

# Project Administration Manual

Project Number: 45094  
Loans: LXXXX  
March 2012

## Democratic Republic of Timor-Leste: Road Network Upgrading Project

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### **Project Administration Manual Purpose and Process**

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

The executing and implementing agencies are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by executing and implementing agencies of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreements. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreements, the provisions of the Loan Agreements shall prevail.

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

## ABBREVIATIONS

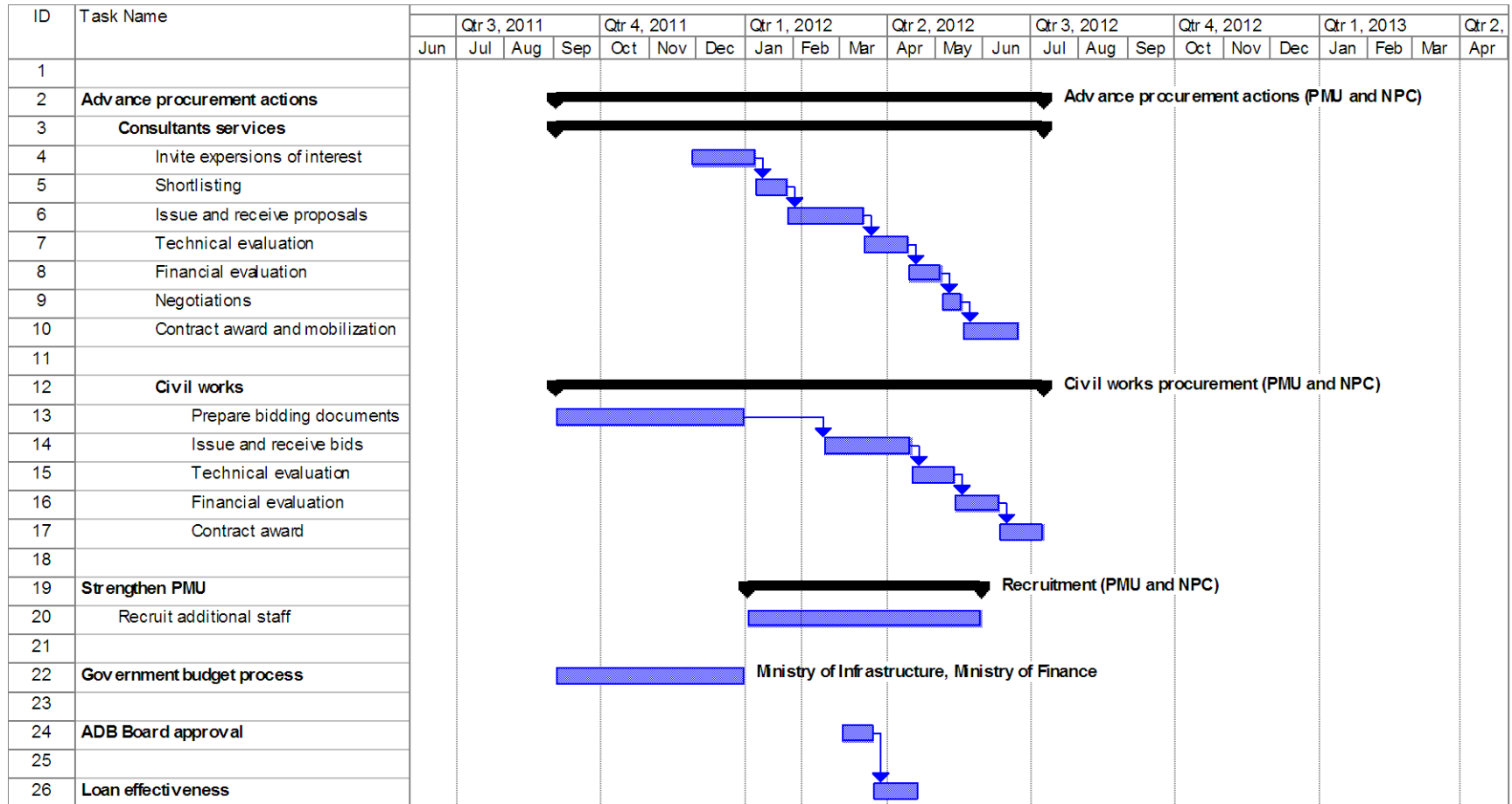
ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
AFS	–	audited financial statement
CQS	–	consultant qualification selection
DMF	–	design and monitoring framework
EARF	–	environmental assessment and review framework
EIA	–	environmental impact assessment
EMP	–	environmental management plan
ESMS	–	environmental and social management system
GACAP	–	governance and anticorruption action plan
GDP	–	gross domestic product
ICB	–	international competitive bidding
IEE	–	initial environmental examination
IPP	–	indigenous people plan
IPPF	–	indigenous people planning framework
LAR	–	land acquisition and resettlement
LIBOR	–	London interbank offered rate
NCB	–	national competitive bidding
NGOs	–	nongovernment organizations
PAI	–	project administration instructions
PAM	–	project administration manual
PIU	–	project implementation unit
QBS	–	quality-based selection
QCBS	–	quality- and cost-based selection
RRP	–	report and recommendation of the President to the Board
SBD	–	standard bidding documents
SGIA	–	second generation imprest accounts
SOE	–	statement of expenditure
SPS	–	Safeguard Policy Statement
SPRSS	–	summary poverty reduction and social strategy
TOR	–	terms of reference

## I. PROJECT DESCRIPTION

1. The proposed project will (i) reconstruct or upgrade about 59 km of principal national roads, (ii) expand the road maintenance program (RMP) of the Ministry of Infrastructure (MOI), and (iii) climate-proof the project roads.
2. The impact of the project will be increased and more efficient movement of people and goods. The outcome will be that the MOI provides a more reliable and safer road network.
3. There are five key outputs that will contribute towards achieving the project outcome and impact:
  - (i) **National roads will be upgraded and climate proofed.** The roads from Dili to Liquica (28.6 km) and Tibar to Gleno (31.0 km) are core subprojects that will be upgraded. Feasibility studies and detailed designs of the road from Manatuto to Natarbora (81 km) will be prepared to facilitate a rolling program of road upgrading. Upgrading will include strengthening and widening existing sealed pavements from a width of generally less than 4.5 m to 6 m and provision of asphalt surfacing. Vulnerability to damage from severe rainfall, sea level rise, and other potential effects of climate change will be reduced through engineering counter-measures, including ensuring suitably-sized drainage structures, raising of road levels that are flood-prone, and bio-engineering to promote slope stability.
  - (ii) **A feasibility study and detailed design will be prepared.** A feasibility study and detailed design suitable for Asian Development Bank (ADB) financing will be prepared for the road from Manatuto to Natarbora (81 km). **Performance-based road maintenance will be introduced.** The civil works contractors will be responsible for maintenance of the upgraded road sections for two years after physical completion. Local contractors will be trained in performance maintenance and period performance-based contracts will be used for future maintenance.
  - (iii) **Awareness of road safety and transport-related social issues will be raised.** The awareness of road safety will be increased by implementing a community-based road safety awareness program, including an education program for schools, drivers, road users and the community, and implementing an HIV/AIDS prevention program.
  - (iv) **Efficient project management will be provided.** The project includes project management support for the implementing agency through strengthening of its Project Management Unit (PMU).

## II. IMPLEMENTATION PLANS

### A. Project Readiness Activities



**B. Overall Project Implementation Plan**

ID	Task Name	2012				2013				2014				2015				2016			
		Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	
3	1.0 National Roads are upgraded and climate proofed	[Summary bar]																			
4	1.1 Consultants are recruited	[Bar]																			
5	1.2 Detailed Engineering designs and bidding documents are prepared	[Bar]																			
6	1.3 Land acquisition is completed	[Bar]																			
7	1.4 Civil works is implemented					[Bar]															
8																					
9	2.0 A feasibility study and a detailed design is prepared for the upgrading of a future priority road.					[Bar]															
10	2.1 Feasibility study prepared					[Bar]															
11	2.2 Detailed engineering design and bidding documents prepared					[Bar]															
12																					
13	3.0 Road Maintenance program is expanded									[Bar]											
14	3.1 Road maintenance supervisors appointed									[Bar]											
15	3.2 Training for national road maintenance contractors									[Bar]											
16	3.3 Performance based road maintenance contracts introduced																				
17																					
18	4.0 Awareness of road safety and potential transport related social issues is increased					[Bar]															
19	4.1 Road safety education delivered to road side communities					[Bar]															
20	4.2 HIV/AIDS education program delivered to construction workers and road side communities					[Bar]															
21																					
22	5.0 Efficient project management services provided	[Summary bar]																			
23	5.1 Additional staff are recruited to PMU	[Bar]																			
24	5.2 PMU and DBRFC manage project implementation and monitoring	[Bar]																			
25																					
26	Management Activities																				
27	Procurement of civil works contracts (advance action)	[Bar]																			
28	Procurement of consultants services (advance action)	[Bar]																			
29	Gender action plan					[Bar]															

### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations – Roles and Responsibilities

Project Implementation Organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> <li>• Executing agency Commission of Administration of the Infrastructure Fund</li> </ul>	<ul style="list-style-type: none"> <li>➤ Responsible for overall project management and implementation.</li> <li>➤ Provide counterpart funding in a timely manner.</li> <li>➤ Ensure the compliance with loan covenants.</li> <li>➤ Submit to ADB timely annual auditing reports.</li> <li>➤ Provide support to ADB representatives in project review missions.</li> </ul>
<ul style="list-style-type: none"> <li>• National Development Agency</li> <li>• Major Projects Secretariat</li> </ul>	<ul style="list-style-type: none"> <li>➤ Conduct independent technical reviews of project implementation for government purposes.</li> <li>➤ Provide technical and administrative support to the Executing Agency.</li> </ul>
<ul style="list-style-type: none"> <li>• National Procurement Commission</li> </ul>	<ul style="list-style-type: none"> <li>➤ With support from the Implementing Agency, undertake all major procurements.</li> </ul>
<ul style="list-style-type: none"> <li>• Implementing agency Ministry of Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>➤ Maintain and strengthen, as needed, a PMU for the project, including recruiting consultants for, and assigning MOI staff to, PMU; and providing office space and operation support.</li> <li>➤ Support preparation of annual budget submissions for government counterpart financing.</li> </ul>
<ul style="list-style-type: none"> <li>• Project Management Unit</li> </ul>	<ul style="list-style-type: none"> <li>➤ Maintain project records and accounts.</li> <li>➤ Support preparation withdrawal applications to ADB.</li> <li>➤ Support preparation and submission of any required reports, including the annual audit report and financial statements.</li> <li>➤ Prepare any subproject proposal and appraisal reports.</li> <li>➤ Prepare quarterly progress reports.</li> <li>➤ Submit to ADB a subproject completion report within 3 months of the completion of each subproject, and a project completion report within 6 months after project completion.</li> <li>➤ Arrange and submit annual audit report and financial statements.</li> <li>➤ Support the National Procurement Commission in procurement of civil works and consulting services.</li> <li>➤ Monitor project implementation.</li> <li>➤ Monitor compliance of contractors with environmental safeguards.</li> <li>➤ Implement the Gender Action Plan.</li> <li>➤ Implement road safety plan, HIV/AIDS awareness plan and social surveys.</li> </ul>

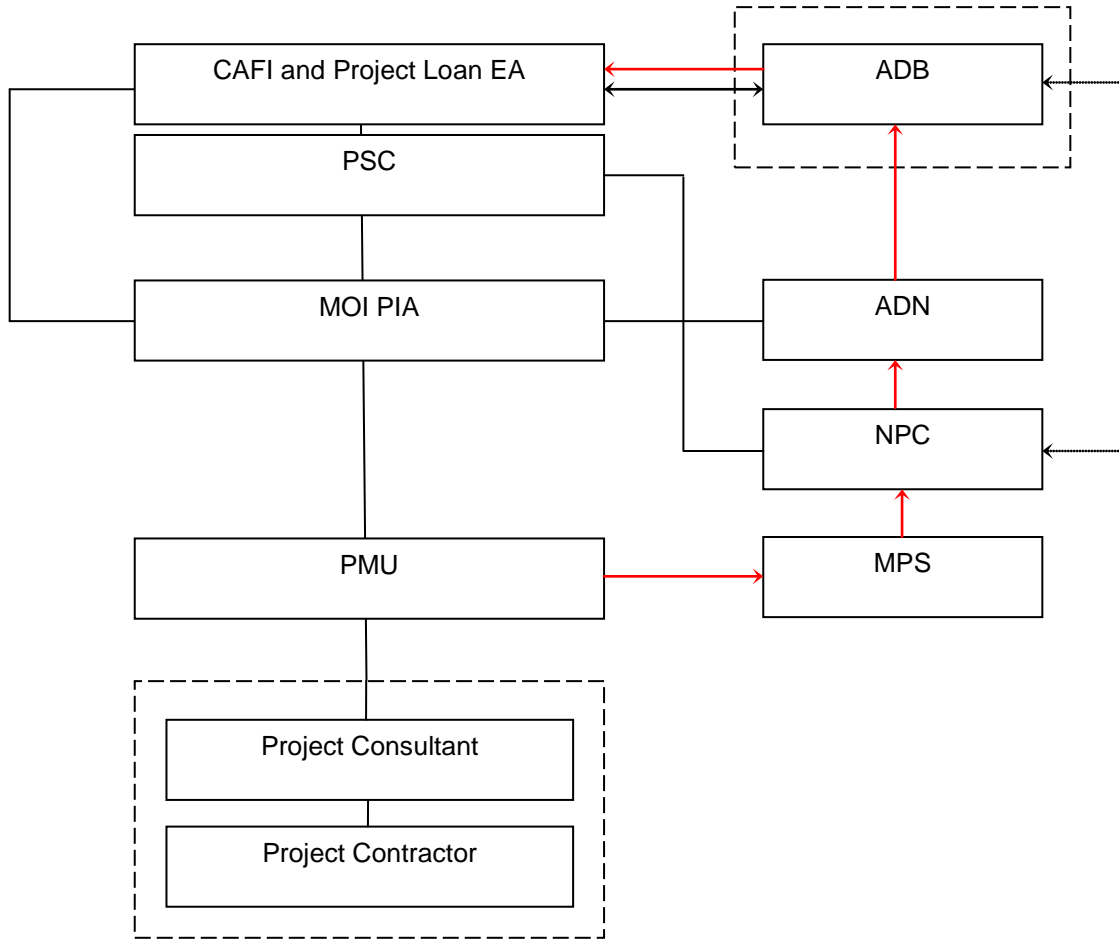


Project Implementation Organizations	Management Roles and Responsibilities
<ul style="list-style-type: none"> <li>• ADB</li> </ul>	<ul style="list-style-type: none"> <li>➤ Finance the project expenditures in accordance with the loan agreements.</li> <li>➤ Review overall implementation of the project.</li> <li>➤ Examine implementation problems, and work out with the EA to resolve them.</li> <li>➤ Review and respond to subproject proposals submitted by the government.</li> <li>➤ Review and respond to the procurement and disbursement documents submitted by the EA.</li> <li>➤ Advise the government on procurement, disbursement, and project implementation matters per requests of the government.</li> <li>➤ Monitor the status of covenants compliance by the government.</li> <li>➤ Review the project every 6 months and, jointly with government, undertake a midterm review of the project within about 2 years of its start.</li> </ul>

## B. Key Persons Involved in Implementation

Executing Agency		
Commission for the Administration of the Infrastructure Fund	Officer's Name	To be advised
	Position	
	Telephone	
	Email address	
	Office Address	
ADB		
Pacific Department	Staff Name	Robert Guild
	Position	Director
	Telephone No.	+632 632 6109
	E-mail Address	<a href="mailto:rguild@adb.org">rguild@adb.org</a>
Mission Leader	Staff Name	Richard Phelps
	Position	Senior Infrastructure Specialist
	Telephone No.	+670 332 4801
	Email address	<a href="mailto:rphelps@adb.org">rphelps@adb.org</a>

**C. Project Organization Structure**



#### IV. COSTS AND FINANCING

4. The project is estimated to cost \$53.66 million including taxes and duties, and financing charges during implementation. The Project Investment Plan is in Table 1.

