Available Budget: _____ US\$</p>
<b>3.7</b>	<p>Amounts payable by the Client to the Consultant under the contract to be subject to local taxation: Yes ____ No ____</p> <p>If affirmative, the Client will <i>[indicate which of the two options apply]</i>:</p> <p>(a) reimburse the Consultant for any such taxes paid by the Consultant: <i>[insert Yes or No]</i>; or</p> <p>(b) pay such taxes on behalf of the Consultant: <i>[insert Yes or No]</i></p>
<b>3.8</b>	<p>Consultant to state local cost in the national currency: Yes ____ No ____</p>
<b>4.3</b>	<p>Consultant must submit the original and ____ <i>[Insert number]</i> copies of the Technical Proposal and the original of the Financial Proposal.</p>
<b>4.5</b>	<p>Consultant must submit the original and two copies of the Technical Proposal, and the original Financial Proposal (if required under the selection method indicated under 1.1) to the Client to the following address: _____ ,</p> <p>and three copies of the Technical Proposal to the ADB at the following address:</p> <p style="padding-left: 40px;">The Director, Central Operations Services Division 2, Asian Development Bank, 6 ADB Avenue, Mandaluyong City, 0980 Manila, Philippines,</p> <p>and one copy of the Technical Proposal for the ADB Resident Mission at the following address:</p> <p style="padding-left: 40px;">Country Director, Papua New Guinea Resident Mission, Level 13, Deloitte Tower, P. O. Box 1992, Port Moresby, National Capital District</p> <p>_____</p> <p>Proposals must be submitted no later than the following date and time: _____</p>

<b>5.2</b>	Criteria, sub-criteria, and point system for the evaluation of Technical Proposals are those indicated in the Evaluation Sheets listed in Appendix 1.  The minimum technical score required to pass is 750 from a maximum of 1,000 points.
<b>5.4</b>	Expected date for public opening of Financial proposals (applicable for QCBS only): _____ [ <i>insert date</i> ] at: _____ [ <i>insert location</i> ]
<b>5.5</b>	The source for determining the exchange rates is: _____
<b>6.1</b>	Expected date and address for contract negotiations: _____
<b>7.2</b>	Expected date for commencement of consulting services _____ [ <i>Insert date</i> ] at: _____ [ <i>Insert location</i> ]



**APPENDIX****Evaluation Sheets to be used for the evaluation of Technical Proposals**

*[When the format of the Technical Proposal indicated under 3.4 is FTP, the following Evaluation Sheets must be included in this Appendix 1:*

- (i) Summary Evaluation Sheet for Full Technical Proposals (QBS), *or*  
Summary Evaluation Sheet for Full Technical Proposals (QCBS),  
*depending from the method of selection indicated under 1.1;*
- (ii) Personnel Evaluation Sheet for Technical Proposals (QBS) (Full, Simplified and Biodata Technical Proposals), *or*  
Personnel Evaluation Sheet for Technical Proposals (QCBS) (Full, Simplified and Biodata Technical Proposals),  
*depending from the method of selection indicated under 1.1.]*

*[When the format of the Technical Proposal indicated under 3.4 is STP, the following Evaluation Sheets must be included in this Appendix 1:*

- (i) Summary Evaluation Sheet for Simplified Technical Proposals (QBS), *or*  
Summary Evaluation Sheet for Simplified Technical Proposals (QCBS),  
*depending from the method of selection indicated under 1.1;*
- (ii) Personnel Evaluation Sheet for Technical Proposals (QBS) (Full, Simplified and Biodata Technical Proposals), *or*  
Personnel Evaluation Sheet for Technical Proposals (QCBS) (Full, Simplified and Biodata Technical Proposals),  
*depending from the method of selection indicated under 1.1.]*

*[When the format of the Technical Proposal indicated under 3.4 is BTP, the following Evaluation Sheets must be included in this Appendix 1:*

- (i) Summary Evaluation Sheet for Biodata Technical Proposals (QBS), *or*  
Summary Evaluation Sheet for Biodata Technical Proposals (QCBS),  
*depending from the method of selection indicated under 1.1;*
- (ii) Personnel Evaluation Sheet for Technical Proposals (QBS) (Full, Simplified and Biodata Technical Proposals), *or*  
Personnel Evaluation Sheet for Technical Proposals (QCBS) (Full, Simplified and Biodata Technical Proposals),  
*depending from the method of selection indicated under 1.1.]*

## PERSONNEL EVALUATION SHEET

Name of Firm:

POSITION/AREA OF EXPERTISE		NAME	A		B		C		D		TOTAL SCORE (A+B+C+D)
			General Qualifications		Project-Related Experience		Overseas/Country Experience		Full-Time Permanent Staff**		
			Expert	TL	Expert	TL	Expert	TL	TL		
			15%	15%	70%	60%	15%	15%	10%		
Team Leader			Rating	Score	Rating	Score	Rating	Score	Rating	Score	
a.	Team Leadership		100	15	100	60	100	15	100	10	100
b.	Expert 1 (Team Leader)		100	15	100	70	100	15	100	10	100
<b>International Consultants</b>											
c.	Expert 2		100	15	100	70	100	15			100
d.	Expert 3		100	15	100	70	100	15			100
e.	Expert 4		100	15	100	70	100	15			100
f.	Expert 5		100	15	100	70	100	15			100
g.	Expert 6		100	15	100	70	100	15			100
h.	Expert 7		100	15	100	70	100	15			100
i.	Expert 8		100	15	100	70	100	15			100
j.	Expert 9		100	15	100	70	100	15			100
k.	Expert 10		100	15	100	70	100	15			100
l.	Expert 11		100	15	100	70	100	15			100
m.	Expert 12		100	15	100	70	100	15			100
<b>National Consultants</b>		NAME	A		B		C		D		TOTAL SCORE (A+B+C)
			General Qualifications		Project-Related Experience		Experience w/ Intl. Org.				
			15%		70%		15%				
			Rating	Score	Rating	Score	Rating	Score			
a.	Expert 1		100	15	100	70	100	15			100
b.	Expert 2		100	15	100	70	100	15			100
c.	Expert 3		100	15	100	70	100	15			100
d.	Expert 4		100	15	100	70	100	15			100
e.	Expert 5		100	15	100	70	100	15			100
f.	Expert 6		100	15	100	70	100	15			100
g.	Expert 7		100	15	100	70	100	15			100
h.	Expert 8		100	15	100	70	100	15			100
i.	Expert 9		100	15	100	70	100	15			100
j.	Expert 10		100	15	100	70	100	15			100
k.	Expert 11		100	15	100	70	100	15			100
l.	Expert 12		100	15	100	70	100	15			100

Rating: Excellent - 90 -100%

Good - 80 - 89%

Average - 70 - 79%

Below Average - 0 - 69%

Notes: \*\*Applicable to both lead and associate firms.

## PERSONNEL EVALUATION SHEET

Name of Firm:

POSITION/AREA OF EXPERTISE		NAME	A		B		C		D		TOTAL SCORE (A+B+C+D)
			General Qualifications		Project-Related Experience		Overseas/Country Experience		Full-Time Permanent Staff**		
			Expert	TL	Expert	TL	Expert	TL	TL		
			15%	15%	70%	60%	15%	15%	10%		
Team Leader				Rating	Score	Rating	Score	Rating	Score	Rating	Score
a.	Team Leadership		100	15	100	60	100	15	100	10	100
b.	Expert 1 (Team Leader)		100	15	100	70	100	15	100	10	100
International Consultants											
c.	Expert 2		100	15	100	70	100	15			100
d.	Expert 3		100	15	100	70	100	15			100
e.	Expert 4		100	15	100	70	100	15			100
f.	Expert 5		100	15	100	70	100	15			100
g.	Expert 6		100	15	100	70	100	15			100
h.	Expert 7		100	15	100	70	100	15			100
i.	Expert 8		100	15	100	70	100	15			100
j.	Expert 9		100	15	100	70	100	15			100
k.	Expert 10		100	15	100	70	100	15			100
l.	Expert 11		100	15	100	70	100	15			100
m.	Expert 12		100	15	100	70	100	15			100
National Consultants		NAME	A		B		C		D		TOTAL SCORE (A+B+C)
			General Qualifications		Project-Related Experience		Experience w/ Intl. Org.				
			15%		70%		15%				
			Rating	Score	Rating	Score	Rating	Score			
a.	Expert 1		100	15	100	70	100	15			100
b.	Expert 2		100	15	100	70	100	15			100
c.	Expert 3		100	15	100	70	100	15			100
d.	Expert 4		100	15	100	70	100	15			100
e.	Expert 5		100	15	100	70	100	15			100
f.	Expert 6		100	15	100	70	100	15			100
g.	Expert 7		100	15	100	70	100	15			100
h.	Expert 8		100	15	100	70	100	15			100
i.	Expert 9		100	15	100	70	100	15			100
j.	Expert 10		100	15	100	70	100	15			100
k.	Expert 11		100	15	100	70	100	15			100
l.	Expert 12		100	15	100	70	100	15			100

Rating: Excellent - 90 -100%

Good - 80 - 89%

Average - 70 - 79%

Below Average - 0 - 69%

Notes: \*\*Applicable to both lead and associate firms.

**CONFIDENTIAL**

POSITION/AREA OF EXPERTISE		NAME	A		B		C		D		TOTAL SCORE (A+B+C+D)
			General Qualifications		Project-Related Experience		Overseas/Country Experience		Full-Time Permanent Staff**		
Expert	TL		Expert	TL	Expert	TL	TL				
15%			70%		15%		10%				
Rating	Score		Rating	Score	Rating	Score	Rating	Score			
Team Leader											
a.	Team Leadership		10015	10060	10015	10010					
b.	Expert 1 (Team Leader)		10015	10070	10015	10010					
International Consultants											
c.	Expert 2		10015	10070	10015						
d.	Expert 3		10015	10070	10015						
e.	Expert 4		10015	10070	10015						
f.	Expert 5		10015	10070	10015						
g.	Expert 6		10015	10070	10015						
h.	Expert 7		10015	10070	10015						
i.	Expert 8		10015	10070	10015						
j.	Expert 9		10015	10070	10015						
k.	Expert 10		10015	10070	10015						
l.	Expert 11		10015	10070	10015						
m.	Expert 12		10015	10070	10015						
National Consultants		NAME	A		B		C		D		TOTAL SCORE (A+B+C)
			General Qualifications		Project-Related Experience		Experience w/ Intl. Org.				
			15%		70%		15%				
			Rating	Score	Rating	Score	Rating	Score			
a.	Expert 1		10015	10070	10015						
b.	Expert 2		10015	10070	10015						
c.	Expert 3		10015	10070	10015						
d.	Expert 4		10015	10070	10015						
e.	Expert 5		10015	10070	10015						
f.	Expert 6		10015	10070	10015						
g.	Expert 7		10015	10070	10015						
h.	Expert 8		10015	10070	10015						
i.	Expert 9		10015	10070	10015						
j.	Expert 10		10015	10070	10015						
k.	Expert 11		10015	10070	10015						
l.	Expert 12		10015	10070	10015						

**Notes:** \*\*Applicable to both lead and associate firms.

**CONFIDENTIAL**

POSITION/AREA OF EXPERTISE		NAME	A		B		C		D		TOTAL SCORE (A+B+C+D)
			General Qualifications		Project-Related Experience		Overseas/Country Experience		Full-Time Permanent Staff**		
Expert	TL		Expert	TL	Expert	TL	TL				
15%			70%		15%		10%				
Rating			Score		Rating		Score		Rating		
Team Leader											
a.	Team Leadership		100	15	100	60	100	15	100	10	100
b.	Expert 1 (Team Leader)		100	15	100	70	100	15	100	10	100
International Consultants											
c.	Expert 2		100	15	100	70	100	15			100
d.	Expert 3		100	15	100	70	100	15			100
e.	Expert 4		100	15	100	70	100	15			100
f.	Expert 5		100	15	100	70	100	15			100
g.	Expert 6		100	15	100	70	100	15			100
h.	Expert 7		100	15	100	70	100	15			100
i.	Expert 8		100	15	100	70	100	15			100
j.	Expert 9		100	15	100	70	100	15			100
k.	Expert 10		100	15	100	70	100	15			100
l.	Expert 11		100	15	100	70	100	15			100
m.	Expert 12		100	15	100	70	100	15			100
National Consultants		NAME	A		B		C		D		TOTAL SCORE (A+B+C)
			General Qualifications		Project-Related Experience		Experience w/ Intl. Org.				
			15%		70%		15%				
			Rating	Score	Rating	Score	Rating	Score			
a.	Expert 1		100	15	100	70	100	15			100
b.	Expert 2		100	15	100	70	100	15			100
c.	Expert 3		100	15	100	70	100	15			100
d.	Expert 4		100	15	100	70	100	15			100
e.	Expert 5		100	15	100	70	100	15			100
f.	Expert 6		100	15	100	70	100	15			100
g.	Expert 7		100	15	100	70	100	15			100
h.	Expert 8		100	15	100	70	100	15			100
i.	Expert 9		100	15	100	70	100	15			100
j.	Expert 10		100	15	100	70	100	15			100
k.	Expert 11		100	15	100	70	100	15			100
l.	Expert 12		100	15	100	70	100	15			100

**Notes:** \*\*Applicable to both lead and associate firms.

**CONFIDENTIAL**

POSITION/AREA OF EXPERTISE		NAME	A		B		C		D		TOTAL SCORE (A+B+C+D)
			General Qualifications		Project-Related Experience		Overseas/Country Experience		Full-Time Permanent Staff**		
Expert	TL		Expert	TL	Expert	TL	TL				
15%			70%		15%		10%				
Rating	Score		Rating	Score	Rating	Score	Rating	Score			
Team Leader											
a.	Team Leadership		10015	10060	10015	10010					
b.	Expert 1 (Team Leader)		10015	10070	10015	10010					
International Consultants											
c.	Expert 2		10015	10070	10015						
d.	Expert 3		10015	10070	10015						
e.	Expert 4		10015	10070	10015						
f.	Expert 5		10015	10070	10015						
g.	Expert 6		10015	10070	10015						
h.	Expert 7		10015	10070	10015						
i.	Expert 8		10015	10070	10015						
j.	Expert 9		10015	10070	10015						
k.	Expert 10		10015	10070	10015						
l.	Expert 11		10015	10070	10015						
m.	Expert 12		10015	10070	10015						
National Consultants		NAME	A		B		C		D		TOTAL SCORE (A+B+C)
			General Qualifications		Project-Related Experience		Experience w/ Intl. Org.				
			15%		70%		15%				
			Rating	Score	Rating	Score	Rating	Score			
a.	Expert 1		10015	10070	10015						
b.	Expert 2		10015	10070	10015						
c.	Expert 3		10015	10070	10015						
d.	Expert 4		10015	10070	10015						
e.	Expert 5		10015	10070	10015						
f.	Expert 6		10015	10070	10015						
g.	Expert 7		10015	10070	10015						
h.	Expert 8		10015	10070	10015						
i.	Expert 9		10015	10070	10015						
j.	Expert 10		10015	10070	10015						
k.	Expert 11		10015	10070	10015						
l.	Expert 12		10015	10070	10015						

**Notes:** \*\*Applicable to both lead and associate firms.

**INSTRUCTIONS:**

1. On the **Summary Evaluation Sheet**, replace the Max. Weight column with agreed weight for each criterion/expert. The total should be 1000 pts.
2. For **Qualification of Proposer and Approach and Methodology sections**, fill in the rating columns with appropriate ratings [0 to 100]. The score columns contain formula that automatically compute scores for you.
3. For the **Personnel section**, click on worksheets f1,f2,f3 ... replace the percentage weights as per established narrative evaluation criteria for personnel. Fill in the rating columns with appropriate ratings [0 to 100] for each expert. Likewise, the score columns contain formula that automatically compute scores for you. Because these worksheets are linked to the summary evaluation sheet, the total scores appearing on the personnel evaluation sheet are automatically reflected on the summary evaluation sheet.

## Section 3. Technical Proposal - Standard Forms

*[Comments in brackets [ ] provide guidance to the shortlisted Consultants for the preparation of their Technical Proposals; they should not appear on the Technical Proposals to be submitted.]*

Refer to Clause 3.4 of the Data Sheet for format of Technical Proposal to be submitted, and paragraph 3.4 of Section 2 of the RFP for Standard Forms required and number of pages permitted.

- TECH-1 Technical Proposal Submission Form
- TECH-2 Consultant's Organization and Experience
  - A Consultant's Organization
  - B Consultant's Experience
- TECH-3 Comments or Suggestions on the Terms of Reference and on Counterpart Staff and Facilities to be Provided by the Client
  - A On the Terms of Reference
  - B On the Counterpart Staff and Facilities
- TECH-4 Description of the Approach, Methodology and Work Plan for Performing the Assignment
- TECH-5 Team Composition and Task Assignments
- TECH-6 Curriculum Vitae (CV) for Proposed Professional Experts
- TECH-7 Personnel Schedule
- TECH-8 Work Schedule
- TECH-9 Summary of Information on Proposed Experts



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**FORM TECH-1 TECHNICAL PROPOSAL SUBMISSION FORM**

---

[Location, Date]

To: [Name and address of Client]

Dear Sirs:

We, the undersigned, offer to provide the consulting services for [Insert title of assignment] in accordance with your Request for Proposal dated [Insert Date] and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed under a separate envelope<sup>1</sup>.

We are submitting our Proposal in association with: [Insert a list with full name and address of each joint venture partner or sub-Consultant]<sup>2</sup>

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, i.e., before the date indicated in Clause Reference 1.12 of the Data Sheet, we undertake to negotiate on the basis of the proposed personnel. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We undertake, if our Proposal is accepted, to initiate the consulting services related to the assignment not later than the date indicated in Clause Reference 7.2 of the Data Sheet.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Address: \_\_\_\_\_

---

1 [In case Clause Reference 1.2 of the Data Sheet requires to submit a Technical Proposal only, replace this sentence with: "We are hereby submitting our Proposal, which includes this Technical Proposal only."]

2 [Delete in case no association is foreseen.]

---

**FORM TECH-2 CONSULTANT'S ORGANIZATION AND EXPERIENCE**

---

**A - Consultant's Organization**

*[Provide here a brief (two pages) description of the background and organization of the Consultant and if applicable, Sub-Consultant and each joint venture partner for this assignment.]*

## B - Consultant's Experience

[For Full Technical Proposals Only]

*[Using the format below, provide information on each assignment for which your firm, and each joint venture partner or sub-consultant for this assignment, was legally contracted either individually as a corporate entity or as one of the major companies within a joint venture or sub-consultancy, for carrying out consulting services similar to the ones requested under this assignment. Use a maximum of 20 pages.]*

Assignment name:	Approx. value of the contract (in current US\$ or Euro):
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total N° of person-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in current US\$ or Euro):
Start date (month/year): Completion date (month/year):	N° of professional person-months provided by the joint venture partners or the sub-Consultants:
Name of joint venture partner or sub-Consultants, if any:	Name of senior regular full time employees <sup>1</sup> of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader):
Narrative description of Project:	
Description of actual services provided in the assignment:	

Firm's Name: \_\_\_\_\_

<sup>1</sup> Regular full-time employee as defined in para. 3.3.(iii) of Section 2.:

**FORM TECH-3 COMMENTS AND SUGGESTIONS ON THE TERMS OF  
REFERENCE AND ON COUNTERPART STAFF AND FACILITIES TO BE PROVIDED  
BY THE CLIENT**

---

**A - On the Terms of Reference**

[For Full Technical Proposals Only]

*[Present and justify here any modifications or improvement to the Terms of Reference you are proposing to improve performance in carrying out the assignment (such as deleting some activity you consider unnecessary, or adding others, or proposing a different phasing of the activities). Such suggestions should be concise and to the point, and incorporated in your Proposal.]*

## **B – On Counterpart Staff and Facilities**

[For Full Technical Proposals Only]

*[Comment here on counterpart staff and facilities to be provided by the Client according to Clause Reference 1.5 of the Data Sheet including: administrative support, office space, local transportation, equipment, data, etcetera.]*

## FORM TECH-4 DESCRIPTION OF APPROACH, METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

---

(For small or very simple assignments the Client should omit the following text in Italic)

*[Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present your Technical Proposal (maximum of 50 pages, inclusive of charts and diagrams for Full Technical Proposal and maximum of 10 pages if a Simplified Technical Proposal is used) divided into the following three chapters:*

- a) Technical Approach and Methodology,*
- b) Work Plan, and*
- c) Organization and Personnel,*

*a) Technical Approach and Methodology. In this chapter you should explain your understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.*

*b) Work Plan. In this chapter you should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents, including reports, drawings, and tables to be delivered as final output, should be included here. The work plan should be consistent with the Work Schedule of Form TECH-8.*

*c) Organization and Personnel. In this chapter you should propose the structure and composition of your team. You should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support personnel. You shall also specify if you will be the lead firm in a joint venture or in an association with sub-consultants. For joint ventures, you must attach a copy of the joint venture agreement.]*

**FORM TECH-5 TEAM COMPOSITION AND TASK ASSIGNMENTS**

---

Experts				
Name	Firm	Area of Expertise	Position Assigned	Task Assigned

---

**FORM TECH-6 CURRICULUM VITAE (CV) FOR PROPOSED INTERNATIONAL  
OR NATIONAL EXPERTS**

---

1. **Proposed Position** *[only one candidate shall be nominated for each position]:* \_\_\_\_\_
2. **Name of Firm** *[Insert name of firm proposing the expert]:* \_\_\_\_\_  
\_\_\_\_\_
3. **Name of Expert** *[Insert full name]:* \_\_\_\_\_
4. **Date of Birth:** \_\_\_\_\_ **Citizenship:** \_\_\_\_\_
5. **Education** *[Indicate college/university and other specialized education of expert, giving names of institutions, degrees obtained, and dates of obtainment]:* \_\_\_\_\_  
\_\_\_\_\_
6. **Membership of Professional Associations:** \_\_\_\_\_  
\_\_\_\_\_
7. **Other Training** *[Indicate significant training since degrees under 5 - Education were obtained]:* \_\_\_\_\_  
\_\_\_\_\_
8. **Countries of Work Experience:** *[List countries where expert has worked in the last ten years]:* \_\_\_\_\_  
\_\_\_\_\_
9. **Languages** *[For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing]:* \_\_\_\_\_  
\_\_\_\_\_
10. **Employment Record** *[Starting with present position, list in reverse order every employment held by expert since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.]:*  
  
From [Year]: \_\_\_\_\_ To [Year]: \_\_\_\_\_  
Employer: \_\_\_\_\_  
Positions held: \_\_\_\_\_



<b>11. Detailed Tasks Assigned</b>  <i>[List all tasks to be performed under this assignment]</i>	<b>12. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned</b>  <i>[Among the assignments in which the expert has been involved, indicate the following information for those assignments that best illustrate the expert's capability to handle the tasks listed under point 11.]</i>  Name of assignment or project: _____ Year: _____ Location: _____ Client: _____ Main project features: _____ Positions held: _____ Activities performed: _____
---	---

### 13. Certification:

I, the undersigned, certify to the best of my knowledge and belief–

(i) this CV correctly describes my qualifications and my experience

(ii) I am not employed by the Executing /Implementing Agency

(iii) I am/am not<sup>2</sup> in regular full-time employment with the Consultant or the Sub-Consultant

I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

\_\_\_\_\_  
*[Signature of expert or authorized representative of the firm]*<sup>3</sup> Date: \_\_\_\_\_  
Day/Month/Year

Full name of authorized representative: \_\_\_\_\_



<sup>2</sup> Please select. See definition of regular full-time employee para. 3.3.(vii) of Section 2.

<sup>3</sup> This CV can be signed by a senior representative of the Consultant provided that if the Consultant's proposal is ranked first, a copy of the CV signed by the expert and/or specialist must be submitted to the Client prior to the commencement of contract negotiations.

FORM TECH-7 PERSONNEL SCHEDULE<sup>1</sup>

N°	Name of Expert /Position	Expert input (in the form of a bar chart) <sup>2</sup>													Total person-month input		
		1	2	3	4	5	6	7	8	9	10	11	12	n	Home	Field <sup>3</sup>	Total
<b>International</b>																	
1		[Home]															
		[Field]															
2																	
3																	
n																	
										<b>Subtotal</b>							
<b>National</b>																	
1		[Home]															
		[Field]															
2																	
n																	
										<b>Subtotal</b>							
										<b>Total</b>							

- 1 For international experts the input should be indicated individually; for national experts it should be indicated by category (e.g.: draftsmen, clerical personnel, etc.).
- 2 Months are counted from the start of the assignment. For each expert indicate separately the input for home and field work.
- 3 Field work means work carried out at a place other than the Consultant's home office.

 Full time input  
 Part time input

## FORM TECH-8 WORK SCHEDULE

N°	Activity <sup>1</sup>	Months <sup>2</sup>												
		1	2	3	4	5	6	7	8	9	10	11	12	n
1														
2														
3														
4														
5														
n														

- 1 Indicate all main activities of the assignment, including delivery of reports (e.g.: inception, interim, and final reports), and other benchmarks such as Client approvals. For phased assignments indicate activities, delivery of reports, and benchmarks separately for each phase.
- 2 Duration of activities shall be indicated in the form of a bar chart.

**FORM TECH-9 SUMMARY OF INFORMATION ON PROPOSED EXPERTS**  
**(Loan No./Country/Project Name)**

Family Name, First Name	Proposed Position for the Project	International or Domestic	Citizenship	Firm (acronym)	Employment Status with Firm (full time, regular staff, or other)	Education/Degree (Year/Institution)	No. of years of relevant project experience	Ex-ADB Staff (Yes/No)	Employee of Executing or Implementing Agency (Yes/No)	CV Signature (by Expert/ by Other)
Example:										
Smith, John A.	Economist	Int'l.	USA	ABC	Other	MA Economics (1975/University of XYZ)	30 yrs.	No	No	By Expert

## Section 4. Financial Proposal - Standard Forms

Financial Proposal Standard Forms shall be used for the preparation of the Financial Proposal according to the instructions provided under para. 3.6 of Section 2. Forms FIN-1, FIN-2, FIN-3, FIN-5, and FIN-6 are to be used whichever is the selection method indicated in para. 4 of the Letter of Invitation. Instead, the Form FIN-4 shall only be used when the QBS selection method is adopted.

FIN-1 Financial Proposal Submission Form

FIN-2 Summary of Costs

FIN-3 Remuneration

FIN-4 Breakdown of Remuneration

FIN-5 Breakdown of Reimbursable Expenses

FIN-6 Acknowledgment of Compliance with ADB's Guidelines

Appendix: Instructions for preparing Financial Proposal Forms FIN-1 to FIN-6

## I. FORM FIN-1 FINANCIAL PROPOSAL SUBMISSION FORM

[Location, Date]

To: [Name and address of Client]

Dear Sirs:

We, the undersigned, offer to provide the consulting services for [Insert title of assignment] in accordance with your Request for Proposal dated [Insert Date] and our Technical Proposal. Our attached Financial Proposal is for the sum of [Insert amount(s) in words and figures<sup>1</sup>]. This amount is exclusive of the local taxes, which shall be identified during negotiations and shall be added to the above amount.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e. before the date indicated in Clause Reference 1.14 of the Data Sheet.

Fees, gratuities, rebates, gifts, commissions or other payments paid or to be paid by us to agents relating to this Proposal and Contract execution, if we are awarded the Contract, are listed below<sup>2</sup>:

Name and Address of Agents	Amount and Currency	Purpose of Fee, Gratuity, Rebate, Gift, Commission or other Payment
_____	_____	_____
_____	_____	_____
_____	_____	_____

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Address: \_\_\_\_\_

<sup>1</sup> Amounts must coincide with the ones indicated under Total in Form FIN-2.

<sup>2</sup> If applicable, replace this paragraph with: "No fees, gratuities, rebates, gifts, commissions or other payments have been given or received in connection with this Proposal."

## FIN-2 Summary of Costs

LOAN No. 1999-XYZ Rehabilitation of Irrigation Systems

Asian Development Consulting

<b>Competitive Components:</b>	<b>US\$</b>	<b>JPY</b>	<b>Euro</b>
<i>Remuneration</i>			
National	22,500	n/a	0
International	376,500	42,750,000	1,695,000
<i>Out-of-Pocket Expenses</i>			
Foreign	84,210	n/a	0
Local	14,600	n/a	0
<i>Total</i>	<b>497,810</b>	<b>42,750,500</b>	<b>1,695,000</b>
<b>Non-Competitive Components:</b> <sup>1</sup>			
<i>Provisional Sums</i>			
Foreign	150,000	n/a	0
Local	8,500	n/a	0
<i>Contingencies</i>	<i>65,631</i>	<i>4,275,000</i>	<i>169,500</i>
<i>Total</i>	<b>721,941</b>	<b>47,025,000</b>	<b>1,864,500</b>

<sup>1</sup> The amounts provided for these items must correspond to the exact amount specified in the Data Sheet and these will be discussed during the contract negotiations.

## FIN-3 Remuneration

LOAN No 1999-XYZ Rehabilitation of Irrigation Systems

**Asian Development Consulting**

### International

Expert Rate	Citizenship	Birth Date	Employment Status <sup>1</sup>	Currency	Home Ofc Rate (per mo)	Months	Field Rate (per mo)	Months	Total
Harold B Civil Engineer	USA	10/11/50	FT	USD	24,500	5	25,400	10	376,500
John D 42,750,000 Community Development Specialist	AUS	14/07/52	OS	JPY	0	0	2,850,000	15	
Mike A 1,695,000 Irrigation Specialist	GER	12/09/46	FT	EUR	23,500	20	24,500	50	

### National

Expert Rate	Citizenship	Birth Date	Employment Status <sup>1</sup>	Currency	Home Ofc Rate (per mo)	Months	Field Rate (per mo)	Months	Total
Ling, N Irrigation Specialist	AFG			USD		0	1,500	15	22,500

Fin-1 1999-XYZ 23/11/2004 Page 1 of 1

<sup>1</sup> Full-time (FT) – employee of the lead firm or joint venture partner or sub-Consultant; Other Source (OS) – an expert provided by another source that is not a joint venture partner or a Sub-Consultant firm; Independent Expert (IP) – independent, self-employed expert.



FIN-4 Breakdown of Remuneration

LOAN NO./TITLE: \_\_\_\_\_

						1	2	3	4	5	6	7	8	9	10
EXPERT						Basic Month	Social				Home Office		Field Rate		
Position	Firm 1/	Citi-	Date of	Type	Categ.	Salary	Charges	Overhead	Sub-total	Fee	Rate per	Others 5/	per	Multi-	Support
Full Name		zenhip	Birth	2/	3/	Currency	Amount	Amount	Amount	Amount	Month	Amount	Month	plier	Docu-
						4/	% of 1	% of 1	(1+2+3)	% of 4	(4+5)	% of 1	(6+7)	(8/1)	ments
-----							-----	-----	-----	-----		-----			
-----							-----	-----	-----	-----		-----			
-----							-----	-----	-----	-----		-----			
-----							-----	-----	-----	-----		-----			
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- 1/ Initials of lead firm or associated firm  
(Please indicate in the box the firm represented by initials.)
- 2/ I= International     N=National
- 3/ FT - Full-time with lead firm or associate firm  
OS - Other source (other than lead firm or associate firm)  
IP - Independent consultant/free lancer
- 4/ Currency of the firm's country.
- 5/ If applicable, please provide explanations.

INITIALS	FIRM NAME

CERTIFIED AS CORRECT: \_\_\_\_\_

Name: \_\_\_\_\_

Position in Firm: \_\_\_\_\_

Date: \_\_\_\_\_

# FIN-5 Breakdown of Reimbursable Expenses

LOAN No 1999-XYZ Rehabilitation of Irrigation Systems

Asian Development Consulting

<b><i>Foreign</i></b>	<b>Unit</b>	<b>Currency</b>	<b>Unit Cost</b>	<b>Qty</b>	<b>Cost</b>
<i>Per Diem</i>	Day	USD	135	90	12,150
<i>International Air Travel</i>					
London/Kabul: Mike A	RT	USD	4,010	6	24,060
San Francisco/Kabul: Harold B	RT	USD	3,500	6	21,000
Tokyo/Kabul: John D	RT	USD	2,500	6	15,000
<i>Communications</i>	Month	USD	6,000	1	6,000
<i>Report Preparation, Production and</i>	lump sum	USD	6,000	1	6,000
<i>Provisional sums</i>					
Equipment	lump sum	USD	150,000	1	150,000
<b><i>Local</i></b>	<b>Unit</b>	<b>Currency</b>	<b>Unit Cost</b>	<b>Qty</b>	<b>Cost</b>
<i>National Air Travel</i>	RT	USD	100	5	500
<i>Office Operations, LC (Office Supplies, Support Staff)</i>	Month	USD	350	6	2,100
<i>Provisional sums</i>					
Seminars	lump sum	USD	3,500	1	3,500
Workshops	lump sum	USD	5,000	1	5,000
<i>Bi-lingual Secretary</i>	Month	USD	4,000	3	12,000

**FORM FIN-6****ACKNOWLEDGEMENT OF COMPLIANCE WITH ADB'S *GUIDELINES ON THE USE OF CONSULTANTS BY THE ASIAN DEVELOPMENT BANK AND ITS BORROWERS (GUIDELINES)***

**A.** I, \_\_\_\_\_ (name and position of authorized signatory) duly authorized by \_\_\_\_\_ (name of Consulting firm/Joint Venture Partner) ("Consultant") hereby certify on behalf of the Consultant and myself that information provided in the Technical and Financial Proposals (collectively "Proposals") submitted by the Consultant for Loan No.-Country: Title ("Project") is true, correct and accurate to the best of my knowledge and belief. I further certify on behalf of the Consultant that (i) the Proposals have been prepared and submitted in compliance with the terms and conditions set forth in the ADB's *Guidelines on the Use of Consultants by the Asian Development Bank and its Borrowers (Guidelines)*, (ii) that the Consultant has not taken any action which is or constitutes a corrupt, fraudulent, collusive or coercive practice and is not subject to any conflict of interest as defined in ADB's anticorruption policy and as reflected in Section 1.05 of the *Guidelines*; and (iii) that the Consultant agrees to allow the Client or the ADB, at its option, to inspect and audit all accounts, related documents, and records relating to the Proposals and, if the Consultant is engaged, to the performance of the ensuing contract.

**B.** I certify that neither the Consultant nor any Sub-Consultant, or expert nominated by the Consultant in these Proposals has been sanctioned by the ADB.

**C.** I further certify on behalf of the Consultant that, if selected to undertake consulting services in connection with the Project, we shall carry out such services in continuing compliance with the terms and conditions of the *Guidelines*.

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**Authorized Signatory**

For and on behalf of the Consultant

Date: \_\_\_\_\_

## Appendix

### II. Instructions for Preparing Financial Proposal Forms FIN-1 to FIN-6

- 1 Forms FIN-1 to FIN-4 must be completed and submitted to the Client in hard copy only, strictly in accordance with the instructions.
- 2 It is the Consultant's responsibility to ensure the correct Financial Proposal format is used for the selection method indicated in the Data Sheet.
- 3 **Form FIN-1** Financial Proposal Submission Form shall be filled in following the instructions provided in the Form.
- 4 **Form FIN-2** Summary of Costs. Form FIN-2 provides a summary of the elements of estimated costs for implementation of the proposed Consultant services.
- 5 **Form FIN-3** Remuneration
  - (i) The purpose of Form FIN-3 is to identify the monthly billing rates for each international and national expert to be fielded by the Consultant as part of its proposed tem of experts.
  - (ii) The following details shall be shown for each expert:
    - a. Expert's name
    - b. International or national expert
    - c. Employment status
      - Regular full-time (FT) - employee of the Consultant or the Sub-Consultant. [Refer to provision 3.3.(iii) of Section 2].
      - Other source (OS) - an expert being provided by another source which is not a Consultant or a Sub-Consultant.
      - Independent expert (IP) - independent, self-employed expert.
    - d. Nominated position; same as that shown on personnel schedule (Form TECH-7, Section 3)
    - e. Citizenship
    - f. Date of birth
    - g. Currency; currency expert is to be paid in .....
    - h. Home office rate; remuneration rate when the expert is working in the Consultant's home country office.
    - i. Field rate; remuneration rate when the expert is working outside the expert's home country.
    - j. Months; number of months input to match that shown on the personnel schedule (Form TECH-7, Section 3).

## 6 Form FIN-4 Breakdown of Remuneration

**When QCBS is used, the remuneration rate only is to be provided for (letters h and j of point 5 (ii) here above) whereas, when QBS is used, full details showing how the remuneration rate was determined must be provided. These include basic salary, social charges, overhead fee and other special loadings to the basic salary that may be applicable, and these shall be shown in complete detail on Form FIN-4.**

The following provides guidance as to the meaning of these terms. For more detailed information, refer to the ADB website [adb.org](http://adb.org) under Opportunities, Consulting Services, Documents on Consulting Services, (4) Appendix 3 - Instructions on Preparation of Financial Proposal.

- (i) **The Basic Monthly Salary** is the actual base salary payable on a regular basis by the Consultant, or its sub-Consultant to its regular full-time employee based on the employee's contract of employment with the firm. This is before any supplemental payments or any deductions are made to or from the salary. During contract negotiations, the Consultant will be required to provide certified copies of salary slips or contracts of employment to support salaries the Consultant shows in the Financial Proposal.
- (ii) **Social Charges** represent costs to the Consultant of specific employee benefits such as paid vacation, contributions to pension funds, insurance and similar costs directly attributable to the employee. These costs should be distinguished from the generalized overhead costs of the firm.
- (iii) **The Overhead Cost** represents the Consultant's normal overhead expenditure at the home office that is attributable to its consulting activity. The Consultant and its joint venture partner or its sub-Consultant should each show one overall average percentage figure to be applied for all of their own experts who are regular full-time employees. In the case of independent individual experts contracted from outside the Consultant's own regular full time employees, a suitably reduced overhead may be shown as a percentage of their contracted cost.
- (iv) **The Fee**, or profit to be earned by the Consultant is computed as a percentage of the summation of the basic monthly salary, the social charges and the overhead cost. A fee of 10-15 percent, depending on the magnitude of these component costs is considered usual.
- (v) **Other Allowances** provides for inclusion of any other payment the Consultant is obligated in accordance with the Consultant's employment policies, to add to the expert's home office basic monthly salary when the expert is working outside its home country. For such cases during contract negotiations the Consultant must provide a copy of the expert's employment conditions showing the Consultant's obligation to make this payment. When this allowance is accepted by the Client, it is computed at a percentage of the expert's basic salary and is not subject to social charges, overhead cost or fee additions. The maximum allowance the Client will accept is limited to 20 percent of the expert's basic salary.

- (vi) **The Multiplier** shows the ratio between the home office rate per month and the basic monthly salary. The ratio normally ranges from 2.0 to 3.0 for regular full-time employees of the Consultant or its joint venture partner or sub-Consultant and from 1.1 to 1.3 for independent experts provided by the Consultant. These multipliers are subject to negotiation but should not exceed 3.0 for regular full-time employees<sup>1</sup> and 1.3 for independent experts except when the basic salary is particularly low.
- (vii) **Support Documentation** in the form of salary slips or contract of employment to support basic salaries shown by the Consultant in the Financial Proposal and a copy of the Consultant's (or sub-Consultant latest set of annual statement of income and expenditure certified by an independent auditor will be required for review by the Client during contract negotiations.

**7 Form FIN-5 Breakdown of Reimbursable Expenses** (refer to the attached sample of Reimbursable Expenses Entry Screen, Attachment 2)

- (i) The purpose of Form FIN-5 is to identify all out-of-pocket expenditures in foreign and local currencies considered by the Consultant necessary to carry out the assignment.
- (ii) All required out-of-pocket expenditure is an international or a local expenditure (all per diems of international experts are considered to be foreign expenditures).
  - a. Type - whether the expenditure is an international or local expenditure (all per diems of international experts are considered to be foreign expenditures).
  - b. Unit - type of unit (monthly, daily lump sum, etc.)
  - c. Currency - currency of expenditure
  - d. Per unit cost - unit rate for the item
  - e. Quantity - quantity of the item
- (iii) Per Diems
  - a. For international experts, the weighted average per diems (i.e., one per diem rate for all locations) need to be computed (per diems are calculated on the basis of 30 days per calendar month). The per diem comprises room costs and subsistence allowance for meals and other similar expenses.
  - b. For national experts, when the experts are required to work away from the Consultant's project office, the weighted average per diems (i.e., per diem rate for all locations) of the national Consultants calculated on the basis of 30 days per calendar month need to be shown.

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<sup>1</sup> A regular full-time employee of the Consultant or the Sub-Consultant is defined as a person who, on the date of submission of the Consultant's Proposal,-:

- (a) is currently employed under a contract or agreement of employment with the Consultant or the Sub-Consultant;
- (b) has been employed by the Consultant or the Sub-Consultant for the last 12 consecutive months preceding the date of submission of the Proposal;
- (c) is entitled to receive regular remuneration and benefits (e.g. social security, pension or medical contributions) from the Consultant or the Sub-Consultant ; and
- (d) is engaged to work for the Consultant or the Sub-Consultant for the number of hours per day and days per year considered the norm in the country of employment or in the country in which the person is assigned

(iv) International Travel

International travel costs will show the return airfares needed by international experts to travel from their home office, or regular place of work, to the field. The number of round trips, the cost for each trip and destinations should be shown under “air travel”. A separate item “miscellaneous travel expenses” should be shown to cover a lump sum allowance for processing necessary travel documents, inoculations, and transport to and from airports on a round trip basis.

(v) Provisional Sums and Contingencies

The amounts indicated as “provisional sums” (e.g. workshops, seminars, etc.), which are reimbursable, and the contingency amount must be the same as those specified in the Data Sheet.

**8 Form FIN-6. Acknowledgement of Compliance with ADB’s Guidelines**

The Consultant’s authorized representative must sign and date this acknowledgement in the blank space in Form FIN-6 on behalf of the Consultant and the Consultant’s stamp or seal should be embossed or stamped over such signature.