**Table 1: Project Investment Plan**  
(\$ million)

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Civil works	37.10
2. Environmental and Social Mitigation(Resettlement)	0.20
3. Consultants	
a Project Management	1.80
b Feasibility, Design and Construction Supervision	5.50
4. Equipment	0.10
<b>Subtotal (A)</b>	<b>44.70</b>
<b>B. Contingencies<sup>c</sup></b>	<b>8.18</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>0.78</b>
<b>Total (A+B+C)</b>	<b>53.66</b>

<sup>a</sup> Includes taxes and duties of \$1.00 million to be financed from government and ADB loan resources.

<sup>b</sup> In mid-2011 prices.

<sup>c</sup> Physical contingencies computed at 20% for civil works; and 10% for field research and development, training, surveys, and studies.

<sup>d</sup> Includes interest and commitment charges. Interest during construction for ADB OCR loans has been computed at the 5-year forward London interbank offered rate plus a spread of 0.40%. Commitment charges for an ADB OCR loan are 0.15% per year to be charged on the undisbursed OCR loan amount.

Source: ADB estimates.

5. The Ordinary Capital Resources (OCR) loan from ADB will finance civil works, consultants' services, taxes and duties, late payment charges imposed by suppliers and contractors, bank charges, and interest and commitment charges during construction on OCR loan.<sup>1</sup> The ADF loan will finance civil works, consultants' services, late payment charges imposed by suppliers and contractors, and interest during construction on the ADF loan.

6. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB.

<sup>1</sup> Financing of late payment charges and bank charges will avoid potential administrative delays. The amount of taxes and duties (i) is within the reasonable threshold identified during the CPS preparation process, (ii) do not represent an excessive share of the project investment plan, and (iii) will only be financed in respect of ADB-financed expenditures. Financing of taxes and duties is material and relevant to the success of the project.

### A. Detailed Cost Estimates by Expenditure Category

Item	(\$ million)			(\$ million)			% of Total Base Cost
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost	
<b>A. Investment Costs</b>							
1 Civil Works	0.00	0.00	0.00	0.00	0.00	37.10	69.1%
2 Mechanical and Equipment	0.00	0.00	0.00	0.00	0.00	0.10	0.2%
3 Environment and Social Mitigation	0.00	0.00	0.00	0.00	0.00	0.20	1.5%
4 Consultants	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
a. Project Management	0.00	0.00	0.00	0.00	0.00	1.80	2.2%
b. Design and Supervision	0.00	0.00	0.00	0.00	0.00	5.50	10.3%
<b>Subtotal (A)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>44.70</b>	<b>83.3%</b>
<b>Total Base Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>44.70</b>	<b>83.3%</b>
<b>C. Contingencies</b>							
1 Physical	0.00	0.00	0.00	0.00	0.00	6.00	11.2%
2 Price	0.00	0.00	0.00	0.00	0.00	2.18	4.1%
<b>Subtotal (C)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>8.18</b>	<b>15.3%</b>
<b>D. Financing Charges During Implementation</b>							
1 Interest During Implementation	0.00	0.00	0.00	0.00	0.00	0.72	1.3%
2 Commitment Charges	0.00	0.00	0.00	0.00	0.00	0.06	0.1%
<b>Subtotal (D)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.78</b>	<b>1.4%</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>53.66</b>	<b>100.0%</b>

## B. Allocation and Withdrawal of Loan Proceeds

### Asian Development Fund Loan

CATEGORY			ADB FINANCING BASIS
Number	Item	Total Amount Allocated for ADB Financing SDR	Percentage of ADB Financing from the Loan Account
1	Works	US\$5,740,000	15.46 % of total expenditure <sup>a</sup>
2	Consulting Services	US\$1,800,000	100% of total expenditure
3	Equipment	US\$100,000	100% of total expenditure
4	Interest Charge	US\$120,000	100 %of amounts due
5	Unallocated	US\$1,390,000	
	<b>Total</b>	<b>US\$9,150,000</b>	

<sup>a</sup>Total expenditure is inclusive of taxes and duties.

### Ordinary Capital Resources Loan

CATEGORY			ADB FINANCING BASIS
Number	Item	Total Amount Allocated for ADB Financing (US\$)	Percentage of ADB Financing from the Loan Account
1	Works	19,990,000	53.87 % of total expenditure <sup>a</sup>
2	Consulting Services	5,500,000	100% of total expenditure
3	Interest and Commitment Charges	660,000	100.00 % of amounts due
4	Unallocated	4,700,000	
	<b>Total</b>	<b>30,850,000</b>	

<sup>a</sup>Total expenditure is inclusive of taxes and duties.

**C. Detailed Cost Estimates by Financier**

Item	(\$ million)		ADB (ADF)		ADB (OCR)		Total Cost
	Government		Amount	% of Cost Category	Amount	% of Cost Category	
	Amount	% of Cost Category					
<b>A. Investment Costs<sup>a</sup></b>							
1 Civil Works	11.38	30.67%	5.74	15.46%	19.99	53.87%	37.10
Environment and Social Mitigation (Resettlement)	0.20	100.00%					0.20
2							
3 Consultants							
a. Project Management			1.80	100.00%			1.80
b. Design and Supervision					5.50	100.00%	5.50
4 Equipment			0.10	100.00%			0.10
<b>Subtotal (A)</b>	<b>11.58</b>	<b>25.90%</b>	<b>7.64</b>	<b>17.08%</b>	<b>25.49</b>	<b>57.02%</b>	<b>44.70</b>
<b>Total Base Cost</b>	<b>11.58</b>	<b>25.90%</b>	<b>7.64</b>	<b>17.08%</b>	<b>25.49</b>	<b>57.02%</b>	<b>44.70</b>
<b>B. Contingencies<sup>b</sup></b>	<b>2.08</b>	<b>25.46%</b>	<b>1.39</b>	<b>8.52%</b>	<b>4.70</b>	<b>57.49%</b>	<b>8.18</b>
<b>Financing Charges During Implementation</b>			<b>0.12</b>	<b>15.38%</b>	<b>0.66</b>	<b>84.62%</b>	<b>0.78</b>
<b>C. Total Project Cost (A+B+C)</b>	<b>13.66</b>	<b>25.46%</b>	<b>9.15</b>	<b>17.05%</b>	<b>30.85</b>	<b>57.49%</b>	<b>53.66</b>
<b>% Total Project Cost</b>		<b>25.46%</b>		<b>17.05%</b>		<b>57.49%</b>	<b>100%</b>

ADB = Asian Development Bank, ADF = Asian Development Fund, OCR = Ordinary Capital Resources.

<sup>a</sup> In mid- 2011 prices.

<sup>b</sup> Computed at 20% for civil works; and 10% for field research and development, training, surveys and studies.

<sup>c</sup> Includes interest and commitment charges. Interest during construction for ADB OCR loans has been computed at the 5-year forward London interbank offered rate plus a spread of 0.4% and at 1% per year for ADB ADF loans. Commitment charges for an ADB OCR loan are 0.15% per year to be charged on the undisbursed OCR loan amount.



**E. Detailed Cost Estimates by Year**

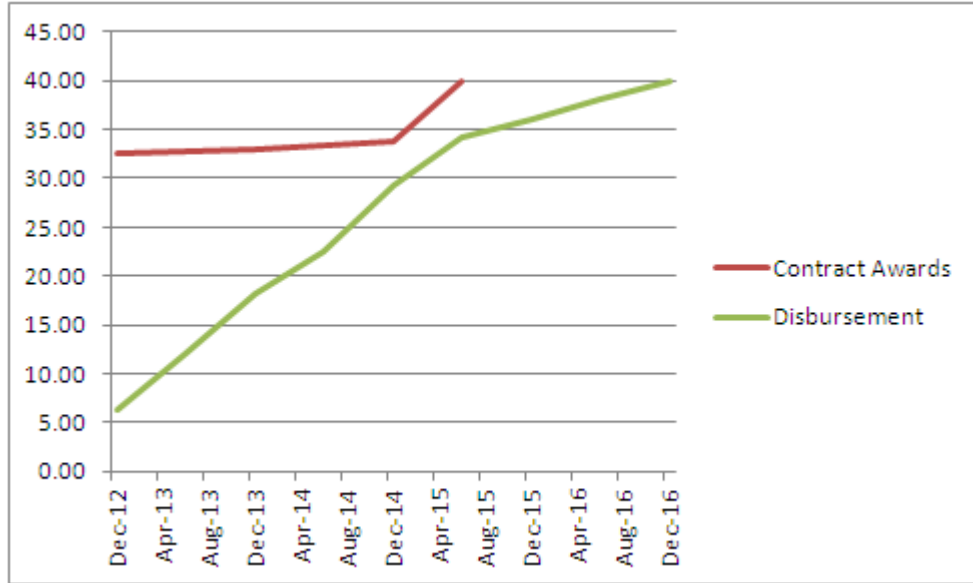
(\$ million)

Item	Total Cost	2012	2013	2014	2015	2016	
<b>A. Investment Costs</b>							
1 Civil Works	25.73	3.95	8.91	8.91	2.00	1.95	
2 Consultants						0.00	
a. Project Management	1.80	0.33	0.52	0.52	0.33	0.10	
b. Design and Supervision	5.50	1.98	1.92	1.12	0.36	0.12	
3 Equipment	0.10	0.10					
<b>Subtotal (A)</b>	<b>33.13</b>	<b>6.36</b>	11.35	<b>10.55</b>	2.69	<b>2.17</b>	
<b>Total Base Cost</b>	<b>33.13</b>	<b>6.36</b>	11.35	<b>10.55</b>	2.69	<b>2.17</b>	
<b>B. Contingencies</b>	<b>6.09</b>				6.09	<b>0.00</b>	<b>0.00</b>
<b>C. Financing Charges During Implementation</b>	<b>0.78</b>	<b>0.10</b>	0.23	<b>0.23</b>	0.22	<b>0.00</b>	<b>0.00</b>
<b>Total Project Cost (A+B+C)</b>	<b>40.00</b>	<b>6.46</b>	11.58	<b>10.78</b>	11.9.00	<b>2.17</b>	<b>0.00</b>
<b>% Total Project Cost</b>	<b>100%</b>	<b>16.15%</b>	<b>28.96%</b>	<b>26.96%</b>	<b>22.51%</b>	<b>5.43%</b>	

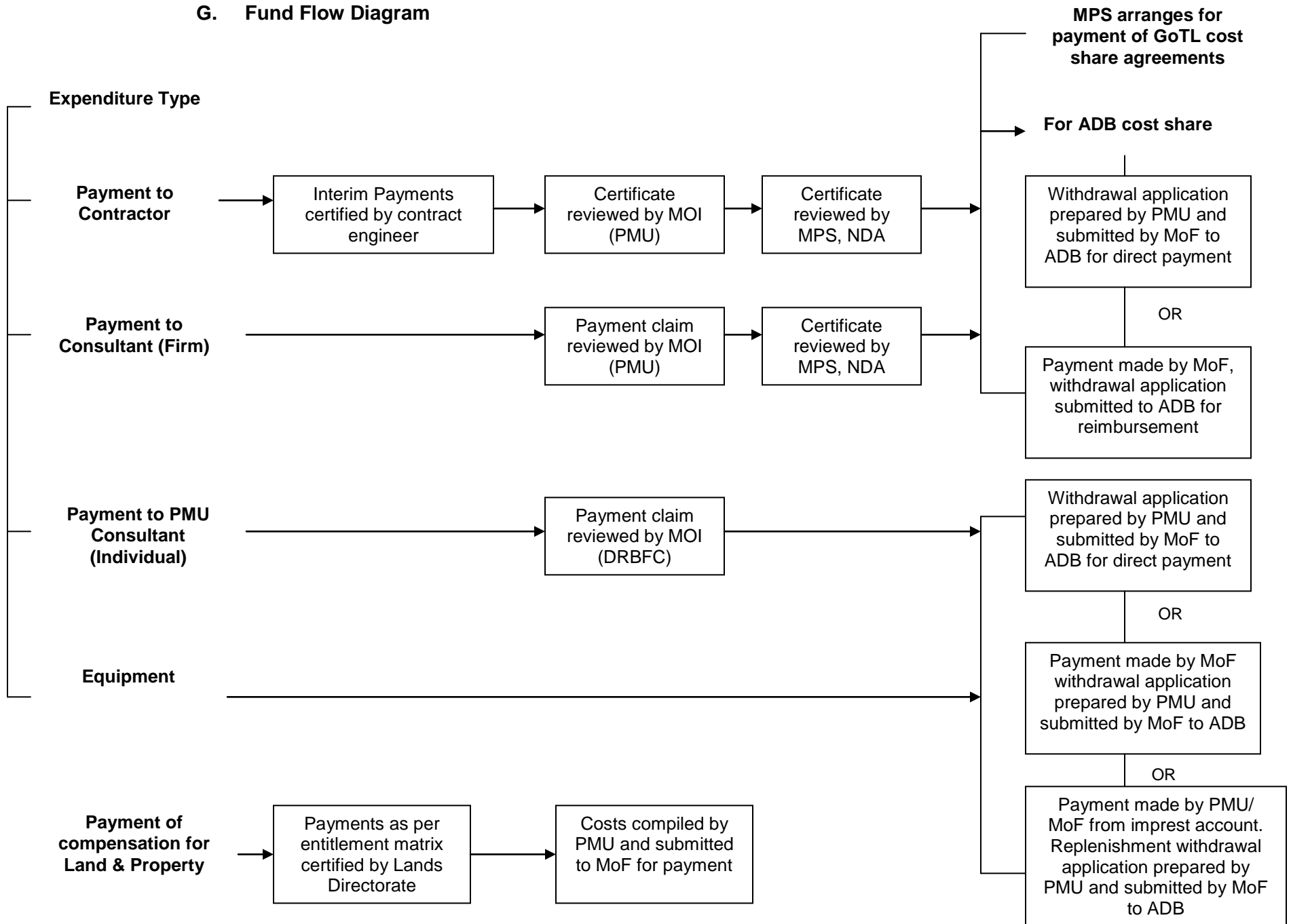


**F. Contract and Disbursement S-curve**

7. The graphs show contract awards and disbursement over the life of the project, and annually based on the contract awards and disbursement projections.



**G. Fund Flow Diagram**



## V. FINANCIAL MANAGEMENT

### A. Financial Management Assessment

8. The public financial management system in Timor-Leste is in its early stages of development. It remains a heavily centralized system with numerous controls in place which were designed to promote prudent financial management of government finances. However, the current system has also resulted in bottlenecks which have limited the government's ability to spend resources at its disposal, resulting in weak budget execution. Recognizing the weaknesses of the current public financial management system, the Government of Timor-Leste has sought measures to gradually promote decentralization of non-core financial management functions from the Ministry of Finance (MOF) to line ministries, as capacity within these agencies is increasing.

9. The MOI has implemented a number of ADB infrastructure projects. Due to MOI's weak financial management capacity, these projects have been managed through PMUs created within the Ministry. At the same time, ADB is working with MOI to strengthen MOI's financial management capacity through TA 4942-TIM: Infrastructure Project Management.

10. A PMU was created within MOI to administer the Road Network Development Sector Project, and this PMU will be expanded as needed to administer this project also. The PMU has a financial administrator who has considerable experience with ADB financed projects who will undertake financial management functions associated with the project. The capacity of MOI staff will be developed through on-the-job training.

11. Counterpart funding for the project will be provided from the government's Infrastructure Fund which is managed by the Commission of Administration of the Infrastructure Fund (CAFI) which is also designated as the executing agency for the project. CAFI is administratively and technically supported by the Major Projects Secretariat (MPS). MPS will provide an additional level of review of payments, including referral of payment vouchers to the National Development Agency (NDA) for validation. The NDA has been established by the government to provide independent assessments of the quality of project implementation as well as the appropriateness of stage payments in light of actual progress.

### B. Disbursement

12. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time),<sup>2</sup> and detailed arrangements agreed upon between the government and ADB. Pursuant to ADB's Safeguard Policy Statement (2009),<sup>3</sup> ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement. All financial institutions will ensure that their investments are in compliance with applicable national laws and regulations and will apply the prohibited investment activities list (Appendix 5) to subprojects financed by ADB.

13. Disbursements for both ADF and OCR loans will use direct payment and reimbursement procedures. The ADF loan will also use imprest fund procedures with liquidation and replenishment, as appropriate. An imprest account is justified because (i) it is needed for

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<sup>2</sup> Available at: [http://www.adb.org/Documents/Handbooks/Loan\\_Disbursement/loan-disbursement-final.pdf](http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf).

<sup>3</sup> Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>.

efficient day to day PMU operations, (ii) payments of small amounts must be made frequently in respect of supplies and local consultants, and (iii) the PMU is experienced in managing imprest accounts on other ADB-financed projects. The PMU will prepare disbursement projections for each loan in each year of project implementation for MOI or CAFI as appropriate, to make timely submissions budgetary allocations for counterpart funds. The Manager and Financial Administrator of the PMU will be responsible for preparing the draft withdrawal applications and will forward these to the CAFI for checking and endorsement by an authorized loan signatory and forwarding to ADB. Prior to endorsing the withdrawal application, the details of the payment may be subject to financial and technical review by the NDA. The PMU will collect and retain the originals of all supporting documents and make these available for audit purposes.

14. An imprest account will be established and maintained for the ADF loan. The maximum ceiling of the imprest account will not at any time exceed the estimated ADB financed expenditures to be paid from the imprest account for the next six months, or \$100,000 whichever will be lower. The request for initial advance to the imprest account should be accompanied by an Estimate of Expenditure Sheet<sup>4</sup> setting out the estimated expenditures for the first six months of project implementation, and submission of evidence satisfactory to ADB that the imprest account has been duly opened. For every liquidation and replenishment request of the imprest account, the borrower will furnish to ADB (a) Statement of Account (Bank Statement) where the imprest account is maintained, and (b) the Imprest Account Reconciliation Statement reconciling the above mentioned bank statement against the EA's records.<sup>5</sup>

15. Before the submission of the first withdrawal application, the borrower should submit 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 specimen signatures of each authorized person. The minimum value per withdrawal application is US\$100,000, unless otherwise approved by ADB. The EA is to consolidate claims to meet this limit for reimbursement and imprest account claims. Withdrawal applications and supporting documents will demonstrate, among other things that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

16. Where payments are to be made from government funds, the PMU will prepare a payment voucher and forward this to the Office of the Minister of Infrastructure for approval. The payment voucher will then be transmitted to MPS, which will, after review by ADN if required, transmit the voucher to the Director of Treasury at the MOF.

### **C. Accounting**

17. The PMU of the MOI will maintain separate project accounts and records by funding source for all expenditures incurred on the project. Project accounts will follow international accounting principles and practices.

### **D. Auditing**

18. The loan agreements provide that the government will cause the detailed consolidated project accounts to be audited in accordance with International Standards on Auditing by an auditor (independent firm of accountants) acceptable to ADB. The Government of Timor-Leste has adopted the International Public Sector Auditing Standards and these are acceptable to

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<sup>4</sup> Available in Appendix 29 of the *Loan Disbursement Handbook*.

<sup>5</sup> Follow the format provided in Appendix 30 of the *Loan Disbursement Handbook*.

ADB. The audited accounts will be submitted in the English language to ADB within six months of the end of the fiscal year by the EA. The annual audit report will include a separate audit opinion on the use of the imprest account. The government and the EA have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited accounts. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

## VI. PROCUREMENT AND CONSULTING SERVICES

### A. Advance Contracting and Retroactive Financing

19. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines (2010, as amended from time to time)<sup>6</sup> and ADB's Guidelines on the Use of Consultants (2010, as amended from time to time).<sup>7</sup> The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower and CAFI have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

20. Advance contracting will be used for the procurement of civil works packages and consultants. Detailed engineering designs will be prepared for two civil works packages using consultant resources already procured and financed by G0180-TIM. A firm of consultants will be recruited for (i) supervision of construction, and (ii) preparation of feasibility studies and detailed engineering designs for additional civil works packages.

21. Retroactive financing will not be applicable. Contracts procured under advance action will be entered into after effectiveness of the loans.

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

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

23. International competitive bidding procedures will be used for civil works contracts estimated to cost \$1.0 million or more, and supply contracts valued at \$0.5 million or higher. Shopping will be used for contracts for procurement of works and equipment worth less than \$100,000. National competitive bidding will be used for civil works and supply contracts worth less than \$1.0 million but more than \$100,000 and less than \$0.5 million but more than \$100,000, respectively.

24. When national competitive bidding is proposed, before the start of any procurement, ADB and the government will review the public procurement laws to ensure consistency with ADB's Procurement Guidelines.

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

26. All consultants and non-government organizations will be recruited according to ADB's Guidelines on the Use of Consultants.<sup>8</sup> The terms of reference for all consulting services are detailed in Section D.

27. An estimated 456 person-months (205 international, 251 national) of consulting services are required to (i) facilitate project management and implementation, and (ii) implement and monitor environmental and social mitigation measures. Consulting firms will be engaged using

<sup>6</sup> Available at: <http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf>.

<sup>7</sup> Available at: <http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf>.

<sup>8</sup> Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <http://www.adb.org/documents/handbooks/project-implementation/>.

the quality- and cost-based selection (QCBS) method with a standard quality:cost ratio of 80:20. Individual consultants will be recruited using Individual Consultant Selection (ICS) method.

## C. Procurement Plan

### Basic Data

<b>Project Name:</b> Road Network Upgrading Project	<b>Executing Agency:</b> Commission for the Administration of the Infrastructure Fund
<b>Country:</b> Timor-Leste	<b>Loan Numbers:</b> TBD
<b>Loan Amount:</b> \$40M	<b>Date of this Procurement Plan:</b> 23 Feb 2012
<b>Date of First Procurement Plan</b> (loan approval date):	

## 1. Process Thresholds, Review and 18-Month Procurement Plan

### 1.1. Project Procurement Thresholds

28. Except as the ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

Procurement of Goods and Works	
Method	Threshold
International Competitive Bidding (ICB) for Works <sup>1</sup>	Above \$1,000,000,
International Competitive Bidding for Goods <sup>1</sup>	Above \$500,000
National Competitive Bidding for Goods <sup>1</sup>	Beneath that stated for ICB, Goods
National Competitive Bidding (NCB) for Works <sup>1</sup>	Beneath that stated for ICB, Works
Shopping for Works	Below \$100,000
Shopping for Goods	Below \$100,000

### 1.2. ADB Prior or Post Review

29. Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project.

Procurement Method	Prior or Post	Comments
<b>Procurement of Goods and Works</b>		
ICB Works	Prior	
ICB Goods	Prior	
NCB Works	Prior	For first NCB procurement with post review thereafter
Shopping for Works		
Shopping for Goods		
<b>Recruitment of Consulting Firms</b>		
Quality- and Cost-Based Selection (QCBS)	Prior	
<b>Recruitment of Individual Consultants</b>		
Individual Consultants	Prior	

### 1.3. Goods and Works Contracts Estimated to Cost More Than \$1 Million

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

General Description	Contract Value	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
Civil Works Dili to Liquica	21.9M	ICB	N	Qtr4 2011	Advance action. Financed by ADB and GoTL.
Civil Works	15.2M	ICB	N	Qtr 4 2011	Advance action. Financed

General Description	Contract Value	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
Tibar to Gleno					by ADB and GoTL

#### 1.4. Consulting Services Contracts Estimated to Cost More Than \$100,000

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

General Description	Contract Value	Recruitment Method <sup>1</sup>	Advertisement Date (quarter/year)	International or National Assignment	Comments
Construction supervision of Dili to Liquica and Tibar to Gleno, feasibility and detailed design of Manatuto to Natarbora.	\$5.0M	QCBS (80:20)	Qtr4 2011	International	Advance action, full technical proposal

#### 1.5. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000

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

General Description	Value of Contracts (cumulative)	Number of Contracts	Procurement / Recruitment Method	Comments
Project Management	\$0.80M	3		Extension of existing PMU staff contracts may be financed by subject to ADB concurrence
Resettlement Specialist (International)	\$0.08M	1	ICS	
Resettlement Specialist (national)	\$0.09M	1	ICS	
Environmental Specialist (International)	\$0.08M	1	ICS	
Social, Gender and Development Specialist (national)	\$0.09M	1	ICS	
Social , Gender and Development Specialist (international)	\$0.09M	1	ICS	
Vehicles for PMU	\$0.10M	1	Shopping	
Road safety program	\$0.08M	1	LCS/CQS	
Social surveys	\$0.05M	1	LCS/CQS	
HIV/AIDS awareness	\$0.03M	1	LCS/CQS	
Annual Audit	\$0.10M	1	LCS/CQS	

## 2. Indicative List of Packages Required Under the Project

33. The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the project. Contracts financed by the borrower and others should also be indicated, with an appropriate notation in the comments section.



General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Domestic Preference Applicable	Comments
<b>Civil works</b>					
Dili to Liquica	\$21.9M	1	ICB	No	Financed by ADB and GoTL
Tibar to Gleno	\$15.2M	1	ICB	No	Advance action Financed by ADB and GoTL
Consulting Services					
Feasibility studies, engineering design and construction supervision	\$5.5M	1	QCBS	No	Advance action
Miscellaneous individual consultants (PMU, ESM)	\$1.2M	8	ICS		
PMU Vehicles	\$0.1		Shopping		

ADB = Asian Development Bank, ESM = Environmental and Social Mitigation, GoTL = Government of Timor-Leste, ICB = international competitive bidding, M = million, PMU = Project Management Unit, QCBS = quality- and cost-based selection.

## D. Consultant's Terms of Reference

### 3.1. Introduction

34. The Government of the Democratic Republic of Timor-Leste (GoTL) intends to seek loans from the ADB which will be applied to financing the cost of rehabilitating and upgrading priority sections of the sealed road network (the project). Consultants' services will be required to undertake (i) feasibility studies, detailed engineering design and bid documentation; and (ii) construction supervision and contract management. Approximately 38 international person-months of international specialist and 22 person-months of national specialist inputs will be required for the feasibility study and detailed engineering design services. Approximately 127 person-months of international and 150 person-months of domestic specialist inputs will be required for construction supervision and contract management. GoTL will select a firm of consultants following quality- and cost-based selection process in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time). The consultants services will be financed by ADB and the civil works will be jointly financed by ADB and GoTL. The Commission for Administration of the Infrastructure Fund will be the EA and the MOI will be the IA. During the services, the consultant will embed selected personnel from the MOI to receive training, experience and capacity building in the design and management of road construction projects. For all project activities, the consultant will report to MOI through the PMU.

### 3.2. Feasibility and Detailed Design services

35. The feasibility and design services relate to the upgrading of the road from Manatuto to Natarbora. In its Strategic Development Plan (2011-2013), GoTL has identified provision of upgraded north to south links as essential for integrated national development. All north-south links are currently in very poor condition and development of the south coast is suppressed. The GoTL wishes to upgrade the road to all weather, asphalt surfaced standard that will enable it to

carry 20-foot container trucks as a minimum. The existing road length is approximately 81 km, traversing flat to rolling terrain in the north before sharply ascending the mountainous spine of Timor-Leste. It then passes through mountainous terrain before descending to the coastal plain in the south. The route is sparsely populated. The road from Laclubar junction to Laclubar (approximately 10 km) is also included in the scope of the study.

### **3.2.1. Feasibility Study**

#### **3.2.1.1. Scope of Feasibility Study**

36. A feasibility study will be prepared that will fully inform GoTL and ADB on the engineering, economic, environmental, and social aspects of upgrading the road. Economic analyses of (i) the project as a whole, (ii) from Manatuto to Laclubar, and (iii) from Laclubar turnoff to Natarbora will be separately prepared. Associated tasks comprise but are not necessarily limited to:

- (i) Social analysis of the project area of influence to determine numbers of beneficiaries and socio-economic profiles. Assessment of suppressed demand if any for road transport services.
- (ii) Field surveys of the road, including preliminary topographic, pavement, drainage and structures. Preliminary assessment of slope stability and identification of options for mitigation of existing instability and areas of potential instability which may result from upgrading.
- (iii) Undertaking of traffic surveys. Preparation of traffic forecasts taking into account existing and proposed developments in the project area of influence as well as any findings related to suppressed demand.
- (iv) Determination of sources of construction materials including potential quarry sites (including verification of material quality) for pavement materials.
- (v) Preparation of preliminary designs and cost estimates for upgrading options, including varying carriageway and shoulder configurations
- (vi) Preparation of an economic evaluation of the proposed road upgrading options following ADB's Guidelines for Economic Analysis of Projects, including switching value calculations, sensitivity analysis for variations in key parameters and budget constraints. Undertake risk analysis in accordance with ADB's Handbook for Integrating Risk Analysis of Projects
- (vii) Based on the economic analysis, estimation of the expected distribution of project net benefits among freight transport users, passenger transport users, labor, the government and the economy in general.
- (viii) Assessment of land acquisition and resettlement needs in accordance with the Resettlement Framework (prepared by others) and prepare a resettlement plan.
- (ix) Preparation of an initial poverty and social assessment and screening for resettlement impact and indigenous peoples issues in line with ADB guidelines.
- (x) Assessment of potential environmental impacts in accordance with the Environmental Assessment and Review Framework (EARF).