## **Section 5. Outline Terms of Reference for International Consulting Services**

1. A total of 132 person-months of international consulting services and 450 person-months of domestic consulting services will be required for detailed engineering design, preconstruction activities, construction supervision, environmental monitoring, financial auditing, project performance monitoring and evaluation, and training on road maintenance and safety and STI/HIV/AIDS prevention. The consultant will assist and support the Department of Works (DOW), providing guidance and advise on the (i) detailed design and preconstruction activities, including the preparation of tender documents, tender process, evaluation of bids, and contract awards, and (ii) implementation of civil works for the selected subproject road sections in the provinces of Eastern Highlands, Enga, Chimbu, Southern Highlands, and Western Highlands. The Highlands Region Maintenance Group (HRMG) field project manager will be fully responsible as the engineer, while the provincial work managers will act as the engineer's representatives on the Project. The consultant will help HRMG staff prepare an environmental impact management plan and ensure that the contractor adheres to all aspects of environmental protection and undertakes the action required under the plan.
2. The consultant will compile benchmark project performance baseline data and provide practical on-the-job training to DOW technical field staff and staff members of the provincial administrations when undertaking the task.

### **A. Scope of the Work**

#### **1. Road Upgrading**

3. The responsibilities of the consultant will include the following:
  - (i) Assist, advise, and provide guidance in undertaking a topographic survey that encompasses the full extent of the road, bridge sites, and drainage structures in compliance with international and DOW standards. Assist in preparing plans of all survey work for compiling benchmark information and descriptions of features.
  - (ii) Provide assistance in carrying out geotechnical tests of pavement strength, thickness, and other characteristics. The frequency of test locations shall be sufficient to determine base and sub-base requirements.
  - (iii) Identify and test, using DOW facilities and personnel, material quarry sites to determine compliance with proposed material specifications. Estimate the quantity of material complying with the relevant code that is available from each site. Identify sufficient sites to meet the requirements of the Project. Identify the extent of any construction activities required to excavate, treat (if necessary), and load the material.
  - (iv) Prepare road design criteria and design speed in conformity with the scope of works recommended in the approved feasibility study and the current version of the Papua New Guinea (PNG) Road Design Manual, TRL Road Note 31, and PNG Drainage Design Manual. While providing for safe travel, the practical design speed should be selected to minimize land acquisition requirements.



- (v) Help, advise, and provide guidance on preparing preliminary designs of road cross-sections, geometric alignment (horizontal and vertical), pavement type and thickness, road furniture, and drainage structures.
- (vi) Help and advise on carrying out preliminary bridge design in accordance with the PNG Bridge Design Manual, stressing the need for compatibility with the road alignment and the findings of the approved economic feasibility study.
- (vii) Help and advise on carrying out bridge foundation investigations based on the approved preliminary design.
- (viii) Prepare construction contract packaging to ensure that the Government receives value for money, and facilitate construction activities.
- (ix) Help and advise on preparing detailed design drawings of all construction items, including longitudinal sections in the minimum scales of horizontal 1:2000 and vertical 1:200, and cross-sections minimum horizontal scale of 1:100. All drainage structures will be detailed in plan, longitudinal, and sections.
- (x) Prepare work quality and materials specifications based on current DOW workmanship and materials specifications with approved modifications.
- (xi) Help and advise on preparing an environmental impact management plan in accordance with the Asian Development Bank (ADB) *Environmental Guidelines for Selected Infrastructure Projects (Highways and Roads)* and international standards to identify any unacceptable environmental impacts during construction and measures to mitigate them.
- (xii) Assist in updating subproject-specific environmental management and monitoring plans at engineering design stage, and incorporate them in bidding documents and civil works contracts. Assist DOW in monitoring the updates and implementing the environmental management plans (EMPs), and prepare environmental reports.
- (xiii) Prepare bidding documents in compliance with ADB's *Procurement Guidelines*. Submit these documents to DOW and ADB for approval as soon as they are completed. Provide technical support to DOW during the tendering and contract negotiation stages. Participate in bid evaluation and contract negotiations. Prepare final contract documents based on the results of the contract negotiations.

## **2. Road Rehabilitation**

4. The consultant's responsibilities will include the following:
  - (i) Help and advise on carrying out geotechnical tests of pavement strength, thickness, and other characteristics. The frequency of test locations will be sufficient to determine base and sub-base requirements.
  - (ii) Identify and test, using DOW facilities and personnel, material borrow areas to determine their compliance with proposed material specifications. Estimate the quantity of material that complies with the relevant code available from each site. Identify sufficient sites to meet the requirements of the Project. Identify the extent of any construction activities required to excavate, treat (if necessary), and load the material.
  - (iii) Prepare design criteria in conformity with the scope of works recommended in the approved feasibility study and the current version of the PNG Road Design Manual, TRL Road Note 31, and PNG Drainage Design Manual.

- (iv) Help and advise on preparing preliminary designs of road cross-sections, pavement types and thickness, road furniture, and drainage structures.
- (v) Prepare construction contract packaging to ensure that the Government receives value for money, and facilitate construction activities.
- (vi) Help and advise on preparing detailed design information of the final cross-section, minimum depth, and type of pavement overlay. All drainage structures will be detailed in plan, longitudinal, and sections.
- (vii) Prepare work quality and materials specifications based on current DOW work quality and materials specifications with approved modifications.
- (viii) Prepare bidding documents in compliance with ADB's *Procurement Guidelines*. Submit these documents to DOW and ADB for approval as soon as they are completed. Provide technical support to DOW during the tendering and contract negotiation stages. Participate in bid evaluation and contract negotiations. Prepare final contract documents based on the results of contract negotiations.
- (ix) Assist in updating subproject specific environmental management and monitoring plans at engineering design stage, and incorporate them in bidding documents and civil works contracts. Assist DOW in monitoring the updates and implementing the EMPs, and prepare environmental reports.

### **3. Construction Supervision**

#### **5. The responsibilities of the consultant will include the following:**

- (i) Help and advise on providing effective and regular supervision of the works. Supervise quality control tests to ensure that the works are executed in accordance with established standards, criteria, specifications, procedures, and approved design and environmental aspects in accordance with the standards of the Fédération Internationale des Ingenieurs-Conseil. Ensure implementation of the civil works in compliance with the prepared environmental management and monitoring plan and the construction schedule.
- (ii) Regularly inspect the contractor's construction requirements, installations, housing, medical facilities, etc., to ensure that they are adequate and in accordance with the terms and conditions specified in the contract for civil works. Minimize disturbance to the local communities and economy.
- (iii) Help and advise on maintaining a permanent record of all measurements for the work quantities to be paid for and the results of all tests carried out for monitoring the quality of civil works.
- (iv) Help and advise on preparing a bill of quantities and make recommendations, for the engineer's consideration, on certifying all payments to be made to the contractor.
- (v) Liaise with and inform the engineer of problems arising with the implementation of civil works and recommend possible solutions.
- (vi) Revise plans and specifications as necessary, prepare variation orders, and assist the engineer in negotiating with the contractor implementation of these changes (if they involve additional cost, ADB will be consulted before implementation).
- (vii) Evaluate and make recommendations to the engineer on the contractor's claims, disputes, contract time extensions, and other changes outside the scope of the contract.

- (viii) Help and advise on preparing monthly contract payments estimates and certificates for payment, including updated cost estimates for construction and supervision.
- (ix) Provide timely assistance to the contractor in all matters related to interpreting contract documents, ground survey controls, quality control testing, and other matters relating to the contract under the Project.
- (x) Assist DOW in preparing a project completion report in a manner satisfactory to the Government and ADB, including as-built drawings, after completion of the works.
- (xi) Incorporate on-the-job training for technical field staff of DOW and provincial administrations when undertaking the project tasks.

#### **4. Socioeconomic Monitoring and Evaluation**

6. The consultant will have the following responsibilities:

- (i) Review project documents, including the report and recommendation of the President, legal documents, and technical assistance reports, particularly the initial social assessment for the Road Maintenance and Upgrading (Sector) Project covering five Highlands provinces.
- (ii) Establish, before April 2007, a set of project performance indicators and sex-disaggregated baseline data for road subprojects whose civil works have not commenced, considering the project goal, outcome, and outputs. Indicators may include (a) economic activities and income level in the project area; (b) industrial and agricultural outputs; (c) transport costs and time; (d) transport services and transport charges; (e) accident rates; (f) level of social services, including school enrollment and infant mortality; (g) access to HIV/AIDS information and services; and (h) jobs created by road rehabilitation. Employment impact indicators will include information about unskilled, poor, and female laborers.
- (iii) Review and update the baseline data during the upgrading and rehabilitation period. Analyze the data and evaluate the project impact.
- (iv) Review and update the baseline data at project completion. Analyze the data and evaluate the project impact.
- (v) Monitor and evaluate the performance of ongoing and completed road sections, and prepare subproject completion reports.
- (vi) Assess the overall impact of the Project. Prepare monitoring and evaluation reports. Submit the reports to the Government and ADB 1 month after the fieldwork.
- (vii) Provide training to the HRMG community relations officer and other counterpart staff, and ensure knowledge transfer.

#### **5. Training on Road Maintenance, Road Safety, and STI/HIV/AIDS Prevention**

7. Through the HRMG community relations officer, help DOW ensure the timely and effective organization of the following activities: (i) community-based routine maintenance of selected roads completed under Loan 1709-PNG and supplementary loans; (ii) community-based training on road maintenance and road safety under the guidance of the Provincial Works

Administration; and (iii) prevention of sexually transmitted infections (STI), including HIV/AIDS, along the prioritized road sections in consultation with Provincial AIDS Council and Health Administration.

## **B. Preparation of Reports**

8. Assist DOW and HRMG staff in preparing quarterly project progress reports and the project completion report.

### **1. Quarterly Progress Reports**

9. The consultant will help the engineer's representative submit quarterly progress reports. The reports will summarize the (i) progress of civil works, (ii) results of environmental and social monitoring, (iii) STI/HIV/AIDS prevention actions undertaken under each road section, (iv) issues and proposed solutions, and (v) an outline of the work to be performed during the next reporting period. The consultant will train DOW provincial staff and staff of the provincial authorities on their reporting responsibilities. The quarterly progress reports shall be submitted to the National AIDS Council, the Country Coordinating Mechanism, and relevant government agencies mandated for environmental protection.

### **2. Construction Completion Report**

10. Help and advise on preparing subproject construction completion reports, including as-built drawings (one copy only, which will be submitted to DOW), noteworthy events in the course of the subproject, the performance of the contractor, the operation of the subproject, and the actual cost.

### **3. Project Completion Report**

11. Help and advise on preparing a project completion report when project subprojects are substantially completed. The report should describe the project and its implementation and evaluate ADB's performance, as detailed below:

- (i) **Project description.** Describe project objectives, subprojects, implementation methods, and justifications for changes to subprojects, if any.
- (ii) **Project implementation.** Describe project implementation, noting the following aspects:
  - (a) Compare original and actual implementation schedules. Indicate delays, the length and causes of delays, and the remedial action taken.
  - (b) Compare cost estimates made during appraisal and actual costs (foreign and local). Indicate factors that contributed to any significant cost overruns or overestimation.
  - (c) Describe problems or difficulties encountered in recruiting consultants with reference to ADB procedures. Assess the consultant's work and the working relationship between the Executing Agency (EA) and the consultant. Using a design and monitoring framework is strongly recommended.

- (d) Describe problems or difficulties encountered in procuring goods and services (including civil works) with reference to ADB procedures. Assess suppliers' and contractors' performance under the contract.
  - (e) Describe the extent to which the Borrower and EA comply with loan covenants, with reasons for noncompliance or delays in compliance and the remedial actions taken.
  - (f) State the reasons for any delays in loan utilization. Evaluate the appropriateness of the disbursement methods used. Justify any reallocation of loan proceeds.
  - (g) Describe problems or difficulties with subproject appraisal. Evaluate the EA's performance and capacity to appraise subprojects.
- (iii) **Evaluation of ADB's performance.** Describe ADB's performance, noting the following:
- (a) Assess ADB's performance in supervising project implementation. Include comments on the adequacy of the consultants' terms of reference and appropriateness of specifications in tender documents. Evaluate the effectiveness and timeliness of assistance extended by ADB to solve implementation problems.
  - (b) Comment on problems encountered with ADB's procedures. Note the measures taken to resolve these problems and suggest changes in procedures and requirements.

## Section 7. List of ADB Member Countries

1.	AFG	Afghanistan	34.	FSM	Micronesia, Federal States of
2.	ARM	Armenia	35.	MON	Mongolia
3.	AUS	Australia	36.	MYA	Myanmar
4.	AUT	Austria	37.	NAU	Nauru, Republic of
5.	AZE	Azerbaijan	38.	NEP	Nepal
6.	BAN	Bangladesh	39.	NET	Netherlands
7.	BEL	Belgium	40.	NZL	New Zealand
8.	BHU	Bhutan	41.	NOR	Norway
9.	BRU	Brunei Darussalam	42.	PAK	Pakistan
10.	CAM	Cambodia	43.	PAL	Palau
11.	CAN	Canada	44.	PNG	Papua New Guinea
12.	PRC	China, People's Republic of	45.	PHI	Philippines
13.	COO	Cook Islands	46.	POR	Portugal
14.	DEN	Denmark	47.	SAM	Samoa
15.	FIJ	Fiji Islands, Republic of	48.	SIN	Singapore
16.	FIN	Finland	49.	SOL	Solomon Islands
17.	FRA	France	50.	SPA	Spain
18.	GER	Germany	51.	SRI	Sri Lanka
19.	HKG	Hong Kong, China	52.	SWE	Sweden
20.	IND	India	53.	SWI	Switzerland
21.	INO	Indonesia	54.	TAJ	Tajikistan
22.	IRE	Ireland	55.	TAP	Taipei, China
23.	ITA	Italy	56.	THA	Thailand
24.	JPN	Japan	57.	TIM	Timor-Leste, Democratic Republic of
25.	KAZ	Kazakhstan	58.	TON	Tonga
26.	KIR	Kiribati	59.	TUR	Turkey
27.	KOR	Korea	60.	TKM	Turkmenistan
28.	KGZ	Kyrgyz	61.	TUV	Tuvalu
29.	LAO	Lao People's Democratic Rep.	62.	UKG	United Kingdom
30.	LUX	Luxembourg	63.	USA	United States of America
31.	MAL	Malaysia	64.	UZB	Uzbekistan
32.	MLD	Maldives	65.	VAN	Vanuatu
33.	RMI	Marshall Islands		VIE	Viet Nam

## SECTION 8: PROCUREMENT

### A. Introduction

1. Procedures applicable to ADB-financed procurement are derived from principles in the *Agreement Establishing the Asian Development Bank* (the Charter), from experiences of ADB and other multilateral and bilateral development financing institutions, and from generally accepted rules of sound commercial practice. These principles and procedures are contained in the *Guidelines for Procurement under Asian Development Bank Loans* (copy of which will be provided by ADB during Inception Mission).

2. Procurement for ADB-financed projects must conform to four criteria:

- a. eligible procurement sources or from ADB member countries only;
- b. economic and efficient use of loan proceeds;
- c. adequate and equal opportunity for ADB member countries to participate in supplying goods and related services and works; and
- d. transparency in procurement to achieve economy and efficiency, and combat fraud and corruption.

### B. Arrangement under the Loan

3. Civil works will be divided into 16 contract packages as listed in the procurement plan (**Annex 1 to Section 8**). Since the procurement threshold for PNG is \$3 million, five of the packages will be procured under national competitive bidding (NCB) without excluding foreign contractors and joint ventures, and 11 will be procured under international competitive bidding (ICB). Single-stage one- envelope bidding procedure with post-qualification will be used for both ICB and NCB contract packages to streamline the bidding process. Contractors with adequate technical and financial capacity will be allowed to bid for several packages and may be awarded more than one contract based on the least-cost combination of contracts.

#### a. International Competitive Bidding

4. International competitive bidding (ICB) is the normally required mode of procurement under ADB financing which would be used for civil works contracts to cost the equivalent of more than \$3.0 million.

#### b. National Competitive Bidding

5. Civil works estimated to cost less than \$3.0 million will be carried out under national competitive bidding (NCB)<sup>1</sup> procedures acceptable to ADB. NCB will be adopted under the Loan if ADB is satisfied that all of the following requirements are met:

- a. foreign contractors and suppliers are not likely to be interested in bidding;
- b. local production or construction facilities are available, offer prices below the international market, and are adequate for prompt delivery;
- c. domestic procurement procedures are satisfactory to ADB; and
- d. where the borrower requested the use of NCB.

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<sup>1</sup> Formerly referred to as Local Competitive Bidding (LCB) under Schedule 4, Para 6 (Procurement) of the Loan Agreement and Appendix 10 of RRP on Indicative Procurement Packages.

Moreover, NCB may be considered for contracts that

- a. are of small value;
- b. consist of a series of small-value works;
- c. are located in several areas that may be far apart in the borrowing DMC; and
- d. will be executed at different times.

6. **Treatment of Foreign Bidders under NCB** - Contractors from all member countries are entitled to apply for prequalification or to bid for contracts under NCB. ADB requires the borrowing DMC to permit such participation, but foreign bidders must adhere to local procedures acceptable to ADB, including using the local language and paying in local currency, if required by the bidding documents. Under NCB, the delivered cost of materials including import duties and other taxes may be used when comparing bids. ADB's domestic preference policy does not apply to NCB.

7. **Using ADB Standard Bidding Documents for NCB** – Borrowers are encouraged to use ADB-approved standard bidding documents for NCB, ideally based on the standard bidding documents for ICB. If standard bidding documents acceptable to ADB are not yet available in borrowing DMCs, ADB will provide assistance to help develop them. Once prepared and approved, the use of standard bidding documents will be mandatory.

8. **ADB Review of Procurement Documents** - For each project, the first draft English language version of the procurement documents should be submitted for ADB review and approval regardless of the estimated contract amount. ADB-approved procurement documents should be used as a model for all procurement financed by ADB for the project, and need not be subjected to further review unless specified in the procurement plan, or required under special arrangements.

9. **Approval of Contract Award under NCB** - ADB will review the bid evaluation report (BER) and award of contract on a post-facto basis. The EA must submit copies of the BER and signed contract in English to the concerned sector division or resident mission for post review as soon as possible following contract award. The EA should be advised that ADB reserves the right to refuse financing for the contract if it is found during post review that the procurement has not been conducted in accordance with the *Procurement Guidelines*, or other provisions specified in the financing agreement.

### **C. Mis-procurement**

10. If procurement is not carried out in accordance with the Procurement Guidelines, the financing agreement, or procurement plan, mis-procurement is declared. Normally, the portion of the financing allocated to the mis-procured contract is cancelled. The decision as to whether or not to cancel financing is based on the circumstances, looking at such factors as the parties involved, the intent, and whether or not remedies are possible. Simple mistakes or technicalities that do not substantively affect the procurement process may not trigger mis-procurement. For example, a failure to apply the correct period of advertising, if determined to be an oversight, may be permitted if it is found that the advertising met its intended purpose of notifying potential bidders and ensuring competition.

11. In some instances, rebidding is a preferred solution to cancelling the financing for a mis-procured contract. This would be done where noncompliance to agreed procedures cannot be remedied, but where such noncompliance is an oversight or not the fault of the EA. For example, if a contract was not advertised on *adb.org*, and it was due to circumstances beyond the control of the EA (perhaps it



was the fault of the advertiser), then rebidding might be the best solution. Decisions on rebidding would similarly be based on intent, seriousness of the noncompliance, and whether rebidding is a suitable remedy to problems caused. Such decisions should be taken in consultation with ADB's Counsel and Procurement Specialist.

12. Where post review procedures are used, mis-procurement may still be declared if it is found that the procurement was not carried out in accordance with agreed procedures. Rebidding would not normally be possible, because the review would be conducted after execution of the contract. The *Procurement Guidelines* are more permissive in the case of post review, saying that mis-procurement "may" be declared. Therefore, the options would be to either not declare mis-procurement, or declare it and cancel the financing for the contract.

#### **D. Procurement Contract Monitoring**

13. Procurement contract monitoring system (PCMS) (**Annex 2 of Section 8**) serves as a tool to benefit the EA in monitoring the timeliness of each procurement processes. It covers the stages from prequalification (where used), procurement documentation, invitation for bid, bid evaluation, and contract awards. The PCMS also records total contract amount approved by ADB<sup>2</sup>, and total contract amount awarded. Clarification is sought from the EA whenever there is a difference between these two amounts. Task duration for each activity specified in the *Procurement Guidelines* and bidding documents is the basis for computing delays. Delays are flagged to highlight problem areas and the need for closer monitoring and timely contract awards necessary to ensure smooth implementation and project progress.

#### **E. Intellectual Property**

14. The Borrower shall ensure that all ADB-financed goods and services procured (including without limitation all computer hardware, software and systems, whether separately procured or incorporated within other goods and services procured) do not violate or infringe property right or claim of any third party.

15. The Borrower shall ensure that all ADB-financed contracts for the procurement of goods and services contain appropriate representations, warranties and, appropriate indemnities from the contractor or supplier with respect to the matters referred to in para 11 above.

#### **F. Advance Contracting**

16. Prior to the date of the Loan Agreements, ADB has approved certain Advance Contracting undertaken on behalf of the Borrower for the procurement of Works and Consulting Services for the Project. The Borrower confirms that all such Advance Contracting has been carried out in a manner consistent with the requirements of this Loan Agreement and OCR Loan Agreement. The approval of Advance Contracting shall not, in any way, derogate from or alter the Borrower's obligations set forth in the Loan Agreements.

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<sup>2</sup>

The PCMS could be used for other Donor funded procurement.

## List of Contract Packages

Location	Contract Description	Estimated Cost (\$ million)	Procurement Method <sup>1</sup>	Expected Date of Advertisement	Prior Review Y/N
<b>I. Civil Works</b>					
1. Raipinka-Okapa	Raipinka -Okapa backroad junction	3.42	ICB	June 2006	Yes
	Okapa backroad junction-Okapa station	3.18	ICB	June 2006	Yes
2. Goroka-Lahame	Goroka-Lahame	3.23	ICB	June 2006	Yes
3. Kamaliki-Move	Kamaliki-Bekuvia bridge	2.74	NCB	June 2006	No
	Bekuvia bridge-Move	2.76	NCB	June 2006	No
4. Kindeng-Kondopina	Kindeng-Kondopina	3.83	ICB	June 2006	Yes
5. Banz-Dona	Banz Town-Karameng,	2.73	NCB	June 2006	No
	Karameng-Dona	3.05	ICB	June 2006	Yes
6. Gewa-Gembogl	Gewa-Gembogl	3.42	ICB	June 2006	Yes
7. Kerowagi-Dona	Kerowagi-Dona	4.07	ICB	June 2006	Yes
8. Korinige-Kerowagi	Korinige-Kerowagi	1.10	NCB	June 2006	No
9. Warumanda-Laiagam	Warumanda-Lame Bridge	3.10	ICB	June 2006	Yes
	Lame Bridge-Laiagam	6.30	ICB	June 2006	Yes
10. Ialibu-Kagua	Ialibu-Seven Coners Village	3.83	ICB	June 2006	Yes
	Seven Corners Village-Kagua	2.44	NCB	June 2006	Yes
11. Ialibu-Pangia	Ialibu-Pangia	4.06	ICB	June 2006	Yes
<b>II. Consulting Services<sup>2</sup></b>					
A. Project engineering design, preconstruction activities, construction supervision, performance monitoring and evaluation, and training on STI/HIV/AIDS prevention		3.21	SSS	RFP issued by November 2006	

ICB = international competitive bidding, NCB = national competitive bidding, SSS = single source selection, RFP = request for proposal.

Source: Asian Development Bank estimates.

<sup>1</sup> For ICB contracts, 3 copies of the invitations for bids and all related bidding documents should be submitted to the Asian Development Bank (ADB) for approval 21 days prior to the proposed date for issuing of the bidding documents. The Bid evaluation reports and proposals for contract award should be submitted to ADB for review and approval 30 days before the expiration of the bid validity. Domestic preference will apply to ICB contracts only. All contracts will follow one-stage one-envelope bidding procedure with post qualification. The draft bidding documents and bid evaluation report of the first NCB contract package should be submitted for ADB prior approval. Subject to satisfactory performance of the first NCB contract package, the draft bidding documents and bid evaluation reports of the rest of NCB contract packages will be reviewed by ADB on a post facto basis.

<sup>2</sup> Request for Proposal for biodata technical and financial proposals should be issued. Evaluation report and draft negotiated contract and minutes should be submitted for ADB's approval.

**PROCUREMENT CONTRACT MONITORING SHEET W/O PREQUALIFICATION**

**BASIC DATA**

Project Name: \_\_\_\_\_  
 Loan No.: \_\_\_\_\_  
 Loan Amount (in US\$): \_\_\_\_\_  
 Source of Financing: \_\_\_\_\_  
 Bid Package No.: \_\_\_\_\_  
 Mode of Procurement: \_\_\_\_\_  
 Nature of Contract: \_\_\_\_\_  
 Estimated Amount (in US\$) \_\_\_\_\_  
 Description: \_\_\_\_\_  
 Domestic Preference: \_\_\_\_\_  
 Contract No.: \_\_\_\_\_

**PROCUREMENT**

ACTIVITIES	RES- PONSI- BILITY	NORMAL/ AVERAGE DURATION	TARGET DATE	ACTUAL DATE	ACTUAL DURATION		DELAY	REMARKS
					DAYS	CUMM. DAYS		
1. Draft Bidding Docs & Specific Notice Received by ADB	EA							
2. Date of Acknowledgment	ADB							
3. Invitation for Bids Advertised in Business Opportunities Web	ADB	7 days						
4. Documents sent to COPP & OGC	ADB	3 working days						
5. Comments Received from COPP & OGC	ADB	10 working days						
6. Bank Approval for Bidding Doc	ADB	21 days						
7. Advertised in Local English Newspaper	EA							
8. Bidding Documents Issued	EA	10 days from ADB Approval						
9. Bid Closing/Opening Date (to be counted from #4, 8, or 9, whichever is later)	EA	Civil Works 90 days Goods 60 days						
10. Bid Validity Expiry Date	EA	Bid Closing + 120 days						
11. Bid Security Expiry Date	EA	Bid Validity Expiry Date + 30 days						

**BID EVALUATION**

<b>12a. Envelope 1</b>								
(i) Bid Evaluation/Recommendations for 1st Stage Evaluation Received	EA	60 days						
(ii) Bank Approval or Non-Concurrence	ADB	14 days						
<b>12b. Envelope 2</b>								
(i) Opening of Bids	EA	10 days						
(ii) Bid Evaluation/Recommendation for Award Received	EA	60 days						
(iii) Bank Approval or Non-Concurrence	ADB	14 days						

**CONTRACT DOCUMENTS**

13. Contract Sign Date	EA	30 days						
14. Signed Contract Received by the Bank	ADB	14 days						
15. PCSS Date  PCSS#: Contract Amount:  Contractor: Country:	ADB	7 days						

CONTRACT DISBURSEMENT	RESPONSIBILITY	CURRENCY	US\$ EQUIV	Y1	Y2	Y3	Y4	Y5	Y6
1. Planned	ADB								
2. Actual	ADB								

**REASON FOR DIFFERENCE, IF ANY, BETWEEN CONTRACT AMOUNT APPROVED BY ADB AND TOTAL CONTRACT AMOUNT AWARDED**

(amounts in US\$)

Contract Amount Approved by ADB:	Contract Award:
ADB Financed Amount:	
Reason for Difference:	Others:

## SECTION 9: DISBURSEMENT

### A. Basic Principles of ADB Disbursement

1. The Articles of Agreement establishing ADB (the Charter) state three main principles of disbursements for development projects:

- a. Proceeds of the ADB loan shall be used only for the purposes for which the loan was approved with due attention to consideration of economy and efficiency;
- b. The Borrower shall be permitted by ADB to draw its funds only to meet expenditures in connection with the Project as they are actually incurred;
- c. The proceeds of any loan, investment or other financing provided by ADB shall be used only for the procurement in member countries of goods and services produced in member countries unless specifically permitted by its Board of Directors.

2. All disbursements under the ADB loan will be carried out in accordance with ADB's *Loan Disbursement Handbook* (copy to be provided to the EA). The Borrower can withdraw loan funds only after the loan agreement becomes effective. **Effectivity Date** is the date, as determined by ADB, when all conditions of effectiveness of the loan agreement have been fulfilled by the borrower and disbursements may be made from the loan account.

3. No withdrawals from the Loan Account shall be made in respect of any local taxes.

### B. Loan Regulations

4. General standard terms and conditions governing loans made by ADB are in the **Loan Regulations** (copy provided to the EA during Inception Mission). These documents are expressly incorporated in the associated loan agreements. If any provision of the loan agreements is inconsistent with the provisions of these regulations, the provision of the loan agreements governs. The **Loan Agreement** sets out the loan's terms and conditions.

### C. Loan Cancellation

5. Provisions for loan cancellation, suspension, and acceleration of maturity are contained in Section 8.01 of the Loan Regulations which provides that after consultation with ADB and with the concurrence of the guarantor, if any, the borrower may, by notice to ADB, cancel any amount of the loan which has not been withdrawn. The effective cancellation date is when ADB receives the borrower's notice of such cancellation.

6. Under Section 8.03 of the Loan Regulations, ADB may also, by notice to the borrower and the guarantor, if any, cancel<sup>1</sup> any un-withdrawn amount of the loan when:

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<sup>1</sup> The effective date of cancellation is the date of such notice by ADB to the borrower or the date specified in the notice to the borrower.

- a. the borrower's right to make withdrawals from the loan account has been suspended for a continuous 30 days;
- b. ADB determines, at any time and after consultation with the borrower, that any amount of the loan will not be required for the purposes of the project; or
- c. An amount of the loan remains un-withdrawn from the loan account by the closing date. Upon giving such notice, ADB cancels any un-withdrawn amount of the loan.

#### **D. Guidelines and Practices**

##### **a. General Guidelines**

7. The borrower is responsible for implementing the project according to the loan agreements. ADB, on its part, monitors the project and reviews its progress to ensure that the loan proceeds are spent as agreed upon.

8. When the loan becomes effective, the loan amount is not paid to the borrower. Instead, a loan account is opened in ADB's books in the name of the borrower and the loan amount is credited to that account. Withdrawal from the account is approved only after fulfillment of the requirements indicated under Basic Requirements below.

##### **b. Disbursement Letter**

9. Disbursement Letter (**Annex 1 of Section 9**) will be dispatched by the Disbursement Division as soon as the loan agreements are signed. It outlines the disbursement procedures and other related arrangements for financial administration of the Project.

#### **E. Requirements for Disbursement**

##### **a. Basic Requirement**

10. The first withdrawal application from the loan account requires that:
- (i) ADB declared the loan agreement effective;
  - (ii) The Borrower submitted to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the Borrower, together with the authenticated specific signature of each authorized person before the first withdrawal application is sent to ADB. (Any subsequent change in the list of authorized representatives must be reported immediately and authenticated specimen signatures of new representatives must also be provided); and
  - (iii) Disbursement conditions as specified in the loan agreements are met.

##### **b. Withdrawal Application**

11. For all withdrawals, ADB must receive a withdrawal application in the prescribed form. A withdrawal application is a written request from the Borrower to ADB to pay funds against the Borrower's loan account. No withdrawal application

will be entertained after the loan closing date. The **loan closing date** is the date ADB may terminate the right of the borrower to make withdrawals from the loan account. Expenditures incurred after the loan closing date will not be financed under the loan.

12. A withdrawal application is consists of:

- (i) the application itself, in letter form, in 2 copies;
- (ii) summary sheet(s) for each category claimed; and
- (iii) original supporting documents.

**c. Instructions for Accomplishing the Withdrawal Application**

13. The following should be complied with.

- (i) Submit a separate application for each currency requested.
- (ii) For each of reference and identification by the computer system, number withdrawal applications consecutively. The withdrawal application number should not exceed 5 digits or characters, such as 00001 or A0001, etc.
- (iii) The Project Manager may assign an alpha identification for each province such as:

EH001	-	Eastern Highlands 001
WH002	-	Western Highlands 002
SH003	-	Southern Highlands 003

- (iv) Indicate the payee's complete name.
- (v) Indicate the complete name and address of the designated payee's bank, including the name of a branch office, where applicable, and the payee's account number.
- (vi) Be sure to indicate the complete name and address of the payee bank's correspondent bank in the country of the currency of payment where applicable, and the account number of the payee's bank.

**F. Allocation of Loan Proceeds**

14. The loan proceeds shall be disbursed on the basis of the following percentages.

**a. Special Fund**

- (i) civil works – up to SDR9,700,000 representing 27 percent of total eligible expenditures;
- (ii) consulting services – up to SDR731,000 representing 34 percent of total expenditures; and
- (iii) unallocated – up to SDR1,644,000.

**b. Ordinary Capital Resources**

- (i) civil works – up to \$28,120,000, representing 53 percent of total eligible expenditures;

- (ii) consulting services – \$2,120,000, representing 66 percent of total expenditures; and
- (iii) Unallocated – up to \$4,760,000.

#### **G. Direct Payment**

15. It is a procedure whereby ADB, at the borrower's request, pays a designated beneficiary directly.

16. A signed withdrawal application (**Annex 2 of Section 9**) must be submitted to ADB together with a summary sheet (**Annex 3 of Section 9**) and the required supporting documents. Direct Payment requires, in all cases, a contract or confirmed purchase order (if not submitted earlier to ADB), indicating the amount and date of payment due.

#### **H. Other Instructions**

17. The withdrawal application's signed original copy is submitted to ADB. Supporting documents may be submitted as photocopies.

18. Alterations on the application forms are initialed by the borrower's authorized representatives.

#### **I. PCCS Number**

19. The Procurement Contract Summary Sheet (PCSS) number is assigned by ADB for identifying a particular contract approved by the borrower and submitted to ADB under the loan. The PCSS includes the following:

- ADB contract number;
- Date of contract approval;
- Mode of procurement;
- Name of contractor or supplier;
- Terms of payment and currency of contract; and
- Percentage of ADB financing.

20. On checking the details of payment made under a particular withdrawal application from the ADB Loan Financial Information System (LFIS) Website, the EA will use the PCSS Number under a particular loan number.

#### **K. Statement of Expenditure (SOE) Procedure**

21. SOE is a procedures requiring no submission of supporting documentation. The procedure derives its name from the SOE form which is submitted with the withdrawal application. The SOE replaces the usual supporting documents and the summary sheet (**Annex 4 of Section 9**).

22. In the SOE, the borrower certifies that:

- Expenditures have been incurred and paid for under the terms and conditions of the loan agreement; and
- Records are maintained and are available for examination by ADB disbursement/review missions and independent auditors.

23. The following conditions must exist before the borrower can use the procedure:



- Impracticability of Full Documentation – The SOE procedure is used where it is impractical to require full documentation. This may apply to EA operating costs or expenditures related to small civil works contracts scattered over a wide area.
- Borrower's Capability – The borrower must have sufficient administrative and accounting capabilities to prepare and maintain proper SOE records and make them readily available for examination.
- Audit Requirements – The borrower must be capable of arranging for periodic or annual audits of SOE transactions as part of the project's audit.

#### **L. Disbursement Reports**

24. Borrower, EA, and Donors are given information on the status of loan disbursement in:

- semi-monthly listings of loan disbursements (see page 120 of the Handbook);
- statement of withdrawal vouchers; and
- statements of amount capitalized.

25. The above reports and other information are available online at LFIS website at <URL://lfis.adb.org>. For access to the loan information website, requests may be sent by e-mail to [lfis@adb.org](mailto:lfis@adb.org).

26. The borrower and its EA provide ADB with the current names, mailing, and e-mail addresses of contact persons who should receive the reports. An updated list of contact persons is to be sent to ADB immediately when there are changes in contact persons or addresses.

**Disbursement Letter from ADB to be dispatched  
by Controller's Department as soon as the loan is signed.**

# Withdrawal Application

(Form ADB-DRP/RMP)

Date: 15 July 2006  
 ADB Loan No. 2242-PNG  
 Application No. 0001  
 Type of Disbursement: Direct Payment

To: Asian Development Bank  
 Box 789  
 0980 Manila, Philippines

Attention: Controller's Department, Disbursement Division

Sir/Madam:

1. In connection with the Loan Agreement dated to be determined between the Asian Development Bank (ADB) and the Government of Papua New Guinea, please pay from the Loan Account.

US\$100,000

One Hundred Thousand

The said amount is required for payment or reimbursement of eligible expenditures in the said currency as described in the attached Summary Sheet(s).

2. The undersigned certifies and agrees as follows:

- a. these expenditures were/are/will be made for the purposes specified in the Loan Agreement and the undersigned has not previously withdrawn from the Loan Account nor obtain any other loan, credit, or grant for the purposes of fully or partially meeting these expenditures;
- b. the goods or services have been procured in accordance with the Loan Agreement and the cost and terms of the purchase thereof are reasonable and in accordance with the relevant contracts(s);
- c. the goods or services were or will be produced in and supplied by a member country of ADB as specified in the attached Summary Sheet(s);
- d. for expenditures claimed on the basis of Statement of Expenditures (SOE), all authenticating documents have been retained in the location shown on the individual SOE Summary Sheets and will be made available for review by auditors and Bank representatives upon request;
- e. as of the date of this application, there is no existing default under the Loan Agreement, the Project Agreement or the Guarantee Agreement, if any; and
- f. if any funds withdrawn pursuant to this application are returned, the current value of such funds will be applied as credit to the Loan Account or, if the amount is small, applied to the next services payment due.

3. PAYMENT INSTRUCTIONS

- a. Name and Address of Payee's Bank and Account Number

• Bank Name : \_\_\_\_\_  
 • Bank Address : \_\_\_\_\_  
 • Payees Account No. : \_\_\_\_\_  
 • SWIFT Code : \_\_\_\_\_

- b. Payee's Name and Address

• Payee's Name : \_\_\_\_\_  
 • Payee's Address : \_\_\_\_\_

- c. Special Instructions or References

4. This application consists of one page including one page of Expenditure or Summary Sheet(s).

By: \_\_\_\_\_  
 Signature of Authorized Representative



Asian Development Bank  
WITHDRAWAL APPLICATION  
(Form ADB-DRP/RMP)

Date : \_\_\_\_\_

ADB Loan No. : \_\_\_\_\_

Application No. : 

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To: Asian Development Bank  
P.O. Box 789  
980 Manila, Philippines

Type of Reimbursement : ☐ Direct Payment

☐ Reimbursement

Attention: Controller's Department – Disbursement Operations Division (LFIS)

Sir/Madam:

1. In connection with the Loan Agreement dated \_\_\_\_\_ between the Asian Development Bank (ADB) and the \_\_\_\_\_ (Borrower), please pay from the Loan Account:

\_\_\_\_\_  
(Currency Name)

\_\_\_\_\_  
(Amount to be paid in figures)

The said amount is required for payment or reimbursement of eligible expenditures in the said currency as described in the attached Summary Sheet(s).

2. The undersigned certifies and agrees as follows:

- a. these expenditures were / are / will be made for the purposes specified in the Loan Agreement and the undersigned has not previously withdrawn from the Loan Account nor obtained or will obtain any other loan, credit, or grant for the purpose of fully or partially meeting these expenditures.
- b. the goods or services have been procured in accordance with the Loan Agreement and the cost and terms of the purchase thereof are reasonable and in accordance with the relevant contract(s).
- c. the goods or services were or will be produced in and supplied by a member country of ADB as specified in the attached Summary Sheet(s).
- d. for expenditures claimed on the basis of a Statement of Expenditures (SOE), all authenticating documents have been retained in the location shown on the individual SOE Summary Sheets and will be made available for review by auditors and ADB representatives upon request.
- e. as of the date of this application, there is no existing default under the Loan Agreement, the Project Agreement or the Guarantee, if any.
- f. if any funds withdrawn pursuant to this application are returned, the current value of such funds will be applied as credit to the Loan Account or, if the amount is small, applied to the next loan service payment due.

3. PAYMENT INSTRUCTIONS

a. **Payee's Name and Address**

- Payee's Name : \_\_\_\_\_
- Payee's Address : \_\_\_\_\_

b. **Name and Address of Payee's Bank and Account Number**

- Bank Name : \_\_\_\_\_
- Bank Address : \_\_\_\_\_
- Payee's Account No. : \_\_\_\_\_
- SWIFT Code : \_\_\_\_\_

c. **Correspondent Bank** (If Payee's Bank is not located in the Country whose currency is claimed, enter the name and address of their bank's correspondent in the country whose currency is to be paid).

- Bank Name : \_\_\_\_\_
- Bank Address : \_\_\_\_\_
- Account No. of Payee's Bank : \_\_\_\_\_
- SWIFT Code : \_\_\_\_\_

d. **Special Payment Instructions and Other References**

4. This application consists of (number) page(s) including (number) pages of Summary Sheet(s):

By: \_\_\_\_\_

Signature(s) of Authorized Representative(s)

\_\_\_\_\_  
Name of Borrower

\_\_\_\_\_  
Print Name & Title of Authorized Representative(s)

Direct Payment  
(ADB-DRP-SS)Reimbursement  
(ADB-RMP-SS)

Liquidation  
(ADB-IFP-SS)

Summary Sheet No.: 001						Date: 15 July 2006		Loan No.: 2242-PNG					
No. & Title of Category:								Application No.:					
Item No.	No. & Date of Contract/PO	PCSS No.	Description of Goods and Services	Name & Address of Supplier	Date of Payment (Due)	Amount Paid/Payable	Nature of Payment Made <sup>1/</sup>	Contract/ PO <sup>2/</sup>	Invoice/ Claim	Receipt	Certi- ficate <sup>3/</sup>		
Total Amount Paid/Payable													
% of ADB Financing													
Amount Requested for Withdrawal <sup>4/</sup>													

- 1 Indicate against each item, whether the payment is down payment, or an installment payment  
(if so, the number of installment).
- 2 In case this was sent earlier, indicate the reference of the earlier letter in the footnote using (\*).
- 3 In case of civil works contracts.
- 4 Ensure that amount in last page of Summary Sheet agrees with the sum indicated in the application.

Name and Designation of Authorized Representative

**ASIAN DEVELOPMENT BANK**  
**SOE SUMMARY SHEET**  
**(for the period June to August 2006)**

## Replenishment

11

Reimbursement

1

Liquidation  
(ADB-IFP-SS)

[illegible]

It is hereby certified that the above amounts have been paid for proper execution of project activities within the terms and conditions of the Loan Agreement. All documentation authenticating these expenditures has been retained (insert location) and will be made available upon request of review missions.