#### **3.2.1.2. Composition and inputs of the Feasibility Study Team**

37. The feasibility team shall comprise the following members. The detailed tasks assigned to each team member are not necessarily limited to those listed.

38. **Transport Economist (international).** The Transport Economist (2.5 person-months) will lead the Feasibility Study activities and will preferably have at least 12 years experience in assessing the economic feasibility of road upgrading projects in developing countries, with not less than 5 years as a team leader. The Transport Economist will perform the following tasks:

- (i) Lead the feasibility study task team. Ensure all deliverables are prepared in accordance with quality and time constraints.
- (ii) Research and review data, including that associated with planned government or private development in the area of influence of the road and incorporate in the economic analysis as appropriate.
- (iii) Determine financial and economic vehicle operating costs for representative vehicle types.
- (iv) Prepare an economic evaluation of the proposed road upgrading options following ADB's Guidelines for the Economic Analysis of Projects. Reduction in travel time and transport costs, cost of accidents, increased agricultural production and other net social benefits arising from the project will be taken into account.
- (v) Undertake switching value calculations and sensitivity analysis for variations in key parameters and budget constraints. Undertake risk analysis in accordance with ADB's Handbook for Integrating Risk Analysis of Projects.
- (vi) Analyze how limited access to transportation services contributes to poverty in the project area of influence.
- (vii) Based on the economic analysis, estimate the expected distribution of project net benefits among freight transport users, passenger transport users, vehicle owners, labor, and the government.
- (viii) Prepare feasibility reports for submission to the MOI. The report should be prepared following ADB guidelines, taking into account direct and indirect impacts during pre-construction, construction and operation, and of implementing mitigation measures and monitoring plans.

39. **Road Design Engineer (international).** The Road Design Engineer (2.5 person-months) will be responsible for the preliminary designs underpinning the feasibility studies. The Road Design Engineer will be a professionally qualified engineer preferably with at least 12 years relevant experience, including experience in developing countries. The Road Design Engineer will perform the following tasks:

- (i) Review available engineering data, including any data relating to availability and quality of construction materials.
- (ii) Identify potential future climate change impacts that should be catered for design of the road and evaluate costs associated with incorporation of mitigation measures in the project design.
- (iii) Guide topographic and other preliminary physical surveys.
- (iv) On the basis of projected traffic levels, determine cost effective options for upgrading the road taking into account varying terrain characteristics along the route, and minimum serviceability standards.
- (v) In conjunction with the Geotechnical Engineer, survey areas of actual and potential slope instability, analyze their cause and develop preliminary recommendations for mitigating them.
- (vi) Review road safety implications for each design alternative and prepare preliminary designs for road safety features.

- (vii) Review environmental implications of construction, including those related to opening of borrow pits and disposal of spoil.
- (viii) Estimate the civil works costs for each design alternative, separately identifying taxes and duties to an accuracy of +/-15%.
- (ix) Prepare a preliminary engineering design report, consolidating all technical inputs from other specialists as appropriate.

40. **Structural and Drainage Engineer (international).** The Structural and Drainage Engineer (2.0 person-months) will be responsible for the preliminary design and cost estimation of drainage, drainage structures, and bridges. The structural and Drainage Engineer will preferably have at least 10 years relevant experience and is a professionally qualified engineer. The Structural and Drainage Engineer will undertake the following tasks:

- (i) Assess existing drainage structures and bridges along the route and recommend retention or otherwise.
- (ii) Study the existing hydrological regime based on an analysis of rainfall, flood records and local inquiry. Estimate the required hydraulic capacity of the main drainage structures, including an estimate of the incremental capacity needed to cater for climate change considerations. A period of 50 years will be considered for major drainage structures and bridges, and 20 years for minor drainage structures including side drains and culverts.
- (iii) Prepare a program of geotechnical investigation needed for the design of drainage structures and bridges. Estimate the cost of the proposed geotechnical investigations.

41. **Geotechnical Engineer (international).** The Geotechnical Engineer (2.0 person-months) will provide inputs relating to slope stability, availability of construction materials and design of pavement options. The Geotechnical Engineer will be professionally qualified with preferably at least 12 years relevant experience, at least 5 of which shall have been gained working on projects with similar geotechnical issues. The Geotechnical Engineer will perform the following tasks:

- (i) Identify potential geotechnical constraints on the proposed road upgrading, particularly identifying specific locations where mitigation measures will be required.
- (ii) Guide site specific surveys as required for preliminary assessment and design of mitigation measures for geotechnical instabilities. Prepare preliminary designs in sufficient detail for assessment of cost, and social and environmental impacts, particularly resettlement impacts.
- (iii) Assess bio-engineering as a means of mitigating slope instability and recommend incorporation of measures in the project design as appropriate.
- (iv) Assess potential sources of materials, particularly pavement materials required for the works, along with processing requirements and oversee preliminary laboratory testing.
- (v) Prepare a detailed program, implementation schedule and budget for geotechnical investigations necessary for the design of the works.

42. **Environmental Specialist (international).** The Environmental Specialist (1.0 person-month) will undertake an environmental assessment of the project in accordance with the EARF established for this project. The Environmental Specialist shall preferably have more than 10 years relevant experience (including work in developing countries) and shall be a graduate in

environmental science or environmental engineering. The Environmental Specialist will perform the following tasks:

- (i) Ensure that the project is prepared in compliance with both the government's and ADB's environmental policies, environmental assessment guidelines and the EARF.
- (ii) Assess the potential environmental impacts of the project in accordance with the EARF and determine the environmental categorization in accordance with ADB's Safeguard Policy Statement. Prepare an initial environmental examination (IEE) taking into consideration direct and indirect impacts during pre-construction, construction and operation, and identifying costs of mitigation measures and implementation of a monitoring plan.
- (iii) Prepare recommendations for integrating climate change considerations into the design of the project.

43. **Social Safeguards Specialist (international).** The Social Safeguards Specialist (2.5 person-months) will undertake screening and scoping for social impacts. The Social Safeguards Specialist shall preferably have at least 10 years relevant experience including experience and be a graduate in a relevant social science discipline. The Social Safeguards Specialist will perform the following tasks:

- (i) Undertake screening and scoping and prepare the resettlement and indigenous peoples screening forms and checklists for the project.
- (ii) Assess land acquisition and resettlement impacts in accordance with the project's resettlement framework and prepare a resettlement plan.
- (iii) Submit the RP for clearance by government and ADB.
- (iv) Assess the social impacts of the project and prepare analyses for inclusion in the feasibility study reports and in the IEE. Recommend mitigation measures where needed and estimate their cost.

44. **Survey Manager (international).** The Survey Manager (2.5 person-months) will be responsible for all topographic survey. The Survey Manager shall be a professionally registered surveyor with preferably not less than 10 years experience in topographic surveys for civil works. The Survey Manager will:

- (i) Manage a team of technician surveyors, ensuring best practice and appropriate accuracy.
- (ii) Conduct control surveys and install permanent and stable recovery markers suitable for reference during detailed design work and construction.
- (iii) Conduct preliminary topographic surveys of the road corridor, sufficient for preliminary design work.
- (iv) Ensure timely and accurate transfer of survey information to the design engineers.

45. **Miscellaneous technical and supporting staff.** The consulting firm shall provide all supporting staff (at least 22 person-months of technically qualified national personnel) including but not limited to surveyors, chainmen, laboratory technicians, traffic counters, social survey assistants, office administrators, and assistants as may be needed to satisfactorily undertake the feasibility study.

### 3.2.2. Detailed Engineering Design

#### 3.2.2.1. Scope of Detailed Engineering Design

46. Detailed engineering design will be prepared for the whole length of the road from Manatuto to Natarbora, and for the feeder road to Laclubar. However, it is envisaged that in order to expedite the work, it will be packaged into two or more contracts for construction purposes.

47. Designs shall be based on national standards where these have been promulgated, or exist in draft form. Similarly, specifications shall be based on MOI's draft specifications for road and bridge works. These standards and specifications shall be reviewed by the design team and project specific amendments incorporated as required and agreed by MOI. Detailed design activities shall, to the extent possible, be integrated with those associated with the feasibility studies.

48. Detailed design will include but is not necessarily limited to the following activities:

- (i) Topographic surveys. The consultant will undertake a control survey and establish stable permanent recovery markers (benchmarks) at intervals of not more than 1 km. Where practical, the benchmarks shall be inter visible. Topographic survey with a survey width of not less than 25 mm either side of the existing road centre line shall be undertaken, with a wider survey corridor where necessary for the design of earthworks, slope stabilization works, drainage works, road realignment, and the like.
- (ii) Geotechnical survey. Undertake detailed geotechnical investigation of the subgrade. Undertake detailed investigation of existing and potential slope instability and design counter measures, including retaining structures, slope drainage, scour prevention, and bio-engineering. Undertake geotechnical investigations for the design of foundations of major structures including bridges.
- (iii) Traffic. Review traffic analyses prepared under the feasibility study and prepare pavement structure and surfacing design, taking into account traffic loading over a design life of 20 years, subgrade condition and variability, topographic and climatic conditions, and the likely maintenance regime after construction.
- (iv) Drainage. Undertake detailed design of all drainage structures including side drains, culverts, associated inlet and outlet channels. Particular attention shall be paid to prevention of scour and siltation. Anticipated climate change impacts shall be catered for in the design and capacity of the drainage structures.
- (v) Bridge design. Undertake detailed hydraulic and engineering design of bridge structures.
- (vi) Prepare draft bidding documents for review by MOI and ADB and incorporate comments as required.

#### 3.2.2.2. Composition and inputs of the Detailed Design Team

49. Feasibility study team members shall continue their inputs as Detailed Design Team members and to integrate the separate activities to contribute seamlessly to the design phase activities.

50. **Road Design Engineer (international).** The Road Design Engineer (5.5 person-months) will assume project team leadership after completion of the Transport Economist

inputs. The Road Design Engineer will be responsible the detailed design of the road upgrading and for preparation of bid documents.

- (i) Lead all activities relating to detailed design and preparation of bidding documents ensuring quality and timely delivery.
- (ii) Develop design standards and specifications for road construction in close consultation with MOI, and having due regard to underpinning and strengthening of national systems and resources.
- (iii) Prepare pavement designs on the basis of subgrade condition, projected traffic levels, axle load considerations, climatic considerations and expected future maintenance regime.
- (iv) Prepare detailed drawings and construction schedules.
- (v) Review the need for road safety measures and incorporate mitigation measures in the design as appropriate.
- (vi) Prepare bills of quantity, aligned with a standard method of measurement for the purposes of bidding and payment of the contractor during construction.
- (vii) Prepare detailed construction cost estimates, identifying component of cost for taxes and duties.
- (viii) Prepare construction schedules showing anticipated contract durations, and expenditure projections on a quarterly basis.
- (ix) Prepare draft bidding documents for review by MOI and ADB.

51. **Drainage and Structural Engineer (international).** The Drainage and Structural Engineer (4.0 person-months) will:

- (i) Establish parameters for drainage design, taking into account climate change forecasts over the design life of the road and component parts.
- (ii) Identify, design and quantify all necessary drainage systems including pipes, box culverts side drains, off-take ditches and the like and ensure that these are incorporated in the overall design of the works.
- (iii) Design all erosion protection measures, including cascades, lined drains, etc.
- (iv) Prepare full designs for all bridge structures, large drainage structures (including insitu box culverts, aprons, wing walls, etc.
- (v) Prepare specifications, bills of quantity, and construction drawings.

52. **Geotechnical Engineer (international).** The Geotechnical Engineer (4.0 person-months) will:

- (i) Undertake a program of geotechnical investigations required for the detailed design of structural foundations, road pavement design, slope stability measures and the like.
- (ii) Interpret the results of geotechnical investigations and prepare appropriate designs, in conjunction with the Drainage and Structural Engineer.
- (iii) Design slope stabilization measures using bio-engineering methods and prepare drawings and specifications, as appropriate.

53. **Materials Engineer (international).** The Materials Engineer (3.0 person-months) will be responsible for the quality of materials and construction. The Materials Engineer will be a degree qualified engineer with preferably not less than 10 years relevant experience. The Materials Engineer will:

- (i) Prepare a detailed list of laboratory equipment and associated specifications (to be incorporated in the bidding documents and procured under the first civil works contract), necessary for quality control by the supervising engineer during construction.
- (ii) In conjunction with the Geotechnical Engineer, undertake detailed investigations of material sources (including road cuts) for construction of embankments and pavement layers.
- (iii) In conjunction with the Geotechnical and Roads Engineers, conduct an assessment of the pavement sub grade for the whole length of the road.
- (iv) Prepare a factual report (without interpretation of the results) on the results of all materials testing carried out for the purpose of designing the works and incorporate in a compilation of information for bidders.

54. **Environmental Specialist (international).** The Environmental Specialist will:

- (i) Update the IEE and associated EMP in accordance with the EARF.
- (ii) Ensure that the updated EMP is included in the draft bidding documents.
- (iii) Assist the PMU in obtaining all necessary environmental permits and licenses for construction of the works (but excluding those for borrow pits, gravel pits, and quarries, work areas, storage areas, etc., which will be the responsibility of the contractor unless nominated for compulsory use in the bidding documents).

55. **Social Specialist (international):** The Social Specialist (1.0 person-month) will:

- (i) Update the resettlement plan in accordance with the resettlement framework, and in accordance with the resettlement requirements identified by the detailed surveys and design of the works.

56. **Survey Manager (international).** During the detailed design phase, the Survey Manager (4 person-months) will:

- (i) Manage a team of technician surveyors ensuring accuracy and timeliness for survey outputs;
- (ii) Conduct detailed topographic surveys of the road corridor, creating a terrain model extending at least 25 m either side of the existing road or proposed realignment, and any area outside of this corridor that may be required for slope stabilization works, erosion protection, stream flow calculations, etc.
- (iii) Capture all significant topographical and physical features within the surveyed areas, including dwellings, animal sheds, fences, and trees of more than 300 mm diameter in the survey.
- (iv) Coordinate timely and accurate transfer of survey information to the design engineers.

### 3.2.3. Timing of Feasibility and Design Activities

57. It is expected that the services will commence during April 2012. Feasibility studies shall be completed within 4 months of commencement. Detailed engineering design and draft bidding documents for a first contract package (tentatively assumed to be for upgrading of the road from Manatuto to Laclubar) will be prepared within six months of commencement, with detailed design and bidding documents for the balance of the road within eight months of commencement.



### **3.2.4. Counterpart Facilities – Feasibility and Design Activities**

58. The consultant shall make its own arrangements for office accommodation, facilities and equipment in the country. However, the consultant is expected to establish an office in Dili, which can also support parallel construction supervision services that are described hereunder. Similarly, the consultant shall make its own arrangements for international and local transportation.

59. The MOI will make available, basic materials testing laboratory facilities equipped to carry out sieve analyses, Atterberg limit tests, and California Bearing Ratio testing. The consultant shall provide its own materials testing technicians and labor and shall be entirely responsible for the conduct of the testing and interpretation of the results.

60. The MOI may attach personnel to the consultant's team from time to time for training and experience purposes. The consultant shall use its best endeavors in ensuring that appropriate exposure to all aspects of the assignment is provided.

### **3.3. Construction Supervision**

#### **3.3.1. Construction Supervision**

61. Contract management and construction supervision services shall be provided for (i) upgrading of the road from Dili to Liquica (DL- 29 km), and (ii) upgrading of the road from Tibar to Ermera (TE – 45 km). It is expected that these contracts will be awarded in the second quarter of 2012.

62. Services to be provided during the construction phase include, but are not necessarily limited to, the following:

- (i) Liaising between the MOI and contractor and preparing and submitting monthly progress reports for submission to MOI and ADB. The format and content of these reports shall be agreed on with MOI and ADB.
- (ii) Supervising the works, approving materials, equipment and workmanship to ensure that the contract is executed in accordance with the requirements of the contract.
- (iii) Monitoring and checking the day-to-day quality control and quantity measurements of the works carried out under the contract.
- (iv) Checking all quantity measurements and calculations required for payment purposes and ensure that all measurements and calculations are carried out in a manner and at the frequencies as required by the contract.
- (v) Checking and countersigning the monthly payment certificates after having established that the quality of the works is satisfactory and the quantities are correct.
- (vi) Inspecting all works to ensure conformity of the implemented works to the approved design requirements and solutions and compliance with the drawings and other documents comprising the contract and identifying any deviations from the original design.
- (vii) Updating the original designs or proposing new solutions as necessary to reflect changed conditions on the field.
- (viii) Interpreting and applying the requirements of the contract and advising the MOI on all matters relating to claims from the contractors, in particular with respect to

claims for time extensions or extra payments and making recommendations thereon, including the possible recourses.

- (ix) Preparing detailed recommendations for contract variations for the review and approval by the MOI.
- (x) Maintaining a day by day contract diary which shall record all events (including environmental and social) pertaining to the administration of the contract, requests forms and orders given to the contractors, and any other information which may at a later date be of assistance in resolving queries which may arise concerning execution of the works.
- (xi) Supervising the contractor in all matters concerning safety and care of the works and workers (including the erection of temporary signs at road works) and, if required, to instruct the contractor to provide any necessary lights, guards, fencing, and watchmen in accordance with the requirements of the contracts.
- (xii) Reviewing, approving, and monitoring the contractor's work program and the sources of materials.
- (xiii) Monitoring and reporting upon training and equipment provided by the contractor to the micro-enterprise maintenance groups.
- (xiv) Reviewing, approving, and monitoring implementation of the contractors' environmental management plan, including ensuring the contractor complies with its reporting requirements and incorporating such reports in the consultants quarterly progress reports to the MOI and ADB.
- (xv) Explaining and/or making recommendations to the MOI to resolve (adjust) ambiguities, discrepancies or disputes arising from the contracts.
- (xvi) Inspecting and testing materials and works done by the contractor to ensure compliance with the contract specifications, and/or instructing the contractor to remove and substitute the improper materials and/or work as required to meet contract specifications.
- (xvii) Keeping a log book throughout the construction period where daily records over work quantities, tests and other activities to serve as a basis for monthly reporting and necessarily contain, as a minimum, information concerning:
  - Work day start and end;
  - Contractor's capability to execute works (availability of required equipment and labor force, technical condition, safety provision for works execution);
  - Materials and structures brought to the construction site during the day (name, quantity, quality certificate or laboratory testing results);
  - Works accomplished by the contractor during the day, i.e., name, place, volume, etc. (appropriate documents to be attached);
  - Deviations from the design documents, appropriate measures undertaken
  - emergencies, accidents, not planned suspension of works (indicating the reasons);
  - Compiling monthly reports on the contracts supervision and checking monthly billings;
  - Controlling and appraising the progress of the works and recommending the MOI to order suspension of works and to authorize extensions of the period for completion of the works;
  - Inspecting for approval all working drawings and as-built drawings prepared by the contractor;

- Assisting the MOI with taking over from the contractor of the contract, in particular by preparing lists of deficiencies which need to be corrected;
- Measuring International Roughness Index after the completion of each construction contract (equipment and technical staff to be provided by PMU);
- Monitoring temporary employment generation through civil works;
- Monitoring travel time improvement to drive the length of the rehabilitated road sections in comparison with baseline conditions; and
- Assisting the MOI and PMU to carry out any other duties and responsibilities specified in the contracts.

### **3.3.1.1. Composition and Inputs of the Construction Supervision Team**

63. The Supervision Team shall comprise, as a minimum, a Supervision Team Leader to act as the "Engineer" (as per the definition of "Engineer" in the civil works contracts), a Senior Quality Assurance Engineer, Supervisors and other specialists and administrative staff needed to meet the requirements of these TOR:

64. **Supervision Team Leader/Engineer (international)**, (6.0 person-months intermittent). The Supervision Team Leader should be a graduate of senior highway/road engineer with at least 15 years international and relevant professional experience with a proven record of at least 10 years of managerial experience in projects of a similar nature and magnitude (preferably with financing by international financing institutions). The Supervision Team Leader/Engineer will:

- (i) Establish systems within the site supervision team for supervising the work, contract management, quality control, data collection, certification of contractors' accounts, etc.
- (ii) Assume the role of Engineer as defined in the construction contract, ensuring that all procedures for the administration of the contract are followed.
- (iii) Ensure that the Environmental Management Plan and Resettlement Plans are effectively implemented.
- (iv) Ensure that all reporting, including for environmental monitoring and other safeguards, is fully and punctually provided to the MOI.

65. **2 No. Resident Engineer (international)**, (21 and 27 person-months for DL and TE, respectively). The Resident Engineer shall be a highway engineer with at least 10 years professional experience including at least 5 years of relevant experience including contract management. The Resident Engineer, under authorities delegated to him by the Engineer, will:

- (i) Supervise construction of the work and test or order to test and examine any materials to be used or workmanship employed in connection with the works.
- (ii) Lead the supervision team on a day to day basis.
- (iii) Train MOI engineers in contract administration, assigning roles and responsibilities to such engineers as are attached to the team from time to time.
- (iv) Ensure that the team accomplishes all tasks and duties listed in para 64 above.

66. **Senior Quality Assurance Engineer**, (28 person-months). Senior Quality Assurance Engineer should be a graduate senior road engineer with at least 10 years international professional experience including at least five years of relevant experience. He/she should have

experience with the construction and testing of flexible pavements including asphaltic and bituminous surface dressings and their constituent materials in tropical countries. The Senior Quality Assurance Engineer will:

- (i) Establish a basic laboratory in premises to be provided under the civil works contracts, ensuring that equipment provided is sufficient for routine construction quality control.
- (ii) Train MOI technicians assigned to the laboratory in the required standard testing procedures.
- (iii) Undertake routine and random quality assurance testing of materials and construction quality.
- (iv) Maintain systematic records of all testing performed.

67. **2 No. Senior Works Inspector (international)**, (18 and 27 person-months for DL and TE, respectively). The Senior Works Inspector shall have at least 10 years international experience supervising civil works construction with at least five years experience supervising the construction of road pavements and associated drainage. The Senior Works Inspector will:

- (i) Inspect all operations on the site, ensuring safe practices and good workmanship.
- (ii) Maintain a detailed record of daily activities on the site including equipment working or broken down, weather conditions, labor, work stoppages and the reasons therefore, etc.
- (iii) Assist in the training of contractors' personnel for community based road maintenance groups, ensuring transfer of knowledge in basic road maintenance techniques and operation of basic equipment.

68. **2 No. Deputy Resident Engineer (national)**, (21 and 27 person-months for DL and TE, respectively). The Deputy Resident Engineers will be graduate civil engineers with not less than five years post-graduate experience in construction. The Deputy Resident Engineers will:

- (i) Support the Resident Engineers in day to day management of the civil works contract.
- (ii) Liaise with the Materials Engineer and Senior Works Inspectors to ensure works are constructed in accordance with the designs and stipulated quality.

### **3.3.1.2. Services during the Defects Notification Period and Final Statement**

69. The Defects Notification Period will be 2 years. The engineer or his delegate will conduct an inspection of the works after a year and on the expiry of the Defects Notification Period. The engineer will provide a report outlining any actions to be taken pursuant to the construction contract and issue such notices as may be necessary. The consultant should allow for two site visits of one week and two weeks for these activities, respectively, and for each civil works contract.

70. During the second such visit, the engineer or his delegate will gather such data as may be needed to agree the contractors final statement and to process the final payment certificate. The consultant shall allow one week in the home office for processing the final payment certificate.

### 3.3.1.3. Counterpart Facilities

71. **Counterpart personnel.** The MOI will provide three laboratory assistants (labor), and two survey assistants (chainmen) for the duration of the construction of the works. These personnel will be provided by the civil works contractor through the construction contract. The MOI will also support the supervision team on an intermittent basis with a Social Specialist and an Environmental Specialist.

72. **Office accommodation and logistics:** Basically furnished and equipped office accommodation and a materials testing laboratory will be provided by the MOI in or near Tibar. A list of all equipment (office, laboratory, and survey equipment) will be provided with the request for a proposal. Five double cab utility vehicles will be provided through each construction contract for use by the supervision team.

## 3.4. Reporting

### 3.4.1. Reports

## 4. Outline Terms of Reference for Strengthening and Extending the Project Management Unit of the Ministry of Infrastructure

73. The consultant shall provide the following reports and documentation to the PMU:

- (i) Within one month of commencing the services, five copies of an inception report confirming implementation plans for the feasibility and design studies.
- (ii) Within three months of commencement, five copies of an initial environmental examination.
- (iii) Within three months of commencement, five copies of a preliminary resettlement plan.
- (iv) Within six months of commencement, draft bidding documents, along with a detailed design report setting out all data and considerations upon which the design was based for the Manatuto to Laclubar contract package.
- (v) Within eight months of commencement, draft bidding documents, along with a detailed design report setting out all data and considerations upon which the design was based for the Laclubar Turnoff to Natarbora contract package.
- (vi) Within seven days of receipt of approval from ADB, final bidding documents, three copies each for ADB and PMU, and 10 copies for issuance to bidders.
- (vii) During the construction phase, a quarterly report in five copies outlining progress and issues arising.
- (viii) Within 30 days of practical completion of the works, a completion report summarizing the progress, issues, costs, payments, etc.

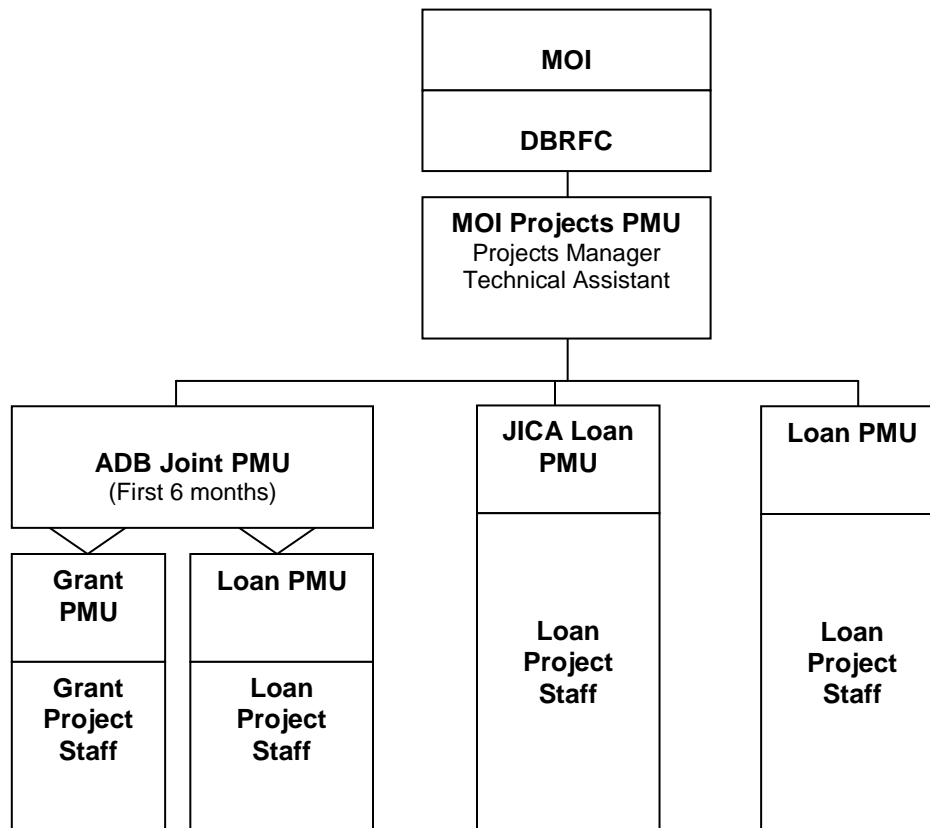
### 4.1. Introduction

74. The existing ADB-financed PMU within MOI at present manages the ADB Grant project implementation. MOI delegates responsibility for Loan and Grant projects financed by international development financing institutions to the Directorate of Roads, Bridges and Flood Control (DRBFC). DRBFC will, within six months after signing of the ADB Loan Agreement form, a Project Management and Coordination Unit (MOI PMU), coordinate and maintain management and technical standards for all prevailing and future Grant and Loan Projects financed by overseas donors and lenders.

75. For this team, a qualified national (if available) or international Project Manager/Coordinator will be selected, together with, as a minimum, a Safeguards Specialist. The already engaged Chief Technical Advisor will be re-assigned to join this team. Agreement on the financing of the above personnel will be established during the first six months after the signing of the ADB Loan Agreement and adjusted in accordance with subsequent Loan Agreements.

76. Under the umbrella of the MOI PMU, Project Management Units will be established for individual Loan and/or Grant projects.

77. In regard to the expected time required for the recruitment of adequate PMU staff for the ADB Loan projects, the ADB, over the initial six months after the signing of the ADB Loan Agreements, will use the already existing PMU structure for the Grant financed project and the Loan project. It is expected that after six months, the personnel for the new separate MOI PMU and ADB Loan sub-PMU will be in place. Separate sub-PMU units for the Loan and the ongoing Grant project will then be established, including separate project experts for Loans and Grants as required. The following figure outlines the PMU structure and reporting lines.