Name and Designation of Authorized Representative

## **SECTION 10: PROJECT MONITORING AND EVALUATION**

### **A. Monitoring and Evaluation**

1. ADB and the Government will agree, prior to April 2007, upon a set of indicators for monitoring and evaluating project performance and the performance of each road subproject financed by Loan 1709-PNG and supplementary loans in relation to the Project's goals and purposes, with an emphasis on economic and social activities. Six person-months of international consulting services will be provided under the Project to establish and monitor indicators and evaluate project performance. The consultant will

- (i) establish a set of social and poverty impact indicators for the Project and gender-disaggregated baseline data for road sections whose civil works have not commenced;
- (ii) review and compare the data during project implementation and completion;
- (iii) monitor and evaluate ongoing and completed road sections;
- (iv) prepare subproject completion reports;
- (v) provide hands-on training on data collection and monitoring to DOW; and
- (vi) assess the overall socioeconomic impacts of the Project. The indicators may include (a) economic activities and income level in the project area, (b) industrial and agricultural outputs, (c) transport costs and time, (d) transport services and charges, (e) accident rates, (f) level of social services including school enrollment and infant mortality, (g) access to STI/HIV/AIDS information and service, and (h) jobs created (employment impact indicators will include information about unskilled laborers, poor laborers, and women laborers).

### **B. Project Performance Report**

2. The project performance report (PPR) will be prepared to monitor and evaluate the attainment of project benefits. It includes a benefit monitoring program and measurement indicators. The role of the PPR is to provide baseline data for the Borrower to enable objective project planning.

3. The Project Performance Report (PPR) has been established based on the Project Framework. The PPR seeks progressive information on both implementation and development objectives to improve project management. They highlight performance assessments for project supervision, key assumptions and risks, major problems encountered, actual or proposed remedial actions, and the project ratings for implementation progress and the likelihood of achieving development objectives. This will be updated quarterly and attached to the quarterly progress report to be sent to ADB. This report will allow ADB and stakeholders to assess the extent to which a Project is meeting its implementation and development expectations. The sample Project's PPR is attached as **Annex 1 of Section 10**.

### **C. Project Review**

4. ADB will review the Project every 6 months. Each review will cover all relevant aspects that may have an impact on the Project's performance and continuing viability, either institutional, administrative, organizational, technical, environmental, social, economic, the status of compliance with covenants stipulated in each loan, financial, or other aspects.

# SAMPLE PPR

## PROJECT PERFORMANCE REPORT (as of 31 July 2006) (all amounts in US\$ million)

Serial No.  
Division PAHQ  
Department PARD  
Project No.  
Loan Status Active

A. BASIC DATA							LAST	CURRENT	Targeting Classification			
Department of Works							PROJECT AT RISK	No	No			
							Dev. Objectives	S	S	Themes		
							Implmtn. Progress	S	S			
							Potential Problem	No	No	Subthemes		
Loan No.	Approval	Signing	Effectivity	Closing			Physical Completion	Elapsed Loan Period		ADB Missions		
2242-PNG	29-Jun-06	-	-	Original	Revised	Closing	Orig.:	Dec-09	Orig.:	4%	Planned	Sep-06
2243-PNG(SF)				30-Jun-10	-	-	Rev.:		Rev.:	0%	Field Days	-
Executing Agency:		Department of Transport										

## B. FINANCING PLAN

	FOREX	LOCAL	TOTAL	Counterpart Funds	Current Value of ADB Loan	Balance Available for Commitment
Project Cost	78.07	0.00	78.07	Adequate		
ADB OCR	35.00	0.00	35.00	Yes	Approved:	53.000
ADB ADF	18.00	0.00	18.00		Net	52.717
Government	25.07	0.00	25.07			

## C. LOAN UTILIZATION

Cumulative Contract Awards				2006 Contract Awards					
	ADB	Others	Cumulative		1Qtr	2Qtr	3Qtr	4Qtr	Total
Dec. 2005	0.000	0.000	to Net	Projection	0.000	0.000	0.000	0.000	0.000
30-Jun-06	0.000	0.000	ADB	Actual	0.000	0.000	0.000	0.000	0.000
Projection 06	0.000	0.000	Loan %						
Cumulative Disbursements				2006 Disbursements					
	ADB	Others	Cumulative		1Qtr	2Qtr	3Qtr	4Qtr	Total
Dec. 2005	0.000	0.000	to Net	Projection	0.000	0.000	0.000	0.000	0.000
30-Jun-06	0.000	0.000	ADB	Actual	0.000	0.000	0.000	0.000	0.000
Projection 06	0.000	0.000	Loan %						

## D. COVENANTS

	Audited Accounts for FY 2006			Sector Covenants	Environmental Covenants	Social Covenants	Financial Covenants	Economic Covenants
	Rating	Date Due	Date Sent					
Compliance with Financial Covenants	Not Due	Not Due	-	Not Due	Satisfactory	None	Not Due	None

## E. MAJOR ISSUES/PROBLEMS (IP, DO, COVENANTS)

None	None
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Cecilia C. Bantugon  
Project Officer (Portfolio Management)

Cai Li  
Project Economist



# PROJECT PERFORMANCE REPORT

(as of 31 July 2006)

## DEVELOPMENT OBJECTIVES

### Long Term Development Objectives

Description
Increased economic activity and social improvement.

### Immediate Development Objectives

Description (quantifiable/monitorable targets)	Rating (HS, S, PS, U)	Assessment of Current Status
1 Improved rural access to market centers.	S	1 Assumptions are still valid.
Key Assumptions/Risks	S	Assessment of Current Status
Assumptions		
1. Agricultural services delivered.	S	1. Assumptions are still valid.
2. Highlands highway rehabilitated and maintained.	S	2. Assumptions are still valid.
3. Adequate health and education services in city centers.	S	3. Assumptions are still valid.
Risks:	Mitigated (Yes or No)	
1. Insufficient counterpart funds	Yes	S
2. Uncontrollable crimes.		S
3. Work interruptions from force majeure	Yes	S
	S	

Recent Development (Date: 3( 31-Jul-06

None
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### Problems with Development Objective

Description	Action Taken/Proposed
None	None

### Project Quality

Capacity Building Yes	Training Yes	Participatory Process Yes	PM prior to approval No	Include Lessons Learned Yes	Logical Framework Yes
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**PROJECT PERFORMANCE REPORT**  
(as of 31 July 2006)

**IMPLEMENTATION PROGRESS**

<b>PROJECT OUTPUTS (Components/Subcomponents)</b>	
Description (with quantifiable/monitorable targets)	Assessment of Progress-To-Date

<b>Key Assumptions/Risks (Input-Output)</b>	<b>Assessment of Current Status</b>
No interruptions from force majeure	To be assessed later.
Timely provision of counterpart funds	To be assessed later.
Crime under control	To be assessed later.
Low staff turnover in international consulting team and Highlands Region Management Group (HRMG)	To be assessed later.

<b>Key Project Inputs</b>		
Category Name		Remarks

<b>Design Changes</b>
None

<b>Recent Development Related to the Project Outputs (as of 31 July 2006)</b>

<b>Problems with Implementation Progress</b>	
Description	Action Taken/Proposed

**PROJECT PERFORMANCE REPORT**  
(as of 31 July 2006)

COVENANTS		
Description	Ref. to Loan Agreement	Status

## SECTION 11: PROGRESS REPORTS

### A. Introduction

1. Loan regulations and loan agreements require the borrower and executing agency (EA) to provide ADB/Donors with reports and information it reasonably requests. These include the EA's periodic progress reports that enable the borrower, EA, and ADB to monitor project progress, become aware of problems during implementation, and assess whether the immediate project objectives will be met.

### B. Content and Format

3. The content of the progress report includes sufficient information in summary form to be useful to ADB and other Donor as a funding agency. The purpose of the report is to enable the borrower, EA, and ADB to monitor the latest progress, become aware of current problems, and assess whether the project's immediate objectives will be met. More detailed reports are prepared by consultants or contractors for the project management office (PMO) or project implementation unit (PIU), and by the PMO or PIU for the EA's management. These reports are held at the PMO or PIU and are made available for ADB review, midterm review, and project completion review missions.

4. The progress report sent to ADB is an executive summary of the detailed reports; with format and content permitting ADB staff to readily capture key information for inputting into the project performance report (PPR) as suggested in **Annex 1 of Section 10**. When ADB requires detailed information (such as background to a particular problem), this is included as an appendix. Simple charts such as a bar or milestone charts to illustrate implementation progress, a chart showing actual versus planned expenditures, and the relationship between physical and financial performance are included. A framework and guidelines for calculating project progress and a sample implementation schedule are shown in **Annex 1 of Section 11**.

### C. Reports Required by ADB

2. The following reports are required by ADB:

Description	Originator	Due Date
Quarterly Progress Report	DOW/HRMG	Not later than 30 days after each period
Unaudited Project Account	DOW/HRMG	Not later than 3 months after the close of each financial year
Audited Project Account	DOW/HRMG	Not later than 6 months after close of each financial year
Monitoring and Evaluation Report	DOW/HRMG	Every 6 months
Contract Awards and Disbursement Projections	DOW/HRMG	Every January of the year during implementation
Project Completion Report	DOW/HRMG	Within 3 months of project completion.

### D. Quarterly Progress Reports

3. The Highlands Region Management Group (HRMG) under the direction of the Secretary, Department of Works (DOW) will prepare and submit to all concerned monthly and quarterly progress reports concerning institutional development,

financial aspects, procurement of services, design and preconstruction activities, and construction of all civil works included in the Project. The reports will identify problems and difficulties encountered during implementation and summarize the Project's financial accounts consisting of expenditures during the reporting period, year to date, and total to date. The report should be submitted to all concerned not later than 30 days after the end of the period covered by each report.

4. The quarterly report should indicate, among other things: (i) the progress made and problems encountered during the quarter; (ii) steps taken or proposed to be taken to remedy these problems; (iii) the proposed program of activities; and (iv) expected progress during the following quarter.

5. Suggested outline of a quarterly progress report is shown below and pro-forma sample is attached as **Annex 2 of Section 11**.

- a. Background and Introduction
- b. Project Scope
- c. Financial Progress/Utilization of Funds
- d. Covenants Complied During the Period
- e. Status of Implementation
  - i. Progress of Civil Works
  - ii. Project Coordination with Donors
  - iii. Disbursements (Operation of Imprest Fund, Receipt of Counterpart Funds)
  - iv. Problems Encountered and Action Taken During the Period
  - v. Planned Activities During the Next Period
- f. List of Annexes
  - Project Performance Report
  - Detailed List of Compliance with Loan Covenants
  - List of Contracts Awarded
  - Updated Implementation Schedule
  - Budget Schedule

#### **E. Project Completion Report (PCR)**

6. To facilitate post evaluation of the Project, the Borrower will provide ADB within 3 months of physical completion of the Project, a completion report that will comprehensively cover details of project implementation, costs and potential benefits, and any other information that may be requested by ADB concerning the Project. Relevant ADB instruction and outline of PCR is attached **Annex 3 of Section 11**.

#### **F. Contract Awards and Disbursement Projections**

7. Effective monitoring of project implementation requires accurate projections of contract awards, commitments, and disbursements. Comparison of such projections with the actual figures helps identify impediments to implementation progress and remedial measures. Accurate disbursement projection also helps ADB improve its overall liquidity, cash flow, and portfolio management.

8. ADB distributes the projections worksheet QP-01 (**Annex 4 of Section 11** in either hard copy or electronic form) by the second week of October to the executing agencies (EAs) to complete their projections of contract awards, commitments, and disbursement for the following year. The EA is to submit the completed QP-01 to ADB for project implementation by the second week of January of each year.

3. Using information received from the EAs, ADB prepares annual projections of contract awards, commitments, and disbursement (with quarterly breakdowns) for all projects it administers (for loans approved up to 31 December each year).

## **Framework and Guidelines in Calculating Project Progress**

### **A. Introduction**

1. To ensure that all implementation activities are reflected in measuring implementation progress against the project implementation schedule, the term "physical completion" in the PPR has been changed to "project progress."
2. Physical and pre-commencement activities are considered in calculating project implementation progress. These activities, which may include recruitment of consultants, capacity building, detailed design, preparation of bid and prequalification documents, etc., could constitute a significant proportion of overall implementation and therefore should be counted.
3. Each activity in the implementation schedule will be weighted according to its overall contribution (using time as a reference) to progress of project implementation. These weights will then be used to calculate the percentage of project progress along the entire time span of the project. This is to provide a holistic view of the pace of implementation.

### **B. Framework for Compiling Activity List and Assigning Weights**

4. As implementation activities and their corresponding weights will vary according to the type of project, sector, and country, sector divisions or RMs will be responsible for determining and including them in the project administration memorandum. The actual project implementation progress of these activities should be reported regularly through the EA's quarterly project progress report. To ensure ADB-wide consistency, the following framework has been established; its application will be monitored through the PPR.

#### **1. Compilation of Activity List**

5. Sector divisions or RMs concerned should identify major implementation activities and include them in the implementation schedule, which is attached as an appendix in the report and recommendation of the President (RRP). The implementation schedule should follow the critical path of the project's major activities in project implementation taking account of various country, sector, and project constraints.

#### **2. Assignment of Weights**

6. Corresponding weights for each activity should be assigned to ensure that "project progress" measures the percentage of achievement (nonfinancial except when the project has credit components) for all events during the entire duration of the implementation schedule. To avoid disproportionate assignment of weights, to the extent possible these should be evenly distributed along the implementation schedule. When activities are concurrent, avoid "double counting."

#### **3. Computation of Project Progress**

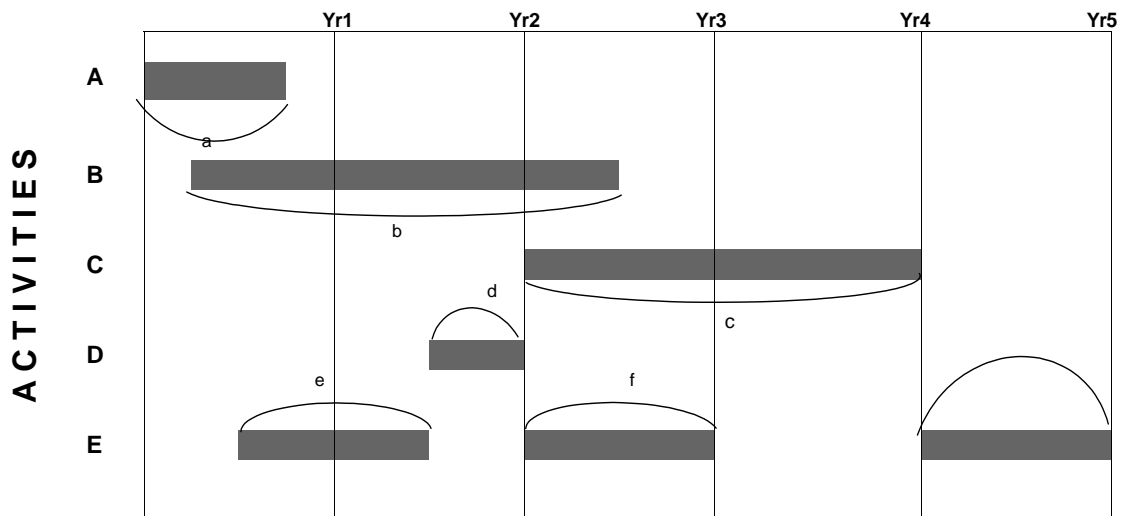
7. Once all activities are identified and corresponding weights assigned, project progress should be calculated using the following steps:

- (i) Determine the actual percentage progress (nonfinancial) of each activity.
- (ii) Multiply these percentages by the assigned weight of each activity to arrive at the weighted progress.
- (iii) Add up the resulting weighted progress of all activities to determine the project progress.

Page 3 of this Appendix provides an illustration of this calculation using a generic sample implementation schedule and this Appendix, page 4 a specific example in the education sector.



### Implementation Schedule with Activities and Weights



1. Sum of all weights should equal 100 percent ( $a+b+c+d+e+f+g = 100\%$ )
2. When calculating the percentage of "project progress," all completed activities should be counted as accomplished, regardless of when they were scheduled to be completed. For example, when calculating the percentage of "project progress" after year 3, if activity D is completed in year 3 rather than in year 2, it should still be included in the computation.
3. Total weight of each activity is as follows: Activity A— $a$ ; Activity B— $b$ ; Activity C— $c$ ; Activity D— $d$ ; and Activity E— $e + f + g$
4. Project progress of a project is the summation of the actual percentage of progress for each activity multiplied by the total weight of each activity.

Sample Implementation Schedule

Activities	Year 1	Year 2	Year 3	Year 4	(a) Assigned Weight	(b) Actual Progress	(a) x (b) Weighted Progress
Establish PIU	<div></div>				5%	100%	6%
Establish Accreditation Board, etc.	<div></div>				5%	0%	0%
Appoint Staff and Budget	<div></div>				4%	75%	3%
Adopt Architecture Plans	<div></div>				2%	100%	2%
Shortlist Consulting Firms	<div></div>				6%	100%	6%
Prepare Fellowship Program		<div></div>			6%	76%	4%
Prepare Civil Works Tendering		<div></div>			30%	0%	0%
Civil Works: Classrooms, Dorms, etc.		<div></div>			6%	0%	0%
Procurement of Furniture and Equipment				<div></div>	16%	10%	2%
Field Work of Consultants		<div></div>			7%	0%	0%
Provide Fellowships				<div></div>	6%	0%	0%
Conduct Study Tours			<div></div>		6%	0%	0%
Provide Curriculum Standards			<div></div>		6%	0%	0%
				Total Weight	100%		
				Imp. Progress			24%

(a) Assigned weight for each activity

(b) Actual progress of each activity

(a) x (b) weighted progress for each activity

Project progress = sum of all weighted progress for each activity

## **Pro Forma of the Executing Agency's Project Progress Report**

### **A. Introduction and Basic Data**

Provide the following:

- ADB loan number, project title, borrower, executing agency(ies), implementing agency(ies);
- total estimated project cost and financing plan;
- status of project financing including availability of counterpart funds and cofinancing;
- dates of approval, signing, and effectiveness of ADB loan;
- original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
- date of last ADB review mission.

### **B. Utilization of Funds (ADB Loan, Cofinancing, and Counterpart Funds)**

Provide the following:

- cumulative contract awards financed by the ADB loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- cumulative disbursements from the ADB loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- reestimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

### **C. Project Purpose**

Provide the following:

- status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

### **D. Implementation Progress**

Provide the following:

- assessment of project implementation arrangements such as establishment, staffing, and funding of the PMO or PIU;

- information relating to other aspects of the EA's internal operations that may impact on the implementation arrangements or project progress;
- progress or achievements in implementation since the last progress report;
- assessment of the progress of each project component, such as,
  - recruitment of consultants and their performance;
  - procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
  - the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets, the reference framework or guidelines in calculating the project progress including examples are shown in Appendix 2); and
- an assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

#### **E. Compliance with Covenants**

Provide the following:

- the borrower's compliance with policy loan covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;
- the borrower's and EA's compliance with financial loan covenants including the EA's financial management, and the provision of audited project accounts or audited agency financial statements; and
- the borrower's and EA's compliance with project-specific loan covenants associated with implementation, environment, and social dimensions.

#### **F. Major Project Issues and Problems**

Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).

PROJECT COMPLETION REPORT FORMAT

---

BASIC DATA

A. Loan Identification

1. Country \_\_\_\_\_
2. Loan Number \_\_\_\_\_
3. Project (Program) Title \_\_\_\_\_
4. Borrower \_\_\_\_\_
5. Executing Agency \_\_\_\_\_
6. Amount of Loan (Give SF loan in SDR) \_\_\_\_\_
7. Project Completion Report Number \_\_\_\_\_

B. Loan Data

1. Appraisal  
– Date Started \_\_\_\_\_  
– Date Completed \_\_\_\_\_
2. Loan Negotiations  
– Date Started \_\_\_\_\_  
– Date Completed \_\_\_\_\_
3. Date of Board Approval \_\_\_\_\_
4. Date of Loan Agreement \_\_\_\_\_
5. Date of Loan Effectiveness  
– In Loan Agreement \_\_\_\_\_  
– Actual \_\_\_\_\_  
– Number of Extensions \_\_\_\_\_
6. Closing Date  
– In Loan Agreement \_\_\_\_\_  
– Actual \_\_\_\_\_  
– Number of Extensions \_\_\_\_\_
7. Terms of Loan  
– Interest Rate \_\_\_\_\_  
– Maturity (number of years) \_\_\_\_\_  
– Grace Period (number of years) \_\_\_\_\_
8. Terms of Relending (if any)  
– Interest Rate \_\_\_\_\_  
– Maturity (number of years) \_\_\_\_\_  
– Grace Period (number of years) \_\_\_\_\_  
– Second-Step Borrower \_\_\_\_\_

9. Disbursements

a. Dates

Initial Disbursement	Final Disbursement	Time Interval
xxx	xxx	xxx
Effective Date	Original Closing Date	Time Interval
xxx	xxx	xxx

b. Amount (\$\_\_\_\_\_)

Category

Original Allocation	Last Revised Allocation	Amount Canceled	Net Amount Available	Amount Disbursed	Undisbursed Balance
---------------------	-------------------------	-----------------	----------------------	------------------	---------------------

Total

10. Local Costs (Financed)

- Amount (US Dollars)
- Percent of Local Costs
- Percent of Total Cost

C. Project (Program) Data

1. Project (Program) Cost (\$\_\_\_\_\_)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost		
Local Currency Cost		
<b>Total</b>		

2. Financing Plan (\$\_\_\_\_\_)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower-Financed		
ADB-Financed		
Other External Financing		
<b>Total</b>		
IDC Costs		
Borrower-Financed		
ADB-Financed		
Other External Financing		
<b>Total</b>		

ADB = Asian Development Bank, IDC = interest during construction.

3. Cost Breakdown by Project (Program) Components (\$\_\_\_\_\_)

Component	Appraisal Estimate	Actual
<b>Total</b>		

4. Project (Program) Schedule

Item	Appraisal Estimate	Actual
Date of Contract with Consultants <sup>a</sup>		
Completion of Engineering Designs		
Civil Works Contract		

Date of Award  
Completion of Work  
Equipment and Supplies  
Dates  
First Procurement  
Last Procurement  
Completion of Equipment Installation  
Start of Operations  
Completion of Tests and Commissioning  
Beginning of Start-Up  
Other Milestones<sup>b</sup>

a If more than one, show dates for each contract.

b Show key events not listed above, particularly for projects with elements not involving construction or supply of materials and equipment.

#### 5. Project (Program) Performance Report Ratings

##### Ratings

	Implementation Period	Development Objectives	Implementation Progress
(i) From	to		
(ii) From	to		
(iii) From	to		
(iv) From	to		
(v) From	to		
(vi) From	to		

#### D. Data on Asian Development Bank Missions

Name of Mission <sup>a</sup>	Date	No. of Persons	No. of Person-days	Specialization of Members <sup>b</sup>
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Project/(Program) Completion

Review<sup>C</sup>

- a Include identifaciton, fact-finding, preappraisal, project (program) inception, project review, special project administration, loan disbursement, and project (program) review mission. If more than one of each type of mission, number consecutively as review mission 1, 2, etc.
- b May use reference letters in table, e.g., a-engineer, b-financial analyst, c-counsel, d-economist, e-procurement or consultant specialist, f-control officer, g-program officer, h-onward for other categories.
- c The PCR is prepared by     [name]     ,     [designation]     .

**Project Completion Report<sup>3</sup>**  
**(project, multiproject, sector, program, sector development program, and technical assistance loans)**

- 3 For all PCRs, limited appendixes to those essential to explain the text. Avoid repetition. In this appendix, the term “project” refers to project, multiproject, sector, program, sector development program, and technical assistance loans.

**I. PROJECT DESCRIPTION**

1. Briefly describe the project's objectives, components, and outputs; and the rationale for undertaking the project. Cross-reference the report and recommendation of the President (RRP), and use tables to present information concisely.

**II. EVALUATION OF DESIGN AND IMPLEMENTATION**

2. Deal selectively with the topics discussed in paras.3–20. Cross-reference to the RRP (or and appraisal report). Utilize the results of the project performance management system and project performance report as appropriate. Include a description of remedial actions in response to any “at risk” assessments.

**A. Relevance of Design and Formulation**

3. Discuss the relevance of the project in terms of consistency with ADB's country strategy and program, the country's development objectives, soundness of the design, and adequacy of the formulation process (including the extent of stakeholder participation and level of ownership generated). Assess relevance at appraisal and at completion. Discuss how changes made during implementation, if any, enhanced relevance. Discuss quality of project preparatory technical assistance (TA), if any.

**B. Project Outputs**

4. List the outputs by components as anticipated during appraisal. Assess the extent to which the expected outputs were achieved. Give reasons for any deviations and indicate whether these affected project costs, time schedules, expected benefits, or other measures of efficiency.

**C. Project Costs**

5. Discuss project costs and explain significant overruns or underruns (in a tabular form, by year, currency, and major components or categories) and any major shifts between foreign and local costs. State the reasons for cost changes (design inadequacy, external factors, delays, etc.) and their likely effect on the project's economic and financial rates of return.

**D. Disbursements**

6. Assess whether the appraisal disbursement schedule was realistic. Assess any delays and corrective actions taken by the borrower, executing agency (EA), and ADB if disbursements did not follow the schedule made at appraisal. Where imprest fund and/or statement of expenditure dispensation was used, evaluate the impact (negative or positive) of these procedures on implementation and the experience of the EA or ADB.

**E. Project Schedule**

7. Explain the causes of significant delays, referring to discussions in other paragraphs (e.g., those dealing with procurement or performance of contractors).

**F. Implementation Arrangements**

8. Discuss the project's implementation as designed at appraisal and any major changes in the arrangements caused by changes in the project. Assess the adequacy of implementation arrangements to deliver project outputs and achieve the project purpose.

**G. Conditions and Covenants**

9. Explain causes of significant delays in meeting the conditions of effectiveness with attention to procedural problems in the borrower's country that may affect other projects.

10. Assess the relevance of covenants. Indicate the status of compliance with all general and special covenants. If covenant compliance was delayed or breached, discuss the reasons and impact, and whether the covenant was realistic. Discuss the impact of partial or noncompliance of covenants on project performance. Recommend actions for achieving compliance.

11. Indicate if any covenant has been modified, suspended, or waived, and the justification for such actions. Where relevant, undertake a financial analysis of the EA and compare the financial ratios to check compliance with financial covenants. Review the borrower's and EA's compliance with reporting requirements. Discuss any relevant changes in amortization between the borrower and EA, and conversion of the loan to equity.

**H. Related Technical Assistance**

12. A TCR is not required for a project preparatory TA that results in a loan. A project preparatory TA resulting in a loan should be evaluated in the PCR for the loan project.

13. A separate TA completion report (TCR)<sup>4</sup> should be prepared for an advisory TA processed in conjunction with a loan. When preparing the project completion report (PCR), an assessment of the advisory TA performance should be reported and incorporated in the overall assessment of the project.

- (i) If the TCR is prepared and circulated before the PCR, the PCR should discuss the salient features of the TCR, including any variations from appraisal, in its text; note the TA rating; and provide a complete citation for the TCR in a footnote.
- (ii) If the TCR is prepared concurrently with the PCR, the TCR should be appended to the PCR and salient features, including any variations from appraisal, should be noted in the PCR text. When PCR Board circulation is requested, the Office of the Secretary (OSEC) should also be informed that a TCR is appended to the PCR. This will ensure that the TCR is recorded in OSEC's database and that it is noted in OSEC's circulation memo to the Board.

<sup>4</sup> A Template for the preparation of a TCR is available on network drive w:\template\boarddoc\TCR.dot.

**I. Consultant Recruitment and Procurement**

14. Discuss arrangements for consultant recruitment, any deviations from agreed procedures, and the causes of disagreements between the borrower or EA and ADB on consultant selection (state how

the differences were resolved). Describe any significant problems encountered with packaging contracts, preparing tender documents, and evaluating bids. State how they were resolved.

**J. Performance of Consultants, Contractors, and Suppliers**

15. If any of the consultants, contractors, or suppliers used by the borrower or EA failed to perform well, or vice versa, describe these instances and estimate their negative or positive effects on the quality of the project outputs, schedule, or costs.

**K. Performance of the Borrower and the Executing Agency**

16. Summarize the performance of the borrower and EA in meeting the responsibilities assigned in the implementation plan, and discuss any weaknesses in performance. Indicate whether the assessment of the EA's capabilities at appraisal was reasonably accurate.

17. Assess the present institutional capacity and development of the EA, including specific strengths and weaknesses, and whether institutional development measures envisaged at appraisal were adequate or successful. Assess how the project and advisory TA, if any, assisted in improving institutional capacity.

18. Rate the performance of the borrower and EA as highly satisfactory, satisfactory, partly satisfactory, or unsatisfactory.

**L. Performance of the Asian Development Bank**

19. Review ADB's part in project implementation (e.g., approvals, disbursements, and monitoring) to determine whether any ADB failure to act promptly, or disagreements with the borrower or EA on terms of reference, bid documents, awards, or other matters affected the implementation procedures, project costs, or implementation schedule. If the effects are insignificant or do not permit generalized conclusions, note such instances but do not include the analysis.

20. State the type of advisory services (including training) provided by ADB and whether the assistance was adequate and timely.

21. Rate the performance of ADB as highly satisfactory, satisfactory, partly satisfactory, or unsatisfactory.

**III. EVALUATION OF PERFORMANCE**

**A. Relevance**

22. Assess the relevance of design (para. 3) and the impacts of changes made at midterm review or any other point that aimed to improve relevance.

**B. Efficacy in Achievement of Purpose**

23. Assess the extent to which the project achieved its immediate objective or purpose, and the likelihood that it will contribute to realizing the wider development goal.

**C. Efficiency in Achievement of Outputs and Purpose**

24. Assess the efficiency of investment (wherever possible, by financial and economic reevaluation or other cost-effectiveness measures) and efficiency of process. For program loans, efficiency of investment is not a relevant criterion (see program performance audit report guidelines).

**D. Preliminary Assessment of Sustainability**

25. Assess requirements for, and likelihood of, project sustainability. Provide the rationale for recommended follow-up actions to enhance the likelihood of sustainability.

**E. Environmental, Sociocultural, and Other Impacts**

26. Provide a general assessment of significant environmental, sociocultural, and other impacts (positive and negative whether intended or not) generated during project implementation, particularly issues considered during project appraisal. If the project included environmental control measures, evaluate their implementation and effectiveness.

27. Identify and assess the effect on overall performance of other impacts not already incorporated in the assessment, whether positive or negative.

**IV. OVERALL ASSESSMENT AND RECOMMENDATIONS**

**A. Overall Assessment**

28. Describe briefly (in one or two short paragraphs) whether the project was implemented as conceived and, if not, explain the difficulties and remedial measures undertaken. Analyze the logical framework and the project performance monitoring and evaluation system, and provide an overall project performance rating. The project should be rated as highly successful, successful, partly successful, or unsuccessful, in accordance with the definitions and guidelines provided by the Operations Evaluation Department.

29. The calculations for deriving the ratings and the summary table do not need to be included in the PCR, but should be retained on file for reference during preparation of the project performance audit report (PPAR).

**B. Lessons Learned**

30. Clearly describe all major lessons learned. Support identified lessons learned using the results of the project and provide the basis for drawing such lessons in relevant sections of the PCR.

**C. Recommendations**

31. Include project-specific and general recommendations that may affect projects or may be generally applicable to ADB practices. Recommendations should be specific and within the power of the nominated entity and person responsible to carry them out. Include the name of the entity or person responsible for taking action, time frame, and responsibility for monitoring and reporting compliance.

**1. Project-Related**

32. Recommendations should include the following:

- **Future monitoring.** Describe aspects of project operation (technical, financial, personnel, management, etc.) that require monitoring, and recommend monitoring tools (specific reports by the borrower or EA, missions, consultants, etc.) and, at least initially, time intervals for project review.

- **Covenants.** Recommend whether the covenants in the loan and project agreements should be maintained in their existing form. Indicate the specific period to maintain such covenants or whether any should be changed or waived, identifying covenants to be changed or waived and the substance or wording of any change recommended.
- **Further action or Follow-up.** Indicate actions that may be needed to complete project implementation (including action needed to complete disbursements and close the loan account), support its initial operation, achieve project benefits, or ensure its sustainability.
- **Additional assistance.** Indicate any additional assistance under new financing arrangements (TA or loan assistance) required to substantially improve the project's performance and sustainability.
- **Timing of PPAR preparation.** Indicate the appropriate timing for preparing the PPAR. In exceptional cases (e.g., where some works have still to be completed or where supplemental assistance may be proposed, or to allow some time for operations to settle down), the PPAR is not to be undertaken before a certain date. Give reasons for proposing deferment.

## 2. General

33. For project appraisal, the recommendations could focus on

- ensuring the logical framework is complete and comprehensive;
- assessing the EA's capacity;
- estimating costs, including allowance for contingencies;
- preparing financing plans;
- planning implementation; and
- project scheduling.

34. For project implementation, review

- ADB's identification and discussion of logical framework performance targets with the EA;
- the borrower's and EA's contracting procedures; and ADB approval of procurement documentation, including shortlists, prequalification documents, contract documents, awards, and contracts;
- disbursement procedures;
- monitoring and reporting; and
- special assistance provided.



## WORKSHEET FOR QUARTERLY AND YEARLY CONTRACT AWARDS/COMMITMENTS AND DISBURSEMENT PROJECTIONS (\$ Million)

Ref. PAI Nos. 4.13. Issued in July 1992 and 6.1. Issued in October 1990

PROJECTIONS MADE IN: \_\_\_\_\_  
(Month, Year)

PROJECT: \_\_\_\_\_

Ref. Line no.	Category <sup>1</sup>	CONTRACT/COMMITMENT ITEM <sup>1</sup>	Contracts Awarded on Previous Year (s)	QUARTER 1				QUARTER 2				QUARTER 3				QUARTER 4				TOTAL PROJECTED FOR THE YEAR _____		
				January, February, March				April, May, June				July, August, September				October, November, December				Contract Value/ Commitment (9)=(1+3+5+7)	Disbursement Amount Related to the Contract/ Commitment (10)=(2+4+6+8)	
				Month, Year Contract Awarded Contract Value (Bank Financed)	QP	Month Awarded/ Committed or To be Awarded/ Committec Contract Value/ Commitment (1)	QP	Disbursement Amount Related to the Contract/ Commitment (2)	QP	Month Awarded/ Committed or To be Awarded/ Committec Contract Value/ Commitment (3)	QP	Disbursement Amount Related to the Contract/ Commitment (4)	QP	Month Awarded/ Committed or To be Awarded/ Committec Contract Value/ Commitment (5)	QP	Disbursement Amount Related to the Contract/ Commitment (6)	QP	Month Awarded/ Committed or To be Awarded/ Committec Contract Value/ Commitment (7)	QP			Disbursement Amount Related to the Contract/ Commitment (8)
					QA	QA	QA		QA	QA	QA		QA	QA	QA		QA	QA	QA			
1																						
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TOTAL OF THIS PAGE ____ OF ____ PAGES																						
GRAND TOTAL (LAST PAGE)																						

<sup>1</sup> In accordance with the allocation of loan proceeds as defined in the loan documents, or any other detailed breakdown if found useful.

QA = Quarterly Actual (already awarded/committed/disbursed, when projections are prepared).

QP = Quarterly Projected (to be awarded/committed/disbursed), when projections are prepared).

## SECTION 12: AUDIT REQUIREMENT

### A. Introduction

1. Article 14 (xi) of ADB's *Articles of Agreement* (the Charter) provides that ADB loan proceeds be used only for the purposes for which the loan was approved with due attention to economy and efficiency. To meet these requirements, executing agencies (EAs) are to submit audited project accounts (APA) regularly during project implementation, and, in some cases, until the loan has been fully repaid. Requirements would be defined by the ADB letter as shown in the attached sample as **Annex 1 of Section 12**.

2. A management letter, by reporting entity, is also required. The management letter is a report on the internal controls and operating procedures of the entity covering all aspects included during the normal course of the audit. For non-revenue generating EAs, that do not submit AFS, a management letter should be provided covering internal controls and procedures associated with the maintenance of project accounts and preparation of APA.

3. ADB's revised audit requirements as defined in the *Guidelines for the Financial Governance and Management of Investment Projects financed by Asian Development Bank* (the Financial Guidelines), are consistent with both the OECD-DAC *Good Practices Paper on Financial Reporting and Auditing* (Dec 2002) and the *Framework for Collaboration Among Participating Multilateral Development Banks on Financial Reporting and Auditing* (Feb 2003).

### B. Audit Objective and Scope

4. An audit's overall objective is for the auditor to express an opinion as to whether the financial statements present a true and fair view of the project and, where applicable, of the EA, or are similarly presented fairly in all material respects, in conformity with International Audit Standard (IAS) or other ADB-accepted standards, and applied on a basis consistent with that of the preceding year.

5. The auditor's opinion is necessary to establish the credibility, or otherwise, of the financial statements of an EA. The examination should be of such scope and depth to allow the auditor to give an opinion and make a report on the veracity, accuracy and fairness as regards the presentation of the financial statements of an EA.

#### a. ADB Requirement

6. ADB requires the borrower and the EA to have the required financial statements for each year audited by an independent auditor acceptable to ADB, and in accordance with standards on auditing that also are acceptable to ADB (see attached letter). An Audit Checklist (**Annex 2 of Section 12**) has been prepared by ADB to guide the auditor on the items required by ADB in the audit of the project expenditures. Furthermore, an audit of such financial statements include:

- (i) an assessment of the adequacy of accounting and internal control system with respect to project expenditures and other financial transactions, and to ensure safe custody of project-financed assets;
- (ii) a determination as to whether the borrower and project implementing entities have maintained adequate documentation on all relevant transactions;



- (iii) confirmation that expenditures submitted to ADB are eligible for financing and identification of any ineligible expenditures; and
- (iv) compliance with loan covenants and ADB's requirements for project management.

7. An audit report must include: (i) title of the auditor; (ii) date of the report; (iii) addressee (EA and/or borrower); (iv) identification of the financial information audited; (v) a reference to auditing standards or practices followed; (vi) an expression of opinion, including a qualification; disclaimer or declining of an opinion, on the financial information; (vii) the auditor's signature; (viii) auditor's address; and (ix) date of signing of the report.

#### **b. Audit Procedures**

8. Auditors engaged to audit project expenditures should understand the project and the entity being audited, including the contents of the Report and Recommendation of the President (RRP) and legal agreements.

9. ADB expects audits to include: (i) an examination of assets and liabilities; (ii) an examination of commitments and contingent liabilities; (iii) confirmation of debtors, creditors and inventory; (iv) an audit of statement of expenditure procedures [SOEs (where required)] as part of the overall project audit; and (v) an audit of the imprest accounts (if required). Audited financial statements provided to ADB in accordance with the Loan Agreement should be accompanied by the report of the auditor that contains their opinion on the financial statements. An example of typical auditor reports and unqualified opinions is **Annex 3 of Section 12**.

#### **c. Auditor Selection and Appointment**

10. ADB will ask the borrower to remove unacceptable restrictions, or otherwise arrange for an acceptable audit to be conducted. A borrower is responsible for the selection, appointment and performance of an auditor. ADB wishes to be informed by a borrower of an ongoing or proposed appointment of an auditor, who should meet required standards in terms of independence, experience and competence. More specifically, ADB will indicate the acceptability of an auditor in the form of "no objection".

11. An auditor to be acceptable to ADB must be:

- (i) impartial and independent of the control of the entity to be audited and of the person appointing them. In particular, they should not, during the period covered by the audit – be employed by, serve as directors of, or have family, financial, or close business relationships with the entity, except as auditors, during the period of the audit;
- (ii) well established and reputable, use procedures and methods confirming with international audit standards and employ adequate staff with appropriate skills and competence required for their responsibilities;
- (iii) experienced in types of assignments they are to undertake for the ADB project; and
- (iv) able to fulfill their terms of reference within the specified timetable.

**C. Monitoring Compliance with Submission of APA**

**a. Three Months before the Due Date**

22. ADB reminds the EA and implementing agency (IA) three months before APA or AFS is due.

**b. On the Due Date**

23. When the APA or AFS is not received by the due date, ADB immediately writes to the EA and IA stating that the APA or AFS is overdue and, if it is not received within six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.

**c. Six Months after Due Date**

24. When the APA or AFS is not received within six months after the due date, ADB will hold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB informs the EA and IA of ADB's actions and advises that if the situation is not remedied within next six months, the loan may be suspended.

**d. Twelve Months after the Due Date**

25. When the APA or AFS is not received within 12 months after the due dates, ADB determines whether the loan is to be suspended. With joint reference to the Regulations, ADB recommends loan suspension to ADB Management.



Asian Development Bank

PACIFIC DEPARTMENT  
Pacific Operations Division

Date

Mr. \_\_\_\_\_  
Project Manager

Dear Mr. \_\_\_\_:

### Financial Reporting and Auditing Requirements

1. This letter is generally to seek your timely compliance with the loan covenants and the quality of financial information as required by ADB. ADB's *Financial Reporting and Auditing of Projects Financed by ADB* is enclosed to guide you. You will note (para 4 below) that the audit for 2006 will become due by end June 2007.

2. ADB, by its Charter, is required to ensure that the proceeds of any loan made, guaranteed, or participated in by ADB are used for the purposes for which the loan was approved. ADB requires accurate and timely financial information from its borrowers to be assured that expenditure was for the purposes stated in the loan agreement.

3. For this particular loan, the requirements are stipulated in Article IV, Section 4.02 of the Loan Agreement between ADB and Government of Papua New Guinea.

4. The following are the main requirements:

- ADB requires the EA to maintain separate project accounts and records exclusively for the Project to ensure that the loan funds were used only for the objectives set out in the Loan Agreement. The first set of project accounts to be submitted to ADB covers the fiscal year ending 2006. As stipulated in the Loan Agreement, they are to be submitted up to June of each year which is 6 months after the end of the fiscal year. For this loan, the deadline is by June 2007. A sample report format with explanatory note is attached as Annex A.
- The accounts and records for the Project are to be consistently maintained by using sound accounting principles. Please stipulate that your external auditor is to express an opinion on whether the financial report has been prepared using international or local generally accepted accounting standards and whether they have been applied consistently.