## 4.2. Scope of PMU Services

78. About 40 person-months of international and 79 person-months of national consulting services are required for the project management and environmental and social mitigation activities. The terms of reference for the PMU include but are not limited to the following:

- (i) Implement the project according to the terms and conditions specified in the loan agreement between the government and ADB, support the government to meet the standard and specific assurances, and ensure that those assurances under the control of PMU are met.
- (ii) Manage the recruitment of consulting services under the project, and recruit individual consultants and/or consulting firms required by the project, in accordance with ADB's Guidelines on the Use of Consultants (2010, as amended from time to time).
- (iii) Manage the preparation of bidding documents for civil works under the project, and procure civil works and equipment, in accordance with ADB's Procurement Guidelines (2010, as amended from time to time) and sample bidding documents.
- (iv) Administer and monitor international and local contracts for civil works, equipment, and consulting services under the project.
- (v) Manage the PISC conducting subproject feasibility appraisals, subproject engineering specifications and designs, monitor subproject socioeconomic impacts, and supervise subproject construction, in accordance with ADB's guidelines and policies.<sup>9</sup>
- (vi) Manage the preparation and implement subproject environmental management plans as necessary, and ensure compliance with all assurances of the government under the project.
- (vii) Manage the preparation and implement subproject resettlement plans as necessary, and ensure compliance with all assurances of the government under the project.
- (viii) Ensure coordination with other projects of MOI, other government agencies, development partners, and the private sector.
- (ix) Build the capacity of counterpart MOI staff through on-the-job training and establishment of standard procedures that can be replicated for government-financed projects, as well as road maintenance program.
- (x) Monitor the project progress, and prepare project inception report, quarterly project progress reports, and project completion report.
- (xi) Maintain project accounts and financial records, and arrange the auditing.

79. The existing PMU consists of a Project Manager and Financial Administrator (PM, National), a Chief Technical Advisor (CTA, International), a Safeguard Specialist (SS, National), a Road Maintenance Engineer (RME, National), and a Road Maintenance Advisor (RMA, International). Key positions will be extended and financed under the project until December 2016. The Government will continue to provide office space and office equipment. The respective terms of reference of each PMU staff include but are not limited to the following:

## 4.3. Project Manager (25 additional person-months national)

<sup>9</sup> ADB. 1997. *Guidelines for the Economic Analysis of Projects*. Manila; ADB. 1994. *Handbook for Incorporation of Social Dimensions*. Manila; ADB. 2002. *Environmental Policy*. Manila.

- (i) Lead the project implementation in accordance with the terms and conditions specified in the loan agreements between the government and ADB.
- (ii) Ensure that other development partners using the PMU make adequate budgetary provision for additional resources needed for their respective projects and that ADB-financed specialists in every instance give priority to ADB-financed activities.
- (iii) Provide support to the government to meet the standard and specific assurances, and ensure that the assurances under the control of PMU are met.
- (iv) Lead the PMU operations and supervise the performance of PMU staff.
- (v) Recruit international and national consultants to ensure that all PMU positions are filled during project implementation.
- (vi) Report to the Minister of MOI to obtain MOI's endorsement for subproject selection and appraisal. Submit subproject selection and appraisal with MOI's endorsement to ADB for approval.
- (vii) Conduct the bidding processes for all contracts for consulting services, civil works, and equipment in accordance with ADB guidelines and the project implementation schedule.
- (viii) Administer all contracts under the project. Monitor the performance of contractors and consultants.
- (ix) Oversee the progress of the project. Report and discuss implementation issues with the government and ADB.
- (x) Ensure proper maintenance of the project accounts and financial records.
- (xi) Ensure timely preparation and submission of the quarterly progress reports and project completion report.
- (xii) Assist in on-the-job training to DRBFC staff and establishment of standard procedures that can be replicated for routine MOI projects, as well as road maintenance program.
- (xiii) Liaise with the government and ADB, and maintain effective communications and policy dialogue.
- (xiv) Undertake all other tasks implicit in the role of PMU Project Manager.
- (xv) Open and maintain a bank account in a domestic bank in Dili, Timor-Leste; and replenish the account as required.
- (xvi) Prepare and submit withdrawal applications; ensure timely payment of consultants and contractors.
- (xvii) Liaise closely with MOF, NDA, and ADB to ensure timely disbursements of amounts certified for payment.
- (xviii) Maintain project accounts (separately for each project under the administration of the PMU) and financial records and have them audited annually.
- (xix) Assist the CTA in preparing the inception, progress and completion reports, and provide input related to financial management.
- (xx) Establish a project website and ensure that information relating to safeguard processes, bidding processes, progress and other aspects of public interest are disclosed.

#### **4.4. Chief Technical Advisor (19 additional person-months international)**

- (i) Assist the PM in fulfilling all his/her responsibilities.
- (ii) Ensure adequate stakeholder consultation on behalf of MOI for subproject selection and appraisal.



- (iii) Lead the PMU, with the assistance of PISC, to undertake subproject feasibility appraisal, including technical feasibility study, economic assessment, social and poverty analysis, and environmental analysis.
- (iv) Lead the PMU in the bidding process for all contracts for consulting services and equipment, and the contracts for civil works in accordance with ADB guidelines and the project implementation schedule.
- (v) Lead the PMU in administering and enforcing all contracts under the project; advise the Project Manager on contract administration matters.
- (vi) Assist the RMA and/or RME in the bidding processes for the contracts for civil works.
- (vii) Lead the PMU in monitoring the progress of project implementation, and the performance of contractors and consultants.
- (viii) Ensure the project implementation progresses according to the schedule and report to the Government and ADB in a timely manner on any issues affecting or potentially affecting the schedule.
- (ix) Lead and provide on-the-job training to the PMU and DRBFC counterpart staff in the areas of road engineering, construction supervision, social and environmental safeguards, ADB procurement guidelines, contract management and enforcement, and report preparation. Ensure the national consultants of PMU and DRBFC counterpart staff obtain adequate knowledge and practice to fulfill their responsibilities.
- (x) Assist the PM in recruiting or extending international and national consultants as required.
- (xi) Prepare all documentation required by ADB, particularly Project Inception Report, Quarterly Progress Reports and Project Completion report. All reports should cover all components of the project.
- (xii) Assist MOI and the PMU in all matters related to the project.

#### **4.5. Safeguard Specialist** (additional 18 person-months national)

- (i) Facilitate PISC in preparing the social safeguards inputs to feasibility studies of subprojects to be funded under the Project.
- (ii) Liaise closely with relevant government authorities including Ministry of Justice, Directorate of Land, Property and Cadastral Survey, National Directorate of Environment and Department of Environmental Impact Assessment on all matters relating to implementation of environmental and social safeguards,
- (iii) Implement resettlement plans, including consultation, payment of compensation, documentation, monitoring, etc.
- (iv) Review and monitor implementation of environmental management plans by civil works contractors, liaise with contract supervision consultants and contractor to ensure compliance
- (v) Facilitate any socioeconomic surveys, including baseline, midterm, and completion, for project monitoring and evaluation.
- (vi) Ensure implementation of the Gender Action Plan.
- (vii) Facilitate the project's community consultation and participation plan.
- (viii) Facilitate community-based contracting and maintenance through liaising and coordinating with the contractors engaged for road maintenance contracts.
- (ix) Provide on-the-job training in respect of social safeguards to counterpart MOI staff.

#### **4.6. Road Construction and Contracts Engineer**

80. The Road Construction and Contracts Engineer (RCCE) will replace the Road Maintenance Engineer (RME) in the PMU. The RCCE will continue with tasks previously assigned to the RME that remain relevant at the expiry of the term of the RME. In addition, the RCCE will:

- (i) Review of detailed designs and bidding documents prepared by PISC.
- (ii) Assist with analysis of bids for civil works contracts.
- (iii) Assist CTA with administration of the consultants services contracts of PISC.
- (iv) Monitor progress and quality of civil works. Attend progress and administration meetings between the project supervisor and the contractor.
- (v) Monitor performance of construction supervision consultants.
- (vi) In consultation with PISC, identify construction issues (technical and administrative) and recommend corrective actions.
- (vii) Undertake detailed inspections on substantial completion of civil works contracts.
- (viii) Coordinate PMU-administered activities with other planned and on-going road construction and maintenance activities of the Ministry of Infrastructure.

#### **4.7. Road Construction Advisor (12 person-months international)**

- (i) Review engineering designs prepared by PISC. Ensure consistent approach, use of standard specifications, construction standards and standard details between contracts and works administered by other departments of the Ministry of Infrastructure.
- (ii) Assist the CTA in reviewing the bidding documents, planning and launching the bidding processes, evaluating the bids and awarding contracts.
- (iii) Monitor implementation of progress of civil works contracts by undertaking detailed site inspections at intervals of not less than one month. Attend meetings between the construction supervision team and the contractor.
- (iv) On the basis of the approved construction program, prepare and update cash flow forecasts.
- (v) Identify construction issues relating to progress, cost, technical aspects etc and provide briefings to CTA on such matters with recommendations for further action.
- (vi) Analyze impact of any issues arising on cost and time for completion.
- (vii) Administer the consulting services and civil works contracts for road maintenance program. Monitor the performance of contractors and consultants.
- (viii) Assist the CTA in preparing the inception, progress and completion reports.

#### **4.8. Resettlement Specialist (3 person months intermittent International).**

81. The Resettlement Specialist will advise and assist with the preparation and implementation of resettlement plans in accordance with the Project's Resettlement Framework. Tasks include but are not limited to:

- (i) Provide guidance and training to the PMU's national Safeguards Specialist including preparation and monitoring of work plans for safeguard implementation.

#### **4.9. Environmental Specialist (3 person months intermittent, International).**

82. The Environmental Specialist will advise and assist with the design and implementation of measures needed to ensure that project implementation complies with ADB's environmental policy and Safeguards Policy Statement 2009, as well as national legislation and regulations, throughout the project design and implementation cycle. Tasks include but are not limited to:

- (i) Provide guidance and training to the PMU's national Safeguards Specialist, including preparation and monitoring of work plans.
- (ii) Ensure that environmental protection and mitigation measures in the EMP are incorporated in the detailed designs and contract documents.
- (iii) Assist with the preparation of quarterly and semi-annual reports for submission to government authorities and the ADB.
- (iv) Where environmental issues are identified in implementation, recommend and design appropriate corrective actions.
- (v) Review reports, including initial environmental examinations, environmental management plans and the like and advise the CTA and PM accordingly.
- (vi) Review environmental management plans prepared by civil works contractors and advise.

83. **Social and Gender Development Specialist**, (3 person-months intermittent, international and 36 person-months (national)). The Social Gender and Development Specialist will be responsible for implementing and monitoring the Gender action plan. The existing Project Management Unit (PMU) will be responsible for a day-to-day project implementation. The GAP will be implemented by the PMU and will include one full-time national SGDS for the duration of project implementation, who will be supervised by international SGDS (intermittent). The national and international specialists will be responsible for the overall implementation of GAP including incorporating the GAP into project design, planning, implementation, monitoring and evaluation, capacity development; establishment and inclusion of sex-disaggregated data; and incorporating of gender sensitive indicators and analysis for project performance, monitoring, evaluation and reporting. The progress of GAP activities will be included in regular progress reports on overall project activities submitted to ADB and the Government. Other consultants (i.e., Capacity Development Specialist, Communication and Advocacy Specialist) or women's organizations and NGOs may be hired to implement different GAP activities under the guidance of national and international SGDS. Gender Focal Person of MOI and of local authorities will also provide support for the GAP implementation.

## VII. SAFEGUARDS

### A. Environmental Safeguards

#### 84. Safeguards Categorization.

- (i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment (EIA), including an environmental management plan (EMP), is required.
- (ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination (IEE), including an EMP, is required.
- (iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. An EIA or IEE is not required, although environmental implications need to be reviewed.
- (iv) **Category FI.** A proposed project is classified as category FI if it involves the investment of ADB funds to, or through, a financial intermediary (paras. 53–58).

#### 85. The Executing Agency through the Implementing Agency shall ensure that:

- (i) The project is implemented in accordance with the Borrower's laws and regulations on environment, as well as ADB's Safeguard Policy Statement 2009 (ADB's SPS), and that there is no significant damage to the natural environment as a result of the design, construction, operation and maintenance of the project facilities.
- (ii) If there is any discrepancy between the Borrower's laws and regulations, and ADB's SPS, then ADB's policy shall apply.
- (iii) The Works contracts under the project include specific measures to mitigate negative environmental impacts caused by the construction activities in accordance with the requirements of the EMP prepared for the project, and the EMP shall be included in the bidding and contract documents requiring contractors to comply with all applicable provisions and as a basis for the contractors to prepare site specific EMPs.
- (iv) Adequate budget and staff resources are allocated for the EMP implementation.
- (v) The contractors engaged under the Works contracts are in strict compliance with all environmental impact mitigation and monitoring requirements set out in the EMP and contract documents.
- (vi) Environmental assessment is conducted for the subproject roads proposed to be financed under the project based on the agreed environmental assessment and review framework (EARF).
- (vii) Subproject roads used for logging and/or mining or subproject roads that pass through ecologically sensitive areas such as national biodiversity conservation areas and similarly protected sites shall not be selected and financed under the project.
- (viii) Road sections to be funded by the Government and co-financiers shall adopt the provisions of the EMP and EARF, and shall be in compliance with ADB's SPS.

- (ix) Environmental approvals required by the Government are obtained in a timely manner and copies of such approvals shall be submitted to ADB upon issuance.
- (x) Construction works carried out by contractors are adequately supervised and monitored to ensure compliance with the monitoring and mitigation measures set forth in the EMP.
- (xi) New or supplementary environmental assessment report shall be prepared in compliance with the EARF and ADB's SPS if there are any additional components or changes in the project such as specific location and design, among others, that will result to adverse environmental impacts and are not within the scope of the environmental assessment report approved by ADB; such documents shall be submitted to ADB for clearance prior to implementation of additional components or major changes and corresponding approval from the Borrower's (approving authority) shall be obtained in a timely manner.
- (xii) If any unanticipated environmental impacts become apparent during project implementation, prepare a corrective action plan and submit this to ADB for clearance and ensure implementation of the corrective action plan.
- (xiii) Establish an environmental grievance redress mechanism, acceptable to ADB, to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the project's environmental performance.
- (xiv) The existence of this grievance redress mechanism is made public through public awareness campaigns; review and address environmental grievances of stakeholders in relation to the project, any of the service providers, or any person responsible for carrying out any aspect of the project; and proactively and constructively respond to such grievances.
- (xv) Quarterly reports on implementation of the EMP are submitted to ADB in a timely manner.

86. The Borrower shall ensure that sufficient resources are allocated so that the following specialist staff are employed by the PMU to monitor and report on the implementation of the EMP:

## **B. Environmental Compliance and Monitoring**

87. Three person-months of international expert services will be provided through the Project Management Unit to support DRBFC to prepare environmental assessments in accordance with the requirements of the National Directorate of Environment (NDE). The consultant will support DRBFC in its application for an Environmental License for all the subproject roads and other components in the project. The approved Environmental Monitoring Plan (EMP) will be included in the civil works bidding documents and incorporated into the construction contract.

88. During the construction phase, 36 person-months of full time national expert services will be provided through the Project Management Unit for monitoring the implementation of the environmental management plan by the civil works contractor. Monthly compliance reports will be prepared and submitted to the DRBFC and will be incorporated into the quarterly progress reports to ADB. The civil works contract will contain appropriately scaled remedies for non-compliance.

89. The project's sample IEEs/EARF were prepared and are in Appendix 2 of the RRP. The Project's environmental management plan (EMP) will be used to guide environmental mitigation, monitoring, and reporting. Table 1 provides outlines the major actions associated with

preparation, submission and approval of environment documents within the government and to ADB.

**Table 1: Environmental Management Actions**

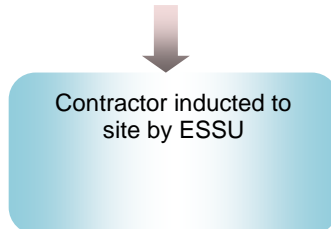
Environmental Management Actions	Conditions Required to Complete Actions
<b>DESIGN / PRE-CONSTRUCTION STAGE</b>	
Environmental management system established	Budget, facilities and staff for EU have been provided according to Loan Agreement and EMP
Conduct environmental assessments for each subproject (may include detailed baseline environment data as required in EMP), and/or update EMP according to Loan Agreement	Consultants/qualified experts recruited in PMU. Environmental specialists are in place in ESSU
<ul style="list-style-type: none"> <li>• Environmental Unit (ESSU in PMU) prepare Design Brief for Detailed Design consultants (DDC) that incorporates EMP provisions or updated EMP requirements in the project design</li> <li>• ESSU check Design Brief meets EMP and/or updated EMP requirements</li> </ul>	Appointment of Detailed Design consultant(s) with necessary technical capacity and experience to address EMP or update EMP requirements
<ul style="list-style-type: none"> <li>• ESSU extract construction requirements from EMP and updated EMP and pass to DDC consultant for inclusion in Tender documents.</li> <li>• ESSU review Tender documents and confirm that environmental management clauses require contractor to implement EMP and that provisions are sufficient</li> </ul>	Environmental conditions have been prepared which are integrated into Tender documents
PMU and ESSU review comments / queries from contractors on Tender documents and clarify environmental management requirements for contractor to implement EMP and that contractor must make provisions for staffing and awareness training	Contractors are willing to comply and have received and can comment on Tender documents and clarify environmental management requirements
ESSU review environmental clauses and conditions of Bid and rank contractors on their capability	Head of EU to be a member of the Bid Evaluation Panel

ESSU reviews Site EMP (SEMP) prepared by consultants with contractors to establish contractor commitment to implement EMP.



- Contractor appoints environmental manager and makes site agents available for awareness training
- After award of contract, Contractor has 15 days to prepare letter of commitment to implement SEMP

ESSU verifies commitment of Contractor to comply and cooperate with SEMP after at site meetings



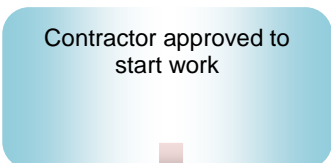
- Contractor cannot take possession of construction site until
- Commitment to implement SEMP has been approved and
- Induction of site agents is completed satisfactorily.

**Environmental Management Actions**

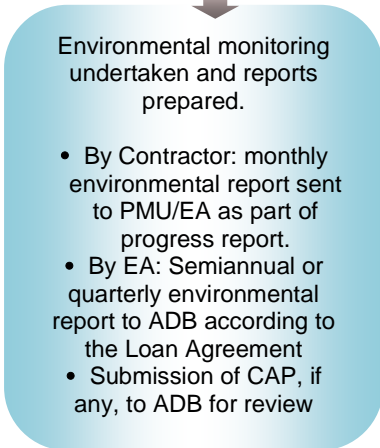


- ESSU monitors contractor activities for compliance with SEMP and statutory requirements
- ESSU audits construction activities
- ESSU evaluates monitoring program
- ESSU uses qualified external experts to verify monitoring reports for project with potentially significant adverse impacts
- ESSU assists ADB on supervision missions according to the Loan Agreement
- If noncompliance is identified, prepare and implement corrective action plan (CAP)

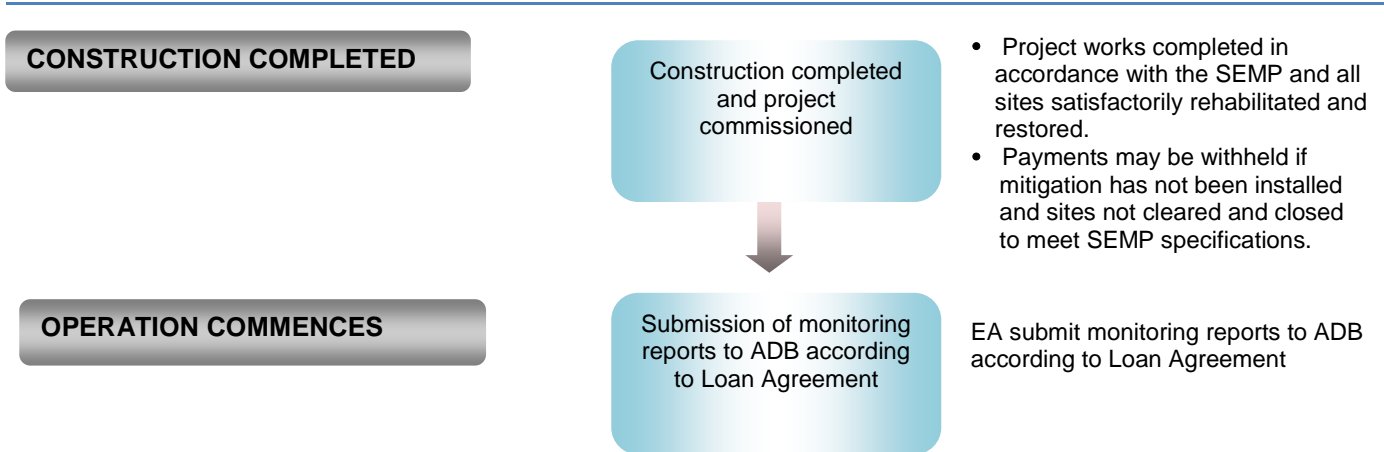
**Conditions Required to Complete Actions**



- Commitment to implement SEMP has been approved and
- Induction of site agents is completed satisfactorily.



- Contractor complies with SEMP requirements for implementing mitigation measures and monitoring work on-site
- PMU specialists are in place in ESSU recruited to verify monitoring reports for project with potentially significant adverse impacts
- ESSU review and sign-off on statutory compliance, implementing mitigation measures and monitoring for all completed works
- PMU/EA submit monitoring report (including CAP, if any) to ADB for review according to the Loan Agreement and to environmental authorities according to host country statutory requirements and regulations



CAP = Corrective Action Plan, D+S = Design + Supervision, EA = Executing Agency, EMP = Environmental Management Plan, EU = Environmental Unit, PIU = Project Implementation Unit.

### C. Involuntary Resettlement

90. The widening and improvement of roads will require additional land. The project executing agency (EA), the Commission of Administration of the Infrastructure Fund (CAFI), and the implementing agency (IA), the Ministry of Infrastructure (MOI), will follow the principles and procedures set out in the Resettlement Framework (RF)(Appendix 2 of the RRP) to comply with the Government's applicable laws and regulations and relevant policies of ADB. The objectives are to (i) avoid resettlement impacts wherever possible; (ii) minimize impacts by exploring alternatives; (iii) enhance, or at least restore, the living standards of affected persons (APs); and (iv) improve the living standards of the poor and vulnerable APs.

91. The Resettlement Framework outlines the principles and procedures to obtain land and address potential resettlement impacts under the project. The EA and the IA will follow the procedures to comply with the government's applicable laws and regulations and relevant policies of ADB.

92. The PMU will oversee preparation of the Resettlement Plans (RPs) by the consulting firm engaged for detailed design work. Supplementary staff to be recruited to the PMU include a part-time international resettlement specialist (3.0 person-months), a national resettlement specialist (18 person-months). The following are the main tasks in RP preparation:

- (i) Screen sub-projects for IR impacts and categorize.
- (ii) Prepare terms of reference for RP preparation of the appropriate road section.
- (iii) Recruit consultant and mobilize study teams.
- (iv) Set up working committee to deal with land issues and guidelines for land purchases.
- (v) Plan and conduct consultations throughout planning process and record all meetings.
- (vi) Set cut-off dates and video record the proposed road section to avoid encroachment.
- (vii) Schedule and conduct social impact assessment and IOL census; train survey staff.
- (viii) Establish a database of affected persons and impacts.
- (ix) Identify land purchase requirements and finalize ownership status.



- (x) Prepare entitlement matrix, and compensation, income restoration and relocation plans based on replacement rates.
- (xi) Set up grievance redress committees.
- (xii) Prepare a Project Information Booklet (PIB) in Tetum, Bahasa Indonesia and Portuguese and distribute among stakeholders.
- (xiii) Identify and assign institutional responsibilities for land purchase and resettlement.
- (xiv) Prepare resettlement budget, disbursement mechanisms and resettlement implementation schedule.
- (xv) Prepare draft RP.
- (xvi) PMU Social Safeguards Specialist reviews RP.
- (xvii) Revise RP.
- (xviii) PMU submits RP to ADB and responds to comments.
- (xix) Finalize draft RP.
- (xx) Translate and disclose draft RP locally. Conduct consultations with local people and amend RP as needed after consultations.
- (xxi) Submit finalized RP to ADB for approval and disclose on Government and ADB websites.
- (xxii) Translate and disclose draft RP locally and upload on Government and ADB, websites.
- (xxiii) Submit finalized RP to ADB for approval and disclose on Government and ADB websites.
- (xxiv) Recruit external monitor (e.g. NGO) for Category A sub-projects.

#### **D. Indigenous persons**

93. In Timor-Leste, ethnic association is bound up with language. Seventeen languages, derived from one of two broad language groups—Austronesian (Malayo-Polynesian) and Papuan (Melanesian)—are spoken across the country. The social assessment concluded that no significant differences in cultural and social identity exist among the people who speak different languages, and that no ethnic minority groups are expected to be adversely affected by the Project. Therefore, the project is a category B project with respect to the ADB Policy on Indigenous Peoples (1998). If necessary, actions will be taken through resettlement frameworks and resettlement plans.

### VIII. GENDER AND SOCIAL DIMENSIONS

94. The Gender Action Plan (GAP) will be implemented by the PMU and will include one full-time national Social and Gender Development Specialist (SGDS) for the duration of project implementation. The SGDS will be supervised by an international SGDS (intermittent). The national and international specialists will be responsible for the overall implementation of GAP including incorporating the GAP into the design of subprojects, planning, implementation, monitoring and evaluation, capacity development, establishment and inclusion of sex-disaggregated data, gender sensitive indicators and analysis for project performance, monitoring, evaluation and reporting. The progress of GAP activities will be included in regular progress reports on overall project activities submitted to ADB and the Government. Other consultants including women's organizations and NGOs may be hired to implement different GAP activities under the guidance of national and international SGDS. The Gender Focal Person of MOI and of local authorities will also provide support for the GAP implementation.

Outputs and Activities	Proposed Gender Mainstreaming Activities (Target)	Primary Responsibility
<b>Output 1: National roads are upgraded and climate proofed.</b>		
<ul style="list-style-type: none"> <li>• Ensure that resettlement and land acquisition community meetings involve local authorities, women and youth representatives of Conculo de Suco, women's organizations/NGOs, and affected land owners (at least 30% of women participants and 50% of female facilitators); arrange separate meetings for women if, necessary.</li> <li>• Ensure that land acquisition and compensation process is transparent, and that compensation is disbursed in the name of both spouses and/or to women-headed households/widow.</li> <li>• Assist women and men beneficiaries of resettlement and compensation package to open bank accounts, if necessary.</li> <li>• Provide equal opportunity and access to women and men contractors in bidding process.</li> <li>• Encourage contractors to prioritize the use of local materials and the employment of local workers and to maximize use of women (at least 30%) in labor-based work.</li> <li>• Ensure equal pay for equal work for women and men for all construction and maintenance work.</li> <li>• Announce employment opportunities and recruitment notices widely, targeted at women as well as men.</li> <li>• Ensure that basic facilities (separate toilets, clean water) are provided for female as well as male construction workers at construction sites.</li> <li>• Conduct gender-road capacity development training for all women and men workers.</li> <li>• Incorporate local knowledge into climate change adaptation through community consultations (at least 30% female participants, and 30% female facilitators).</li> <li>• Ensure community awareness and skill training program includes road cleaning, flood/erosion protection, waste management, and roadside vegetation planting and caring.</li> <li>• Ensure women's leadership and participation (at least 30%) in a community-based adaptation program (i.e., roadway cleaning, waste and roadside vegetation management).</li> </ul>		<ul style="list-style-type: none"> <li>PMU, SGDS, GFPs, engineers, RS</li> <li>PMU, SGDS, GFPs, RS</li> <li>PMU, SGDS, GFPs</li> <li>PMU, SGDS</li> <li>PMU, SGDS</li> <li>PMU, SGDS, GFPs</li> <li>PMU, SGDS, GFPs, contractors</li> <li>PMU, SGDS, GFPs, ES</li> <li>PMU, SGDS, GFPs, ES</li> <li>PMU, SGDS, GFPs, ES</li> </ul>
<b>Output 2: A feasibility study and a detailed design for the future upgrading of a priority road link are prepared.</b>		
<ul style="list-style-type: none"> <li>• Ensure that preliminary and detailed design of roads to be upgraded are shared with local authorities, Conculo de Suco, women and men members of affected households and communities through community consultations (at least 30% of participants are women).</li> <li>• Ensure that road safety measures (i.e., lighting, speed humps, warning/street signs, sidewalks, crosswalks, sea walls, etc.), especially around schools, health centers, and markets are incorporated into the road design.</li> <li>• Incorporate local knowledge on climate change adaptation and specific women's concerns into preliminary and detailed designs through gender analysis and community consultations (at least 30% female participants, and 30% female facilitators).</li> </ul>		<ul style="list-style-type: none"> <li>PMU, SGDS, GFPs, ES women's orgs/NGOs</li> <li>PMU, SGDS, GFPs</li> <li>PMU, SGDS, GFPs</li> </ul>