ADB prefers project accounts to use international accounting standards prescribed by the International Accounting Standards Committee. Please advise your external auditor to comment on the impact of any deviations by the Department of Works from international accounting standards.

- Please ensure that your external auditor specifies in the Auditor's Report the appropriate auditing standards they used, and direct them to expand the scope of the paragraph in the Auditor's Report by disclosing the key audit procedures followed. Your external auditor is also to state whether the same audit procedures were followed for all supplementary financial statements submitted.

ADB wishes that auditors conform to the international auditing standards issued by the International Federation of Accountants. In cases where other auditing standards are used, request that your external auditor indicate in the Auditor's Report the extent of any differences and their impact on the audit.

- The external auditor's opinion is also required on whether
  - the proceeds of the ADB's loan have been utilized only for the Project as stated in the Loan Agreement;
  - the financial information contains data specifically agreed upon between Government of Papua New Guinea and ADB to be included in the financial statements;
  - the financial information complies with relevant regulations and statutory requirements; and
  - compliance has been met with all the financial covenants contained in the Loan Agreement.
- The Auditor's Report is to clearly state the reasons for any opinions that are qualified, adverse, or disclaimers.
- Actions on deficiencies disclosed by the external auditor in its report are to be resolved by Government of Papua New Guinea within a reasonable time. The external auditor is to comment in the subsequent Auditor's Report on the adequacy of the corrective measures taken by the Department of Treasury.

5. Compliance with these ADB requirements will be monitored by review missions and during normal Project supervision, and followed up regularly with all concerned, including the external auditor.

Sincerely,

Indu Bhushan  
Director

/cdcb

Att.: as stated

**AUDIT COMPLETION CHECKLIST**  
**(To be completed by External Auditor of Non-Revenue and Revenue Earning EA/Borrower**  
**and returned with the auditor's report)**

**I. CHECKLIST OF ITEMS TO BE REPORTED TO ADB**

**A. Accounting/Auditing Standards**

		YES	NO	N/A	Ref.
1.	Was the audit conducted in accordance with generally accepted auditing standards? For revenue earning EAs/Borrowers, do the financial statements indicate whether generally accepted accounting principles were applied on a basis consistent with that of the preceding year.				

**B. Opinion/Findings**

		YES	NO	N/A	Ref.
2.	Does your audit report include an opinion as required by the Bank on the: <ul style="list-style-type: none"> <li>utilization of loan funds?</li> <li>compliance with specific covenants?</li> <li>use of imprest funds?</li> <li>statement of expenditure procedures?</li> <li>conformity with ADB's procurement guidelines? (Splitting of payments to avoid ADB approval thresholds)</li> </ul> In addition, for revenue earning EAs/Borrowers, does your audit report include an opinion covering all the applicable financial statements?				
3.	Are significant findings included in detail, such as: <ul style="list-style-type: none"> <li>utilization of loan proceeds (e.g. diversion of ADB funds, utilization for aspects where counterpart funds should have been used, etc.)</li> <li>project implementation (delays, bottlenecks, procedural lapses in procurement to the extent it comes to your attention)</li> <li>statement of expenditures [also refer to Section IIA5(b) of this checklist].</li> <li>imprest fund [also refer to Sections IIA1(b) and IIA5(c) of this checklist].</li> <li>agreed upon matters by the Bank and Borrower that require special audit attention.</li> <li>for revenue earning EA/Borrower, significant increases/decreases in balances in financial statements between past/present fiscal year, significant bad debts, unrecorded liabilities, etc.</li> <li>others</li> </ul>				
4.	Did your audit examine the efficiency of systems of internal control? If so, does your audit report disclose any material deficiencies or weaknesses in the accounting system or overall system of internal control.				

## II. CHECKLIST OF AUDIT PROCEDURES THAT WERE PERFORMED

### A. ADB Project Funds

#### 1. Utilization of ADB funds

		YES	NO	N/A
a.	Were ADB funds utilized for the purpose as indicated in the loan agreement?			
b.	Were ADB funds, including withdrawals from imprest account, used against aspects meant to be funded out of counterpart funds?			

#### 2. Bank Account

		YES	NO	N/A
a.	Where applicable, were funds received from different sources kept in different cash books and bank accounts (e.g. ADB fund kept separately from counterpart funds)			
b.	Was reconciliation of balances per cash book and per bank account performed regularly, including the imprest account? Was bank balance independently checked by the auditor?			
c.	Is the bank account maintained in the name of the institution and not in a personal name? Is separate bank account maintained in the name of any officials in addition to the above? If so, has any withdrawal been made for credit to the above account?			
d.	Were checks kept in sequential order and were any missing checks reported to the Project Manager/Director? Was action taken on stale checks?			

#### 3. Procurement

		YES	NO	N/A
a.	Was International Competitive Bidding/International Shopping/Local Competitive Bidding/Direct Purchase or Single Tender/Limited Tendering or Repeat Order/Force Account followed as per ADB's guidelines?			
b.	Was approval obtained from ADB for various procurement, whenever required?			
c.	Was contract split to avoid prior approval from ADB?			
d.	In regard to supplementary contract(s), was price allowed significantly higher than that in the original/main contract?			

#### 4. Payments authorized by EA/Borrower

		YES	NO	N/A
a.	Were expenditures prepared/signed by Project Accountant and authorized by Project Manager/Director or the designated staff? Indicate any finding based on review of propriety of expenditure.			
b.	Where applicable, were payments claimed in running bill reconciled to the measurement book?			
c.	Where applicable, was there any monitoring mechanism for ensuring the full recovery of mobilization advance?			

#### 5. Withdrawal Application

		YES	NO	N/A
a.	Were withdrawal applications submitted in anticipation of expenditure?			
b.	In case of claims under SOE, were amounts split to avoid submission of supporting documents.			
c.	Was request for imprest account (replenishment/first request) submitted when the need for funds would arise much later?			

**B. BORROWER'S FINANCIAL STATEMENTS**

(This section to be completed by External Auditor of Revenue Earning EA/Borrower only)

**1. Balance Sheet – Fixed Assets**

		YES	NO	N/A
a.	Were the categorization and analysis of assets representative of the entity's interest and activities, e.g. <ul style="list-style-type: none"> <li>▪ Land?</li> <li>▪ Buildings?</li> <li>▪ Equipment, machinery?</li> <li>▪ Vehicles?</li> </ul>			
b.	Were fixed assets under construction shown separately?			
c.	Was there a schedule attached of gross fixed assets, accumulated depreciation provision and net fixed assets: <ul style="list-style-type: none"> <li>▪ In operation?</li> <li>▪ Not in operation?</li> </ul> Was there a schedule attached for changes in asset holdings in year, concerning: <ul style="list-style-type: none"> <li>▪ Sales?</li> <li>▪ Revaluations, and basis for it?</li> <li>▪ Changes in depreciation provision?</li> </ul>			
d.	Was accumulated depreciation shown with depreciation rates and basis of calculation in supporting schedules?			
e.	Were disclosures made of assets <ul style="list-style-type: none"> <li>▪ Leased out?</li> <li>▪ Pledged?</li> </ul>			
f.	In cases of revaluation of fixed assets and/or restatements of foreign long-term debt, was sufficient information provided to reconstruct both sides of the revaluation entries?			

**2. Balance Sheet - Current Assets**

		YES	NO	N/A
a.	Was the total of current assets revealed?			
b.	Was there an adequate analysis of current assets, e.g. <ul style="list-style-type: none"> <li>▪ Prepaid expenses?</li> <li>▪ Depositors on contracts?</li> <li>▪ Receivables?</li> <li>▪ Inventories?</li> <li>▪ Marketable securities?</li> <li>▪ Short-term bank deposits?</li> <li>▪ Cash - at banks?</li> <li>▪ Cash - in hand?</li> </ul>			
c.	<ul style="list-style-type: none"> <li>• Were receivables adequately analyzed, aged and classified between key classes of debtors?</li> <li>• Where practical, were accounts receivable confirmed and appropriate follow-up steps taken, including second requests and alternative procedures.</li> </ul> If a significant number and amount of accounts receivable were not confirmed, were other appropriate auditing procedures performed.			

d.	Did marketable securities exclude medium/long-term investments?			
e.	Was a bad and doubtful debt allowance indicated? Have actual bad debts been written off?			
f.	<p>Were physical inventories observed at all locations where material amounts were located?</p> <p>Where the physical inventory is taken at a date other than the balance sheet date, did the auditor consider inventory transactions between the inventory date and the balance sheet date.</p> <p>Were there adequate tests of: (a) clerical accuracy of the inventory; (b) costing methods and substantiation of costs used in pricing all elements of the inventory; and (c) purchase cut-off (goods in transit at the balance sheet date are recorded in the proper accounting period).</p> <p>Were analytical procedures used to test the overall valuation of inventories?.</p> <p>Was there a suitable analysis among:</p> <ul style="list-style-type: none"> <li>▪ Manufacturers' product for sale?</li> <li>▪ Materials and goods for incorporation in manufacturing progress?</li> <li>▪ Materials and goods for maintenance?</li> <li>▪ Work-in-progress?</li> </ul> <p>Indicate the basis of valuation?</p>			

**3. Balance Sheet – Investments and Other Assets**

		YES	NO	N/A
a.	Were investments detailed in supporting schedules, with basis of valuation, revaluation, losses and yields?			
b.	Were deferred charges and pre-operating expenses shown with amortization rates and accumulated amortization, where appropriate?			
c.	Were goodwill or intangibles shown with valuation basis?			

**4. Balance Sheet - Equity**

		YES	NO	N/A
a.	<p>Was there an adequate analysis of equity, e.g.</p> <ul style="list-style-type: none"> <li>▪ Authorized capital?</li> <li>▪ Paid-in-capital?</li> <li>▪ Share premiums?</li> <li>▪ Shares outstanding?</li> <li>▪ Government or other public authority contributions?</li> <li>▪ Surpluses from <ul style="list-style-type: none"> <li>Appropriate earnings?</li> <li>Unappropriated earnings?</li> <li>Revaluations?</li> </ul> </li> </ul>			
b.	Was there a statement of shareholders equity?			



**5. Balance Sheet - Long Term Debt**

		YES	NO	N/A
a.	Were current maturities excluded and shown as current liabilities?			
b.	Were all amounts due and payable but not repaid to lenders disclosed?			
c.	<p>Was there a comprehensive schedule of long-term debt, showing, among other things, for each outstanding loan:</p> <ul style="list-style-type: none"> <li>▪ Original amount borrowed?</li> <li>▪ Interest rate, grace and repayment period and other relevant terms, (e.g. secured debt)?</li> <li>▪ Currency in which debt is repayable and conversion rates, if applicable, at date of borrowing and current?</li> <li>▪ Gross amount outstanding and current currency conversion, if applicable.</li> <li>▪ Long-term debt transactions in year?</li> <li>▪ Current maturities?</li> <li>▪ Maturities due and payable, but not paid?</li> </ul>			

**6.. Balance Sheet - Current Liabilities**

		YES	NO	N/A
a.	<p>Was total of current liabilities shown and suitably analyzed, e.g.</p> <ul style="list-style-type: none"> <li>▪ Current maturities of long-term debt?</li> <li>▪ Short-term borrowings?</li> <li>▪ Consumer deposits?</li> <li>▪ Taxes due?</li> <li>▪ Accounts payable? <ul style="list-style-type: none"> <li>▪ manufacturing or process?</li> <li>▪ maintenance?</li> </ul> </li> <li>▪ Accrued and other liabilities?</li> </ul>			

**7. Balance Sheet - Other Liabilities**

		Yes	No	N/A
a.	<p>Were relevant other liabilities adequately described and analyzed, including such matters as:</p> <ul style="list-style-type: none"> <li>▪ Pensions and other Employee Benefits?</li> <li>▪ Deferred Taxation?</li> </ul>			
b.	Were the analysis of the foregoing and the format of the balance sheet items in accordance with sound accounting practices?			
c.	Were contingent liabilities and pledges disclosed?			
d.	Were reserve funds (e.g. pension funds), adequately classified, explained and legally utilized and provided for?			
e.	Were any suspense accounts fully explained?			
f.	Was there an adequate description of verification procedures for fixed and movable assets and inventories?			
g.	Was a statement of adequacy of insurance required?			
h.	Did the auditor perform an adequate search for unrecorded liabilities?			

**8. Income Statement**

		Yes	No	N/A
a.	Did the construction of the revenue, expenditure and other key items of this statement and supporting data provide satisfactory financial evidence of the results of activities conducted by the entity?			
b.	Did the statement provide statistical data on sales or other performance: <ul style="list-style-type: none"> <li>▪ Manufacturing costs?</li> <li>▪ Sales costs?</li> <li>▪ Operating costs?</li> <li>▪ Maintenance costs?</li> <li>▪ Administration costs?</li> <li>▪ Depreciation?</li> <li>▪ Non-operating income (analyzed)?</li> <li>▪ Amortization of deferred charges, etc?</li> </ul>			
c.	Were unusual items clearly shown, e.g., <ul style="list-style-type: none"> <li>▪ Exchange gains or losses?</li> <li>▪ Profit or losses on sale of assets?</li> <li>▪ Profits or losses from adjustments made to reflect changing prices and/or inflation?</li> </ul>			
d.	Did the statement include any items relating to other fiscal years (e.g. prior-year adjustments), and are these separated from the report year?			
e.	Was the net income relating to the fiscal year's operations clearly demonstrated before inclusion of other items, as in (c) or (d) above?			
f.	Was the allocation of Net Income clearly demonstrated?			
g.	Did the auditor consider: (a) the entity's revenue recognition policy; and (b) unusual transactions.			

**9. Statement of Sources and Applications or Funds**

		YES	NO	N/A
a.	Did the statement provide a clear description of the flow of funds?			
b.	Did the transactions shown tie back to the Income Statement and Balance Sheet, with appropriate reconciliations necessary?			

Approved by:

\_\_\_\_\_  
External Auditor

**Model Audit Opinion for a Non-Revenue Earning Project**

To: Borrower (or Designated Agency)

1. We have audited the accompanying financial statements (pages\_\_\_\_ to \_\_\_\_ ) of the \_\_\_\_\_ Project financed under the Asian Development Bank Loan # \_\_\_\_\_ as of December 31, 20\_\_\_\_, and for the year then ended.

2. These financial statements are the responsibility of the management of the \_\_\_\_\_ EA. Our responsibility is to express an opinion on the accompanying statements based on our audit. We conducted our examination in accordance with International Standards on Auditing. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of misstatement. Our audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. Our audit also includes assessing the accounting principles and significant estimates made by management, as well as evaluating the overall statement presentation. We believe that our audit provides a reasonable basis for our opinion.

3. The \_\_\_\_\_ (EA's) policy is to prepare the accompanying statements in the format agreed between the Asian Development Bank and the Government of \_\_\_\_\_ as noted in the Minutes of Negotiations for the Loan, [on a cash receipts and disbursements basis in which cash is recognized when received and expenses are recognized when paid, rather than when incurred] / [on an accruals basis in which expenses are recognized when incurred and revenue is reported when income is due.]

4. In our opinion, (A) the aforementioned financial statements and appended notes that were also the subject of the audit, fairly present in all material respects the financial position of the \_\_\_\_\_ project as at \_\_\_\_\_ 20\_\_\_\_ and the results of its operations for the year ended \_\_\_\_\_ 20\_\_\_\_, in conformity with \_\_\_\_\_ accounting standards, applied on a basis consistent in all material respects with that of the previous year; (B) the [Borrower] [EA] has utilized all proceeds of the loan withdrawn from the Asian Development Bank only for purposes of the Project as agreed between the Asian Development Bank and [the Borrower] in accordance with the Loan Agreement; and no proceeds of the loan have been utilized for other purposes; and (C) the [Borrower] [EA] was in compliance as at the date of the balance sheet of the year of audit with all financial covenants of the Loan Agreement.

5. In addition:

- (a) (i) With respect to Statements of Expenditures, adequate supporting documentation has been maintained to support claims to the Asian Development Bank for reimbursements of expenditures incurred; and (ii) which expenditures are eligible for financing under Loan Agreement No. \_\_\_\_\_.
- (b) (i) The Imprest Accounts (page \_\_\_\_ ) give a true and fair view of the receipts collected and payments made during the year ending \_\_\_\_; and (ii) these receipts and payments support Imprest Account liquidations/replenishments during the year.

6. [(a) and (b), above, are to be provided where the Loan Agreement requires separate Imprest Account and Statement of Expenditures audits and audit opinions.]

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LOAN NUMBER PNG-\_\_\_\_\_  
(SUPPLEMENTARY TO LOAN NO. 1709-PNG)

LOAN AGREEMENT  
(Ordinary Operations)

(Road Maintenance and Upgrading [Sector] Project - Supplementary)

between

THE INDEPENDENT STATE OF PAPUA NEW GUINEA

and

ASIAN DEVELOPMENT BANK

DATED \_\_\_\_\_

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LAL:PNG 32124

## **LOAN AGREEMENT**

LOAN AGREEMENT dated \_\_\_\_\_ between THE INDEPENDENT STATE OF PAPUA NEW GUINEA (the "Borrower") and ASIAN DEVELOPMENT BANK ("ADB").

### **WHEREAS**

(A) by a loan agreement (Loan No.1709-PNG: Road Maintenance and Upgrading Project) dated 17 November 1999 between the Borrower and ADB, as amended and restated in a loan agreement dated 25 October 2002 (the loan agreement as amended and restated hereinafter called the Initial Loan Agreement), ADB agreed to make a loan in the amount equivalent of sixty three million Dollars (\$63,000,000) to the Borrower from ADB's ordinary capital resources for the purposes of the project described in Schedule 1 to the Initial Loan Agreement;

(B) the Borrower has applied to ADB for two supplementary loans, one from ADB's Special Funds resources and one from ADB's Ordinary Capital Resources, both for the purposes of the project as described in Schedule 1 to the SF Loan Agreement (as hereinafter defined) (hereinafter called the Project);

(C) by an agreement of even date herewith between the Borrower and ADB (hereinafter called the SF Loan Agreement), ADB has agreed to make a supplementary loan to the Borrower from ADB's Special Funds resources for an amount of eighteen million Dollars (\$18,000,000) for the purposes of the Project upon the terms and conditions set forth in the SF Loan Agreement; and

(D) ADB has agreed to make a supplementary loan to the Borrower from ADB's ordinary capital resources for the purposes of the Project upon the terms and conditions hereinafter set forth;

NOW THEREFORE the parties hereto agree as follows:

## **ARTICLE I**

### **Loan Regulations; Definitions**

Section 1.01. All the provisions of the Ordinary Operations Loan Regulations Applicable to LIBOR-Based Loans Made from ADB ordinary capital resources, dated 1 July 2001, are hereby made applicable to this Loan Agreement with the same force and effect as if they were fully set forth herein (said Ordinary Operations Loan Regulations being hereinafter called the Loan Regulations):

Section 1.02. Wherever used in this Loan Agreement, unless the context otherwise requires, the several terms defined in the Loan Regulations have the respective meanings therein set forth, and the following additional terms have the following meanings:

- (a) "DOW" means the Department of Works of the Borrower, or any successor thereto;
- (b) "HRMG" means the Highlands Region Maintenance Group established by the Borrower and referred to in paragraph 2 of Schedule 5 to the SF Loan Agreement, or any successor thereto;
- (c) "Highlands Region" means the area comprising the following Provinces of the Borrower: Eastern Highlands, Enga, Southern Highlands, Simbu and Western Highlands;
- (d) "IEEs" means the initial environmental examinations approved for each Subproject by the Borrower;
- (e) "Initial Loan Agreement" means the loan agreement between the Borrower and ADB dated 17 November 1999 and, as amended and restated, dated 25 October 2002;
- (f) "Kina" means the lawful currency of the Borrower;
- (g) "Km" means Kilometers;
- (h) "PIU" means the Project Implementation Unit, as more fully described in paragraph 2 of Schedule 5 to the SF Loan Agreement;
- (i) "PSC" means the Project Steering Committee referred to in paragraph 3 of Schedule 5 to the SF Loan Agreement;
- (j) "Project Executing Agency" for the purposes, and within the meaning of the Loan Regulations means DOW which is responsible for the carrying out of the Project;
- (k) "Project facilities" mean the local roads, equipment and facilities to be rehabilitated, upgraded or provided under the Project;
- (l) "SF Loan Agreement" means the agreement of even date herewith between the Borrower and ADB, as referred to in recital (C) to this Loan Agreement; and
- (m) "Subproject" means a specific road upgrading or rehabilitation subproject included in the Project as described in paragraph 2 of Schedule 1 to the SF Loan Agreement.

## **ARTICLE II**

### **The Loan**

Section 2.01. (a) ADB agrees to lend to the Borrower from the ADB's ordinary capital resources an amount of thirty five million dollars (\$35,000,000), as such amount may be converted from time to time through a Currency Conversion in accordance with the provisions of Section 2.06 of this Loan Agreement.

(b) The Loan has a term of 24 years, including a grace period of 4 years, as provided in Schedule 1 to this Loan Agreement.

Section 2.02. The Borrower shall pay to ADB interest on the principal amount of the Loan withdrawn and outstanding from time to time at a rate for each Interest Period equal to the sum of LIBOR and 0.60% as provided by Section 3.02 of the Loan Regulations.

Section 2.03. (a) The Borrower shall pay a commitment charge at the rate of three-fourths of one percent (0.75%) per annum. Such charge shall accrue on amounts of the Loan (less amounts withdrawn from time to time), during successive periods commencing sixty (60) days after the date of this Loan Agreement, as follows:

during the first twelve-month period, on \$ 5,250,000;  
 during the second twelve-month period, on \$15,750,000;  
 during the third twelve-month period, on \$29,750,000; and  
 thereafter, on the full amount of the Loan.

(b) If any amount of the Loan is cancelled, the amount of each portion of the Loan stated in paragraph (a) of this Section shall be reduced in the same proportion as the cancellation bears to the full amount of the Loan before such cancellation.

Section 2.04. Interest and other charges on the Loan shall be payable semiannually on 15 January and 15 July in each year.

Section 2.05. The Borrower shall repay the principal amount of the Loan withdrawn from the Loan Account in accordance with the provisions of Schedule 1 to this Loan Agreement.

Section 2.06. (a) The Borrower may at any time request any of the following Conversions of the terms of the Loan in order to facilitate prudent debt management:

- (i) a change of the Loan Currency of all or any portion of the principal amount of the Loan, whether withdrawn and outstanding or unwithdrawn, to an Approved Currency;
- (ii) a change of the interest rate basis applicable to all or any portion of the principal amount of the Loan from a Floating Rate to a Fixed Rate, or vice versa; and
- (iii) the setting of limits on the Floating Rate applicable to all or any portion of the principal amount of the Loan withdrawn and outstanding by the establishment of an Interest Rate Cap or Interest Rate Collar on said Floating Rate.

(b) Any conversion requested pursuant to paragraph (a) of this Section that is accepted by ADB shall be considered a "Conversion", as defined in Section 2.01(6) of the Loan Regulations, and shall be effected in accordance with the provisions of Article V of the Loan Regulations and the Conversion Guidelines.

### **ARTICLE III**

#### **Use of Proceeds of the Loan**

Section 3.01. The Borrower shall cause the proceeds of the Loan to be applied to the financing of expenditures on the Project in accordance with the provisions of this Loan Agreement.

Section 3.02. The goods and services and other items of expenditure to be financed out of the proceeds of the Loan and the allocation of amounts of the Loan among different categories of such goods and services and other items of expenditure shall be in accordance with the provisions of Schedule 2 to this Loan Agreement, as such Schedule may be amended from time to time by agreement between the Borrower and ADB.

Section 3.03. Except as ADB may otherwise agree, all goods and services to be financed out of the proceeds of the Loan shall be procured in accordance with the provisions of this Loan Agreement and the provisions of Schedule 4, to the SF Loan Agreement as such Schedule may be amended from time to time by an agreement between the Borrower and ADB. ADB may refuse to finance a contract where goods or services have not been procured under procedures substantially in accordance with those agreed between the Borrower and the ADB or where the terms and conditions of the contract are not satisfactory to the ADB.

Section 3.04. Except as ADB may otherwise agree, the Borrower shall cause all goods and services financed out of the proceeds of the Loan to be used exclusively in the carrying out of the Project.

Section 3.05. The closing date for withdrawals from the Loan Account for the purposes of Section 9.02 of the Loan Regulations shall be 30 June 2010 or such other date as may from time to time be agreed between the Borrower and ADB.

### **ARTICLE IV**

#### **Particular Covenants**

Section 4.01. (a) The Borrower shall cause the Project to be carried out with due diligence and efficiency and in conformity with sound administrative, financial, engineering, environmental and road construction and maintenance practices.

(b) In the carrying out of the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed, all obligations set forth in Schedule 5 to the SF Loan Agreement.

Section 4.02. The Borrower shall make available, promptly as needed, the funds, facilities, services, land and other resources which are required, in addition to the proceeds of the Loan, for the carrying out of the Project and for the operation and maintenance of the Project Facilities.



Section 4.03. (a) In the carrying out of the Project, the Borrower shall cause competent and qualified consultants and contractors, acceptable to ADB, to be employed to an extent and upon terms and conditions satisfactory to the Borrower and ADB.

(b) The Borrower shall cause the Project to be carried out in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. The Borrower shall furnish, or cause to be furnished, to ADB, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as ADB shall reasonably request.

Section 4.04. The Borrower shall ensure that the activities of its departments and agencies with respect to the carrying out of the Project and operation of the Project facilities are conducted and coordinated in accordance with sound administrative policies and procedures.

Section 4.05. (a) The Borrower shall (i) maintain, or cause to be maintained, separate accounts for the Project and each Subproject; (ii) have such accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; (iii) furnish to ADB, as soon as available but in any event not later than 6 months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the financial covenants of this Loan Agreement), all in the English language; and (iv) furnish to ADB such other information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.

(b) The Borrower shall enable ADB, upon ADB's request, to discuss the Borrower's financial statements for the Project and its financial affairs related to the Project from time to time with the auditors appointed by the Borrower pursuant to Section 4.05(a) here above, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion shall be conducted only in the presence of an authorized officer of the Borrower unless the Borrower shall otherwise agree.

Section 4.06. The Borrower shall enable ADB's representatives to inspect the Project, the goods financed out of the proceeds of the Loan, and any relevant records and documents.

Section 4.07. The Borrower shall ensure that the Project facilities are operated, maintained and repaired in accordance with sound administrative, financial, engineering, environmental, road construction and maintenance and operational practices.

**ARTICLE V**  
**Suspension; Cancellation; Acceleration of Maturity**

Section 5.01. The following is specified as an additional event for suspension of the right of the Borrower to make withdrawals from the Loan Account for the purposes of Section 9.01(l) of the Loan Regulations: the Borrower shall have failed to perform any of its obligations under the SF Loan Agreement or the Initial Loan Agreement.

Section 5.02. The following is specified as an additional event for acceleration of maturity for the purposes of Section 9.07(a)(iv) of the Loan Regulations: the event specified in Section 5.01 of this Loan Agreement shall have occurred.

**ARTICLE VI**  
**Effectiveness**

Section 6.01. The following is specified as an additional condition to the effectiveness of this Loan Agreement for the purposes of Section 10.01(f) of the Loan Regulations: the SF Loan Agreement shall have been duly executed and delivered on behalf of the Borrower, and all conditions precedent to its effectiveness (other than a condition requiring the effectiveness of this Loan Agreement) shall have been fulfilled.

Section 6.02. The following is specified as an additional matter for the purposes of Section 10.02(d) of the Loan Regulations, to be included in the opinion or opinions to be furnished to ADB: the SF Loan Agreement has been duly authorized or ratified by, and executed and delivered on behalf of, the Borrower, and is legally binding upon the Borrower in accordance with its terms, subject only to the effectiveness of this Loan Agreement.

Section 6.03. A date ninety (90) days after the date of this Loan Agreement is specified for the effectiveness of the Loan Agreement for the purposes of Section 10.04 of the Loan Regulations.

**ARTICLE VII**  
**Miscellaneous**

Section 7.01. The Minister for Treasury of the Borrower is designated as representative of the Borrower for the purposes of Section 12.02 of the Loan Regulations

Section 7.02. The following addresses are specified for the purposes of Section 12.01 of the Loan Regulations:

For the Borrower

Department of Treasury  
Vulupindi Haus  
P.O. Box 710  
Waigani  
Port Moresby  
Papua New Guinea

## Facsimile Numbers:

(675) 312-8804  
(675) 312-8808

For ADB

Asian Development Bank  
P.O. Box 789  
0980 Manila, Philippines

## Cable Address:

ASIANBANK  
MANILA

## Telex Numbers:

29066 ADB PH (RCA)  
42205 ADB PM (ITT)  
63587 ADB PN (ETPI)

## Facsimile Numbers:

(632) 636-2442  
(632) 636-2446

IN WITNESS WHEREOF the parties hereto, acting through their representatives thereunto duly authorized, have caused this Loan Agreement to be signed in their respective names and to be delivered at the principal office of ADB, as of the day and year first above written.

THE INDEPENDENT STATE OF PAPUA  
NEW GUINEA

By \_\_\_\_\_  
Authorized Representative

ASIAN DEVELOPMENT BANK

By \_\_\_\_\_  
Authorized Representative

**SCHEDULE 1**  
**Amortization Schedule**  
**(Road Maintenance and Upgrading [Sector] Project-Supplementary)**

1. The following table sets forth the Principal Payment Dates of the Loan and the percentage of the total principal amount of the Loan payable on each Principal Payment Date (Installment Share). If the proceeds of the Loan shall have been fully withdrawn as of the first Principal Payment Date, the principal amount of the Loan repayable by the Borrower on each Principal Payment Date shall be determined by ADB by multiplying: (a) the total principal amount of the Loan withdrawn and outstanding as of the first Principal Payment Date; by (b) the Installment Share for each Principal Payment Date, such repayment amount to be adjusted, as necessary, to deduct any amounts referred to in paragraph 4 of this Schedule, to which a Currency Conversion applies.

Date Payment Due			Installment Share (expressed as a %)
15	July	2010	0.83
15	January	2011	0.87
15	July	2011	0.91
15	January	2012	0.96
15	July	2012	1.01
15	January	2013	1.06
15	July	2013	1.11
15	January	2014	1.16
15	July	2014	1.22
15	January	2015	1.28
15	July	2015	1.35
15	January	2016	1.42
15	July	2016	1.49
15	January	2017	1.56
15	July	2017	1.64
15	January	2018	1.72
15	July	2018	1.81
15	January	2019	1.90
15	July	2019	1.99
15	January	2020	2.09
15	July	2020	2.20
15	January	2021	2.31
15	July	2021	2.42
15	January	2022	2.54
15	July	2022	2.67
15	January	2023	2.80
15	July	2023	2.94
15	January	2024	3.09

Date Payment Due			Installment Share (expressed as a %)
15	July	2024	3.25
15	January	2025	3.41
15	July	2025	3.58
15	January	2026	3.76
15	July	2026	3.94
15	January	2027	4.14
15	July	2027	4.35
15	January	2028	4.57
15	July	2028	4.79
15	January	2029	5.03
15	July	2029	5.29
15	January	2030	5.54
Total			<u>100.00</u> %

2. If the proceeds of the Loan shall not have been fully withdrawn as of the first Principal Payment Date, the principal amount of the Loan repayable by the Borrower on each Principal Payment Date shall be determined as follows:

(a) To the extent that any proceeds of the Loan shall have been withdrawn as of the first Principal Payment Date, the Borrower shall repay the amount withdrawn and outstanding as of such date in accordance with paragraph 1 of this Schedule.

(b) Any withdrawal made after the first Principal Payment Date shall be repaid on each Principal Payment Date falling after the date of such withdrawal in amounts determined by ADB by multiplying the amount of each such withdrawal by a fraction, the numerator of which shall be the original Installment Share specified in the table in paragraph 1 of this Schedule for said Principal Payment Date (the Original Installment Share) and the denominator of which shall be the sum of all remaining Original Installment Shares for Principal Payment Dates falling on or after such date, such repayment amounts to be adjusted, as necessary, to deduct any amounts referred to in paragraph 4 of this Schedule, to which a Currency Conversion applies.

3. Withdrawals made within two calendar months prior to any Principal Payment Date shall, for the purposes solely of calculating the principal amounts payable on any Principal Payment Date, be treated as withdrawn and outstanding on the second Principal Payment Date following the date of withdrawal and shall be repayable on each Principal Payment Date commencing with the second Principal Payment Date following the date of withdrawal.

4. Notwithstanding the provisions of paragraphs 1 and 2 of this Schedule, upon a Currency Conversion of all or any portion of the withdrawn principal amount of the Loan to an Approved Currency, the amount so converted in said Approved Currency that shall be repayable on any Principal Payment Date occurring during the Conversion Period, shall be determined by ADB by multiplying such amount in its currency of denomination immediately prior to said Conversion by either: (i) the exchange rate that reflects the amounts of principal

in said Approved Currency payable by ADB under the Currency Hedge Transaction relating to said Conversion; or (ii) if ADB so determines in accordance with the Conversion Guidelines, the exchange rate component of the Screen Rate.

5. If the principal amount of the Loan withdrawn and outstanding from time to time shall be denominated in more than one Loan Currency, the provisions of this Schedule shall apply separately to the amount denominated in each Loan Currency, so as to produce a separate amortization schedule for each such amount.

**SCHEDULE 2**  
**Allocation and Withdrawal of Loan Proceeds**

General

1. This Schedule sets forth the allocation of amounts of the Loan.

Taxes

2. No withdrawals from the Loan Account shall be made in respect of any local taxes.

Withdrawals

3. Subject to the provisions of Section 3.01 of the Loan Agreement, and except as the Borrower and ADB may otherwise agree, the Loan proceeds shall be disbursed on the basis of the following percentages and amounts for each category:

- (i) civil works – up to \$28,120,000, representing 53 percent of total eligible expenditures;
- (ii) consulting services – \$2,120,000, representing 66 percent of total expenditures; and
- (iii) Unallocated – up to \$4,760,000.

Reallocation

4. Notwithstanding the allocation of Loan proceeds and the withdrawal percentages set forth in the Table.

(a) if the amount of the Loan allocated to any category above appears to be insufficient to finance all agreed expenditures in that category, ADB may, in pre-consultation with and by notice to the Borrower, (i) reallocate to such category, to the extent required to meet the estimated shortfall, amounts of the Loan which have been allocated to another category but, in the opinion of ADB, are not needed to meet other expenditures, and (ii) if such reallocation cannot fully meet the estimated shortfall, reduce the withdrawal percentage applicable to such expenditures in order that further withdrawals under such category may continue until all expenditures thereunder shall have been made; and

(b) if the amount of the Loan then allocated to any category appears to exceed all agreed expenditures in that category, ADB may, in pre-consultation with and by notice to the Borrower, reallocate such excess amount to any other category.



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LOAN NUMBER PNG-\_\_\_\_\_ (SF)  
(SUPPLEMENTARY TO LOAN NO. 1709-PNG)

LOAN AGREEMENT  
(Special Operations)

(Road Maintenance and Upgrading [Sector] Project - Supplementary)

between

THE INDEPENDENT STATE OF PAPUA NEW GUINEA

and

ASIAN DEVELOPMENT BANK

DATED \_\_\_\_\_

## **LOAN AGREEMENT (Special Operations)**

LOAN AGREEMENT dated \_\_\_\_\_ between THE INDEPENDENT STATE OF PAPUA NEW GUINEA (the "Borrower") and ASIAN DEVELOPMENT BANK ("ADB").

### **WHEREAS**

(A) by a loan agreement (Loan No.1709-PNG: Road Maintenance and Upgrading Project) dated 17 November 1999 between the Borrower and ADB, as amended and restated in a loan agreement dated 25 October 2002 (the loan agreement as amended and restated hereinafter called the Initial Loan Agreement), ADB agreed to make a loan in the amount equivalent of sixty three million Dollars (\$63,000,000) to the Borrower from ADB's ordinary capital resources for the purposes of the project described in Schedule 1 to the Initial Loan Agreement;

(B) the Borrower has applied to ADB for two supplementary loans, one from ADB's Special Funds resources and one from ADB's ordinary capital resources, both for the purposes of the project described in Schedule 1 to this Loan Agreement (hereinafter called the Project);

(C) by an agreement of even date herewith between the Borrower and ADB (hereinafter called the OCR Loan Agreement), ADB has agreed to make a supplementary loan to the Borrower from ADB's ordinary capital resources for an amount of thirty five million Dollars (\$35,000,000) for the purposes of the Project upon the terms and conditions set forth in the OCR Loan Agreement; and

(D) ADB has agreed to make a supplementary loan to the Borrower from ADB's Special Fund resources for the purposes of the Project upon the terms and conditions hereinafter set forth.

NOW THEREFORE the parties agree as follows:

## **ARTICLE I Loan Regulations; Definitions**

Section 1.01. All provisions of the Special Operations Loan Regulations of ADB, dated 1 January 2006 (the "Loan Regulations"), are hereby made applicable to this Loan Agreement with the same force and effect as if they were fully set forth herein.

Section 1.02. The definitions set forth in the Loan Regulations are applicable to this Loan Agreement unless the context requires otherwise. In addition, the following terms have the following meanings:

(a) “DOW” means the Department of Works of the Borrower, or any successor thereto;

(b) “HRMG” means the Highlands Region Maintenance Group established by the Borrower and referred to in paragraph 2 of Schedule 5 to this Loan Agreement, or any successor thereto;

(c) “Highlands Region” means the area comprising the following Provinces of the Borrower: Eastern Highlands, Enga, Southern Highlands, Simbu and Western Highlands;

(d) “IEEs” means the initial environmental examinations approved by the Borrower for each Subproject;

(e) “Initial Loan Agreement” means the loan agreement between the Borrower and ADB dated 17 November 1999, and, as amended and restated dated 25 October 2002;

(f) “Kina” means the lawful currency of the Borrower;

(g) “Km” means Kilometers;

(h) “OCR Loan Agreement” means the agreement of even date herewith between the Borrower and ADB, as referred to in recital (D) to this Loan Agreement;

(i) “PIU” means the Project Implementation Unit, as more fully described in paragraph 2 of Schedule 5 to this Loan Agreement;

(j) “PSC” means the Project Steering Committee referred to in paragraph 3 of Schedule 5 to this Loan Agreement;

(k) “Project Executing Agency” for the purposes of, and within the meaning of the Loan Regulations means DOW which is responsible for the carrying out of the Project;

(l) “Project facilities” means the local roads, equipment and facilities to be rehabilitated, upgraded or provided under the Project;

(m) “Procurement Plan” means the procurement plan for the Project, dated 2 June 2006, agreed between the Borrower and ADB, as may be amended from time to time in agreement between the Borrower and ADB; and

(n) “Subproject” means a specific road upgrading or rehabilitation subproject included in the Project as described in paragraph 2 of Schedule 1 to this Loan Agreement.

## **ARTICLE II**

### **The Loan**

Section 2.01. ADB agrees to lend to the Borrower from ADB's Special Funds resources an amount in various currencies equivalent to eighteen million dollars (\$18,000,000) Special Drawing Rights (SDR12,075,000).

Section 2.02. (a) The Borrower shall pay to ADB an interest charge at the rate of one percent (1%) per annum during the grace period, and one and one-half percent (1.5%) per annum thereafter, on the amount of the Loan withdrawn from the Loan Account and outstanding from time to time.

(b) The term "grace period" as used in paragraph (a) of this Section means the period prior to payment of the first principal amount of the Loan on the payment date in accordance with the amortization schedule set forth in Schedule 2 to this Loan Agreement.

Section 2.03. The interest charge and any other charge on the Loan shall be payable semiannually on 15 January and 15 July in each year.

Section 2.04. The Borrower shall repay the principal amount of the Loan withdrawn from the Loan Account in accordance with the amortization schedule set forth in Schedule 2 to this Loan Agreement.

Section 2.05. The currency of repayment of the principal of the Loan and the currency of payment of the interest charge for the purposes of Sections 4.03(a) and 4.04 of the Loan Regulations shall be in Dollar.

## **ARTICLE III**

### **Use of Proceeds of the Loan**

Section 3.01. The Borrower shall cause the proceeds of the Loan to be applied to the financing of expenditures on the Project in accordance with the provisions of this Loan Agreement.

Section 3.02. The goods and services and other items of expenditure to be financed out of the proceeds of the Loan and the allocation of amounts of the Loan among different categories of such goods and services and other items of expenditure shall be in accordance with the provisions of Schedule 3 to this Loan Agreement, as such Schedule may be amended from time to time by agreement between the Borrower and ADB.

Section 3.03. Except as ADB may otherwise agree, all goods and services to be financed out of the proceeds of the Loan shall be procured in accordance with the provisions of Schedule 4 to this Loan Agreement.

Section 3.04. Withdrawals from the Loan Account in respect of goods and services shall be made only on account of expenditures relating to:

- (a) goods which are produced in and supplied from and services which are supplied from such member countries of ADB as shall have been specified by ADB from time to time as eligible sources for procurement, and
- (b) goods and services which meet such other eligibility requirements as shall have been specified by ADB from time to time.

Section 3.05. The Loan Closing Date for the purposes of Section [8.02] of the Loan Regulations shall be 30 June 2010 or such other date as may from time to time be agreed between the Borrower and ADB.

## **ARTICLE IV**

### **Particular Covenants**

Section 4.01. In the carrying out of the Project and operation of the Project facilities, the Borrower shall perform, or cause to be performed, all obligations set forth in Schedule 5 to this Loan Agreement.

Section 4.02. (a) The Borrower shall (i) maintain, or cause to be maintained, separate accounts for the Project and each Subproject; (ii) have such accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; (iii) furnish to ADB, as soon as available but in any event not later than 6 months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' opinion on the use of the Loan proceeds and compliance with the financial covenants of this Loan Agreement), all in the English language; and (iv) furnish to ADB such other information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.

(b) The Borrower shall enable ADB, upon ADB's request, to discuss the Borrower's financial statements for the Project and its financial affairs related to the Project from time to time with the auditors appointed by the Borrower pursuant to Section 4.02(a) hereabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion shall be conducted only in the presence of an authorized officer of the Borrower unless the Borrower shall otherwise agree.