Outputs and Activities	Proposed Gender Mainstreaming Activities (Target)	Primary Responsibility
<b>Output 3: Performance-based road maintenance contracts are introduced.</b>		
<ul style="list-style-type: none"> <li>• Encourage equal representation by women and men maintenance supervisor positions appointed by DRBFC.</li> <li>• Ensure participation of women contractors in the training for national contractors (at least 30% of female participants, and 30% of female facilitators).</li> <li>• Ensure training for national contractors incorporates modules on (i) women's leadership in road construction, maintenance and safety; (ii) community-based road maintenance; and (iii) road safety for women, youth and school children.</li> <li>• Ensure women's representation in leadership positions in community-based groups (at least 30%).</li> <li>• Ensure timing for routine road maintenance and skill training activities adapts to women's and men's daily working schedules.</li> </ul>		<p>MOI/DRBFC, PMU, SGDS PMU, SGDS, GFPs</p> <p>PMU, SGDS, CDS</p> <p>PMU, SGDS, GFPs local authorities, Conculo de Suco PMU, SGDS, GFPs, women's orgs/NGOs, contractors</p>
<b>Output 4: Awareness of road safety and transport-related social issues is increased.</b>		
<ul style="list-style-type: none"> <li>• Conduct baseline studies on gender-sensitive road safety awareness for different target groups in communities.</li> <li>• Ensure safety concerns of women, youth, children, elderly and disabled people are incorporated into road safety education program.</li> <li>• Ensure road safety guidelines incorporate gender-sensitive HIV/AIDS and other sexually transmitted infections (STIs) prevention among construction workers and communities.</li> <li>• Ensure gender-balanced participation (at least 50%) in road safety and HIV/AIDS education program.</li> <li>• Ensure road safety and HIV/AIDS education programs in communities and schools include female facilitators (50%), use various media, picture-based texts, local language and are sensitive to local culture.</li> </ul>		<p>PMU, SGDS, GFPs</p> <p>PMU, SGDS</p> <p>PMU, SGDS, GFPs</p> <p>PMU, SGDS</p> <p>PMU, SGDS</p>
<b>Output 5: Efficient project management.</b>		
<ul style="list-style-type: none"> <li>• Ensure employment of international and national SGDS to manage and monitor GAP implementation, conduct gender-awareness raising and capacity development activities for all target beneficiaries</li> <li>• Ensure inclusion of gender-sensitivity in the terms of reference of all new staff and consultants of PMU.</li> <li>• Conduct gender awareness and capacity development programs for DRBFC, PMU, contractors, local workers, partner women's organizations/NGOs, and community-based groups (at least 30% women participants and 50% women facilitators).</li> <li>• Ensure the use of gender-sensitive indicators, sex-disaggregated data and gender analysis in baseline studies, monitoring, evaluation and a project performance system.</li> <li>• Ensure inclusion of GAP progress and achievements in the progress, mid-term and annual reports.</li> </ul>		<p>MOI/DRBFC, PMU</p> <p>PMU, SGDS</p> <p>PMU, SGDS, GFPs</p> <p>PMU, SGDS</p> <p>PMU, SGDS</p>
<b>IMPLEMENTATION ARRANGEMENTS</b>		
<p>The CAFI will be the executing agency and the MOI will be the implementing agency of the project. The existing PMU will be responsible for a day-to-day project implementation. The GAP will be implemented by the PMU and will include one full-time national SGDS for the duration of project implementation, who will be supervised by international SGDS (intermittent). The national and international specialists will be responsible for the overall implementation of GAP including incorporation of the GAP into project design, planning, implementation, monitoring and evaluation, and capacity development activities; the establishment and inclusion of sex-disaggregated data and gender-sensitive indicators in the project performance monitoring system; and reporting on the progress of GAP implementation in periodic progress reports. The PMU will ensure that reporting of GAP activities is included in regular progress reports on overall project activities submitted to ADB and the government. Other consultants (i.e., capacity development specialist, communication and advocacy specialist) or women's organizations and NGOs may be hired to implement different GAP activities under the guidance of the national and international SGDS. Gender Focal Person of MOI and of local authorities will also provide support for the GAP implementation.</p>		

ADB = Asian Development Bank; CAFI = Conselho de Administracao do Fundo Infraestrutura; CAS = Communication and Advocacy; CDS = Capacity Development Specialist; DRBFC = Directorate of Road, Bridges and Flood Control; ES = Environmental Specialist; GFP = Gender Focal Person; MOI = Ministry of Infrastructure; NGOs = non-governmental organization; PMU = Project Management Unit; RS = Resettlement Specialist; SGDS = Social, Gender and Development Specialist.

## IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

### A. Project Design and Monitoring Framework

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b></p> <p>Increased and more efficient movement of people and goods</p>	<p><b>By end 2017:</b></p> <p>40% increase in passengers using the project roads (2010 baseline: 2.6 million and 1.6 million passengers per annum between Tibar and Liquica and Tibar and Gleno, respectively)</p> <p>30% increase in freight transported (2010 baseline: 160,000 and 170,000 goods vehicles per year of general cargo between Tibar and Liquica and Tibar and Gleno, respectively)</p>	<p>Annual traffic surveys by DBRFC</p>	<p><b>Assumptions</b></p> <p>Increased availability and quality of transport services after upgrading</p> <p>Satisfactory maintenance of project roads after upgrading</p> <p><b>Risks</b></p> <p>Deterioration in external conditions may depress domestic, social, and business conditions</p> <p>Increasing fuel prices prevent transport services from becoming economically viable</p>
<p><b>Outcome</b></p> <p>A more reliable and safer road network</p>	<p><b>By end 2015:</b></p> <p>15% reduction in travel time on project roads (2012 baseline: 0.75 hours and 1.25 hours for Tibar to Liquica and Tibar to Gleno respectively to be updated by PMU for each subproject immediately prior to construction)</p> <p>20% reduction of road accidents on project roads (2011 baseline: 50 and 50 accidents per annum between Tibar and Liquica and Tibar and Gleno, respectively)</p>	<p>Project completion report prepared by MOI</p> <p>National accident statistics produced by the PNTL</p>	<p><b>Assumption</b></p> <p>The government's transport division and road division are effective in planning and implementing transport policies.</p>
<p><b>Outputs</b></p> <p>1. National roads will be upgraded and climate proofed.</p>	<p>By the end of 2015, the average road roughness on about 59 km of national roads (the project roads) is reduced from an average of 8 m/km to 4 m/km.</p> <p>At least 80% workers hired by contractors are from local areas, including at least 30% women in labor-</p>	<p>Annual road condition surveys by DRBFC</p> <p>Project monitoring reports from MOI</p>	<p><b>Assumption</b></p> <p>The government remains committed to prioritization of upgrading of national roads (and selected subprojects) after elections in mid-2012.</p> <p><b>Risks</b></p> <p>Land acquisition delays the commencement of</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	based work.		civil works. Difficult environment (high rainfall and unstable terrain) delays construction and results in additional costs.
2. A feasibility study and a detailed design for the future upgrading of a priority road link are prepared.	A feasibility study for the road from Manatuto to Natarbora (81 km) is prepared, in accordance with ADB guidelines, and submitted to MOI and ADB by October 2012.  Detailed engineering design and bidding documents are prepared and submitted to MOI and ADB by January 2013.	Project monitoring reports  Consultants reports to MOI and ADB	
3. Performance-based road maintenance contracts are introduced.	By December 2015, at least 50% of national roads receive routine maintenance under a performance-based contract in accordance with DRBFC's annual plan (2011 baseline: 0%).  At least 10 locally based construction companies trained by PMU for road maintenance	Annual road condition surveys by DRBFC      DRBFC road maintenance program annual reports	<b>Assumption</b> Road maintenance is adequately financed by the government.  <b>Risk</b> Insufficient capacity in MOI and through private contractors for implementation of road maintenance
4. Awareness of road safety and transport-related social issues will be increased.	At least 80% of children and 80% of women in roadside communities receive road safety awareness education by 2014  100% of construction workers and at least 80% of roadside inhabitants receive gender and transport security, and HIV/AIDS awareness education by 2014	Records of road safety education delivered to schools maintained by the Ministry of Education  Records of training of construction workers and roadside communities maintained by the Ministry of Health	
5. Efficient project management services are provided.	PMU personnel increased from 5 (2011) to 10 (2012)  All PMU and DRBFC personnel participate in training on social and gender issues.	Employment records maintained by MOI  Training records maintained by MOI	

Activities with Milestones	Inputs		
<b>1. National roads will be upgraded and climate proofed.</b>	<b>ADB: \$40.00 million</b>		
1.1. Supervision consultants are recruited by May 2012.	<table border="1"> <thead> <tr> <th>Item</th> <th>Amount (\$ million)</th> </tr> </thead> </table>	Item	Amount (\$ million)
Item	Amount (\$ million)		
1.2. Land acquisition is completed by June 2012.	Civil works 25.73		
1.3. Civil works are commenced by July 2012.	Consulting services 7.30		
1.4. Civil works are completed by December 2015.	Equipment 0.10		
<b>2. A feasibility study and a detailed design for the future upgrading of a priority road link will be prepared.</b>	Contingencies 6.09		
2.1. A feasibility study of the road from Manatuto will be prepared by October 2012.	Financing charges 0.78		
2.2. Detailed engineering design and bidding documents are completed by January 2013.	<b>Government: \$13.66 million</b>		
<b>3. Performance-based road maintenance contracts will be introduced.</b>	<table border="1"> <thead> <tr> <th>Item</th> <th>Amount (\$ million)</th> </tr> </thead> </table>	Item	Amount (\$ million)
Item	Amount (\$ million)		
3.1. Road maintenance supervisors are appointed by DBRFC by June 2014.	Civil Works 11.38		
3.2. Training for national road maintenance contractors is conducted by PMU by December 2014.	Environmental and social mitigation (resettlement) 0.20		
3.3. Draft road maintenance contracts for at least 50% of the national road network are prepared by December 2014 by PMU.	Contingencies 2.08		
3.4. Road maintenance contracts are progressively introduced on national roads, with 50% covered by December 2015.			
<b>4. Awareness of road safety and transport-related social issues will be increased.</b>			
4.1. Road safety education is delivered to roadside communities by December 2013.			
4.2. HIV/AIDS education program is delivered to all construction workers and to roadside communities by October 2012 (or within 3 months of commencement of any subproject road).			
<b>5. Efficient project management services are provided.</b>			
5.1. Additional staff are recruited to the PMU by June 2012.			
5.2. PMU and DBRFC manage project implementation and monitoring.			
5.3. Prior to construction of any subproject, PMU collects or measures baseline data required by the design and monitoring framework for each subproject.			
5.4. On completion of any subproject, PMU collects or measures baseline data required by the design and monitoring framework for each subproject.			

ADB = Asian Development Bank; DRBFC = Directorate of Roads, Bridges, and Flood Control; km = kilometer; m = meter; MOI = Ministry of Infrastructure; PMU = project management unit; PNTL = Timor-Leste National Police Force.

Source: Asian Development Bank.

## B. Monitoring

95. **Project performance monitoring.** Project performance will be monitored using the targets, indicators, assumptions, and risks in the DMF. Disaggregated baseline data for output and outcome indicators gathered during project processing will be updated and reported quarterly through the implementing agency's quarterly progress reports and after each ADB review mission. These quarterly reports will provide information necessary to update ADB's project performance reporting system.

96. **Compliance monitoring.** Compliance monitoring will be provided through regular quarterly progress reports and during regular ADB review missions.

97. **Safeguards monitoring.** Mitigation measures and monitoring plans will be set out in the environmental management plans (EMPs) for each subproject. The EMPs will be implemented by the civil works contractors as a contractual obligation and the performance in this regard will be monitored by the supervising consultant on a daily basis and reviewed by the PMU's Environmental Management specialist. The PMU and the supervision consultants will ensure that the measures in the EMPs are in place before project commencement and that they are included in any civil works contract and bidding documents financed by the ADB project. The PMU will be responsible for ensuring that the technical and environmental requirements are properly integrated in the detailed design and planning and that they are implemented during construction and operation of the project. Similarly, each sub project will prepare a resettlement plan. The PMU will ensure that all affected persons are appropriately compensated and will report on the implementation of the plan on a quarterly basis. Where resettlement actions are significant, the implementation of such plans will be independently monitored by an NGO or similar.

98. **Gender and social dimensions monitoring.** The PMU will implement and monitor the project GAP, which will encourage employment of women (targeting at least 30% in labor-intensive activities) and local labor. The PMU will ensure that (i) construction labor camps are properly sited and managed, (ii) safe working conditions and equal pay for equal work to women and men workers will be provided, and (iii) no child labor is employed. NGOs or individual consultants will be engaged to deliver the road safety awareness programs and HIV/Aids awareness programs to road side communities. Implementation and monitoring will employ a minimum of 50% women in all non-administrative positions and will ensure 50% participation of women in any community-based group consultations. The government and the PMU will ensure that civil work contracts and bidding documents under the project include specific provisions to comply with the GAP and will monitor and report on the GAP performance indicators, making sure that all project data collected by the project is disaggregated by gender.

## C. Evaluation

99. ADB will review the project every 6 months. Each review will cover institutional, administrative, organizational, technical, environmental, social, poverty reduction, resettlement, economic, financial, and other aspects affecting the performance of the project and its continuing viability. The Government and ADB will jointly undertake a midterm review of the project within about 2 years of its start. The midterm review will focus on (i) project impact, (ii) implementation progress, (iii) the performance of consultants and contractors, (v) the status of compliance with covenants in the grant agreement, and (vi) the need for any midcourse changes in project scope or schedule to ensure full achievement of the intended impact. Within 6 months of physical completion of the project implementing agency will submit a project

completion report to ADB.<sup>10</sup>

## D. Reporting

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

## E. Stakeholder Communication Strategy

Activity	Information	Target stakeholders	Means of communication	Frequency
Sub-project identification and feasibility study	Scope of work and potential impacts	Project beneficiaries including roadside communities	Village meetings arranged by local leaders with the assistance of the district administrators. Facilitated by PMU national safeguard specialists.	During feasibility study
Sub-project detailed design	Scope of work and potential impacts. Implementation schedule, Business opportunities for local enterprises	Project beneficiaries including roadside communities, and road users	Village meetings. Public information document prepared by PMU and translated into local language Local media including newspaper, television and radio	Completion of detailed design
	Scope of work, benefits, implementation schedule, cost	Parliamentarians, civil society	Project information document, government briefing papers prepared by PMU on behalf of MoI	
	Resettlement impacts	Affected persons	Disclosure of Resettlement Framework and Resettlement Plan by MoI on website and at district offices.	
	Environmental impacts	Roadside communities, civil society, responsible government departments	Initial Environment Examination and Environmental Management Plan disclosed on web site and at district offices	
	Gender action plan	Roadside communities, civil society	Web site, District offices	
Procurement	Business opportunities	Civil works contractors, local suppliers of goods and services, community groups	Invitations for bids published on website and in national newspapers by PMU. Information regarding pre bid meetings published in national newspapers and posted at district offices by PMU	During procurement processes
Construction	Business opportunities	Civil works contractors, local suppliers of goods and services,	Contractor encouraged by PMU to maximize use of locally available goods, services and	At construction start up

<sup>10</sup> Project completion report format is available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.



Activity	Information	Target stakeholders	Means of communication	Frequency
	<p>Construction issues (temporary road closures, EMP implementation, etc.)</p> <p>Progress</p>	<p>community groups</p> <p>Roadside communities (Local liaison committees)</p> <p>General public, parliamentarians, concerned government departments</p>	<p>labor through village meetings and close liaison with district administrators</p> <p>Meetings with affected communities advertised at the district office and by radio</p> <p>Radio, TV, newspapers, ADB website. SOTL bulletin</p>	<p>Every two months or more frequently as required</p> <p>Every six months or more frequently as required.</p>

## X. ANTICORRUPTION POLICY

101. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the project.<sup>11</sup> All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the project.<sup>12</sup>

102. To support these efforts, relevant provisions are included in the loan agreement/regulations and grant agreement/regulations and the bidding documents for the project.

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<sup>11</sup> Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>.

<sup>12</sup> ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>.

## XI. ACCOUNTABILITY MECHANISM

103. People who are, or may in the future be, adversely affected by the project may address complaints to ADB, or request the review of ADB's compliance under the Accountability Mechanism.<sup>13</sup>

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<sup>13</sup> For further information see: <http://compliance.adb.org/>.

**XII. RECORD OF PAM CHANGES**