Section 4.03. The Borrower shall enable ADB's representatives to inspect the Project, the goods financed out of the proceeds of the Loan, and any relevant records and documents.

**ARTICLE V**  
**Suspension; Cancellation; Acceleration of Maturity**

Section 5.01. The following is specified as an additional event for suspension of the right of the Borrower to make withdrawals from the Loan Account for the purposes of Section 8.01(m) of the Loan Regulations: the Borrower shall have failed to perform any of its obligations under the OCR Loan Agreement or the Initial Loan Agreement.

Section 5.02. The following is specified as an additional event for acceleration of maturity for the purposes of Section 8.07(d) of the Loan Regulations: the event specified in Section 5.01 of this Loan Agreement shall have occurred.

**ARTICLE VI**  
**Effectiveness**

Section 6.01. The following is specified as an additional condition to the effectiveness of this Loan Agreement for the purposes of Section 9.01(f) of the Loan Regulations: the OCR Loan Agreement shall have been duly executed and delivered on behalf of the Borrower, and all conditions precedent to its effectiveness (other than a condition requiring the effectiveness of this Loan Agreement) shall have been fulfilled.

Section 6.02. The following is specified as an additional matter, for the purposes of Section 9.02(d) of the Loan Regulations, to be included in the opinion or opinions to be furnished to ADB: the OCR Loan Agreement has been duly authorized or ratified by, and executed and delivered on behalf of, the Borrower and is legally binding upon the Borrower in accordance with its terms, subject only to the effectiveness of this Loan Agreement.

Section 6.03. A date ninety (90) days after the date of this Loan Agreement is specified for the effectiveness of the Loan Agreement for the purposes of Section 9.04 of the Loan Regulations.

**ARTICLE VII**  
**Miscellaneous**

Section 7.01. The Minister for Treasury of the Borrower is designated as representative of the Borrower for the purposes of Section 11.02 of the Loan Regulations.

Section 7.02. The following addresses are specified for the purposes of Section 11.01 of the Loan Regulations:

For the Borrower

Department of Treasury  
Vulupindi Haus  
P.O. Box 710  
Waigani  
Port Moresby  
Papua New Guinea  
Facsimile Numbers:

(675) 312-8804  
(675) 312-8808

For ADB

Asian Development Bank  
P.O. Box 789  
0980 Manila, Philippines

Cable Address:

ASIANBANK  
MANILA

Telex Numbers:

29066 ADB PH (RCA)  
42205 ADB PM (ITT)  
63587 ADB PN (ETPI)

Facsimile Numbers:

(632) 636-2442  
(632) 636-2446

IN WITNESS WHEREOF the parties hereto, acting through their representatives thereunto duly authorized, have caused this Loan Agreement to be signed in their respective names and to be delivered at the principal office of ADB, as of the day and year first above written.

THE INDEPENDENT STATE OF PAPUA  
NEW GUINEA

By \_\_\_\_\_  
Authorized Representative

ASIAN DEVELOPMENT BANK

By \_\_\_\_\_



## SCHEDULE 1

### Description of the Project

#### Impact and Outcome

1. The supplementary financing will facilitate the Borrower's economic development and social integration through the financing of additional road sections and improving road access to the private sector and communities, reduce travel cost and time to major commercial and service centers, and enable economic and social opportunities in the Highlands region to be accessed.

#### Scope

2. The Project comprises the upgrading and rehabilitation of various eleven road sections organized in 11 Subprojects that have been screened and pre-selected based on various criteria set forth in paragraphs 11 and 13 of Schedule 5 to Initial Loan Agreement, with a total length of 270 km in the five highlands provinces. The name of the provinces, road sections, types of treatment, and length are shown in table 1.

**Table 1: Prioritized Road Sections**

Province	Road Section	Length(km)	Treatment
Eastern Highlands Province	Okapa-Raipinka	51	Rehabilitation
	Kamaliki-Move	34	Rehabilitation
	Goroka-Lahame	13	Upgrading
Western Highlands Province	Kindeng-Kondopina	11	Upgrading
	Banz-Dona	19	Upgrading
Simbu Province	Gewa-Gembogl	21	Rehabilitation
	Kerowagi-Dona	29	Rehabilitation
	Korinige-Kerowagi	7	Upgrading
Enga Province	Warumanda-Laiagam	31	Upgrading
Southern Highlands Province	Ialibu-Kagua	32	Rehabilitation
	Ialibu-Pangia	22	Rehabilitation

The Project will include the provision of consulting services as set forth in Schedule 4.

3. The Project is expected to be completed by 31 December 2009.

**SCHEDULE 2**  
**Amortization Schedule**

**(Road Maintenance and Upgrading [Sector] Project - Supplementary)**

Date Payment Due			Payment of Principal (expressed in Special Drawing Rights)*
15	July	2014	251,563
15	January	2015	251,563
15	July	2015	251,563
15	January	2016	251,563
15	July	2016	251,563
15	January	2017	251,563
15	July	2017	251,563
15	January	2018	251,563
15	July	2018	251,563
15	January	2019	251,563
15	July	2019	251,563
15	January	2020	251,563
15	July	2020	251,563
15	January	2021	251,563
15	July	2021	251,563
15	January	2022	251,563
15	July	2022	251,563
15	January	2023	251,563
15	July	2023	251,563
15	January	2024	251,563
15	July	2024	251,563
15	January	2025	251,563
15	July	2025	251,563
15	January	2026	251,563
15	July	2026	251,563
15	January	2027	251,563
15	July	2027	251,563
15	January	2028	251,563
15	July	2028	251,563
15	January	2029	251,563
15	July	2029	251,563
15	January	2030	251,563
15	July	2030	251,563
15	January	2031	251,563
15	July	2031	251,563
15	January	2032	251,563
15	July	2032	251,563
15	January	2033	251,563

Date Payment Due			Payment of Principal (expressed in Special Drawing Rights)*
15	July	2033	251,563
15	January	2034	251,563
15	July	2034	251,563
15	January	2035	251,563
15	July	2035	251,563
15	January	2036	251,563
15	July	2036	251,563
15	January	2037	251,563
15	July	2037	251,563
15	January	2038	251,539
Total			12,075,000

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\* The figures in this column represent SDR equivalents determined as of the respective dates of withdrawal. The arrangements for payment of each maturity are subject to the provisions of Sections 3.04 and 4.03 of the Loan Regulations.

**SCHEDULE 3**  
**Allocation and Withdrawal of Loan Proceeds**

General

1. This Schedule sets forth the allocation of amounts of the Loan.

Taxes

2. No withdrawals from the Loan Account shall be made in respect of any local taxes.

Withdrawals

3. Subject to the provisions of Section 3.01 of the Loan Agreement, and except as the Borrower and ADB may otherwise agree, the Loan proceeds shall be disbursed on the basis of the following percentages and amounts for each category:

- (i) civil works – up to SDR9,700,000 representing 27 percent of total eligible expenditures;
- (ii) consulting services – up to SDR731,000 representing 34 percent of total expenditures; and
- (iii) unallocated – up to SDR1,644,000.

Reallocation

4. Notwithstanding the allocation of Loan proceeds and the withdrawal percentages set forth in the Table,

(a) if the amount of the Loan allocated to any category appears to be insufficient to finance all agreed expenditures in that category, ADB may, in pre-consultation with and by notice to the Borrower, (i) reallocate to such category, to the extent required to meet the estimated shortfall, amounts of the Loan which have been allocated to another category but, in the opinion of ADB, are not needed to meet other expenditures, and (ii) if such reallocation cannot fully meet the estimated shortfall, reduce the withdrawal percentage applicable to such expenditures in order that further withdrawals under such category may continue until all expenditures thereunder shall have been made; and

(b) if the amount of the Loan then allocated to any category appears to exceed all agreed expenditures in that category, ADB may, in pre-consultation with and by notice to the Borrower, reallocate such excess amount to any other category.

## SCHEDULE 4

### Procurement of Goods and Works, and Consulting Services

#### A. Application of Procurement and Consulting Guidelines

1. All Goods and Works to be financed out of the proceeds of this Loan Agreement and the OCR Loan Agreement shall be subject to and governed by the "Procurement Guidelines" dated April 2006, as amended from time to time, (the "**Procurement Guidelines**"); and all Consulting Services to be financed out of the proceeds of this Loan Agreement and the OCR Loan Agreement, shall be subject to and governed by the provisions of the "Guidelines on the Use of Consultants by Asian Development Bank and its Borrowers" dated April 2006, as amended from time to time, (the "**Consulting Guidelines**").

#### B. Definitions

2. All capitalized terms used and not otherwise defined in this Schedule 4, have the meanings provided in the Procurement Guidelines and the Consulting Guidelines, as applicable. In addition, the following terms have the following meanings:

(a) "Advance Contracting" means the Borrower's procurement of Works, or Consulting Services before the Effective Date, up to but not including ADB's approval of the Borrower's recommendation for the award of contract;

(b) "Consulting Services" means the services referred to in Section E of this Schedule 4;

(c) "Misprocurement" means any action relating to the procurement of Goods and Works that is not conducted in accordance with this Agreement and the Procurement Guidelines; or any action relating to the selection and engagement of Consulting Services that is not conducted in accordance with this Agreement and the Consulting Guidelines;

(d) "Prior Review" means, for the procurement of Works, the process described in paragraphs 2 to 4 of Appendix 1 of the Procurement Guidelines; and for the recruitment of Consulting Services, the process of ADB review of the selection and engagement of Consulting Services prior to the execution of a contract between the Borrower and a consultant;

(e) "Procurement Plan" means the procurement plan for the Project dated 2 June 2006 and agreed between the Borrower and ADB, as updated from time to time in accordance with paragraph 4, that sets forth the following:

- (i) each particular Goods contract and/or Works contract;
- (ii) the methods for procurement of such contracts;
- (iii) the related Prior Review and/or Post Review procedures and supervision arrangements;
- (iv) each particular Consulting Services contract;

- (v) the methods for selecting Consulting Services and the type of proposal;
- (vi) an overall indicative recruitment schedule and budget for each Consulting Services contract package;
- (vii) the related Prior Review requirements, frequency, depth and thresholds; and
- (viii) any capacity strengthening requirement.

(f) "Works" means construction or civil works and related equipments and materials, and includes services such as drilling or mapping, and project related services that are provided as part of a single responsibility or turnkey contract.

### **C. Procurement Plan**

3. General. Without limiting the generality of paragraph 1 of this Schedule, the Borrower shall conduct the procurement of Works; and the selection, engagement and recruitment of Consulting Services in accordance with the Procurement Plan.

4. Terms of and Updates to the Procurement Plan. (a) The initial Procurement Plan shall cover a minimum period of 18 months after the Effective Date. Thereafter, the Borrower shall update the Procurement Plan in accordance with the Procurement Guidelines and the Consulting Guidelines, as needed throughout implementation of the Project, so that each such subsequent Procurement Plan is provided to ADB upon each anniversary of the Effective Date.

(b) In the event that either this Loan Agreement or the OCR Loan Agreement does not become effective within four months of ADB's agreement to the initial Procurement Plan, the Borrower shall prepare and submit to ADB an updated Procurement Plan for approval within 14 days of the Effective Date. Thereafter, all updates to the Procurement Plan shall be made in accordance with clause (a) above.

5. Effectiveness of Procurement Plan. The initial Procurement Plan shall become effective on the Effective Date. Updates to the initial Procurement Plan and Procurement Plan(s) shall become effective on the date of approval by ADB and shall supersede the immediately preceding Procurement Plan upon that date.

### **D. Procurement of Works**

#### **Methods of Procurement for Works**

6. Except as ADB may otherwise agree, the Borrower shall use the methods of procurement set forth in this Part D.

7. International Competitive Bidding. (a) Except as set forth in paragraph 8 of this Schedule 4, the Borrower shall apply international competitive bidding, in accordance with the procedures described in Chapter II of the Procurement Guidelines, for the procurement of each Works contract estimated to cost the equivalent of more than \$3,000,000.

(b) The Borrower may provide a margin of preference in accordance with paragraphs 2.55(b) and 2.56 of the Procurement Guidelines for domestic Works in comparing bids under international competitive bidding.

8. National Competitive Bidding. The Borrower may use national competitive bidding in accordance with the Borrower's standard procurement procedures for the procurement of Works estimated to cost the equivalent of \$3,000,000 or less.

#### Industrial or Intellectual Property Rights

9. (a) The Borrower shall ensure that all Works procured (including without limitation all computer hardware, software and systems, whether separately procured or incorporated within other goods and services procured) do not violate or infringe any industrial property or intellectual property right or claim of any third party.

(b) The Borrower shall ensure that all contracts for the procurement of Works contain appropriate representations, warranties and, if appropriate, indemnities from the contractor or supplier with respect to the matters referred to in subparagraph (a) of this paragraph.

### **E. Recruitment of Consulting Services**

#### Method of Selection of Consulting Services.

10. Except as ADB may otherwise agree, the Borrower shall use the method of selection of Consulting Services set forth in this Part E.

11. The Borrower shall apply the Single Source Selection method for selecting and engaging the specified Consulting Services, in accordance with the relevant provisions set forth in Chapter II of the Consulting Guidelines and the procedures set forth in the Procurement Plan for engineering design, preparation of bidding documents, construction supervision, monitoring and evaluation, financial auditing, and training on road maintenance, road safety and STI/HIV/AIDS prevention.

#### Type of Contract; Provisions in Consulting Services Contract

12. The Borrower shall ensure that (a) each type of contract to be used for any Consulting Services contract conforms to the requirements of Chapter II B of the Consulting Guidelines; (b) such type of contract(s) is reflected in the Procurement Plan; and (c) each contract for Consulting Services contains provisions reflecting those required by Chapter II B of the Consulting Guidelines.

#### Intellectual Property

13. The Borrower shall ensure that all ADB-financed contracts with consultants contain appropriate representations, warranties and, if appropriate, indemnities from the consultants to ensure that the Consulting Services provided do not violate or infringe any industrial property or intellectual property right or claim of any third party.

**F. ADB's Review of Procurement Decisions**

14. All contracts procured under International Competitive Bidding and the process of selection and engagement for the Consulting Services shall be subject to Prior Review by ADB, unless otherwise agreed between the Borrower and ADB, and as set forth in the Procurement Plan. The procurement document of the first contract procured under National Competitive Bidding shall be submitted to ADB for approval. ADB will review the award of contracts procured under National Competitive Bidding on a post-facto basis.

**G. Advance Contracting**

15. Advance Contracting. Prior to the date of this Loan Agreement and the OCR Loan Agreement, ADB has approved certain Advance Contracting undertaken on behalf of the Borrower for the procurement of Works and Consulting Services for the Project. The Borrower confirms that all such Advance Contracting has been carried out in a manner consistent with the requirements of this Loan Agreement and OCR Loan Agreement. The approval of Advance Contracting shall not, in any way, derogate from or alter the Borrower's obligations set forth in this Loan Agreement and the OCR Loan Agreement.

**H. Misprocurement**

16. If the procurement of Works or Consulting Services, is not conducted in accordance with this Loan Agreement or the OCR Loan Agreement, or the Procurement Guidelines or Consulting Guidelines, as applicable, ADB shall declare Misprocurement, and:

- (i) may take any action set forth in paragraph 1.12 of the Procurement Guidelines, or paragraph 1.18 of the Consulting Guidelines, as appropriate; and/or
- (ii) may exercise its right of suspension, cancellation, or acceleration of maturity under Article VIII of the Special Funds Loan Regulations and IX of the Ordinary Operations Loan Regulations, with respect to that portion of this Loan Agreement or the OCR Loan Agreement, as applicable, allocated to the Works or Consulting Services for which Misprocurement has been declared.



## **SCHEDULE 5**

### **Execution of the Project and Other Matters**

#### **IMPLEMENTATION ARRANGEMENTS**

##### Project Executing Agency

1. DOW shall continue to act as the Project Executing Agency as set forth in the Initial Loan Agreement, responsible for overall implementation of the Project.

##### Project Implementation Unit

2. HRMG, assisted by a team of consultants engaged under the Project, shall continue to act as the project implementation unit as set forth in the Initial Loan Agreement. HRMG headed by a field Project Manager shall maintain an office in each province, comprising an implementation advisor, a community relations officer, and other necessary staff. HRMG shall be responsible for: (i) the design of the Subprojects and preparing the bidding documents; (ii) handling the bidding process; (iii) providing construction supervision and managing contracts; (iv) monitoring the Project and subproject progress; (v) preparing withdrawal applications; (vi) maintaining the Project accounts and completing the financial records for auditing; (vii) preparing progress reports and Project and Subproject completion report; (viii) monitoring the environmental and socioeconomic impacts of the Project; (ix) implementing a cost-effective contracting-out system for road maintenance and ensuring the roads completed under the Initial Loan Agreement, this Loan Agreement, and the OCR Loan Agreement are properly maintained; and (x) providing training on road maintenance, road safety and STI/HIV/AIDS prevention.

##### Project Steering Committee

3. The PSC set forth in the Initial Loan Agreement shall continue to act as the Project Steering Committee to ensure close interagency coordination and monitor the implementation of the Project. The PSC shall be chaired by a Provincial Administrator and shall be composed of five Provincial Administrators, five Government agencies, two representatives from the private sector. The Borrower, through DOW, shall ensure that PSC shall meet at least quarterly to review the progress of implementation and provide support and guidance on Project implementation, as necessary.

#### **OTHER MATTERS**

##### Counterpart Funding

4. The Borrower shall provide, on a timely basis, all funds and resources necessary for upgrading, rehabilitation, maintenance, and management of the Project Facilities financed under the Project.

### Construction Quality

5. The Borrower, through DOW, shall ensure that the roads are rehabilitated and upgraded according to technical specifications of the design. In addition, the Borrower, through DOW, shall ensure that construction supervision, quality control, and Project management are performed according to internationally accepted standards.

### Road Safety

6. The Borrower shall ensure that appropriate road safety facilities such as pavement markings, warning signs, traffic signs and signals and hazard barriers are installed during Project implementation and after completion, and that adequate training on road safety are provided to local communities by HRMG.

### Road Maintenance

7. The Borrower, through DOW, shall ensure that (i) sufficient funds are allocated for the maintenance of the roads financed under the Initial Loan Agreement, this Loan Agreement, and the OCR Loan Agreement and to keep the Road Asset Management System (RAMS) fully operational; and (ii) HRMG contracts out routine and periodic road maintenance with local communities and other contractors.

### National Road Authority

8. The Borrower shall ensure the full operation of the National Road Authority by appointing the Chief Executive Officer and other essential personnel and delineating responsibilities between DOW and the National Road Authority.

### Labor

9. The Borrower, through DOW, shall ensure that civil works contractors comply with all applicable labor laws and regulations as well as international treaties, do not employ child or forced labor for road reconstruction, rehabilitation and maintenance, provide equal opportunities for women in road reconstruction, rehabilitation and maintenance activities, and promptly pay equal wages to men and women for work of equal value. DOW shall ensure that specific provisions to this effect are included in bidding documents and civil works contracts and that compliance is monitored on an on-going basis.

### Gender and Development

10. The Borrower shall ensure that the Project is implemented according to ADB's policy on Gender and Development. The Borrower, through HRMG, shall: (i) encourage local contractors to recruit women in the reconstruction, rehabilitation and maintenance of the roads financed; and (ii) provide safe working conditions for both male and female workers. The Borrower, through HRMG, shall ensure that the above requirements are included in the bidding documents and civil works contracts.

### Health Standards

11. The Borrower, through HRMG, shall ensure that all civil works contractors engaged under the Project shall participate in the community-based training programs with respect to road safety and STI/HIV/AIDS prevention (in consultation with the Provincial AIDS Council and the Health Administration) to be funded under the Project along the prioritized road sections. In addition, HRMG shall ensure that similar information on the risk of transmission of HIV/AIDS and other sexually transmitted infections (STIs) is also disseminated to local communities in the corridor of influence, in coordination with national agencies working on this issue. Specific provisions to this effect shall be included in civil works contracts, and compliance shall be strictly monitored by the HRMG through the engagement of a qualified international consultant.

### Resettlement

12. The Borrower and DOW shall ensure that all Project rehabilitation and upgraded works are undertaken within the existing right-of-way. In the event of any unforeseen resettlement, the Borrower shall inform ADB and prepare and implement a resettlement plan according to the relevant local laws and regulations, and ADB's *Policy on Involuntary Resettlement*. The Borrower shall allocate adequate resources to prepare and implement the resettlement plan, and supervise and monitor its implementation. The Borrower, through DOW, shall ensure that land acquisition and/or resettlement shall not commence before the resettlement plan is reviewed and approved by ADB, and that civil works shall not start before the resettlement plan is approved by ADB.

### Environment

13. The Borrower, through HRMG, shall ensure that: (a) the Project design, construction, and operations comply with applicable domestic laws, regulations, and standards, and ADB's Environment Policy; (b) all environmental mitigation measures, institutional requirements, and monitoring plans specified in the IEEs are complied with; (c) the mitigation measures are updated during the detailed design; (d) all the above requirements are incorporated in the bidding documents and civil works contracts to ensure compliance, (e) environmental compliance monitoring by DOW and HRMG is undertaken in accordance with all applicable laws and regulations, of the Borrower and ADB's Environment Policy and reflected in the Project progress reports and Project completion report.

### Governance and Anticorruption

14. The Borrower and DOW shall follow ADB's policy on anticorruption. The Borrower and DOW acknowledges that ADB, consistent with its commitment to good governance, accountability and transparency, reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project. All costs related to such investigations shall be borne by the Project. The Borrower, through DOW, shall ensure that the following anticorruption measures are undertaken during Project implementation: (i) anticorruption provisions acceptable to ADB shall be included in all bidding documents and contracts, in particular a provision specifying the right of ADB to audit and examine the records and accounts of the EA and all contractors, suppliers, consultants and other service providers as they relate to the Project ; and (ii) the Project supervision consultant shall verify the contractors' payment claims in accordance with the contract specifications.

### Project Performance Monitoring and Evaluation

15. The Borrower, through HRMG, assisted by consultants engaged under the Project and the HRMG community relations officer, shall monitor and evaluate the Project and Subproject impacts to ensure that the project facilities are managed effectively and the project benefits maximized. The Borrower, through HRMG, shall discuss and agree with ADB on the indicators and baseline data prepared by the consultants prior to the commencement of civil works financed by this Loan Agreement and the OCR Loan Agreement, and ensure that the consultants shall monitor and compare the data during the Project implementation and at Project completion, and submit monitoring and evaluation reports to ADB one month after the completion of their field work. To the extent possible, the indicators and baseline data shall make full use of gender-disaggregated data and information. The Borrower and DOW shall collect the data agreed with ADB at the inception, project completion, and 3 years after project completion.

### Project Auditing

16. The Borrower shall cause DOW to: (i) undertake timely audit of Project accounts according to sound auditing standards by an external auditor acceptable to ADB, and (ii) submit to ADB audited Project accounts and related financial statements within 6 months of the end of each fiscal year during implementation.

### Subproject Progress Reports

17. During the implementation period, the Borrower, through HRMG, shall submit to ADB quarterly Subproject progress report and Subproject completion report within 3 months of subproject completion. The Subproject progress reports shall cover civil works progress, environmental, institutional, socio-economic, financial and other relevant aspects that may have an impact on the performance of the Subproject and its continuing activity.

## **SECTION 14: ANTI-CORRUPTION POLICIES OF ADB**

1. It is the ADB policy to require the Borrowers (including beneficiaries of ADB loans), as well as bidders/suppliers/contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts.
2. In line with this policy, the ADB defines, for the purposes of this provision, the terms set forth below as follows:
  - (a) “corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, of any thing of value to influence the action of any party in the procurement process or the execution of a contract;
  - (b) “fraudulent practices” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
  - (c) “collusive practices” means a scheme or arrangement between two or more bidders, with or without the knowledge of the borrower, designed to influence the action of any party in a procurement process or the execution of a contract;
  - (d) “coercive practices” means harming or threatening to harm, directly or indirectly, persons, or their property to influence their participation in a procurement process, or affect the execution of a contract.
3. The ADB will reject a proposal for award of contract if it determines that the bidder recommended for award has directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the contracts in question.
4. The ADB will cancel the portion of the loan allocated to a contract for goods or works if it at any time determines that representatives of the borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the execution of that contract, without the borrower having taken timely and appropriate action satisfactory to the ADB to remedy the situation.
5. The ADB will sanction a party or its successor, including declaring ineligible, either indefinitely or for a stated period of time, to participate in ADB-financed activities if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, an ADB-financed contract.
6. The ADB will have the right to require that a provision be included in bidding documents and in contracts financed by ADB, requiring bidders, suppliers and contractors to permit ADB or its representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.
7. With the specific agreement of ADB, a beneficiary of ADB-financing may introduce an undertaking of the bidder to observe, in competing for and executing a contract, the country’s laws against fraud and corruption (including bribery), as listed in the bidding documents. ADB will accept the introduction of such undertaking at the request of the borrowing country, provided the arrangement governing such undertaking are satisfactory to ADB.

8. When the contract is to be financed wholly or partly by ADB, the contract documents shall include an undertaking by the contractor that no fees, gratuities, rebates, gifts, commissions, or other payments, except those shown in the bid, have been given or received in connection with the procurement process or in contract execution.

9. ADB considers a conflict of interest to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations, and that such conflict of interest may contribute to or constitute a prohibited practice under the anticorruption policy. In pursuance of the anticorruption policy's requirement that borrowers (including beneficiaries of ADB-financed activity), as well as bidders, suppliers, and contractors under ADB-financed contracts, observe the highest standard of ethics, ADB will take appropriate actions to manage such conflicts of interest or may reject a proposal for award if it determines that a conflict of interest has flawed the integrity of any procurement process.

10. A copy of the ADB's Anticorruption Policy brochure provided during the inception mission.

## Section 15: Design Changes

Major or minor changes in project scope, design, costs, and implementation arrangements are described (PAI 5.04). The approval date of changes should be recorded in the following matrix.

Description	Date Approved by ADB

## SECTION 17: KEY PERSONS INVOLVED UNDER THE PROJECT

Name/Institution or Department		Designation
<b>Dept. of National Planning &amp; Rural Development</b>		
Valentine Kambori, MBE	:	Secretary
Ulato Avei	:	Acting Deputy Secretary
Karl Sapol	:	Acting Director, Monitoring & Evaluation
Iliivi Saneto	:	AS, Infrastructure
Loia Viara	:	Programs Officer (ADB Projects)
<b>Dept. of Treasury</b>		
Aloysius Hamou	:	First Assistant Secretary, Loans
John Uware	:	AS, Loans and Evaluation Div.
Ludwig Aur	:	Financial Analyst
Peter Zolimbo	:	Assistant Financial Analyst
<b>Dept. of Works</b>		
Alphonse Niggins	:	Secretary
Roy Mumu	:	Deputy Secretary
Rex Paki	:	Chairperson, Public Steering Committee (HRMG)
	:	Project Field Manager
	:	PWM, Southern Highlands Province (SHP)
Philip Lole	:	Provincial Civil Engineer, SHP
Kupulu Tokeleke	:	Site Supervisor, SHP
Tony Kare	:	Surveyor & Design Engineer, SHP
Johnson Tokyse	:	Surveyor, SHP
Eddy Sangrador	:	Principal Engineer
John Kaiyo	:	Senior Engineer
Ponage Poya	:	PWM, Western Highlands
Patrick Saial	:	PWM, Eastern Highlands
Bill Roltinger	:	Provincial Works Manager, Chimbu
Paul Nombri	:	Quality Management Officer, Chimbu
<b>Renardet Consultants</b>		
Michele Colangelo	:	Vice-President
Giovanni Minisola	:	Chief Implementation Advisor
K. Wickramaratne	:	Financial Administrator
Alberto Fierramosca	:	PIA, Enga
Bill Brown	:	PIA, Western Highlands
Joseph Hooks	:	PIA, Eastern Highlands
Nicola Suozzo	:	PIA, Southern Highlands
Salvatore Garrilli	:	PIA, Chimbu
Alan Mclay	:	Chairperson
David Smith	:	Team Leader, TA 3716-PNG: Road Authority
<b>Asian Development Bank, Pacific Department</b>		
Philip Erquiaga	:	Director General
Steven van der Tak	:	Country Director, PNRM
Indu Bhushan	:	Director
Marcelo Minc	:	Principal Infrastructure Specialist
Cai Li	:	Project Economist (Task Manager)
Cecilia Bantugon	:	Project Officer (Portfolio Management)





# Report and Recommendation of the President to the Board of Directors

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Project Number: 32124  
June 2006

## Proposed Supplementary Loans Papua New Guinea: Road Maintenance and Upgrading (Sector) Project

Asian Development Bank

## **CURRENCY EQUIVALENTS**

(as of 31 May 2006)

Currency Unit	–	kina (K)
K1.00	=	\$0.325
\$1.00	=	K3.076

## **ABBREVIATIONS**

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
CSP	–	country strategy and program
DEC	–	Department of Environment and Conservation
DOT	–	Department of Transport
DOW	–	Department of Works
EA	–	executing agency
EMMP	–	environmental management and monitoring plans
GDP	–	gross domestic product
HRMG	–	Highlands Region Maintenance Group
ICB	–	international competitive bidding
IEE	–	initial environmental examination
IRI	–	International Roughness Index
km	–	kilometer
masl	–	meters above sea level
MTDS	–	Medium-Term Development Strategy
NCB	–	national competitive bidding
NRA	–	National Road Authority
OCR	–	ordinary capital resources
PIU	–	project implementation unit
PNG	–	Papua New Guinea
PPR	–	project performance report
PPTA	–	project preparatory technical assistance
PSC	–	project steering committee
QA	–	quality assurance
RAMS	–	road asset management system
RRP	–	report and recommendation of the President
RoW	–	right of way
SDR	–	special drawing rights
STI	–	sexually transmitted infection
SIEE	–	summary initial environmental examination
VOC	–	vehicle operating cost

## **NOTES**

- (i) The fiscal year of the Government coincides with the calendar year.
- (ii) In this report, "\$" refers to US dollars

<b>Vice President</b>	C. Lawrence Greenwood, Jr., Operations Group 2
<b>Director General</b>	P. Erquiaga, Pacific Department (PARD)
<b>Director</b>	I. Bhushan, Pacific Operations Division, PARD
<b>Team leader</b>	L. Cai, Project Specialist, PARD
<b>Team members</b>	E. Brotoisworo, Senior Environment Specialist, PARD
	P. E. Clos, Counsel, Office of the General Counsel
	M. Minc, Principal Infrastructure Specialist, PARD
	F. Tornieri, Social Development Specialist, Regional and Sustainable Development Department

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## LOAN AND PROJECT SUMMARY

<b>Borrower</b>	Papua New Guinea
<b>Classification</b>	Targeting classification: General intervention Sector: Transport and communications Subsector: Roads and highways Themes: Sustainable economic growth, inclusive social development, capacity development Subthemes: Fostering physical infrastructure development, developing rural areas, organizational development
<b>Environment Assessment</b>	Category B. Environmental assessment was undertaken for all 11 proposed road sections, and a summary initial environmental examination is provided in Appendix 10.
<b>Project Description</b>	The supplementary financial assistance will finance additional road upgrading and rehabilitation subprojects with a length of 270 kilometers (km) in the five Highlands provinces and related consulting services for project implementation and training, design, construction supervision, and project performance monitoring and evaluation.
<b>Rationale</b>	<p>Justifying the supplementary financial assistance are four main points</p> <ul style="list-style-type: none"><li>(i) The proceeds of Road Maintenance and Upgrading (Sector) Project (Loan 1709-PNG) have been fully committed and are able to finance only 50.4% of the total length of roads targeted in the original project scope. The additional proposed subprojects to be financed by supplementary financial assistance will enable achievement of 91% of the originally targeted road length.</li><li>(ii) The proposed supplementary financial assistance is in line with the Government's development strategy, which continues to emphasize improving transport infrastructure.</li><li>(iii) Supplementary financing is consistent with the Asian Development Bank (ADB) country strategy for Papua New Guinea (PNG).</li><li>(iv) Supplementary financial assistance will save substantial project start-up cost and is the most efficient and effective way to improve road infrastructure in the Highlands.</li></ul>

Using Asian Development Fund (ADF) financing is justified by ADB's country classification and PNG's social and economic status. PNG is an ADB category B2 country whose limited debt repayment capacity entitles it to limited ADF financing.

A recent assessment found that the incidence of poverty in PNG increased from 37.5% of the population in 1996 to 54% in 2003.

The Highlands are home to the highest proportion of the poor. The region is mountainous and geologically unstable, with torrential rains that can last 6 or 7 months. Road construction and maintenance are costly, requiring concessional funding.

### Impact and Outcome

The proposed road subprojects for supplementary financing are in line with the impact and outcome of the Project as approved by ADB. It aims to scale up the Project's impact on PNG economic development and social integration by financing more road sections to (i) improve road access for the private businesses and communities, (ii) reduce their travel costs and time to major commercial and service centers, and (iii) enable them to tap economic and social opportunities in the Highlands. It will contribute to (i) export-led economic growth, (ii) income generation for local communities, and (iii) poverty reduction. The outcome will be improved rural access to market centers.

### Cost Estimates

The total cost of the proposed road subprojects, including civil works, consulting services, contingencies, taxes and duties, interest during construction, and other financial charges, is estimated at \$78.07 million equivalent.

### Financing Plan

The Government has requested ADB to provide a blend of two loans for a total of \$53 million, consisting of \$35 million from ordinary capital resources (OCR) and \$18 million from ADF. ADB will finance 68% of the total cost of the additional road subprojects, and the Government will provide \$25.07 million equivalent to cover the remaining cost.

**Financing Plan**  
(\$ million)

Source	Total	Percent
Asian Development Bank		
OCR	35.00	45
ADF	18.00	23
Government	25.07	32
<b>Total</b>	<b>78.07</b>	<b>100</b>

ADF = Asian Development Fund, OCR = ordinary capital resources.

Source: ADB estimates.

### Loan Amounts and Terms

The two loans totaling \$53 million consist of an OCR loan of \$35 million and an ADF loan of \$18 million. The OCR loan will carry a term of 24 years, with a grace period of 4 years, an interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, and a commitment charge of 0.75% per annum. The ADF loan will have a maturity of 32 years, including a grace period of 8 years, an interest charge of 1% per annum during the grace period and 1.5% per annum thereafter, and equal amortization.

### Period of Utilization

Until 30 June 2010

<b>Estimated Project Completion Date</b>	31 December 2009
<b>Executing Agency Implementation Arrangements</b>	The Department of Works (DOW) will continue as the Executing Agency, and the Highlands Region Maintenance Group (HRMG) as the Project Implementation Unit (PIU). The project steering committee will continue to ensure close interagency coordination and monitor project implementation.
<b>Procurement</b>	Procurement of civil works under supplementary financing will follow ADB's <i>Procurement Guidelines</i> . Civil works will be divided into 16 contract packages, five of them procured under national competitive bidding without excluding foreign contractors and joint ventures, and 11 procured under international competitive bidding.
<b>Consulting Services</b>	International consultants will be recruited pursuant to ADB's <i>Guidelines on the Use of Consultants</i> to assist in (i) detailed engineering design; (ii) preconstruction activities; (iii) construction supervision; (iv) project performance monitoring and evaluation; and (v) training on road maintenance, road safety, and prevention of HIV/AIDS and other sexually transmitted infections (STIs). The Government will recruit and finance local consultants for (i) project design; (ii) construction supervision; (iii) financial auditing; and (iv) training on road maintenance, road safety, and STI/HIV/AIDS prevention.
<b>Project Benefits and Beneficiaries</b>	The proposed subprojects for supplementary financing will generate substantial economic benefits. Using a 12% discount rate, the net present value is \$56.89 million, and the economic rate of return is 18.8%. The proposed subprojects are feeder roads servicing a population of about 600,000. They will contribute to poverty alleviation in the Highlands by (i) providing job opportunities, (ii) increasing farmers' income from cash crops, and (iii) facilitating access to social services. It is estimated that 1,500 local employment opportunities will be directly generated by implementing the proposed subprojects, and an additional 6,000 job opportunities will be created through the maintenance program for the roads completed under the Project.
<b>Risks and Assumptions</b>	The subprojects to be financed under the Project are subject to the usual risks for road sector projects, including project start-up delay, road sustainability, environmental impact, and STI/HIV/AIDS exposure. The design of the Project takes into account these risks and includes mitigating measures. To minimize project start-up delay, all 11 road subprojects have already been screened, and due diligence has been completed. The existing implementation arrangement, including consulting services for project implementation, will be maintained to ensure continuity and avoid disruption. Procurement of civil works will follow a single-stage one-envelope bidding procedure with post-qualification to expedite the process. HRMG will implement a

contracting-out system to engage local communities or contractors to provide routine and periodic maintenance for completed ADB-financed roads and ensure better financial sustainability. An assurance is included to ensure that the Government will maintain the completed road sections funded by the Project. Environmental impacts during construction will be mitigated by DOW's implementing the environmental management and monitoring plans. The monitoring results will be reflected in the project progress reports. The STI/HIV/AIDS impact will be mitigated by incorporating appropriate conditions in civil works contracts that require contractors to adopt preventive measures, supplemented by training and awareness campaigns financed by the Project. Prevention activities undertaken under each road section will be monitored and reflected in the project progress reports to be submitted to the National AIDS Council and the Country Coordinating Mechanism.



## MAP

## **I. THE PROPOSAL**

1. I submit for your approval the following report and recommendation on proposed supplementary loans to Papua New Guinea (PNG) for the Road Maintenance and Upgrading (Sector) Project (the Project).<sup>1</sup>

## **II. THE APPROVED PROJECT**

### **A. Project Rationale**

2. An Asian Development Bank (ADB) report and recommendation of the President (RRP) to the Board of Directors, approved in November 1999<sup>2</sup>, provided a description and rationale for the Project. From independence to the early 1990s, PNG's economy was driven by exports. The primary production area was the Highlands, comprising the provinces of Eastern Highlands, Enga, Chimbu, Southern Highlands, and Western Highlands. The region was geographically and culturally diverse, with a population of about 2 million, almost half of PNG's total. In spite of the rich natural resources, the region's population was predominantly poor, living by subsistence farming and other basic livelihoods and characterized by the poorest health, education, and social indicators in the country.

3. The transport system of PNG was multimodal, comprising about 27,000 kilometers (km) of roads; 22 ports; countless wharves, jetties, and landings; 46 airports; and hundreds of airstrips. The road system in the Highlands region consisting of 600 kilometer (km) Highlands Highway linking the five provinces, and feeder roads of about 2,000 km, constituted the backbone of the Highlands and the country's economy. Road conditions were generally poor due to low design standards and lack of maintenance. Almost all unpaved roads had rough riding surfaces, with conditions ranging from rough and stony to impassable. Much of the paved road network was potholed, and in some areas the road course had reverted to gravel. Vehicles had very high operating costs and lasted only 2–4 years. Travel distances were extensive, and travel times were long. As a result, local communities (about 1 million people in this region lived within a day's walk of a road) became increasingly isolated. Significant export and business opportunities were lost. This situation led to increased social unrest and deteriorating peace and security conditions.

4. The Government realized that poor road infrastructure was a major constraint to economic growth and social development in PNG and identified the maintenance of the road network as a development priority. The national transport infrastructure plan (1992) aimed to provide (i) access to markets for farmers and mineral and industrial producers at lower transport costs, and (ii) access for communities to basic social services, including health, education, and government services. The Blueprint on Capital Works 1994–2003 of the Department of Transport and Civil Aviation provided an infrastructure investment plan and the national road restoration and construction program. The program targeted upgrading 935 km of roads and rehabilitating 776 km to (i) promote exports and agricultural production, (ii) improve social service delivery, and (iii) generate employment opportunities.

5. ADB's country strategy for PNG at that time focused on improving (i) governance; (ii) private sector development, factor productivity, and market access through selected infrastructure investments; and (iii) social indicators. In the roads sector, ADB strategy was to establish a

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<sup>1</sup> The revised design and monitoring framework is in Appendix 1.

<sup>2</sup> ADB. 1999. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Papua New Guinea for the Road Maintenance and Upgrading (Sector) Project*. Manila. (Loan 1709-PNG, approved on 16 November).

tradition of good maintenance, an autonomous road authority, and a road trust fund to improve sector performance and secure long-term financial sustainability. In line with this strategy, and following a sector-wide approach, the Project was designed to improve road infrastructure in the Highlands.

## **B. Objectives and Scope**

6. The objectives of the Project as described in the RRP were to contribute to economic growth through increased exports and integrate the Highlands' subsistence population into the mainstream economy by (i) improving critical road links, (ii) establishing a sustainable and effective road maintenance operation in the region, and (iii) improving sector management. The scope of the Project as defined in the Loan Agreement (Loan 1709-PNG)<sup>3</sup> comprised four parts:

- (i) road improvements in the Highlands by carrying out subprojects consisting of (a) upgrading of approximately 220 km of roads, and (b) asset management for road networks, including rehabilitation of approximately 450 km of roads;
- (ii) provision of formal technical training to strengthen the institutional capacity of the Department of Works (DOW) to undertake road maintenance and operation;
- (iii) provision of detailed engineering design and construction supervision support for the preparation and execution of subprojects; and
- (iv) strengthening project implementation and road maintenance operations through inter alia: (a) on-the-job training on the use of the road asset management system (RAMS); (b) assistance in identification of technical training programs, contract supervision, management, and quality control; (c) formulation of community employment programs; (d) road network performance monitoring; and (e) financial management.

## **C. Cost Estimates and Financing Plan**

7. The total cost of the Project, including taxes, duties, and interest during construction, was estimated at \$115 million equivalent. ADB agreed to provide from its ordinary capital resources (OCR) a loan of \$63 million equivalent, financing 48% of civil works and 55% of the total project cost.

8. ADB's loan was provided over 25 years, with a grace period of 5 years and an interest rate determined in accordance with ADB's pool-based variable lending rate system for US dollar loans. Loan 1709-PNG was amended on 15 December 2002 to convert it into a London interbank offered rate (LIBOR)-based loan with standard lending terms. In September 2003, ADB approved the increase in ADB's share of financing for civil works from 48% to 70%. This necessitated scaling down the project scope and total project cost from \$115 million to \$90.6 million.<sup>4</sup> The original and revised project cost estimates and financing plans are shown in Table 1.

<sup>3</sup> ADB. 1999. Loan Agreement (Ordinary Operations), Road Maintenance and Upgrading (Sector) Project between the Independent State of Papua New Guinea and Asian Development Bank. Manila (17 November).

<sup>4</sup> The length of upgraded road was reduced from 220 km to 145 km, and of rehabilitated road from 450 km to 290 km. In hindsight, the need for ADB financing was lower than expected, as few subprojects were approved or contracts awarded. As a result, scaling down the project scope appears to have been unnecessary.

**Table 1: Original and Revised Cost Estimates and Financing Plan**  
(\$ million)

Item	Original			Revised		
	Total Cost	Govt.	ADB	Total Cost	Govt.	ADB
<b>A. Civil Works</b>						
1. Road Upgrading	50.0	21.3	28.7	34.8	6.1	28.7
2. Road Asset Management including Rehabilitation	27.4	18.7	8.7	18.6	9.9	8.7
<b>Subtotal (A)</b>	<b>77.4</b>	<b>40.0</b>	<b>37.4</b>	<b>53.4</b>	<b>15.9</b>	<b>37.4</b>
<b>B. Training and Stakeholder Relations</b>						
1. Training	1.5	1.5	0.0	1.5	1.5	0.0
2. Community Development	0.7	0.7	0.0	0.7	0.7	0.0
<b>Subtotal (B)</b>	<b>2.2</b>	<b>2.2</b>	<b>0.0</b>	<b>2.2</b>	<b>2.2</b>	<b>0.0</b>
<b>C. Consulting Services</b>						
1. Engineering Design and Construction Supervision	6.0	0.9	5.1	6.0	0.9	5.1
2. Support to Implementation and Highlands Region Maintenance Group	8.5	0.8	7.8	8.5	0.8	7.8
<b>Subtotal (C)</b>	<b>14.5</b>	<b>1.7</b>	<b>12.8</b>	<b>14.5</b>	<b>1.7</b>	<b>12.8</b>
<b>D. Land Acquisition</b>	<b>7.8</b>	<b>7.8</b>	<b>0.0</b>	<b>7.8</b>	<b>7.8</b>	<b>0.0</b>
<b>Interest During Construction</b>	<b>12.7</b>	<b>0.0</b>	<b>12.7</b>	<b>12.7</b>	<b>0.0</b>	<b>12.7</b>
<b>Total</b>	<b>114.6</b>	<b>51.7</b>	<b>63.0</b>	<b>90.6</b>	<b>27.6</b>	<b>63.0</b>

ADB = Asian Development Bank, Govt. = government.

Source: ADB. 1999. *Report and Recommendation of the President to the Board of Directors on Proposed a Loan to the Papua New Guinea for the Road Maintenance and Upgrading (Sector) Project*. Manila (Loan 1709-PNG, approved on 16 November); and ADB memo: Request for Major Change in Implementation Arrangements (Increase in ADB Loan Share of Project Costs), 19 September 2003.

#### **D. Status of and Progress in Project Implementation**

9. The Project started in November 2000 with the recruitment of a consulting firm to assist in implementation. A team of implementation advisors was fully mobilized in August 2002. The Highlands Region Maintenance Group (HRMG)—consisting of implementation advisors, project managers and maintenance managers from DOW, and provincial works managers—was established to implement the Project. As of April 2006, the Project had achieved 60% of implementation and 32% of loan disbursement. Progress in project implementation was rated satisfactory in ADB's project performance report (PPR). Activities undertaken under the Project have included (i) road upgrading and rehabilitation in five provinces, (ii) RAMS extension, (iii) training, and (iv) minor rehabilitation contracts. The status of activity implementation is described below.

10. **Road Upgrading and Rehabilitation.** To date, ADB has approved 19 subprojects, involving 249.61 km of road upgrading and 211.41 km of road rehabilitation. Loan 1709-PNG financed 13 road subprojects, involving 161.41 km of road upgrading and 176.51 km of road rehabilitation. The other six subprojects were entirely financed by the Government. As of May 2006, of 19 road subprojects with 21 contracts, four subprojects had been completed, and seven contracts awarded. Civil works on five roads were in progress, two of which, covering about 31 km, were 90% complete. One contract awaited signing, and the remaining nine contracts were at various stages of tendering.

11. **RAMS Extension Subproject.** RAMS, an integrated pavement and maintenance management system, is a central planning instrument to support maintenance scheduling, prioritizing maintenance needs, and preparing budget proposals. It was established in DOW with

the support of two ADB-funded technical assistance (TA) projects.<sup>5</sup> ADB approved a RAMS extension subproject under Loan 1709-PNG in November 2001. The objective of the subproject was to deliver training to enable government counterpart staff to incorporate RAMS as an integral part of DOW's overall asset management system and RAMS to function as a self-sustaining, wholly indigenously operated method of planning and budgeting for road maintenance in PNG.

12. The international consulting firm that was engaged under the two ADB TA projects<sup>6</sup> to establish RAMS nationally and extend it to the provinces was contracted to provide the training services through the direct selection procedure. According to the final report of the consultant, from February 2002 to June 2005, (i) 77.5 person-months of consulting services were provided, (ii) over 50 formal training sessions conducted, and (iii) 700 government officials trained. The scope of the training included road surveying; data collection; project management in interfacing RAMS with operations; prioritizing maintenance needs; and the use of databases, data, and maps.

13. **Training.** The consulting firm engaged to assist in project implementation has provided some training to HRMG counterpart staff members to enhance their technical capability to design and manage road projects. From 2001 to 2005, the consulting firm developed a strategic human resource development plan and 22 training aids and users' manuals, and provided 41 training to 118 government officials from DOW provincial offices, provincial planning offices, and other provincial offices in the form of on-the-job training or training courses. Training areas included engineering design, project management, financial management, contract administration and construction supervision, quality control, road upgrading and maintenance methods, computer skills, documentation, and procedures. Improvement in the capacity of counterpart staff in the areas of engineering design, contract administration and construction supervision, quality control, and computer skills is clearly evident.

14. **Minor Rehabilitation Contracts.** Between 2001 and June 2005, HRMG helped DOW and provincial works officers recruit local contractors to provide routine and emergency road maintenance in the five Highlands provinces. HRMG reviewed the draft contracts and supervised construction works. Altogether, 112 projects covering about 1,000 km with a total contract value of K21.47 million were completed. In addition, HRMG awarded several community-based contracts to carry out routine maintenance in the region. These civil works contracts provided job opportunities to local communities and played an important role in keeping the roads in good condition.

15. **Compliance with Covenants of Loan 1709-PNG.** Most of the covenants of Loan 1709-PNG have been complied with. However, two covenants addressing sector issues were only partly complied with (footnote 6).

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<sup>5</sup> ADB. 1998. *Technical Assistance to Papua New Guinea for the Road Asset Management Project*. Manila (TA 3004-PNG for \$1.0 million); and ADB. 1999. *Technical Assistance to Papua New Guinea for the Road Asset Management System in the Provinces*. Manila (TA 3378-PNG for \$0.581 million).

<sup>6</sup> Covenant of paragraph 8 of schedule 5 of the loan states: "The Borrower shall establish, within three months of the Effective Date, a road maintenance trust account for each province within the Highlands Region, to be operated in accordance with arrangements satisfactory to ADB, and deposit therein each year in total [of] not less than 15 million kina in 1999 prices (i.e., three million kina for each province within the Highlands Region) in quarterly payments, adjusted in each year for annual inflation, in the following minimum amounts for each quarterly installment: First Quarter 20 percent; Second Quarter 30 percent; Third Quarter 30 percent; and Fourth Quarter 20 percent. Covenant of paragraph 4a of schedule 5 of the loan states that, by 31 December 2000, the Borrower shall: (a) taking into account the recommendations made under the Cost Recovery TA (i) fully implement, by outsourcing or otherwise, effective axle-load testing and control and (ii) establish and commence implementation of an appropriate scale of fines to deter axle-overloading and (b) complete installation of an operational weighbridge in Lae in accordance with arrangements satisfactory to ADB."

16. For the first covenant, it appears that the deadline was not realistic. The provincial trust accounts were not established in light of the Government's efforts to improve fiscal discipline and the potential risk that the funds would be misused. However, sufficient funds have been disbursed or allocated by the Government for maintaining the roads. The Government disbursed or allocated from its budget over K120 million for maintaining roads in the Highlands over the life of the Project. This is more than the K15 million a year initially agreed. The counterpart funds directly required for the approved subprojects have been sufficient.

17. The second covenant was not complied with in due course, but the following positive developments are noteworthy. A proposal for outsourcing was submitted by the consultants in January 2003 and is currently being processed by the National Road Authority (NRA) for the bridge in Lae, which is the only location identified so far where it has been necessary to have such control in place (a management contract reviewed by ADB will soon be submitted to the successful operator). The Department of Transport (DOT) has developed a scale of fines to deter axle-overloading that is currently under review by NRA. Finally, the weighbridge in Lae is in good operating condition. It is also important to note that the Lae bridge facility was not operated by DOW, but by DOT initially in 2005 and then by NRA. These developments are consistent with the policy dialogue conducted with ADB on road sector reform. Proceeds from the operations will be allocated to the road fund administered by NRA.

18. **Likelihood of Achieving the Development Objectives.** Project implementation was substantially delayed in the early years, but it gained momentum in 2004. With a more experienced project implementation officer and lessons learned, the Project is making steady progress and having a major impact in the Highlands. Clear evidence exists that passenger and freight traffic has increased significantly on the roads completed under Loan 1709-PNG. With more roads completed one after another in the next 2 years, a major impact on economic and social development in the Highlands is expected. The likelihood of achieving development objectives was rated satisfactory in the PPR.

19. **Strengths and Weaknesses of the Project.** The Project has a good geographic focus. It serves a populous region with great development potential. The objectives of the Project are in line with the Government's development strategy and its transport sector development strategy. It addresses human basic needs and promotes industrial and agricultural activities, exports, tourism, income generation, and social cohesion in the Highlands by facilitating access between production areas and market centers. HRMG is experienced and involving a larger number of local technical staff in project design and supervision. This has contributed to capacity development in the road sector of the five project provinces, and to retaining that expertise in the provinces. The project implementation start-up delay was partly due to the difficulty of setting up HRMG as a functional project implementation unit. Formal training provided by implementation advisors, combined with learning by doing, has brought clear improvement in the capacity of HRMG in the areas of engineering design, contract administration, construction supervision, quality control, and computer skills. HRMG's existence and improved capacity will facilitate implementation of supplementary financing.

20. **Lessons Learned.** The design of supplementary financing has taken into account the lessons learned under Loan 1709-PNG, which are detailed in Appendix 2. Loan 1709-PNG followed the sector lending approach. Identifying road subprojects and providing economic, environmental, and social justifications, as well as cost estimates, which should have been done at the project preparatory stage, were left until after ADB approved the loan. Identifying and approving each subproject proved to be time-consuming. Procurement followed the two-stage bidding process with prequalification, even though the small construction sector in PNG has limited competition. This resulted in delayed contract awards.

21. Building on the efforts already made by the Government and the international consulting team, supplementary financing has prioritized 11 roads from 45 subproject pre-investment studies and will submit them for ADB one-time approval. Due diligence on technical, economic, financial, and environmental viability, and social safeguards, have been completed and scrutinized for all 11 roads. Cost estimates were based on the characteristics of the selected roads, types of intervention, quantities required, and realistic unit costs. Procurement will follow the one-stage one-envelope procurement procedure with post-qualification. A more experienced project implementation office is already in place and has been active in project preparation. These measures promise to substantially improve project performance.

### III. THE PROPOSED SUPPLEMENTARY FINANCIAL ASSISTANCE

#### A. Proposed Supplementary Financing

22. Supplementary financial assistance will provide financing for (i) additional upgrading<sup>7</sup> and rehabilitation of road sections corresponding to the 11 subprojects, with a total length of 270 km in the five Highlands provinces, and (ii) related consulting services for detailed engineering design, preconstruction activities, construction supervision, project performance monitoring and evaluation, and training on road maintenance, road safety, and STI/HIV/AIDS prevention. Eleven road sections<sup>8</sup> have been screened and pre-selected for supplementary financing based on various criteria such as (i) their linkage with subprojects already approved by ADB under Loan 1709-PNG, (ii) Government priorities,<sup>9</sup> (iii) economic rate of return, (iv) social and environmental considerations, and (v) public consultations. ADB conducted extensive consultations with the central and provincial governments and local stakeholders on the selection of the road subprojects in November 2005 and March 2006. The names of the provinces, road sections, types of treatment, and length are shown in Table 2.

**Table 2: Prioritized Road Sections**

Province	Road Section	Length (km)	Treatment
Eastern Highlands	Okapa–Raipinka	51	Rehabilitation
	Kamaliki–Move	34	Rehabilitation
	Goroka–Lahame	13	Upgrading
Western Highlands	Kindeng–Kondopina	11	Upgrading
	Banz–Dona	19	Upgrading
Chimbu	Gewa–Gembogl	21	Rehabilitation
	Kerowagi–Dona	29	Rehabilitation
	Korinige–Kerowagi	7	Upgrading
Enga	Warumanda–Laiagam	31	Upgrading
Southern Highlands	Ialibu–Kagua	32	Rehabilitation
	Ialibu–Pangia	22	Rehabilitation

km = kilometer

Source: Asian Development Bank.

#### B. Impact and Outcome

23. The impact and outcome of the supplementary financing are in line with those of the Project ADB approved in 1999. It aims to scale up the Project's impact on PNG economic development and social integration by financing more road sections to (i) improve road access for the private

<sup>7</sup> Upgrading means sealing, without widening and realigning the road.

<sup>8</sup> All 11 roads are from the long list in the RRP. They are the continuation of the roads financed by Loan 1709-PNG.

<sup>9</sup> The 11 roads were further prioritized from the Government priority list sent in June 2005.

businesses and communities, (ii) reduce their travel costs and time to major commercial and service centers, and (iii) enable them to tap economic and social opportunities in the Highlands. It will support the Government's efforts to enhance export-led economic growth, generate income for local communities, and reduce poverty. The outcome will be improved rural access to market centers.

### **C. Rationale**

24. Justifying supplementary financing in this Project are four main points. Firstly, the proceeds of Loan 1709-PNG have been fully committed and are able to finance only a total of 338 km (consisting of 161.41 km of upgraded road and 176.51 km of rehabilitated road). This length constitutes only 50.4% of the total length of the roads originally targeted (670 km including 220 km of upgraded road and 450 km of rehabilitated road). The financial shortfall was due to a combination of factors, including underestimation of costs at the time of appraisal, delayed project implementation, and lack of competition in PNG's construction sector. Loan 1709-PNG did not budget any physical and price contingencies. Civil works base cost estimates for some road sections were very low. Inflation between 1999 and 2003 was double digit. The delay in project implementation meant actual costs were much higher than envisaged at appraisal, for labor by 5–6 times, equipment 5–30 times, and materials 1.8–2.9 times. Lack of competition in PNG's construction sector resulted in high bid prices. The reduced project scope, if not remedied, will certainly compromise the achievement of the intended purposes and objectives as initially conceived for the Project. With the additional proposed subprojects financed by supplementary loans, the total length of roads financed by ADB will reach 608 km (including 242.41 km for upgrading and 365.51 km for rehabilitation), enabling achievement of 91% of the original project scope. The selected roads are continuations of ongoing road subprojects financed under Loan 1709-PNG, as indicated in the map, and will increase connectivity.

25. Secondly, deteriorating transport infrastructure is a particular concern for PNG. Four years ago, a study completed by the Eastern Highlands Chamber of Commerce and Industry revealed that poor road conditions caused an estimated 30% decline in coffee shipped from Eastern Highlands Province. Crime rates also increased as a result of the poor roads, with coffee stolen from buyers.

26. The Government attaches great importance to improving transport infrastructure to achieve its overarching development strategy of export-driven economic growth, rural development, and poverty reduction. Transport infrastructure rehabilitation and maintenance is the first of seven expenditure priorities in the Government's Medium-Term Development Strategy (2005–2010) (MTDS). The proposed financing of subprojects is in line with the MTDS and the latest National Transport Development Plan 2006–2010, the implementation plan for the MTDS. The Highlands are indeed strategically important for the country, as they are richly endowed with natural and tourism resources and ecological conditions for farming, as well as being home to almost half of the population. Developing the infrastructure network in this region will have significant impact on PNG's overall economic and social performance. The country's most significant road, the Highlands Highway, runs through the region, bringing to Lae port copper, coffee, and tea (the country's major export items) and distributing in the region imports ranging from heavy machinery to food. The Government has set aside K225 million for the next 4 years to upgrade and rehabilitate the Highlands Highway. It is also planning to invest in Lae port and has officially requested ADB assistance in expanding Lae port capacity. It would be timely for ADB to provide the additional financing to upgrade and rehabilitate more roads that connect major farming areas, resource and population centers, and tourist sites in the Highlands region to the Highlands Highway. The additional financing will complement efforts by the Government and ADB, particularly with respect to developing Lae port.



27. Thirdly, the proposed supplementary financing is consistent with the ADB country strategy for PNG, as documented in the country strategy and program (CSP) update 2005–2006<sup>10</sup> and in discussions on the CSP 2006–2010<sup>11</sup>, currently under preparation. Programming discussions have agreed that the transport sector is one of four priority sectors or themes for the upcoming CSP 2006–2010, with ADB support to focus on the roads and maritime subsectors.

28. Fourthly, supplementary financing will be efficient and cost effective in terms of project preparation and implementation by capitalizing on the established project implementation office and strengthened capability. It has taken more than 2 years for the Project to set up HRMG as a functional project implementation unit. With on-the-job and formal training provided by international consultants, and learning by doing, HRMG has strengthened its capacity and finally become a fully fledged project implementation office consisting of a designing arm and a construction supervision team. It is capable of implementing more subprojects, including engineering design, preparing bidding documents, tendering and awarding contracts, and supervising construction, without incurring substantial start-up costs. HRMG is currently implementing the Project efficiently. It will likely be able to implement additional proposed subprojects in the same fashion, resulting in start-up cost savings of at least \$2 million.

29. The proposed supplementary financing meets the eligibility criteria specified in the policy paper on supplementary financing approved in November 2005. The additional road upgrading and rehabilitation subprojects identified for financing by the supplementary loans are within the original project scope and continue to be a priority in the Government's development strategy. Supplementary financing will help achieve the objectives of Loan 1709-PNG, which were to contribute to PNG economic development and social integration by improving road infrastructure. Supplementary financing will benefit from the established international consulting team, a seasoned project implementation office, and enhanced technical expertise gained from the Project. It is technically feasible, institutionally sound, and economically viable.

#### **D. Safeguards**

30. Due diligence has been done to ensure that environmental and social safeguards for the selected 11 road subprojects accord with ADB policies. Since the Project involves interventions on existing road alignments, and will not entail land acquisition or involuntary resettlement; it has been classified as category C regarding involuntary resettlement and indigenous people.

31. The environmental categorization for the 11 subprojects is category B. Initial environmental examinations (IEEs) were carried out for all 11 roads, and IEE reports for 11 roads and a summary IEE (SIEE) were prepared. According to IEEs, none of the selected roads passes through environmentally sensitive or conservation area. Most of the adverse environmental impacts are related to regular construction activities, which are temporary and can be mitigated by taking measures detailed in the environmental management and monitoring plans (EMMP). Environmental impacts such as noise, reduced air quality, and traffic accidents during the operational phase are considered low because of the low traffic volume. No cumulative environmental impacts were identified.

#### **E. Revised Cost Estimates**

32. The total cost of the proposed subprojects for supplementary financing—including civil works, consulting services, contingencies, taxes and duties, interest during construction, and other

<sup>10</sup> ADB. 2005. *Papua New Guinea Country Strategy Program Update (2005–2006)*. Manila.

<sup>11</sup> ADB. 2006. *Papua New Guinea Country Strategy Program (2006–2010)*. Manila (for board approval in 2006).

financial charges—is estimated at \$78.07 million equivalent. Estimates of the base cost for civil works are derived from the actual costs of ongoing road subprojects, geotechnical and topographic surveys, and further investigation of quantities and sources of materials. Cost estimates for the proposed subprojects are summarized in Table 3 and are detailed in Appendix 3.

**Table 3: Cost Estimates for Proposed Subprojects**  
(\$ million)

Item	Total Cost
<b>A. Base Cost</b>	
1. Civil Works	<b>53.25</b>
<b>B. Consulting Services</b>	<b>10.43</b>
1. Engineering Design, Preconstruction Activities, Construction Supervision, Performance Monitoring and Evaluation, and Training on Road Main & Safety, and STI/HIV/AIDS Prevention	3.21
2. Project Design	2.66
3. Construction Supervision	4.26
4. Financial Auditing	0.06
5. Training on Road Main, Safety, and STI/HIV/AIDS	0.24
<b>C. Contingencies</b>	<b>9.99</b>
1. Physical Contingencies	5.32
2. Price Contingencies	4.67
<b>Subtotal (A+B+C)</b>	<b>73.67</b>
<b>D. Interest during Construction and Commitment Charge</b>	<b>4.40</b>
<b>Total</b>	<b>78.07</b>

Source: Asian Development Bank estimates.

33. The total cost of the Project is \$168.67 million equivalent as summarized in Table 4.

**Table 4: Consolidated Total Project Cost**  
(\$ million)

Item	Original	Revised	Supplementary	Total Cost
<b>A. Base Cost</b>				
Civil Works	<b>77.40</b>	<b>53.40</b>	<b>53.25</b>	<b>106.65</b>
<b>B. Consulting Services</b>	<b>16.70</b>	<b>16.70</b>	<b>10.43</b>	<b>27.13</b>
1. Engineering Design, Preconstruction Activities, Construction Supervision, Performance Monitoring and Evaluation, and Training on Road Maintenance and Safety, and STI/HIV/AIDS	8.50	8.50	3.21	11.71
2. Project design and supervision	6.00	6.00	6.92	12.92
3. Financial auditing	0.00	0.00	0.06	0.06
4. Training on Road Main, Safety, and STI/HIV/AIDS	2.20	2.20	0.24	2.44
<b>C. Contingencies</b>	<b>0.00</b>	<b>0.00</b>	<b>9.99</b>	<b>9.99</b>
1. Physical Contingencies	0.00	0.00	5.32	5.32
2. Price Contingencies	0.00	0.00	4.67	4.67
<b>Subtotal</b>	<b>94.10</b>	<b>70.10</b>	<b>73.67</b>	<b>143.77</b>
<b>D. Land Acquisition</b>	<b>7.80</b>	<b>7.80</b>	<b>0.00</b>	<b>7.80</b>
<b>E. Interest during Construction and Commitment Charge</b>	<b>12.70</b>	<b>12.70</b>	<b>4.40</b>	<b>17.10</b>
<b>Total</b>	<b>114.6</b>	<b>90.60</b>	<b>78.07</b>	<b>168.67</b>

Note: The original and revised costs have been presented in a format consistent with the supplementary cost estimates.  
Source: Asian Development Bank estimates.

## F. Revised Financing Plan

34. For supplementary financing, the Government has requested ADB to provide a blend of two loans for a total of \$53 million, consisting of an OCR loan of \$35 million and a loan in various currencies equivalent to SDR12,075,000 (equivalent to \$18 million, as of 1 June 2006) from the Asian Development Fund (ADF), to cover the additional project financing need. The OCR loan will carry a term of 24 years, with a grace period of 4 years, an interest rate determined in accordance with ADB's LIBOR-based lending facility, a commitment charge of 0.75% per annum, and such other terms and conditions as set forth in the draft OCR loan. The Government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility on the basis of these terms and conditions, and (ii) an undertaking that these choices were its own independent decision not relying on any communication or advice from ADB. The ADF loan will have a maturity of 32 years, including a grace period of 8 years, an interest charge of 1% per annum during the grace period and 1.5% per annum thereafter, equal amortization, and such other terms and conditions as set forth in the draft ADF loan. ADF and OCR loans will be disbursed on a pro rata basis (Appendix 4).

35. ADB will finance 68% of the total cost of the additional road subprojects in the Project, while the Government will provide \$25.07 million equivalent to finance the remaining cost.<sup>12</sup> The financing plan is presented in Appendix 3 and summarized in Table 5.

**Table 5: Financing Plan for Proposed Subprojects**  
(\$ million)

Source	Total Cost	Percentage
Asian Development Bank	53.00	68
OCR	35.00	45
ADF	18.00	23
Government	25.07	32
<b>Total</b>	<b>78.07</b>	<b>100</b>

ADF = Asian Development Fund, OCR = ordinary capital resources.

Source: Asian Development Bank estimates.

36. The use of ADF financing is justified by ADB's country classification for PNG and PNG's social and economic status. As ADB's current country classification stands, PNG is a category B2 country whose limited debt repayment capacity entitles it to limited ADF financing.

37. A World Bank assessment<sup>13</sup> found that the incidence of poverty in PNG had increased significantly in recent years. Using a poverty line that allows for 2,200 calories per adult equivalent per day and an allowance for basic nonfood expenditure, which is similar to the PNG national poverty line, 37.5% of the PNG population was considered poor in 1996. This figure had risen to 54% in 2003. The trend was the same for the international poverty line of \$1 per day, by which the estimated incidence of poverty had grown from 25% to 40%. In terms of the human development index, PNG ranked 133 out of 177 countries in 2004. Its social indicators are among the lowest in the Pacific region. The Highlands, home to the highest portion of the poor, are mountainous and geologically unstable, with torrential rains that can last 6 or 7 months. Road construction and maintenance are costly, requiring concessional funding.

<sup>12</sup> Budgeted in the Government's development budget as a separate line item. The Government has provided counterpart funding for Loan 1709-PNG. With its improved financial position, the Government is willing and able to provide the counterpart funding for the supplementary financing subprojects.

<sup>13</sup> World Bank. 2004. Poverty Assessment (Papua New Guinea). Washington, DC.

38. ADB loans for the Project will amount to \$116 million equivalent, financing about 69% of the total project cost. The consolidated financing plan for the Project is shown in Table 6.

**Table 6: Consolidated Financing Plan for the Project**  
(\$ million)

Source	Total	Percentage
Asian Development Bank	116.00	69.00
Government	52.67	31.00
<b>Total</b>	<b>168.67</b>	<b>100.00</b>

Source: Asian Development Bank estimates.

## **G. Implementation Arrangements**

### **1. Executing Agency, Project Implementation Unit, and Project Steering Committee**

39. DOW will continue as the Executing Agency. HRMG, assisted by a team of international and local consultants, will continue as the project implementation unit. HRMG headed by a field project manager will maintain an office in each province, comprising an implementation advisor, a community relations officer, and other necessary staff. HRMG will

- (i) design the subprojects and prepare the bidding documents,
- (ii) handle the bidding process,
- (iii) provide construction supervision and manage contracts,
- (iv) monitor the project progress,
- (v) prepare withdrawal applications,
- (vi) maintain project accounts and complete the financial records for auditing,
- (vii) prepare project progress reports and the project completion report,
- (viii) monitor environmental and socioeconomic impacts,
- (ix) implement a cost-effective contracting-out system for road maintenance and so ensure the roads completed under Loan 1709-PNG and supplementary loans are properly maintained, and
- (x) provide training on road maintenance, road safety, and STI/HIV/AIDS prevention.

The project steering committee will continue to ensure close interagency coordination and monitor implementation of the Project. Its composition and mode of functioning will not change.

### **2. Implementation Period**

40. The proposed subprojects will be implemented over 3.5 years, with civil works commencing in April 2007 and project completion by the end of 2009. The detailed implementation schedule is attached as Appendix 5. The project completion date for Loan 1709-PNG will be extended to 31 December 2009 to accommodate the proposed subprojects under the supplementary loans.

### **3. Procurement**

41. Procurement of civil works under the supplementary loans will follow ADB's *Procurement Guidelines*. Civil works will be divided into 16 contract packages as listed in the procurement plan (Appendix 6). Since the procurement threshold for PNG is \$3 million, five of the packages will be procured under national competitive bidding (NCB) without excluding foreign contractors and joint ventures, and 11 will be procured under international competitive bidding (ICB). Single-stage one-

envelope bidding procedure with post-qualification will be used for both ICB and NCB contract packages to streamline the bidding process. Contractors with adequate technical and financial capacity will be allowed to bid for several packages and may be awarded more than one contract based on the least-cost combination of contracts.

#### **4. Consulting Services**

42. International consulting services will be required to assist in (i) detailed engineering design, (ii) preconstruction activities, (iii) construction supervision, (iv) project performance monitoring and evaluation, and (v) training on road maintenance and safety and on STI/HIV/AIDS prevention. Under Loan 1709-PNG, an international consulting firm (the initial consultant) was recruited on a competitive basis to assist in project design and implementation, construction supervision, and training. As Loan 1709-PNG followed a sector approach, the initial consultant has helped HRMG complete pre-investment studies on more than 45 subprojects for ADB consideration, including the proposed 11 road sections. Engineering design, preparing bidding documents, and implementing road subprojects financed by supplementary loans are tasks that represent a natural continuation of the previous work carried out by the initial consultant.

43. After years of working in the Highlands, the initial consultant has acquired knowledge about the PNG road sector, the local culture, and the topographic and geotechnical conditions of the studied subprojects. Continuity in technical approach, experience acquired, and continued professional liability necessitates continuing the initial consultant's services. The project implementation schedule in Appendix 5 assumes that the existing institutional arrangements for project implementation, including the services of the initial consultant, will be maintained. From the cost perspective, retaining the services of the initial consultant will save at least \$2 million in consulting services, because its current contract will end in June 2008, and will only need to be extended by 1.5 years.

44. Recruiting a new consultant has been considered and found impractical. Firstly, the selection process would take at least 6 months. Secondly, consultant mobilization may take another 1–2 years, as happened in this Project and others in PNG. Thirdly, engineering design and bidding for civil works will take another year. This means that initial implementation delays under Loan 1709-PNG will be repeated under the supplementary loans if new recruitment is conducted.

45. In summary, retaining the services of the initial consultant observes ADB's principles of economy and efficiency. Hence, the single-source selection method for the continuation of the initial consultant is proposed for the international consulting services. It is proposed that the initial consultant's contract be extended by 1.5 years (132 person-months), from June 2008 until December 2009. The Borrower will ask the initial consultant to prepare technical and financial proposals on the basis of the outline terms of reference presented in Appendix 7.

46. Domestic consulting services for project design, construction supervision, financial auditing, and training on road maintenance, road safety, and STI/HIV/AIDS prevention for the Project will be required and financed by the Government. The Government will recruit the domestic consultants following Government procedures acceptable to ADB.

#### **5. Advance Procurement Action**

47. The Government requested ADB's approval of advance procurement action for recruiting consulting services and procuring civil works. Approval of advance action was granted during the management review meeting. Advance action covers inviting bids, bidding, and bid evaluation but not awarding contracts. Advance action will be undertaken in accordance with ADB's *Procurement*

*Guidelines and Guidelines on the Use of Consultants.* The Government has been advised that approval of advance action does not commit ADB to financing the Project.

## **6. Disbursement Arrangements**

48. Supplementary loans will be disbursed in accordance with ADB's *Loan Disbursement Handbook*. Direct payment and reimbursement procedures will be used for road subprojects financed by the supplementary loans.

## **7. Accounting, Auditing, and Reporting**

49. Recent experience indicates that financial management with regard to accounting, auditing, and reporting is satisfactory and does not require adjustment. DOW will continue to maintain separate accounts to identify civil works and services financed by Loan 1709-PNG and supplementary loans, prepare separate financial statements indicating the sources and application of funds, and have them audited by an independent auditor acceptable to ADB. Financial auditing has been budgeted under the Project and will be funded by the Government. The audited project accounts and the auditor's reports will be provided to ADB in English within 6 months after the end of each financial year. DOW will prepare and submit to ADB quarterly project progress reports and provide to ADB a project completion report within 3 months of project completion.

## **8. Project Performance Monitoring and Evaluation**

50. ADB and the Government will agree, prior to April 2007, upon a set of indicators for monitoring and evaluating project performance and the performance of each road subproject financed by Loan 1709-PNG and supplementary loans in relation to the Project's goals and purposes, with an emphasis on economic and social activities. Six person-months of international consulting services will be provided under the Project to establish and monitor indicators and evaluate project performance. The consultant will

- (i) establish a set of social and poverty impact indicators for the Project and gender-disaggregated baseline data for road sections whose civil works have not commenced;
- (ii) review and compare the data during project implementation and completion;
- (iii) monitor and evaluate ongoing and completed road sections;
- (iv) prepare subproject completion reports;
- (v) provide hands-on training on data collection and monitoring to DOW; and
- (vi) assess the overall socioeconomic impacts of the Project. The indicators may include (a) economic activities and income level in the project area, (b) industrial and agricultural outputs, (c) transport costs and time, (d) transport services and charges, (e) accident rates, (f) level of social services including school enrollment and infant mortality, (g) access to STI/HIV/AIDS information and service, and (h) jobs created (employment impact indicators will include information about unskilled laborers, poor laborers, and women laborers).

## **9. Project Review**

51. ADB will review the Project every 6 months. Each review will cover all relevant aspects that may have an impact on the Project's performance and continuing viability, either institutional, administrative, organizational, technical, environmental, social, economic, the status of compliance with covenants stipulated in each loan, financial, or other aspects.

## 10. Anticorruption Measures

52. ADB has recently completed a project procurement-related audit of the Project and found no clear indications of potential fraud and corruption. ADB's *Anticorruption Policy* (1998) was explained to the Government and DOW and discussed with them. The Government and DOW shall adhere to ADB anticorruption requirements during project implementation. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. 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 and all contractors, suppliers, consultants and other service providers as they relate to the Project. If ADB determines that representatives of the Borrower, a beneficiary, a contractor, and/or a consultant engaged in corrupt, fraudulent, collusive or coercive practices, ADB may take the following actions: (i) reject any proposal for contract award and/or (ii) declare any firm or individual ineligible for ADB-financed contracts, indefinitely or for a stated period of time.

## IV. PROPOSED SUPPLEMENTARY FINANCING BENEFITS, IMPACTS, AND RISKS

### A. Benefits

53. The proposed supplementary financing will generate substantial economic benefits. Normal traffic growth rates were based on the projected gross domestic product (GDP) growth rate estimated to be 3% annually for 2006–2025. Additional traffic is generated either because a journey becomes more attractive by virtue of its costing less or because of the increased development brought about by the improved roads. For all selected road sections to be improved, the generated traffic is assumed to equal 5% of normal traffic that would occur during the first year after rehabilitation works end. This assumption is made based on the presence of intense agricultural activities in the 11 identified project areas.

54. The economic analysis was carried out for the 11 subprojects by comparing scenarios with and without the Project using the highway design and management model. The economic analysis covers 20 years (2006–2025) for the upgrade-to-sealed option and 15 years (2006–2020) for re-gravelling, with the construction periods varying between 1 and 2 years starting in 2007. All benefits and costs are in constant 2006 prices. All prices are expressed in PNG kina.

55. The economic costs of all the subprojects proposed for financing under the supplementary loans are (i) the capital cost, including labor, equipment and materials, consulting services and physical contingency, and (ii) the costs of maintaining project roads. The economic benefits arise from (i) savings in vehicle operating cost, particularly repair costs, from improved road conditions; (ii) savings in maintenance costs; (iii) time savings for road users; and (iv) benefits to generated traffic. The subprojects proposed for financing under the Project will also have other benefits, such as improving food security and access to economic and social services, which were not included in the economic internal rate of return (EIRR) calculation.

56. Using a 12% discount rate, the economic benefits are substantial. The net present value is \$56.89 million, and the EIRR is 18.8%. The results of the sensitivity analysis confirmed the

economic viability of all proposed subprojects. The switching value<sup>14</sup> for increased rehabilitation costs was determined to be 42.5%, and the switching value for decreased benefits 29.9%. In the worst-case scenario, with a combination of increased costs and decreased benefits, the net present value would be reduced to K8.16 million, and the EIRR to 12.91%. The detailed economic analysis is attached in Appendix 8.

57. According to a recent assessment by the International Monetary Fund,<sup>15</sup> PNG's economy has been performing well since 2004. Real GDP grew by 3% in 2004, and a similar growth rate is expected for 2005. A sharp reduction in inflation occurred in 2004, and inflation is estimated to have averaged 1% in 2005. External accounts are expected to be in surplus in 2005. Fiscal outcome also improved in 2005, with a budget deficit of 0.6%. As a result, public sector debt, about half of which is external, shrank from 72% of GDP in 2002 to 49% in 2005. The Government is continuing to rationalize public expenditure with the objective of controlling debt while increasing expenditure on priority areas such as transport infrastructure. Counterpart funding for ADB projects is treated as a priority and has been provided to Loan 1709-PNG. Budget allocation for road maintenance has increased substantially from K15 million–K20 million to K100 million in 2006. The road fund has been established with an initial allocation of \$20 million from the fuel tax. In view of these developments, the Project is considered to be financially sustainable.

## **B. Poverty Reduction Impact**

58. The proposed subprojects financed under the Project will contribute to alleviating poverty in the Highlands by providing job opportunities and promoting agricultural development through improved road access. Upgrading and rehabilitating the 11 roads will directly generate an estimated 1,500 local employment opportunities. The maintenance program for the roads completed under the Project will provide additional income opportunities for 6,000 people.

59. PNG's economy is highly dualistic, with a small modern sector coexisting with a large subsistence sector. More than 85% of the population resides in rural areas, surviving by subsistence agriculture and/or cash crop production. The Highlands are fertile but have the highest incidence of poverty because residents are isolated from market and social service centers. The 11 proposed road sections connect the Highlands' major coffee, fruit, and vegetable production areas to the Highlands Highway and city centers, serving a population of more than 600,000. Improved and rehabilitated roads will help farmers increase their income from cash crops by easing access to markets and reducing costs for traders collecting produce, as well as by allowing farmers to tap market opportunities in city centers. The increased income and improved road conditions will facilitate access to education and health services in city centers, thereby contributing to the well-being of the population.

## **C. Social and Gender Impact**

60. The social and gender impacts of the subprojects to be financed under the Project were assessed during the ADB Fact-Finding Mission, and a summary of the poverty reduction and social strategy appears in Appendix 9. It was found that women in the Highlands are currently involved in a broad range of activities related to road construction, road maintenance, and commercial roadside services. The proposed subprojects will provide more income-earning opportunities for women. An estimated 25–30% of the workforce for the Project will be women.

<sup>14</sup> The switching value shows the percentage increase in a cost variable (or decline in a benefit variable) required for the net present value to become zero, which is the same as the EIRR reducing to the cut-off level of 12%.

<sup>15</sup> International Monetary Fund. 2006. IMF Concludes 2005 Article IV Consultation with Papua New Guinea. Washington, DC.



61. The presence of the construction workforce at subproject sites and the opening up of isolated areas may expose the local population to STI/HIV/AIDS risk. The proposed Project will finance training and awareness campaigns in each province and require contractors, through civil works contracts, to take preventive measures to mitigate the risk. Other than the STI/HIV/AIDS issue, no adverse impacts on vulnerable groups and indigenous people were identified.

#### **D. Environmental Impacts**

62. The proposed subprojects under the Project have been categorized as environmental category B project in accordance with the ADB *Environment Policy* (2002) and *Environmental Assessment Guidelines* (2003). Environmental assessment has been carried out for all 11 road sections. IEE reports and EMMP have been prepared and agreed with the Government. A summary initial environmental examination is in Appendix 10.

63. Various consultations, a review of documents, and field assessments of the proposed road sections lead to the conclusion that significant and/or irreversible impacts are unlikely and that the 11 road sections comply with ADB's *Environment Policy*. In particular, the proposed road sections are not located in environmentally sensitive or conservation areas. Road improvement will not increase logging or hunting and are strongly supported and requested by local communities. No significant cumulative impacts are identified. Moreover, the proposed roadwork is limited to rehabilitating or upgrading existing roads and can generally be carried out within the existing road reserve.

64. As summarized in EMMP, which will be part of the contractors' subcontract, all potential environmental concerns can properly be mitigated and minimized to acceptable levels. As such, the scope of the rehabilitation and upgrading of the proposed road sections and their anticipated environmental impacts do not require further study. The supporting EMMP will provide sufficient guidance for HRMG staff to successfully monitor and report on the Project's environmental compliance.

#### **E. Project Risks**

65. The subprojects to be financed under the Project are subject to the usual risks of transport projects. These include project start-up delay, road sustainability, environmental impacts, and STI/HIV/AIDS exposure. The design of the Project has taken into account these risks and includes mitigating measures. To minimize project implementation delay, all 11 road subprojects have been screened, and due diligence has been completed. The existing institutional arrangements, including consulting services for project implementation, will be maintained to ensure continuity and avoid disruptions. Detailed engineering design and the preparation of bidding documents are under way and will be finalized during project implementation. Procurement of civil works will follow a single-stage one-envelope bidding procedure with post-qualification in order to expedite the procurement bidding process. With all the measures proposed above, completion of the Project will likely be by the end of 2009, as indicated in the detailed implementation schedule.

66. The issue of road sustainability has been extensively discussed by ADB missions and the Government during project processing and has been addressed in the Project. HRMG will implement a contracting-out system to engage local communities or contractors to provide routine and periodic maintenance for ADB-financed roads so that the life of the completed roads can be extended. Road maintenance will be contracted out starting in 2007. An assurance is included to ensure that the Government will maintain the road sections funded by Loan 1709-PNG and the supplementary loans.

67. Environmental impacts during construction will be mitigated by DOW's implementing EMMP, which include the obligation to incorporate mitigation measures into civil works contracts, and by monitoring these contracts. Monitoring results will be reflected in project progress reports. The impact of STI/HIV/AIDS will be mitigated by incorporating appropriate conditions in civil works contracts that require contractors to adopt preventive measures, supplemented by training and awareness campaigns financed by the Project. The preventive measures undertaken under each road section will be monitored and reflected in the project progress reports, which will be submitted to the National AIDS Council and the Country Coordinating Mechanism. Assurance has also been given by the Government with respect to health standards.

## V. ASSURANCES

### A. Specific Assurances

68. In addition to the standard assurances, the Government and DOW have given the following assurances, which are incorporated in the legal documents:

- (i) **Project executing agency.** DOW will continue to act as the Project Executing Agency as set forth in Loan 1709-PNG responsible for overall execution and coordination of the Project.
- (ii) **Project implementation unit.** HRMG, assisted by a team of consultants engaged under the Project, will continue to act as the Project Implementation Unit. HRMG will remain headed by a project director, who will be assisted by a team of qualified technical, financial, and support staff. The Government will continue to provide HRMG with adequate office space and support services in a form satisfactory to ADB throughout the implementation period.
- (iii) **Project steering committee (PSC).** The PSC set forth in Loan 1709-PNG will continue to act as the Project Steering Committee to ensure close interagency coordination and monitor the implementation of the Project. The PSC will be chaired by a provincial administrator and will be composed of five provincial administrators, five Government agencies, and two representatives from the private sector. The Government, through DOW, will ensure that PSC will meet at least quarterly to review the progress of implementation and provide support and guidance on project implementation, as necessary.
- (iv) **Counterpart funding.** The Government will provide, on a timely basis, all funds and resources necessary for upgrading, rehabilitation, maintenance, and management of the project facilities financed under the Project.
- (v) **Construction quality.** The Government, through DOW, will ensure that the project roads are rehabilitated and upgraded according to technical specifications of the design. In addition, the Government, through DOW, will ensure that construction supervision, quality control, and project management are performed according to internationally accepted standards.
- (vi) **Road safety.** The Government will ensure that appropriate road safety facilities such as pavement markings, warning signs, traffic signs and signals, and hazard barriers are installed during project implementation and after completion and that adequate training on road safety is provided to local communities by HRMG.
- (vii) **Road maintenance.** The Government, through DOW, will ensure that (a) sufficient funds are allocated for the maintenance of the roads financed under the Project and to keep the Road Asset Management System operational, and (b) HRMG contracts out routine and periodic road maintenance with local communities and other contractors.

- (viii) **National road authority.** The Government will ensure full operation of the National Road Authority by appointing the chief executive officer and other critical staff and delineating responsibilities between DOW and the National Road Authority.
- (ix) **Labor.** The Government, through DOW, will ensure that civil works contractors comply with all applicable labor laws and regulations as well as international treaties; do not employ child or forced labor for road reconstruction, rehabilitation, and maintenance; provide equal opportunities for women in road reconstruction, rehabilitation, and maintenance activities; and promptly pay equal wages to men and women for work of equal value. DOW will ensure that specific provisions to this effect are included in bidding documents and civil works contracts and that compliance is monitored on an ongoing basis.
- (x) **Gender and development.** The Government will ensure that the Project is implemented according to ADB's policy on gender and development.<sup>16</sup> The Government, through HRMG, will (a) encourage local contractors to recruit women in the reconstruction, rehabilitation, and maintenance of the roads financed; and (b) provide safe working conditions for both male and female workers. The Government, through HRMG, will ensure that the above requirements are included in the bidding documents and civil works contracts.
- (xi) **Health standards.** The Government, through HRMG, will ensure that all civil works contractors engaged under the Project will participate in the community-based training programs with respect to road safety and STI/HIV/AIDS prevention (in consultation with Provincial AIDS Council and the Health Administration) to be funded under the Project along the prioritized road sections. In addition, HRMG shall ensure that similar information on the risk of transmission of STI/HIV/AIDS is also disseminated to local communities in the corridor of influence, in coordination with national agencies working on this issue. Specific provisions to this effect will be included in civil works contracts, and compliance will be strictly monitored by HRMG through the engagement of a qualified international consultant.
- (xii) **Resettlement.** The Government and DOW will ensure that all project rehabilitation and upgraded works are undertaken within the existing right of way. In the event of any unforeseen resettlement, the Government will inform ADB and prepare and implement a resettlement plan according to the relevant local laws and regulations, and to ADB's *Policy on Involuntary Resettlement* (1995). The Government will allocate the adequate resources to prepare and implement the resettlement plan, and supervise and monitor its implementation. The Government, through DOW, will ensure that land acquisition and/or resettlement will not commence before the resettlement plan is reviewed and approved by ADB, and that civil works will not start before the resettlement plan is approved by ADB.
- (xiii) **Environment.** The Government, through HRMG, will ensure that (a) the project design, construction, and operations comply with applicable domestic laws, regulations, and standards and ADB's *Environment Policy*; (b) all environmental mitigation measures, institutional requirements, and monitoring plans specified in the IEE are complied with; (c) the mitigation measures are updated during the detailed design; (d) all the above requirements are incorporated in the bidding documents and civil works contracts to ensure compliance; and (e) environmental compliance monitoring by DOW and HRMG is undertaken in accordance with all applicable laws and regulations of the Government and ADB's *Environment Policy* and reflected in the project progress reports and project completion report.

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<sup>16</sup> ADB. 2003. Policy Paper on *Gender and Development*. Manila.

- (xiv) **Governance and anticorruption.** The Government and DOW will follow ADB's policy on anticorruption.<sup>17</sup> The Government and DOW acknowledge that ADB, consistent with its commitment to good governance, accountability, and transparency, reserves the right to investigate directly, or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project. All costs related to such investigations shall be borne by the Project. The Government, through DOW, will ensure that the following anticorruption measures are undertaken during project implementation: (i) anticorruption provisions acceptable to ADB will be included in all bidding documents and contracts, in particular a provision specifying the right of ADB to audit and examine the records and accounts of the EA and all contractors, suppliers, consultants and other service providers as they relate to the Project; and (ii) the project supervision consultant will verify the contractors' payment claims in accordance with the contract specifications.
- (xv) **Project performance monitoring and evaluation.** The Government, through HRMG, assisted by consultants engaged under the Project and the HRMG community relations officer, will monitor and evaluate the Project and subproject impacts to ensure that the project facilities are managed effectively and the project benefits maximized. The Government, through HRMG, will discuss and agree with ADB the indicators and baseline data prepared by the consultants prior to the commencement of civil works financed by the supplementary loans, and ensure that the consultants will monitor and compare the data during the project implementation and at project completion, and submit monitoring and evaluation reports to ADB 1 month after the completion of their fieldwork. To the extent possible, the indicators and baseline data will make full use of gender-disaggregated data and information. The Government will collect the data agreed with ADB at the inception, project completion, and 3 years after project completion.
- (xvi) **Project auditing.** The Government will cause DOW to (a) undertake timely audit of project accounts according to sound auditing standards by an external auditor acceptable to ADB and (b) submit to ADB audited project accounts and related financial statements within 6 months of the end of each fiscal year during implementation.
- (xvii) **Subproject Progress Reports.** During the implementation period, the Government, through HRMG, will submit to ADB quarterly subproject progress report and subproject completion report within 3 months of subproject completion. The subproject progress reports will cover civil works progress, environmental, institutional, socioeconomic, financial, and other relevant aspects that may have an impact on the performance of the subproject and its continuing activity.

## **B. Condition for Loan Effectiveness**

- 69. The OCR and the ADF loan shall be declared effective at the same time.

## **VI. RECOMMENDATION**

- 70. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve

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<sup>17</sup> ADB. 1998. *Anticorruption*. Manila.

- (i) the supplementary loan of \$35 million to Papua New Guinea for the Road Maintenance and Upgrading (Sector) Project from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's LIBOR-based lending facility; a term of 24 years, including a grace of period of 4 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board; and
- (ii) the supplementary loan in various currencies equivalent to Special Drawing Rights 12,075,000 to Papua New Guinea for the Road Maintenance and Upgrading (Sector) Project from ADB's Special Funds resources with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board.

Liqun Jin  
Vice President

7 June 2006

## REVISED DESIGN AND MONITORING FRAMEWORK

<b>Design Summary</b>	<b>Performance Targets/Indicators</b>	<b>Data Sources/Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
<b>Impact</b> Increased economic activity and social improvement	Increased trading activity for villagers in the corridors of influence  Increased freight traffic  Increased visits to health facilities in major town centers by villagers in the corridors of influence, particularly by women  Improved income and health indicators  Increased school enrollment	Government reports  Socioeconomic monitoring reports	<b>Assumptions</b>  Favorable weather conditions  Favorable international commodity prices  Agricultural services delivered  Highlands Highway rehabilitated and maintained  Adequate health and education services in city centers
<b>Outcome</b> Improved rural access to market centers	Growth in informal transport services  Change in farm gate prices  Reduction in travel time  Change in livelihood patterns	Socioeconomic monitoring reports	<b>Assumption</b>  Local business sector and communities respond to improved road conditions
<b>Outputs</b>  1. Improved road conditions for villagers and businessmen to access market opportunities, social services, and imported daily necessities  2. Baseline data and performance monitoring and evaluation system for the Project established  3. Socioeconomic impacts of the Project assessed	1.1 Reduced roughness on 270 kilometer (km) roads to 6 m/km by end 2009  1.2 Reduced vehicle operating cost starting in 2010  1.3 Increased frequency of public transport services  1.4 Imported foodstuffs and household consumables more reliably available  2.1 Consultant recruited and fielded from 2007 to 2010  2.2 Baseline data for the 11 roads	Road condition survey  Sample surveys of vehicle operators/owners  Project progress and completion reports  Consultants' reports	<b>Assumptions</b>  No interruptions from force majeure  Timely provision of counterpart funds  Crime under control  Low staff turnover in international consulting team and Highlands Region Maintenance Group

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
	3.1 Socioeconomic impact assessment results		
<b>Activities with Milestones</b> 1. Prepare technical design and bidding documents, undertake bidding processes, and award contracts from April 2007. 2. Commence civil works in the second quarter of 2007. 3. Upgrade and rehabilitate 270 km of roads by December 2009. 4. Provide training to local counterpart staff on road design, preparation of bidding documents, contract administration, construction supervision, and quality control from January 2006 to December 2009. 5. Monitor performance and socioeconomic impacts of the Project.			<b>Inputs</b> ADB: \$18 million ADF loan \$35 million OCR loan; <ul style="list-style-type: none"> <li>• Civil works (\$42.58 million)</li> <li>• Consulting services (\$3.21 million)</li> <li>• Contingencies (\$7.21 million)</li> </ul> Government: \$25.07 million <ul style="list-style-type: none"> <li>• Civil Works</li> <li>• Consulting services</li> <li>• Contingencies</li> <li>• Financial charges on ADB loans</li> </ul> <b>Beneficiaries</b> <ul style="list-style-type: none"> <li>• Government, private sector, villagers, vehicle operators and/or owners, and international and domestic nongovernment organizations</li> </ul>

ADB = Asian Development Bank, ADF = Asian Development Fund, OCR = ordinary capital resources.

## LESSONS LEARNED

1. The Road Maintenance and Upgrading (Sector) Project<sup>1</sup> (Loan 1709-PNG) was approved on 16 November 1999 and became effective on 15 February 2000. The main component of Loan 1709-PNG was to upgrade 220 km of roads and rehabilitate 450 km. To date, the Asian Development Bank (ADB) has approved 19 road subprojects involving 21 contract packages for upgrading 249.61 km of roads and rehabilitating 211.41 km. Thirteen of the subprojects are financed from Loan 1709-PNG, and six of them are financed entirely by the Government. As of May 2006, four subprojects involving 39.8 km of roads had been fully completed, and seven contract packages had been awarded. Civil works of five subprojects were in progress (two of which are 90% completed), one contract awaited signing, and the remaining nine were at various stages of tendering.
2. Project implementation has three stages: (i) road subproject identification and approval, (ii) procurement of civil works, and (iii) construction.
3. At the first stage, establishing the project implementation unit proved difficult because of the challenging work environment in Papua New Guinea (PNG) and the scarcity of qualified and available human resources. An international consulting firm engaged in November 2000 to strengthen project implementation and maintenance management was mobilized in January 2001. Frequent withdrawal and replacement of the consultants, including the chief implementation advisor, occurred due to (i) the long visa application process, (ii) concerns over security and living conditions in the country, and (iii) health and family reasons. The implementation consulting team was fully mobilized in August 2002 and has been stable ever since. In addition, the Government required a long time to appoint qualified fulltime staff to handle the key positions in the Highlands Region Maintenance Group and provide office space. Another difficulty was identifying the road subprojects and obtaining ADB approval. Under the sector lending approach, the borrower or the executing agency (EA) is primarily responsible for identifying, prioritizing, formulating, appraising, approving, and implementing subprojects in accordance with technical, financial, and economic appraisal criteria, including social and environmental criteria, mutually agreed between ADB and the borrower/EA.<sup>2</sup> Between 2001 and 2005, the Government sent about 45 subproject proposals, and ADB approved 19. Most of the subprojects were approved by ADB in 2004 (nine approvals) and 2005 (five). From 2000 to 2003, only five road subprojects had been approved by ADB, and 2003 saw no approvals.
4. In the second stage, the Project experienced delays caused by the time-consuming two-stage international competitive bidding process and the slowness of the Government's approval procedures. Of the 13 ADB-financed civil works contracts, 11 went through a prequalification stage. The average duration for prequalification was about 9 months, and from prequalification or post-qualification to contract award, the average duration for the 10 contracts was 20.5 months. Pursuant to the Government's rules, any contract valued above K10 million (equivalent to \$3.2 million) requires the approval of the National Executive Council (the national Cabinet) upon recommendation of the Central Supply and Tenders Board. This process caused delay in awarding contracts. Under Loan 1709-PNG, securing Government approval of contract awards has taken 2 to 9 months.

<sup>1</sup> ADB. 1999. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan for Papua New Guinea on Road Maintenance and Upgrading (Sector) Project*. Manila. (Loan 1709-PNG, approved on 16 November).

<sup>2</sup> ADB. 2003. *Operations Manual*. Section D3/BP: Sector Lending. Manila (29 October 2003).



5. In the construction stage, road upgrading and rehabilitation have suffered from the difficult law and order situation in the Highlands, particularly in Southern Highlands, Enga, and Western Highlands provinces. For example, shooting and killing in Western Highlands Province in November 2005 forced the contractors to stop civil works for 3 weeks.

6. Several lessons can be drawn. First, for a fragile state such as PNG, ADB could have supported the Government more in preparing the subprojects by helping it to (i) prioritize some investments; (ii) conduct technical feasibility studies and financial, environmental, and social due diligence; and (iii) prepare the technical design and bidding documents. Secondly, ADB should have supported the Government in mobilizing the core team for project implementation at an earlier stage to minimize the delay in starting the project. Thirdly, procurement of civil works could have followed a one-stage bidding process with post-qualification, as the construction sector in PNG has limited competition. Lastly, ADB needs to strengthen its policy dialogue with the Government, aiming to simplify the latter's approval process for awarding contracts.

7. Although the Project experienced substantial delays in implementation start-up, it is noteworthy that ADB is a major actor in the Highlands, playing a key role in promoting economic and social development by restoring and maintaining the road system. Recently, a large ground-breaking ceremony for the Mendi–Nipa road section, financed by Loan 1709-PNG, was held in Southern Highlands Province. The provincial governor chaired the ceremony, attended by the minister and secretary of works, vice minister of finance and treasury, acting attorney general, ADB representative, and an unprecedented crowd of about 70,000 villagers. Popular and governmental support for the road was impressive and encouraging.

8. Furthermore, the Project has gained momentum since 2004 and is progressing satisfactorily, with major contracts awarded and civil works in progress. The turnaround occurred in November 2003, when the ADB Review Mission agreed with DOW on steps to take to speed the approval of subproject proposals and procurement. As a result, nine road subprojects were approved in 2004, and five in 2005. Two contracts were awarded in 2004, three in 2005, and two in 2006. Impressed by the solid progress of the Project, the Government has committed K91 million to fully finance five other road subprojects in the Highlands region.

9. Supplementary financing is an efficient means to capture this momentum to increase local road connectivity and so support the Government's development strategy of economic growth, income generation, and poverty reduction. It builds on efforts already made by the Government and international consulting team, and on the efficiency of the current, experienced project implementation unit. It streamlines ADB processing without compromising its environmental, resettlement, and social safeguard policies.

10. The design of supplementary financing takes into account the lessons learned from Loan 1709-PNG. From 45 subproject pre-investment studies, 11 road subprojects have been prioritized and scrutinized, and will be submitted for ADB one-time approval. Due diligence in line with ADB environmental and social safeguard policies has been completed for these subprojects, and economic justification for each of them provided. Subproject technical design and the preparation of bidding documents are already making good progress. Cost estimates were based on the characteristics of the selected roads, types of intervention, quantities required, and realistic unit costs. Procurement will follow a one-stage one-envelope procedure with post-qualification. An experienced project implementation office is already in place and will implement the Project. These measures promise to improve project performance substantially.

## COST ESTIMATES AND FINANCING PLAN

Item	Costs				Financing					
	A Foreign Exchange (K m)	B Foreign Exchange (\$ m)	C Local Currency (K m)	D Local Currency (\$ m)	E Total (E=A+C) (K m)	F Total (F=B+D) (\$ m)	Govt. (K m)	Govt. (\$ m)	ADB (K m)	ADB (\$ m)
<b>A. Base Cost<sup>a</sup></b>										
1. Civil Works										
a. Okapa–Raipinka	12.89	4.16	7.57	2.44	20.46	6.60	4.09	1.32	16.37	5.28
b. Goroka–Lahame	6.31	2.03	3.71	1.20	10.02	3.23	2.00	0.64	8.02	2.59
c. Kamaliki–Move	10.74	3.46	6.31	2.04	17.05	5.50	3.41	1.11	13.64	4.39
d. Kindeng–Kondopina	7.48	2.41	4.39	1.42	11.87	3.83	2.37	0.77	9.50	3.06
e. Banz–Dona	11.28	3.64	6.63	2.14	17.91	5.78	3.58	1.15	14.33	4.63
f. Gewa–Gembogl	6.68	2.15	3.92	1.27	10.60	3.42	2.12	0.68	8.48	2.74
g. Kerowagi–Dona	7.96	2.56	4.67	1.51	12.63	4.07	2.53	0.82	10.10	3.25
h. Korinige–Kerowagi	2.14	0.69	1.26	0.41	3.40	1.10	0.68	0.22	2.72	0.88
i. Warumanda–Laiagam	18.36	5.92	10.78	3.48	29.14	9.40	5.83	1.88	23.31	7.52
j. Ialibu–Kagua	12.23	3.94	7.19	2.32	19.42	6.26	3.88	1.26	15.54	5.00
k. Ialibu–Pangia	7.94	2.56	4.66	1.50	12.60	4.06	2.52	0.82	10.08	3.24
<b>Subtotal (A)</b>	<b>104.01</b>	<b>33.52</b>	<b>61.09</b>	<b>19.73</b>	<b>165.10</b>	<b>53.25</b>	<b>33.01</b>	<b>10.67</b>	<b>132.09</b>	<b>42.58</b>
<b>B. Consulting Services</b>										
1. Engineering design, preconstruction activities, construction supervision, performance monitoring and evaluation, and training on STI/HIV/AIDS Prevention	9.95	3.21	0.00	0.00	9.95	3.21	0.00	0.00	9.95	3.21
2. Project design	0.00	0.00	8.26	2.66	8.26	2.66	8.26	2.66	0.00	0.00
3. Construction supervision	0.00	0.00	13.21	4.26	13.21	4.26	13.21	4.26	0.00	0.00
4. Financial auditing	0.00	0.00	0.20	0.06	0.20	0.06	0.20	0.06	0.00	0.00
5. Road maintenance, safety, and HIV/AIDS prevention	0.00	0.00	0.75	0.24	0.75	0.24	0.75	0.24	0.00	0.00
<b>Subtotal (B)</b>	<b>9.95</b>	<b>3.21</b>	<b>22.42</b>	<b>7.22</b>	<b>32.37</b>	<b>10.43</b>	<b>22.42</b>	<b>7.22</b>	<b>9.95</b>	<b>3.21</b>
<b>C. Contingencies</b>										
1. Physical contingencies <sup>b</sup>	10.40	3.35	6.11	1.97	16.51	5.32	4.59	1.47	11.92	3.85
2. Price contingencies <sup>c</sup>	6.32	2.04	8.15	2.63	14.47	4.67	4.05	1.31	10.42	3.36
<b>Subtotal (C)</b>	<b>16.72</b>	<b>5.39</b>	<b>14.26</b>	<b>4.60</b>	<b>30.98</b>	<b>9.99</b>	<b>8.64</b>	<b>2.78</b>	<b>22.34</b>	<b>7.21</b>
<b>D. IDC and Commitment Charge</b>	<b>13.64</b>	<b>4.40</b>	<b>0.00</b>	<b>0.00</b>	<b>13.64</b>	<b>4.40</b>	<b>13.64</b>	<b>4.40</b>	<b>0.00</b>	<b>0.00</b>
<b>Total</b>	<b>144.32</b>	<b>46.52</b>	<b>97.77</b>	<b>31.55</b>	<b>242.09</b>	<b>78.07</b>	<b>77.71</b>	<b>25.07</b>	<b>164.38</b>	<b>53.00</b>

ADB = Asian Development Bank, IDC = interest during construction, govt. = government, m = million.

Note: Numbers may not sum precisely due to rounding.

<sup>a</sup> At 2006 prices, including taxes and duties of approximately 14% and the cost of environmental mitigation measures.

<sup>b</sup> Computed at 10% of base cost for civil works.

<sup>c</sup> Computed using ADB cost escalation factors. For foreign exchange cost, 2.8% in 2006 and 1.9% in 2007 and onwards.  
For local currency cost, 4.8% in 2006, 4.9% in 2007, 5.0% in 2008, and 5.1% in 2009.

Source: Asian Development Bank estimates.

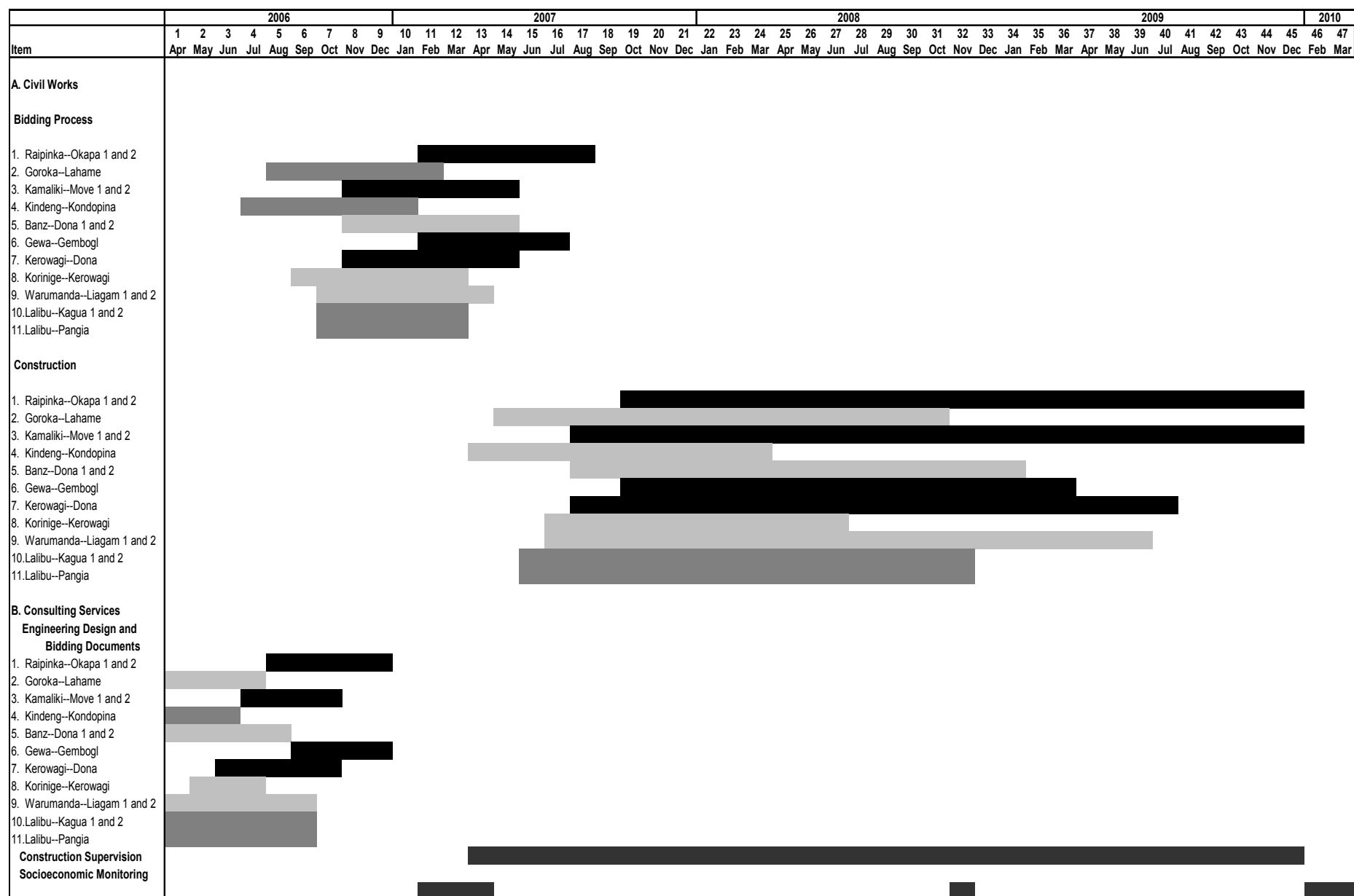
**ADF AND OCR LOANS FINANCING ARRANGEMENT**  
(\$ million)

<b>Item</b>	<b>Loan Allocation</b>	<b>ADF</b>	<b>OCR</b>	<b>ADF Financing Percentage</b>	<b>OCR Financing Percentage</b>
1. Civil Works	42.58	14.46	28.12	27	53
2. Consulting Services	3.21	1.09	2.12	34	66
3. Contingencies	7.21	2.45	4.76		
<b>Total</b>	<b>53.00</b>	<b>18.00</b>	<b>35.00</b>		

ADF = Asian Development Fund, OCR = ordinary capital resources

Sources: Asian Development Bank estimates.

## IMPLEMENTATION SCHEDULE



Source: Asian Development Bank.

### PROCUREMENT PLAN

Project Information	The supplementary financing will finance 11 road subprojects with 16 contract packages, and related consulting services for detailed engineering design, preconstruction activities, construction supervision, performance monitoring and evaluation, and training on STI/HIV/AIDS prevention
Country	Papua New Guinea
Name of Borrower	Papua New Guinea
Project Name	Road Maintenance and Upgrading Project (Supplementary Financing)
Loan or TA Reference	
Date of Effectiveness	
Amount US\$	\$53 million
Of which Committed, US\$	
Executing Agency	Department of Works
Approval Date of Original Procurement Plan	June 2006
Approval of most recent Procurement Plan	June 2006
Publication for Local Advertisements	June 2006
Period Covered by this Plan	July 2006 to August 2007

### Procurement Thresholds, Goods and Related Services, Works and Supply and Install

Procurement Method	To be used above
ICB Works	More than \$3 million
ICB Goods	Not applicable
NCB Works	Less than \$3 million
NCB Goods	Not applicable
Shopping Works	Not applicable
Shopping Goods	Not applicable
<b>Exceptional Methods</b>	
If limited international bidding, direct contracting, force account or community participation in procurement will be employed on the project, list them here and described the circumstances under which they may be employed.	Not applicable

### Procurement Thresholds, Consultants Services

Procurement Method	To be used above (value \$)
Quality-and Cost-Based Selection (QCBS)	Not applicable
Consultants Qualifications Selection (CQS)	Not applicable
Least Cost Selection (LCS)	Not applicable
<b>Exceptional Methods</b>	\$3.21 million
If quality-based selection, fixed budget selection, single source selection or selection of individual consultants that will be employed on the project, list them here and described the circumstances under which they may be employed.	Single source selection, because of the natural continuation of the previous work.

**List of Contract Packages in Excess of \$100,000, Goods, Works and Consulting Services**

<b>Location</b>	<b>Contract Description</b>	<b>Estimated Cost (\$ million)</b>	<b>Procurement Method<sup>a</sup></b>	<b>Expected Date of Advertisement</b>	<b>Prior Review Y/N</b>
<b>I. Civil Works</b>					
1. Raipinka-Okapa	Raipinka -Okapa backroad junction	3.42	ICB	June 2006	Yes
	Okapa backroad junction-Okapa station	3.18	ICB	June 2006	Yes
2. Goroka-Lahame	Goroka-Lahame	3.23	ICB	June 2006	Yes
3. Kamaliki-Move	Kamaliki-Bekuvia bridge	2.74	NCB	June 2006	No
	Bekuvia bridge-Move	2.76	NCB	June 2006	No
4. Kindeng-Kondopina	Kindeng-Kondopina	3.83	ICB	June 2006	Yes
5. Banz-Dona	Banz Town-Karameng,	2.73	NCB	June 2006	No
	Karameng-Dona	3.05	ICB	June 2006	Yes
6. Gewa-Gembogl	Gewa-Gembogl	3.42	ICB	June 2006	Yes
7. Kerowagi-Dona	Kerowagi-Dona	4.07	ICB	June 2006	Yes
8. Korinige-Kerowagi	Korinige-Kerowagi	1.10	NCB	June 2006	No
9. Warumanda-Laiagam	Warumanda-Lame Bridge	3.10	ICB	June 2006	Yes
	Lame Bridge-Laiagam	6.30	ICB	June 2006	Yes
10. Ialibu-Kagua	Ialibu-Seven Corners Village	3.83	ICB	June 2006	Yes
	Seven Corners Village-Kagua	2.44	NCB	June 2006	Yes
11. Ialibu-Pangia	Ialibu-Pangia	4.06	ICB	June 2006	Yes
<b>II. Consulting Services<sup>b</sup></b>					
A. Project engineering design, preconstruction activities, construction supervision, performance monitoring and evaluation, and training on STI/HIV/AIDS prevention		3.21	SSS	RFP issued by November 2006	

ICB = international competitive bidding, NCB = national competitive bidding, SSS = single source selection, RFP = request for proposal.

Source: Asian Development Bank estimates.

<sup>a</sup> For ICB contracts, 3 copies of the invitations for bids and all related bidding documents should be submitted to the Asian Development Bank (ADB) for approval 21 days prior to the proposed date for issuing of the bidding documents. The Bid evaluation reports and proposals for contract award should be submitted to ADB for review and approval 30 days before the expiration of the bid validity. Domestic preference will apply to ICB contracts only. All contracts will follow one-stage one-envelope bidding procedure with post qualification. The draft bidding documents and bid evaluation report of the first NCB contract package should be submitted for ADB prior approval. Subject to satisfactory performance of the first NCB contract package, the draft bidding documents and bid evaluation reports of the rest of NCB contract packages will be reviewed by ADB on a post facto basis.

<sup>b</sup> Request for Proposal for biodata technical and financial proposals should be issued. Evaluation report and draft negotiated contract and minutes should be submitted for ADB's approval.

## OUTLINE TERMS OF REFERENCE FOR INTERNATIONAL CONSULTING SERVICES

1. A total of 132 person-months of international consulting services and 450 person-months of domestic consulting services will be required for detailed engineering design, preconstruction activities, construction supervision, environmental monitoring, financial auditing, project performance monitoring and evaluation, and training on road maintenance and safety and STI/HIV/AIDS prevention. The consultant will assist and support the Department of Works (DOW), providing guidance and advise on the (i) detailed design and preconstruction activities, including the preparation of tender documents, tender process, evaluation of bids, and contract awards, and (ii) implementation of civil works for the selected subproject road sections in the provinces of Eastern Highlands, Enga, Chimbu, Southern Highlands, and Western Highlands. The Highlands Region Maintenance Group (HRMG) field project manager will be fully responsible as the engineer, while the provincial work managers will act as the engineer's representatives on the Project. The consultant will help HRMG staff prepare an environmental impact management plan and ensure that the contractor adheres to all aspects of environmental protection and undertakes the action required under the plan.

2. The consultant will compile benchmark project performance baseline data and provide practical on-the-job training to DOW technical field staff and staff members of the provincial administrations when undertaking the task.

### A. Scope of the Work

#### 1. Road Upgrading

3. The responsibilities of the consultant will include the following:

- (i) Assist, advise, and provide guidance in undertaking a topographic survey that encompasses the full extent of the road, bridge sites, and drainage structures in compliance with international and DOW standards. Assist in preparing plans of all survey work for compiling benchmark information and descriptions of features.
- (ii) Provide assistance in carrying out geotechnical tests of pavement strength, thickness, and other characteristics. The frequency of test locations shall be sufficient to determine base and sub-base requirements.
- (iii) Identify and test, using DOW facilities and personnel, material quarry sites to determine compliance with proposed material specifications. Estimate the quantity of material complying with the relevant code that is available from each site. Identify sufficient sites to meet the requirements of the Project. Identify the extent of any construction activities required to excavate, treat (if necessary), and load the material.
- (iv) Prepare road design criteria and design speed in conformity with the scope of works recommended in the approved feasibility study and the current version of the Papua New Guinea (PNG) Road Design Manual, TRL Road Note 31, and PNG Drainage Design Manual. While providing for safe travel, the practical design speed should be selected to minimize land acquisition requirements.
- (v) Help, advise, and provide guidance on preparing preliminary designs of road cross-sections, geometric alignment (horizontal and vertical), pavement type and thickness, road furniture, and drainage structures.
- (vi) Help and advise on carrying out preliminary bridge design in accordance with the PNG Bridge Design Manual, stressing the need for compatibility with the road alignment and the findings of the approved economic feasibility study.

- (vii) Help and advise on carrying out bridge foundation investigations based on the approved preliminary design.
- (viii) Prepare construction contract packaging to ensure that the Government receives value for money, and facilitate construction activities.
- (ix) Help and advise on preparing detailed design drawings of all construction items, including longitudinal sections in the minimum scales of horizontal 1:2000 and vertical 1:200, and cross-sections minimum horizontal scale of 1:100. All drainage structures will be detailed in plan, longitudinal, and sections.
- (x) Prepare work quality and materials specifications based on current DOW workmanship and materials specifications with approved modifications.
- (xi) Help and advise on preparing an environmental impact management plan in accordance with the Asian Development Bank (ADB) *Environmental Guidelines for Selected Infrastructure Projects (Highways and Roads)* and international standards to identify any unacceptable environmental impacts during construction and measures to mitigate them.
- (xii) Assist in updating subproject-specific environmental management and monitoring plans at engineering design stage, and incorporate them in bidding documents and civil works contracts. Assist DOW in monitoring the updates and implementing the environmental management plans (EMPs), and prepare environmental reports.
- (xiii) Prepare bidding documents in compliance with ADB's *Procurement Guidelines*. Submit these documents to DOW and ADB for approval as soon as they are completed. Provide technical support to DOW during the tendering and contract negotiation stages. Participate in bid evaluation and contract negotiations. Prepare final contract documents based on the results of the contract negotiations.

## **2. Road Rehabilitation**

4. The consultant's responsibilities will include the following:
  - (i) Help and advise on carrying out geotechnical tests of pavement strength, thickness, and other characteristics. The frequency of test locations will be sufficient to determine base and sub-base requirements.
  - (ii) Identify and test, using DOW facilities and personnel, material borrow areas to determine their compliance with proposed material specifications. Estimate the quantity of material that complies with the relevant code available from each site. Identify sufficient sites to meet the requirements of the Project. Identify the extent of any construction activities required to excavate, treat (if necessary), and load the material.
  - (iii) Prepare design criteria in conformity with the scope of works recommended in the approved feasibility study and the current version of the PNG Road Design Manual, TRL Road Note 31, and PNG Drainage Design Manual.
  - (iv) Help and advise on preparing preliminary designs of road cross-sections, pavement types and thickness, road furniture, and drainage structures.
  - (v) Prepare construction contract packaging to ensure that the Government receives value for money, and facilitate construction activities.
  - (vi) Help and advise on preparing detailed design information of the final cross-section, minimum depth, and type of pavement overlay. All drainage structures will be detailed in plan, longitudinal, and sections.
  - (vii) Prepare work quality and materials specifications based on current DOW work quality and materials specifications with approved modifications.



- (viii) Prepare bidding documents in compliance with ADB's *Procurement Guidelines*. Submit these documents to DOW and ADB for approval as soon as they are completed. Provide technical support to DOW during the tendering and contract negotiation stages. Participate in bid evaluation and contract negotiations. Prepare final contract documents based on the results of contract negotiations.
- (ix) Assist in updating subproject specific environmental management and monitoring plans at engineering design stage, and incorporate them in bidding documents and civil works contracts. Assist DOW in monitoring the updates and implementing the EMPs, and prepare environmental reports.

### **3. Construction Supervision**

#### **5. The responsibilities of the consultant will include the following:**

- (i) Help and advise on providing effective and regular supervision of the works. Supervise quality control tests to ensure that the works are executed in accordance with established standards, criteria, specifications, procedures, and approved design and environmental aspects in accordance with the standards of the Fédération Internationale des Ingenieurs-Conseil. Ensure implementation of the civil works in compliance with the prepared environmental management and monitoring plan and the construction schedule.
- (ii) Regularly inspect the contractor's construction requirements, installations, housing, medical facilities, etc., to ensure that they are adequate and in accordance with the terms and conditions specified in the contract for civil works. Minimize disturbance to the local communities and economy.
- (iii) Help and advise on maintaining a permanent record of all measurements for the work quantities to be paid for and the results of all tests carried out for monitoring the quality of civil works.
- (iv) Help and advise on preparing a bill of quantities and make recommendations, for the engineer's consideration, on certifying all payments to be made to the contractor.
- (v) Liaise with and inform the engineer of problems arising with the implementation of civil works and recommend possible solutions.
- (vi) Revise plans and specifications as necessary, prepare variation orders, and assist the engineer in negotiating with the contractor implementation of these changes (if they involve additional cost, ADB will be consulted before implementation).
- (vii) Evaluate and make recommendations to the engineer on the contractor's claims, disputes, contract time extensions, and other changes outside the scope of the contract.
- (viii) Help and advise on preparing monthly contract payments estimates and certificates for payment, including updated cost estimates for construction and supervision.
- (ix) Provide timely assistance to the contractor in all matters related to interpreting contract documents, ground survey controls, quality control testing, and other matters relating to the contract under the Project.
- (x) Assist DOW in preparing a project completion report in a manner satisfactory to the Government and ADB, including as-built drawings, after completion of the works.
- (xi) Incorporate on-the-job training for technical field staff of DOW and provincial administrations when undertaking the project tasks.

#### **4. Socioeconomic Monitoring and Evaluation**

6. The consultant will have the following responsibilities:
  - (i) Review project documents, including the report and recommendation of the President, legal documents, and technical assistance reports, particularly the initial social assessment for the Road Maintenance and Upgrading (Sector) Project covering five Highlands provinces.
  - (ii) Establish, before April 2007, a set of project performance indicators and sex-disaggregated baseline data for road subprojects whose civil works have not commenced, considering the project goal, outcome, and outputs. Indicators may include (a) economic activities and income level in the project area; (b) industrial and agricultural outputs; (c) transport costs and time; (d) transport services and transport charges; (e) accident rates; (f) level of social services, including school enrollment and infant mortality; (g) access to HIV/AIDS information and services; and (h) jobs created by road rehabilitation. Employment impact indicators will include information about unskilled, poor, and female laborers.
  - (iii) Review and update the baseline data during the upgrading and rehabilitation period. Analyze the data and evaluate the project impact.
  - (iv) Review and update the baseline data at project completion. Analyze the data and evaluate the project impact.
  - (v) Monitor and evaluate the performance of ongoing and completed road sections, and prepare subproject completion reports.
  - (vi) Assess the overall impact of the Project. Prepare monitoring and evaluation reports. Submit the reports to the Government and ADB 1 month after the fieldwork.
  - (vii) Provide training to the HRMG community relations officer and other counterpart staff, and ensure knowledge transfer.

#### **5. Training on Road Maintenance, Road Safety, and STI/HIV/AIDS Prevention**

7. Through the HRMG community relations officer, help DOW ensure the timely and effective organization of the following activities: (i) community-based routine maintenance of selected roads completed under Loan 1709-PNG and supplementary loans; (ii) community-based training on road maintenance and road safety under the guidance of the Provincial Works Administration; and (iii) prevention of sexually transmitted infections (STI), including HIV/AIDS, along the prioritized road sections in consultation with Provincial AIDS Council and Health Administration.

#### **B. Preparation of Reports**

8. Assist DOW and HRMG staff in preparing quarterly project progress reports and the project completion report.

##### **1. Quarterly Progress Reports**

9. The consultant will help the engineer's representative submit quarterly progress reports. The reports will summarize the (i) progress of civil works, (ii) results of environmental and social monitoring, (iii) STI/HIV/AIDS prevention actions undertaken under each road section, (iv) issues and proposed solutions, and (v) an outline of the work to be performed during the next reporting period. The consultant will train DOW provincial staff and staff of the provincial authorities on their reporting responsibilities. The quarterly progress reports shall be submitted

to the National AIDS Council, the Country Coordinating Mechanism, and relevant government agencies mandated for environmental protection.

## 2. Construction Completion Report

10. Help and advise on preparing subproject construction completion reports, including as-built drawings (one copy only, which will be submitted to DOW), noteworthy events in the course of the subproject, the performance of the contractor, the operation of the subproject, and the actual cost.

## 3. Project Completion Report

11. Help and advise on preparing a project completion report when project subprojects are substantially completed. The report should describe the project and its implementation and evaluate ADB's performance, as detailed below:

- (i) **Project description.** Describe project objectives, subprojects, implementation methods, and justifications for changes to subprojects, if any.
- (ii) **Project implementation.** Describe project implementation, noting the following aspects:
  - (a) Compare original and actual implementation schedules. Indicate delays, the length and causes of delays, and the remedial action taken.
  - (b) Compare cost estimates made during appraisal and actual costs (foreign and local). Indicate factors that contributed to any significant cost overruns or overestimation.
  - (c) Describe problems or difficulties encountered in recruiting consultants with reference to ADB procedures. Assess the consultant's work and the working relationship between the Executing Agency (EA) and the consultant. Using a design and monitoring framework is strongly recommended.
  - (d) Describe problems or difficulties encountered in procuring goods and services (including civil works) with reference to ADB procedures. Assess suppliers' and contractors' performance under the contract.
  - (e) Describe the extent to which the Borrower and EA comply with loan covenants, with reasons for noncompliance or delays in compliance and the remedial actions taken.
  - (f) State the reasons for any delays in loan utilization. Evaluate the appropriateness of the disbursement methods used. Justify any reallocation of loan proceeds.
  - (g) Describe problems or difficulties with subproject appraisal. Evaluate the EA's performance and capacity to appraise subprojects.
- (iii) **Evaluation of ADB's performance.** Describe ADB's performance, noting the following:
  - (a) Assess ADB's performance in supervising project implementation. Include comments on the adequacy of the consultants' terms of reference and appropriateness of specifications in tender documents. Evaluate the effectiveness and timeliness of assistance extended by ADB to solve implementation problems.
  - (b) Comment on problems encountered with ADB's procedures. Note the measures taken to resolve these problems and suggest changes in procedures and requirements.

### C. Cost Estimates

12. The total cost of the consulting services, which will be entirely financed by ADB, is estimated at \$3.21 million, and is detailed in the following table:

**Table A7: Cost Estimates**  
(\$'000)

<b>Item</b>	<b>Total Cost</b>
A. International Consultants	
1. Remuneration and Per Diem	2,416.50
2. International and Local Travel	339.00
3. Reports and Communications	51.30
B. Equipment	45.00
C. Training, Seminars, and Conferences	12.00
D. Miscellaneous Administration and Support Costs	56.55
E. Contingency	292.04
<b>Total</b>	<b>3,212.39</b>

Source: Asian Development Bank estimates.

## ECONOMIC ANALYSIS

### A. Traffic Analysis and Projections

#### 1. Existing Traffic

1. Based on Papua New Guinea's existing vehicle fleet, the following vehicle types have been taken into account for the traffic analysis: (i) cars, (ii) pickups, (iii) buses and large public motor vehicles (PMVs), (iv) light trucks, (v) medium trucks (three axles), (vi) heavy trucks (four axles), and (vii) articulated trucks (six axles). The main features of each vehicle type are detailed in Table A8.1.

2. Traffic surveys were conducted on the proposed project road sections as a basis for determining average daily traffic. Seasonal patterns were used to obtain annualized average daily traffic and adopted as normal traffic for 2006 (Table A8.1)

3. The analysis of traffic distribution as detailed in the same table shows that cars and buses represent 40% of the total traffic, and pickups and trucks contribute equally to make up the remaining 60%.

**Table A8.1: Annualized Average Daily Traffic**

Subproject Road Sections	Categories of Vehicles							Annualized Average Daily Traffic
	Cars	Pick-ups	Buses and PMV	Light Trucks	Medium Trucks	Heavy Trucks	Articulated Trucks	
<b>Rypinka–Okapa 1 and 2</b>	82	136	6	116	0	0	0	340
	24%	40%	2%	34%	0%	0%	0%	100%
<b>Goroka–Lahame</b>	59	257	149	30	0	0	0	495
	12%	52%	30%	6%	0%	0%	0%	100%
<b>Kamaliki–Move 1 and 2</b>	49	118	47	47	29	0	0	290
	17%	41%	16%	16%	10%	0%	0%	100%
<b>Kindeng–Kondopena</b>	178	99	30	134	54	0	0	495
	21%	37%	21%	17%	4%	0%	0%	100%
<b>Banz–Dona 1 and 2</b>	233	165	147	56	13	0	0	614
	38%	27%	24%	9%	2%	0%	0%	100%
<b>Gewa–Gembogle</b>	101	66	58	130	28	8	0	391
	26%	17%	15%	33%	7%	2%	0%	100%
<b>Kerowagi–Dona</b>	127	71	21	96	39	0	0	354
	36%	20%	6%	27%	11%	0%	0%	100%
<b>Keronige–Kerowagi</b>	100	66	58	128	38	8	0	398
	26%	17%	15%	33%	7%	2%	0%	100%
<b>Warumanda–Laiagam 1 and 2</b>	257	214	13	0	79	30	19	612
	42%	35%	2%	0%	13%	5%	3%	100%
<b>Ialibu–Kagua 1 and 2</b>	151	60	19	110	34	4	0	378
	40%	16%	5%	29%	9%	1%	0%	100%
<b>Ialibu–Pangia</b>	77	99	44	96	52	0	0	368
	21%	27%	12%	26%	14%	0%	0%	100%

PMV = public motor vehicle.

Source: Asian Development Bank estimates.

## 2. Traffic Forecast

4. Normal traffic growth rates were based on the projected gross domestic product growth rate and estimated to be 3% per year for 2006–2025. Additional traffic is generated either because a journey becomes more attractive by virtue of its costing less or because of increased development brought about by the improved roads. For all sections, the generated traffic was assumed to equal 5% of normal traffic that would occur during the first year after rehabilitation works end. This assumes intense agricultural activity in the 11 project areas.

5. Volumes of traffic forecast on the project road sections are summarized in Table A8.2.

**Table A8.2: Actual and Projected Average Traffic Volume (2006–2025)**

Subproject Road Sections	Traffic Component	Years				
		2006	2010	2015	2020	2025
Rypinka–Okapa 1 and 2	Normal Traffic	372	418	485	562	640
	Generated Traffic	0	21	24	28	32
	<b>Subtotal</b>	372	439	509	590	672
Goroka–Lahame	Normal Traffic	524	590	684	793	919
	Generated Traffic	0	30	34	40	46
	<b>Subtotal</b>	524	620	718	833	965
Kamaliki–Move 1 and 2	Normal Traffic	317	357	413	479	540
	Generated Traffic	0	18	21	24	27
	<b>Subtotal</b>	317	375	434	503	567
Kindeng–Kondopena	Normal Traffic	467	525	609	706	818
	Generated Traffic	0	26	30	35	41
	<b>Subtotal</b>	467	551	639	741	859
Banz–Dona 1 and 2	Normal Traffic	651	733	850	985	1142
	Generated Traffic	0	37	42	49	57
	<b>Subtotal</b>	651	770	892	1,034	1,199
Gewa–Gembogle	Normal Traffic	424	477	553	641	720
	Generated Traffic	0	24	28	32	36
	<b>Subtotal</b>	424	501	581	673	756
Kerowagi–Dona	Normal Traffic	387	435	505	585	660
	Generated Traffic	0	22	25	29	33
	<b>Subtotal</b>	387	457	530	614	693
Keronige–Kerowagi	Normal Traffic	424	477	553	641	743
	Generated Traffic	0	24	28	32	37
	<b>Subtotal</b>	424	501	581	673	780
Warumanda–Laiagam 1 and 2	Normal Traffic	530	596	691	793	929
	Generated Traffic	0	30	35	40	46
	<b>Subtotal</b>	530	626	726	833	975
Ialibu–Kagua 1 and 2	Normal Traffic	423	476	552	640	720
	Generated Traffic	0	24	28	32	36
	<b>Subtotal</b>	423	500	580	672	756
Ialibu–Pangia	Normal Traffic	402	453	525	608	680
	Generated Traffic	0	23	26	30	34
	<b>Subtotal</b>	402	476	551	638	714

Source: Asian Development Bank estimates.

## **B. Economic Evaluation**

### **1. General**

6. The economic analysis was carried out for the 11 subproject roads by comparing scenarios with and without the Project using the highway design and management model. The economic analysis covers 20 years (2006–2025) for the upgrade-to-sealed option and 15 years (2006–2020) for re-gravelling, with construction periods of between 1 and 2 years starting in 2007. All benefits and costs are in constant 2005 prices. All prices are expressed in PNG kina.

7. In the scenario without the Project, the 11 subproject road sections are assumed to receive a minimum of maintenance to keep them at an average roughness measuring 16 on the International Roughness Index (IRI). The scenario with the Project includes routine and periodic maintenance.

8. During project preparation, two improvement options were considered, namely upgrade-to-sealed and re-gravelling, to determine which would be the more cost-effective. In the scenario with the Project, the average roughness would decrease to about 4.5 IRI after upgrading to sealed and would keep road surface roughness below 7 IRI. In the re-gravelling option, the average roughness of the road would be reduced to 6.5 IRI, and proposed maintenance would keep road surface roughness below 10 IRI.

### **2. Costs**

9. Project economic costs include the financial roadwork costs in terms of materials, equipment, labor, and consulting services. Taxes and duties are excluded. Costs were divided into tradable and nontradable components. A standard conversion factor of 0.95 has been used to revalue goods and services at world prices into PNG kina, and a shadow wage rate factor of 0.5 has been applied to local unskilled labor to account for local unemployment and underemployment. These factors have been applied to capital and maintenance costs, as well as to vehicle operating and passenger time costs.

### **3. Benefits**

10. Benefits are substantial from the 11 subproject roads because they have relatively high traffic usage due to active agricultural and commercial sectors, and because they are in poor or very poor condition. The main benefits are savings in vehicle operating costs and time for road users, and in maintenance costs.

11. Vehicle operating costs include the costs of (i) replacing spare parts, (ii) gas and diesel, (iii) lubricating oil, (iv) maintenance labor, and (v) crew wages. We used project economic costs as inputs to the analysis.

12. The value of time in the economic analysis is derived from two components: (i) working time and (ii) nonworking time. The value of working time during productive hours was derived from the average per capita income of K2,300. Assuming a 48-hour work week and 48 weeks of work per year, the value of a working hour used in the analysis was K1.00. Nonworking time was valued at a quarter of working time. This rate was used for bus and PMV passengers only. The rate was doubled for passengers in cars and pickups.

#### 4. Results of Economic Analysis

13. Using a 12% discount rate, the economic benefits for the infrastructure components of the Project are substantial. The net present value is \$56.89 million and the economic internal rate of return (EIRR) is 18.8%. The net benefit streams are shown in Table A8.3.

**Table A8.3: Net Benefit Streams—Undiscounted**  
(K million)

Year	Costs			Benefits					Net Benefit
	Construction	Maintenance	Total	Normal Traffic VOC	Normal Traffic Time	Generated Traffic VOC	Generated Traffic Time	Total	
2006	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	59.44	(5.14)	54.30	(2.65)	(0.27)	0.00	0.00	(2.92)	(57.22)
2008	98.11	(9.28)	88.83	0.76	0.02	0.14	0.01	0.93	(87.90)
2009	11.23	(1.03)	10.20	19.67	1.46	0.51	0.04	21.68	11.48
2010	0.00	0.82	0.82	31.03	2.10	0.80	0.05	33.99	33.17
2011	0.00	2.11	2.11	37.34	2.48	0.94	0.06	40.82	38.71
2012	0.00	1.83	1.83	38.94	2.55	0.98	0.06	42.55	40.72
2013	0.00	1.14	1.41	29.31	2.01	0.74	0.05	32.11	30.70
2014	0.00	4.38	4.38	24.49	1.90	0.62	0.05	27.06	22.68
2015	0.00	3.15	3.15	38.12	2.54	0.98	0.06	41.71	38.56
2016	0.00	1.74	1.74	42.34	2.85	1.07	0.07	46.34	44.59
2017	0.00	4.04	4.04	43.80	2.93	1.10	0.07	47.91	43.88
2018	0.00	2.58	2.58	36.88	2.45	0.93	0.06	40.32	37.74
2019	0.00	0.97	0.97	29.76	2.23	0.76	0.06	32.80	31.83
2020	0.00	(7.21)	(7.21)	43.63	2.96	1.12	0.08	47.78	55.00
2021	0.00	3.19	3.20	17.48	1.59	0.45	0.04	19.55	16.35
2022	0.00	1.78	1.78	18.71	1.64	0.48	0.04	20.87	19.09
2023	0.00	(0.98)	(0.98)	16.24	1.42	0.41	0.04	18.11	19.08
2024	0.00	0.32	0.32	13.98	1.32	0.36	0.03	15.70	15.38
2025	0.00	(5.81)	(5.81)	19.13	1.79	0.51	0.05	21.47	27.28
									<b>EIRR</b> 18.77%
									<b>NPV</b> 56.89

( ) = negative, EIRR = economic internal rate of return, NPV = net present value, VOC = vehicle operating cost.  
Source: Asian Development Bank estimates.

14. Economic analysis results for individual road sections are presented in Table A8.4.

**Table 8.4: EIRRs and NPVs for Individual Subproject Road Sections**

Province	Subproject	EIRR (%)	NPV (K million)
Eastern Highland Province	Rypinka–Okapa	19.8	7.50
	Kamaliki–Move	13.1	0.80
	Goroka–Lahame	19.1	4.48
Western Highland Province	Kindeng–Kondopena	13.7	1.19
	Banz–Dona	18.2	3.56
Chimbu Province	Gewa–Gembogl	26.2	7.38
	Kerowagi–Dona	21.7	5.61
	Korinige–Kerowagi	33.3	5.21
Enga Province	Warumanda–Laiagam	19.9	13.18
Southern Highland Province	Ialibu–Kagua	18.7	3.26
	Ialibu–Pangia	20.6	5.38

EIRR = economic internal rate of return, NPV = net present value.  
Source: Asian Development Bank estimates.



## 5. Sensitivity Analysis

15. Sensitivity analysis was carried out to test the effects of negative changes in the key parameters that determine the benefits and costs of the Project. The analysis indicates that benefits outweigh costs for each of the following sensitivity tests: (i) increased rehabilitation costs, (ii) reduced benefits, (iii) increased costs and reduced benefits, (iv) delay in project implementation by 2 years, and (v) not considering benefits due to generated traffic.

16. The switching value<sup>1</sup> for increased rehabilitation costs was determined to be 42.5%, and the switching value for decreased benefits 29.9%. If the only benefits considered are vehicle operating cost savings of normal traffic, the EIRR would decrease only slightly to 18.22%. In what could be considered the worst case scenario—a combination of increased costs and decreased benefits—the net present value would be reduced to K8.16 million, and the EIRR to 12.91%, as shown in Table A8.5.

**Table A8.5 Sensitivity Analysis**

<b>Sensitivity Test</b>	<b>Economic Internal Rate of Return (%)</b>	<b>Net Present Value (\$ million)</b>	<b>Switching Values (%)</b>
Base case	18.77	56.89	
Increase rehabilitation costs by 15%	15.95	36.79	42.5
Reduce benefits by 15%	15.51	28.26	29.9
Increase costs by 15% and reduce benefits by 15%	12.91	8.16	
Do not consider benefits from reduced travel time	17.44	44.80	
Do not consider benefits from generated traffic	18.22	51.98	

Source: Asian Development Bank estimates.

<sup>1</sup> The switching value shows the percentage increase in a cost variable (or decline in a benefit variable) required for the NPV to become zero, which is the same as the EIRR being reduced to the cut-off level of 12%.

## SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

<b>A. Linkages to the Country Poverty Analysis</b>			
<b>Is the sector identified as a national priority in country poverty analysis?</b>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<b>Is the sector identified as a national priority in country poverty partnership agreement?</b>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No
<p><b>Contribution of the sector or subsector to reduce poverty in Papua New Guinea:</b></p> <p>Although Papua New Guinea (PNG) does not exhibit the widespread abject poverty present in some other developing member countries (DMCs), World Bank projections (2005) show the proportion of poor living under the national poverty line at 53% in 2003, compared with 37.5% in the benchmark year of 1996. PNG's human development index has improved since the mid-1970s but only very slowly. In 2005, PNG ranked 137, reflecting alarming economic and social disparities in the country. On the United Nations Development Programme poverty index, PNG ranks 68 among developing countries. PNG's main social indicators, such as life expectancy and maternal and child mortality rates, are still well below the averages for lower middle-income countries. PNG has limited primary healthcare. Infectious disease claims many lives, and there are serious public health risks from endemic diseases such as malaria and a generalized HIV/AIDS epidemic. In education, the rate of participation in primary schooling is improving, but it remains lower than in most other countries in the region.</p> <p>PNG has an abundance of natural resources including (i) large reserves of minerals, (ii) extensive forestry and fishery assets, (iii) significant potential for agricultural expansion, and (iv) many locations with potential for ecological and cultural tourism. Despite the potential of these resources, PNG's economic performance has fallen short of expectations. Economic growth has not kept pace with population growth, and performance varies considerably from year to year. Most of the population lives in rural communities with traditional village structures and depend on subsistence farming supplemented by cash crops. Only 15–20% live in the main urban areas of Port Moresby, Lae, Madang, Mt. Hagan, and Goroka. PNG has a relatively small dual economy, formal and informal. The formal economy is dominated by large-scale resource projects, particularly in mining and petroleum, and provides a large proportion of government revenue. However, the formal sector employs only around 15% of the workforce, with the informal economy supporting the remaining 85%, mostly through semi-subsistence agriculture.</p> <p>The impact of road construction on poverty reduction can be measured in terms of (i) increased access for rural communities to basic social services such as education and healthcare and local markets; (ii) increased employment opportunities for unskilled laborers in the project area; (iii) indirect and induced economic growth in the project-affected regions and the nation as a whole; and (iv) anticipated reductions in transportation costs to road passengers, freight users, and vehicle operators. Local communities clearly perceive that the poor condition of the prioritized road sections to be funded under the supplementary loans is a major factor retarding their economic and social development. Most of the roads are now so poor that the availability of both public and private means of transport along them has declined so far that most people can no longer regularly access services and markets in urban centers. There is no doubt that improving these roads would greatly facilitate access to a wider range of services and stimulate economic activity, especially cash cropping, and thus directly contribute to alleviating poverty in the target populations. Through the project performance monitoring system, the socioeconomic impact of the Project will be assessed and monitored according to selected socioeconomic indicators, which include (i) economic activity and income levels in the project area; (ii) industrial and agricultural outputs; (iii) transport costs and time; (iv) transport services and charges, (v) accident rates, (vi) degrees of access to functioning services, including school enrollment and infant mortality; (vii) access to information and services regarding sexually transmitted infections (STIs), including HIV/AIDS; and (viii) jobs created in road construction and maintenance. Employment impact indicators will include information about unskilled, poor, and female laborers.</p> <p>Rehabilitating and upgrading prioritized road sections under the supplementary loans is in line with the Medium Term Development Strategy (MTDS)<sup>a</sup>, which highlights the importance of export-driven economic growth, rural development, and poverty reduction, including the promotion of agriculture, forestry, fisheries, and tourism. Under the MTDS, one of the mutually supporting expenditure priorities is rehabilitating and maintaining transport infrastructure. This is in line with the priorities set forth in the draft national poverty reduction strategy, which is structured around five pillars: (i) strengthened governance, (ii) increased development of land and natural resources, (iii) improved and maintained physical infrastructure, (iv) improved and expanded economic growth opportunities, and (v) strengthened and expanded social services.</p>			

<b>B.</b>	<b>Poverty Analysis</b>	<b>Proposed Classification:</b> General intervention
<p>According to the most recent census (2000), each of the five provinces in the project area—which includes Northern Highlands, Southern Highlands, Eastern Highlands, Chimbu, and Enga—has a population of between 300,000 and 500,000. Extremely wide ethnic and cultural diversity characterizes all five provinces, as is reflected in the very large number of languages spoken. Mutual hostility between, and often within, language groups is the norm, and this is reflected in localized tribal fighting. Despite this high diversity, the traditional way of life of these different groups is very similar, as reflected in settlement patterns, styles of houses, and reliance on subsistence economies. The Highlands settlement pattern is one of isolated homesteads or small, dispersed hamlets. Villages with concentrations of closely spaced houses are uncommon. Almost all of the houses are built from bush materials, i.e., wooden frames with woven walls and thick thatched-grass roofs. Most of the affected people will be subsistence agriculturalists who obtain a small income by selling cash crops such as coffee, vegetables, and peanuts. The crops grown are a mixture of traditional and introduced plants. In most areas, the main crop is sweet potato (<i>kaukau</i>), and commonly more than half of the crop is fed to pigs, which are kept as prestige items for ceremonial exchange. Most communities suffer no shortage of garden foods for subsistence consumption. A few people along the roads earn irregular cash income from road maintenance works, but the availability of cash work has declined in recent years as funds allocated to road maintenance have declined. Workforce, vocational, and business skills are generally weak, especially outside the major towns. The levels of literacy and health are very poor. Illiteracy rates in the Highlands are about 67% (compared with a national average of 55%), with the women's illiteracy rate of 75% higher than the male illiteracy rate of 60%. Physical infrastructure in the Highlands is inadequate to support economic and social development. The provision of Government education, health, and policing services is very poor, especially in rural areas. Commercial support services such as legal services, accounting, and marketing are limited outside the main cities. Law and order problems, including tribal fighting and crimes such as robbery, murder, assault, and destruction of property, have long been a feature of most parts of modern PNG and afflict road users as well as the wider population. The law and order situation in the provinces traversed by the Highlands Highway is grim and reported to be deteriorating.</p>		
<b>C.</b>	<b>Participation Process</b>	
<p><b>Is there a stakeholder analysis?</b>      <input checked="" type="checkbox"/> Yes      <input type="checkbox"/> No</p> <p>Extensive consultations with central and provincial governments and local stakeholders on the selection of road sections were conducted during the loan reconnaissance mission in November 2005. The original list proposed by the central Government included two roads for each province. While there was a consensus over most of the roads, Enga and Chimbu provinces expressed different views. The reconnaissance Mission assessed their requests on the grounds of economic and social development, linkage to the ongoing project, project cost, and project readiness, and conducted further consultations with the central Government. An agreement was obtained on the prioritized list of road subprojects. Iterative consultations by the Highlands Region Maintenance Group (HRMG) community relations officer, and by the Asian Development Bank (ADB) team during the loan Fact-Finding Mission in February 2006, further confirmed ownership and commitment to the prioritized list from a broad range of stakeholders, including landowners, community leaders, vehicle operators, freight shippers, road constructors, private sector entrepreneurs and shopkeepers, and community-based nongovernment and faith-based organizations. Stakeholder analysis identified critical social and gender issues, and mitigation of anticipated impacts are reflected in the design of the supplementary loans.</p> <p><b>Is there a participation strategy?</b>      <input checked="" type="checkbox"/> Yes      <input type="checkbox"/> No</p> <p>Communities' participation and their involvement in road rehabilitation and upgrading is a distinctive feature of the ongoing Project, which will be consistently carried through in the proposed supplementary loans. HRMG's community relations officer has been indispensable in (i) ensuring that local villagers and landowners are fully apprised of any work that may affect them; (ii) seeking villagers' and landowners' active support for the roadwork by explaining to them and their communities the potential benefits and inherent risks associated with road construction; (iii) mitigating and/or avoiding claims and disputes; (iv) helping to resolve disputes; and (v) ensuring women's adequate participation in project activities and their employment in labor-intensive road maintenance. The proposed supplementary loans will build on communities' existing involvement in roadwork and ensure more systematic documentation and incorporation of community-related initiatives—with emphasis on women's participation and involvement in road-related activities—in project progress reports and the project performance monitoring system. The community initiative component to be funded by the supplementary loans will promote (i) continuous support to community involvement in road maintenance and (ii) community-based, gender-responsive training on road maintenance, road safety (under the aegis of the Provincial Works Administration) and STI/HIV/AIDS prevention (under the aegis of the Provincial Works Administration, in consultation with Provincial AIDS Council and Health Administration).</p>		

**D. Gender and Development****Strategy to maximize impacts on women:**

In the Highlands' project area, women are currently involved in a broad range of activities related to road construction and maintenance and commercial roadside services. The supplementary loans will build on critical lessons learned from Loan 1709-PNG and proactively support women's and women groups' manifested interest in the employment and business opportunities associated with project road construction and maintenance. The two-pronged approach to maximize impacts on women will involve the following:

- (i) Adoption of employment targets to support women's involvement in road rehabilitation, upgrading, and maintenance. In this respect, DOW, through HRMG, will encourage public works contractors to increase the percentage of women workers to 50% of wage laborers.
- (ii) Community-based, gender-responsive STI/HIV/AIDS prevention. In PNG, the HIV/AIDS Management and Prevention Act (2003) supports a multisector and gender-responsive approach to HIV/AIDS prevention. The International Federation of Consulting Engineers' HIV and AIDS prevention provisions have been adopted by DOW for inclusion in the contract documents for road construction and maintenance projects. Risk mitigation measures to be adopted under the Project will include (a) specific assurances to ensure STI/HIV/AIDS prevention by road contractors in the campsites and (b) community-based, gender-responsive STI/HIV/AIDS training along the prioritized road sections, to be organized by the HRMG community relations officer, in collaboration with the Provincial AIDS Council and Health Administration, under the Community Initiative Component.<sup>b</sup>

**Has an output been prepared?** ☐ Yes ☒ No

**E. Social Safeguards and other Social Risks**

	<b>Significant/ Not Significant/ None</b>	<b>Strategy to Address Issues</b>	<b>Plan Required</b>
Resettlement	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	There are no resettlement needs because the proposed Project will rehabilitate existing road sections, at their existing width to improve connectivity.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Affordability	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	No tolls are proposed for road use.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	Labor-intensive construction methods and small-scale local contracting will provide opportunities for employing unskilled workers, with a proactive approach to women's employment.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	In the project area, no particular group is considered dominant. In terms of impact, the proposed works are within the existing right-of-way, and land acquisition and disruptions to local communities will be insignificant. The Project will create employment opportunities for local communities through the equitable distribution of jobs made available under PNG law.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Other Risks/ Vulnerabilities	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	PNG has an HIV generalized epidemic, with prevalence rates among people aged 15 to 49 higher than 1% in rural areas. The inherent risk of STI/HIV/AIDS is acknowledged, in light of the increased road traffic and connectivity. Risk mitigation measures to be adopted under the Project will include (a) specific assurances to ensure HIV/AIDS prevention by road contractors in their campsites and (b) community-based STI/HIV/AIDS training along project roads, to be organized by the HRMG community relations officer in collaboration with the Provincial AIDS Council and Health Administration.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

<sup>a</sup> Government of Papua New Guinea. 2004. The Medium-Term Development Strategy. Port Moresby.

<sup>b</sup> The proposed activities will be limited to the prioritized road sections. They will build upon and complement the anticipated impact of the ADB grant for HIV/AIDS Prevention and Control in Rural Development Enclaves Project. This will be done by empowering DOW, through HRMG, to deliver on its commitment to HIV/AIDS prevention, in line with the multisector approach adopted under the HIV/AIDS Management and Prevention Act (2003) and the DOW policy on HIV/AIDS prevention.

## SUMMARY INITIAL ENVIRONMENTAL EXAMINATION

### A. Introduction

1. The summary initial environmental examination (SIEE) outlines the findings and recommendations of the environmental assessment of 11 road sections proposed for supplementary financing in Loan 1709-PNG.<sup>1</sup> The environmental assessment process follows and complies with the Papua New Guinea (PNG) environmental regulatory framework and the Asian Development Bank (ADB) *Environment Policy* and guidelines. Under the PNG environmental assessment regulatory framework (i.e., the Environment Act 2000, complemented with the Prescribed Activities Regulation [Statutory Instrument No. 30 of 2002]), upgrading and rehabilitating existing provincial road sections are categorized as level 1 and do not require formal approval (i.e., an environmental permit) from the Department of Environment and Conservation (DEC).<sup>2</sup> Under the ADB guidelines, the supplementary loans have been categorized as environmental category B. Initial environmental examination (IEE) reports have been prepared for the 11 proposed road sections in accordance with the ADB *Environmental Assessment Guidelines* (2003) and comply with the ADB *Environment Policy*.

### B. Description of the Project

2. Supplementary loans will finance the upgrading and rehabilitation of 11 additional road sections with a total length of 270 km in the five Highlands provinces. The total cost is estimated at \$76.27 million. The design for rehabilitating and upgrading will follow the Department of Works (DOW) Road Design Manual. The proposed horizontal and vertical alignments will closely follow existing alignments, requiring minimal earthworks. However, the pavement reservation defined in the Road Design Manual was modified in specific locations to reduce adverse environmental impacts and construction costs. Construction works will entail (i) removing vegetation immediately adjacent to the road (within the right of way), (ii) excavating and disposing of unsuitable material from road shoulders and cuttings, (iii) placing and compacting granular base, and (iv) sealing selected road sections. Existing pipe culverts will be rehabilitated and retained, and new headwalls and aprons provided as necessary. Additional transverse culverts are required to improve drainage of the road area. Additionally, longitudinal culverts and/or shallow drains will be provided to facilitate access to adjoining homesteads and commercial developments. Most of the 52 bailey and steel girder bridges will require only minor repairs.

### C. Description of the Environment

#### 1. Physical Resources

3. The proposed road sections are located in the mountainous region of PNG known as the Highlands. Numerous, sometimes large, valleys at 1,100–1,800 meters above sea level (masl) are divided by often steep and rugged ranges of hills and mountains, which reach altitudes in many places of more than 3,000 masl. Small earthquakes and heavy rainfall are responsible for many deteriorated sections of all national and rural roads, particularly in Eastern Highlands and Chimbu provinces. There is a marked increase in the annual rainfall from the eastern and

<sup>1</sup> ADB. 1999. Report and Recommendation of the President to the Board of Directors on a Proposed Loan to Papua New Guinea for the Road Maintenance and Upgrading (Sector) Project. Manila (approved on 16 November).

<sup>2</sup> However, a permit will be required if roadwork involves level 2 activities.

southern parts (1,280 and 2,880 millimeters/year, respectively) toward the central parts of the Highlands (more than 3,000 millimeters/year).

## **2. Ecological Resources**

4. In the Highlands, almost all of the area below the effective upper limit of cultivation, at about 2,400 masl, is covered with a mosaic of gardens, tree crops (especially coffee), grasslands and shrub lands, groves of useful timber trees, and patches of regrowth forest. Many hills and ridge tops had little gardening in the past, and dense regrowth forests of mid-montane trees remain. Where forests survive, they are used for hunting, mainly using traditional methods. None of the proposed road sections traverses an environmentally sensitive area. No forestry concessions exist in any areas accessible from the roads currently under consideration for rehabilitation and upgrading.

## **3. Human and Economic Development**

5. In 2000, the five provinces comprising the Highlands had a total population of almost 2 million people, about 40% of the total PNG population. The population of the districts where the road sections are located was approximately 884,000. Most of the beneficiaries in the target area are subsistence agriculturalists who obtain a small income by selling cash crops such as coffee, vegetables, and peanuts. Local residents sell their produce to other locals and the traveling public. Most of the markets are established within the right of way, but generally there are no fixed structures close to the road.

## **4. Quality of Life Values and the Sociocultural Environment**

6. Extremely wide ethnic and cultural diversity characterizes the Highlands, which is reflected in the several hundreds of languages spoken there. Mutual hostility between language groups is the norm, bringing localized tribal fighting. About 97% of the land remains in customary collective ownership, though this does not give any clear guarantee of tenure. Land is not regarded as a commodity that can be bought and sold by individuals, but as a permanent and integral part of a village community. The complex land tenure arrangement is also a constraint on the state's ability to impose statutory law over customary law.

## **D. Forecasting Environmental Impacts and Mitigation Measures**

### **1. Environmental Benefits**

7. Local communities may benefit from the improved road conditions through (i) reduced dust nuisance, (ii) improved drainage along the road, (iii) improved land stability at filled-up locations, and (iv) improved mobility and health. Proceeds from increased employment and economic opportunities may subsequently be invested in improving communities' living and environmental conditions.

### **2. Design and/or Preconstruction Phase Considerations**

8. During the design and preconstruction phase, ample attention has been given to integrating concerns related to (i) potential adverse impacts on protected or environmental sensitive areas (mitigated by ensuring that none of the proposed road sections will traverse or impact such areas); (ii) the application of appropriate technical solutions to address higher

occurrence of landslides and subsequent erosion risks, especially in Chimbu and Eastern Highlands provinces; (iii) safety issues by limiting the expected speed increase on the road sections; (iv) cultural sites (by describing procedures to be followed for ceremonial and burial sites along the road section); and (v) other social and community concerns, as also experienced while implementing Loan 1709-PNG.

### **3. Environmental Impacts and Mitigation Measures during the Construction Phase**

9. Construction works will result in limited temporary adverse environmental impacts, but they can be minimized by ensuring proper construction practices and adequate compliance monitoring. Some of the key environmental impacts that have been identified and their mitigation measures are as follows:

- (i) Clearing vegetation and excavation works may result in erosion and loss of sediments, which will be mitigated by minimizing soil and vegetation clearance.
- (ii) Changes in drainage patterns may cause obstruction of storm water flow and increased flooding and siltation, which will be mitigated by controlling storm water and drainage.
- (iii) Noise and dust will increase along the roadsides during roadwork, which will be mitigated by spraying exposed surfaces during dry periods, proper maintenance of equipment, and careful selection and management of quarries.
- (iv) Health and safety risks will be mitigated by ensuring all occupational health and safety requirements in place on construction sites and work camps.
- (v) Pollution from waste disposal will be mitigated by adequate offsite and waste management, satisfying safety and health concerns.
- (vi) The residual impact from decommissioning construction sites will be mitigated by satisfactory decommissioning procedures.

A more complete list of environmental impact and mitigation measures is presented in the environmental management and monitoring plans (EMMP).

### **4. Environmental Impacts and Mitigation Measures during the Operational Phase**

10. Environmental impacts during the operational phase will be mainly noise, dust, and vehicle emissions affecting air quality, as well as traffic accidents. The noise impact is considered low because (i) the volume of traffic is quite low, (ii) there are few heavy vehicles on the road, (iii) vehicles will move slowly because of speed restrictions; and (iv) noise from individual vehicles will be lower on sealed sections than on the existing gravel. Air quality impacts from vehicle emissions will be low also because of low traffic volumes and is not likely to have significant health impacts. An increased risk of traffic accidents will be mitigated through (i) speed reduction measures (e.g., installing speed bumps at settlements, schools, and markets), (ii) off-road boarding areas for PMVs, (iii) improved road signage and pavement markings, and (iv) consultations and awareness campaigns with local communities.

### **5. Cumulative Impacts**

11. No significant cumulative impacts from the supplementary loans have been identified. The most likely cumulative impacts are general, related to increased economic activity in the Highlands. However, none of these is considered significant.

## 6. Environmental Management Plan

12. The findings and proposed mitigation measures for each subproject have been compiled into an EMMP included in the IEE reports. Where appropriate, implementation details will need to be elaborated and updated and will be subject to review as part of the bidding evaluation procedures. Mitigation measures and a monitoring plan have been prepared and discussed with DEC (a summary is included in Table A.10). The total cost of implementing the monitoring plan during the construction phase is estimated at K75,000 per year.<sup>3</sup> Monitoring costs during the operations phase is estimated at K1,000/year/road section. A monitoring checklist, based on EMMP, will be used in the field for monitoring and reporting.

### E. Institutional Requirements and Environmental Monitoring Plan

13. As the Executing Agency for the supplementary loans, DOW will be responsible for implementation and compliance with EMMP. Day-to-day implementation and compliance monitoring will be the task of the environment officer of the HRMG, under the supervision of the field project manager and supported by the provincial field supervision engineers. The findings of regular monitoring activities, as specified in the monitoring plan, will be included in the quarterly progress reports to be submitted to ADB. These will include (i) an overview of the status of EMMP preparation and (ii) compliance with completed EMMP. The progress reports will be submitted for information to DEC and ADB, with copies provided to the DOW environment coordinator in Port Moresby. Compliance with EMMP will be subject to assessment by review missions from ADB and/or DEC and included in the project completion report.

14. HRMG staff members have gained the necessary experience in compliance monitoring during the implementation of Loan 1709-PNG. Combined with improved project procedures and the additional capacity building and quality control to be provided by the implementation consultants, the capacity of HRMG to carry out compliance monitoring and reporting is considered adequate. Because anticipated environmental impacts are limited and monitoring techniques are straightforward, no further specific training activities are required.

### F. Public Consultation and Disclosure

15. During January and February 2006, consultations were held with local communities in the affected districts and government officials in provincial capitals in the Highlands and Port Moresby. The findings of the consultations along nine proposed road sections<sup>4</sup> confirm strong overall support and willingness to cooperate with HRMG and contractors in implementing the subprojects. Support from provincial governments has been demonstrated through their active involvement in discussing and resolving implementation arrangements with the local communities during the current subprojects of Loan 1709-PNG. Since 2000, the provincial governments of Chimbu, Western Highlands, Eastern Highlands, and Enga have signed agreements with community representatives on implementation arrangements for the various HRMG subprojects.

16. Documented support for the individual subprojects and pledged cooperation with HRMG are included in the separate IEE reports. Beneficiary consultations will be continued throughout the preparation and construction phases. Records of environmental and social complaints

<sup>3</sup> Based on K3,000 per road section for preparing the quarry management plan and obtaining the DEC environmental permit, and K2,000/year/road section for monitoring.

<sup>4</sup> Consultations for the Southern Highlands were started in 1999 as part of the preparation for Loan 1709-PNG.



received during consultations, field visits, and/or informal discussions, or by formal letter—together with the subsequent follow-up—will be kept in a simple database in the HRMG project office.

## **G. Findings and Recommendations**

17. Discussions with HRMG staff, a review of documents, and field assessments of most of the proposed road sections lead to the conclusion that significant and/or irreversible impacts are unlikely and that the subprojects comply with ADB's environmental safeguard policies. In particular, the proposed subprojects are not located in environmentally sensitive or conservation areas, will not increase logging or hunting, and are strongly supported and requested by the local communities. No significant associated or cumulative impacts are identified. Therefore, a more detailed environmental impact assessment is not warranted, and the IEEs will be completed as the final environment assessment documents of the Project.

## **H. Conclusions**

18. The initial environmental screening process and analysis of potential environmental impacts lead to the conclusion that the proposed subprojects are unlikely to result in any direct, significant adverse environmental impact. The scope of rehabilitating and upgrading the proposed road sections, and their anticipated environmental impacts, are of a magnitude that does not require further study. As listed in the environmental management plan, all potential environmental concerns can be properly mitigated. Consequently, the environmental monitoring plan (Table A.10) provides sufficient guidance for HRMG to successfully monitor and report on environmental compliance during subproject implementation.

**Table A.10: Summary Mitigation Measures and Environmental Monitoring Plan**

Issue	Location	Mitigation Measures	Verification	Frequency (Costs)	Implementation and Supervision
Social or Community Concerns	Potential road alignment and quarry sites	Plan activities to minimize displacement of residents, discuss the projected impacts, negotiate proposed measures in advance with the affected community, and work with local government officers and NGOs.	Project progress reports  Verbal and/or formal complaints	Continuous (minimal costs, included in standard supervision)	Contractors, under supervision of Provincial HRMG staff, supported by Env. and QA officers/PIA.
Soil Instability and Erosion	All areas where clearing is required	Reduce the time surfaces remain bare. Keep vegetation clearing to a minimum. Avoid disturbing steep slopes.	Visual check  Verbal and/or formal complaints	Continuous (minimal costs, included in standard supervision)	Contractors, under supervision of Provincial HRMG staff, supported by the Env. and QA officers/PIA.
Controlling Sediment and Storm Water	All areas where clearing is required	All disturbed areas that are not to be paved (e.g., batters) should be re-vegetated or prepared for natural re-vegetation after final land shaping. Avoid discharging water onto unstable slopes or old landslips. Temporarily divert runoff from nonconstruction areas around the construction areas. Store oil and bituminous products in an appropriate manner at a contained location away from drainage lines.	Visual and field inspection  Verbal and/or formal complaints	Continuous (minimal costs, included in standard supervision)	Contractors, under supervision of Provincial HRMG staff, supported by Env. and QA officers/PIA
Management of Stockpiles, Spoil-heaps, Batters	Dumping areas	Discussions about dumping to be held with local landowners. The stockpile or spoil-heap location should be chosen to avoid blocking surface runoff or drainage lines. Where possible, spoil should be used to backfill quarry areas or waste disposal pits before they are re-vegetated.	Visual field checks  Verbal and/or formal complaints	Continuous (minimal costs, included in standard supervision)	Contractors under supervision of Provincial HRMG staff, supported by Env. and QA officers/PIA
Air Quality, Dust, and Noise Control	All construction areas, access routes, and quarry sites	Spray water on exposed surfaces during dry periods. Wet quarry and road fill loads carried in open trucks. Use modern and well maintained equipment. Carry out noisy construction activities during normal work hours. Advise local people when there will be blasting or unusual, unavoidable noise.	Visual field checks  Verbal and/or formal complaints	Continuous during dry periods (minimal costs, included in standard supervision)	Contractors under supervision of Provincial HRMG staff, supported by Env. and QA officers/PIA
Quarry Selection and Management.	All proposed quarry sites	Appropriate actual plans of extraction. The methods that will be used for mitigating environmental impacts. Safety methods that will be put in place to reduce road accidents in village or urban areas. Plans to rehabilitate or re-vegetate the site after use to reduce visual impacts and sediment runoff.	Visual field inspections  Verbal and/or formal complaints	From quarry development to closure (to be determined)	Contractors under supervision of Provincial HRMG staff, supported by Env. and QA officers /PIA

Issue	Location	Mitigation Measures	Verification	Frequency (Costs)	Implementation and Supervision
Safety and Health	All construction and quarry sites  Construction camps	Ensure all occupational health and safety requirements are in place on construction sites and in work camps. Install lights and cautionary signs in hazardous areas. Use personal protection equipment.	Visual field inspections  Verbal complaints by workers	Continuous (minimal costs, included in standard supervision)	Contractors under supervision of Provincial HRMG staff, supported by Env. and QA officers/PIA
Site Decommissioning	All construction and camp sites	Rake or loosen all compacted ground surfaces. Establish a site re-vegetation plan. Where possible involve local women's groups to provide materials and implement re-vegetation.	The number of replanting agreement with communities	After completing construction (minimal costs, included in standard supervision).	Contractors under supervision of Provincial HRMG staff, supported by Env. and QA officers/PIA
People's Safety (Operations Phase)	Sensitive areas (settlements, schools, and markets)	Measures to slow traffic (e.g., installing speed bumps at selected places such as settlements, schools, and markets). Off-road boarding places for PMVs. Sealing to suppress dust. Improvements in road signage and pavement markings.	Visual checks  Verbal and/or formal complaints.	Annually after construction (K500 per year)	Contractors under supervision of DOW headquarters, provincial governments, and ADB supervision
Rehabilitation and Maintenance (operations phase)	Entire road section	Regular monitoring and inventory of risks for erosion and drainage problems. Conduct routine maintenance like grading, grass cutting, drain clearing, pothole patching, and shoulder repairs.	Visual checks  Verbal and/or formal complaints.	Annually after construction (K500 per year)	Contractors under supervision of DOW headquarters, provincial governments, and ADB supervision

Env. = environment, PIA = provincial implementation advisor, QA = quality assurance.

Source: Asian Development Bank.