

Facility Administration Manual

Project Number: 47341
Loan Number: LXXXX
February 2014

India: SASEC Road Connectivity Investment
Program

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ABBREVIATIONS

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Facility Administration Manual Purpose and Process

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

The Ministry of Road Transport and Highways (MoRTH), the Manipur Public Works Department (MPWD) and the West Bengal Public Works Department (WBPWD) are wholly responsible for the implementation of ADB financed projects under the investment program, as agreed jointly between the borrower and ADB, and in accordance with Government's and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by MoRTH, MPWD and WBPWD of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At Loan Negotiations the borrower and ADB have agreed to the FAM and ensure consistency with the Framework Financing Agreement (FFA) and the Loan Agreement of the first project. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the FAM and the FFA and the Loan Agreement, the provisions of the Loan Agreement shall prevail.

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

Abbreviations

ADB	=	Asian Development Bank
AFS	=	audited financial statements
DMF	=	design and monitoring framework
EARF	=	environmental assessment and review framework
EIA	=	environmental impact assessment
EMP	=	environmental management plan
EMOP	=	environment monitoring plan
GRM	=	grievance redress mechanism
ICB	=	international competitive bidding
IEE	=	initial environmental examination
IPPF	=	indigenous people planning framework
LIBOR	=	London interbank offered rate
NCB	=	national competitive bidding
PAI	=	project administration instructions
RP	=	resettlement plan
FAM	=	facility administration manual
PIU	=	project implementation unit
QCBS	=	quality- and cost based selection
RRP	=	report and recommendation of the President to the Board
SBD	=	standard bidding documents
SOE	=	statement of expenditure
SPS	=	Safeguard Policy Statement
SPRSS	=	summary poverty reduction and social strategy
TOR	=	terms of reference

I. PROGRAM DESCRIPTION

A. Program's Rationale, Location and Beneficiaries

1. The SASEC Road Connectivity Investment Program (SRCIP) will improve road connectivity and efficiency of the international trade corridor, by expanding about 500km of roads in the North Bengal and Northeastern Region (NB-NER) of India. The project area under SRCIP is a key strategic thoroughfare integrating the regions of South and South East Asia, and bordering the countries of Bangladesh, Bhutan, Myanmar, and Nepal. Improvements in road connectivity in NB-NER will enable efficient and safe transport within India and regionally with other South Asia Subregional Economic Cooperation (SASEC) member countries.¹ Ultimately, SRCIP will pave the way from India and other South Asian countries to Myanmar, and further afield to link with the member countries of the Association of South East Asian Nations (ASEAN).

B. Impact and Outcome

2. The impact will be increased domestic and regional trade with the NB-NER in India serving a regional hub. The outcome will be improved road connectivity and efficiency of the NB-NER international trade corridor.

C. Outputs

3. **Road improvement.** SRCIP will rehabilitate and upgrade about 500 km of regional connectivity roads, which is part of Asian Highways, SAARC Highway Corridors or their alternate routes. It will cover both national highways and state roads. The upgrading will be mainly 2-laning with paved shoulders, together with safety features including construction of flyovers at busy junctions and bypasses for smooth thorough traffic. Some sections will widen to 4 lanes to serve future traffic. Performance-based maintenance will be undertaken for 5 years after the construction. The authority's engineer or the construction supervision consultants will be engaged for EPC contracts and item-rate contracts, respectively, at the contract level. In addition, the implementation support consultant (ISC) will be engaged to support EAs including (i) external monitoring of safeguard implementation, (ii) third-party maintenance quality, (iii) road safety audit, (iii) financial management and (iv) subsequent PFRs submission to ADB.

4. **MPWD capacity development and implementation support.** SRCIP will support capacity development of MPWD, especially in strengthening financial management systems and managing larger contracts with performance-based maintenance, which are not covered under the ongoing capacity development TA. The capacity development under SRCIP will initially focus on the subproject implementation in Manipur, and roll over to the overall state road network systems.

¹ Comprising Bangladesh, Bhutan, India and Nepal.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

AH-2 and AH-48

		Loan Processing	Procurement	Engineer's Authority	Implementation support consultants (MoRTH & MPWD)
2013	Dec	Fact Finding Mission			
		Aide Memoire Confirmation	GPN published		
2014	Jan	ADB Management Review		MoRTH RFP Issuance	Advertisement
	Feb	FFA/Loan negotiations ADB Board Consideration	MoRTH endorsing the standard bid doc (RFQ)		
	Mar		RFQ issuance MoRTH PQ evaluation		RFP and shortlisting approval RFP issuance
	Apr		ADB concurrence RFP issued		
	May				
	Jun		Bid submission		Bid Submission
	Jul		Evaluation of Tech Bids ADB concurrence		Tech Evaluation ADB concurrence
	Aug		Evaluation of Fin Bids ADB concurrence		Overall Ranking ADB concurrence
	Sep		Contract Neg Commencement	Mobilization	Contract Neg Mobilization

PQ = prequalification, RFQ = request for qualification, RFP = request for proposals

Other subprojects

	Loan Processing	Procurement (MoRTH)	Engineer's Authority (MoRTH)	Procurement (MPWD)	Construction Supervision (MPWD)
2013	Nov				
	Dec	Fact Finding Mission Aide Memoire Confirmation			
2014	Jan	ADB Management Review			
	Feb	FFA/Loan negotiations ADB Board Consideration			
	Mar	Tranche 2 Feasibility study	GPN published R&R initiated		Advertisement
	Apr				
	May				
	Jun	Tranche 2 DPR approval	Bid doc approval	Bid doc approval	RFP and shortlisting approval
	Jul	PFR 2 preparation	Call for tender (RFQ)	MoRTH RFP Issuance	Call for tender
	Aug		RFQ submission		RFQ submission
	Sep		MoRTH PQ evaluation		Bid submission Bid Submission
	Oct		ADB approval on PQ RFP issued		Evaluation of Tech Bids ADB concurrence Tech Evaluation ADB concurrence
	Nov	PFR 2 submission			Evaluation of FinBids ADB concurrence Overall Ranking ADB concurrence
	Dec		Bid submission		Contract Neg Commencement Contract neg Mobilization
2015	Jan	ADB Management Review on PFR 2	Evaluation of Tech Bids ADB concurrence		
	Feb		Evaluation of Fin Bids ADB concurrence		
	Mar	PFR 2 Negotiations	Contract Neg Commencement	Mobilization	

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations – Roles and Responsibilities

Project implementation organizations	Management Roles and Responsibilities
Road improvement: national highways	
<ul style="list-style-type: none"> • Executing agency 	<p>Ministry of Road Transport and Highways</p> <ul style="list-style-type: none"> • inter-ministerial coordination • day-to-day subproject management • sector development implementation • consultant recruitment and procurement of works • withdrawal applications • project progress reports • maintaining project accounts and complete loan financial records
<ul style="list-style-type: none"> • Implementing agencies (Project implementation units) 	<p>MoRTH with Manipur Public Works (Manipur PIU) West Bengal Public Works Department (West Bengal PIU)</p> <ul style="list-style-type: none"> • implement subprojects as MoRTH agency • inter-departmental coordination • provide counterpart staff and land facilities • report on progress of subprojects
Road improvement: state roads, and capacity development in Manipur	
<ul style="list-style-type: none"> • Executing agency 	<p>Government of Manipur acting through the Manipur Public Works Department</p> <ul style="list-style-type: none"> • interdepartmental coordination • day-to-day subproject management • capacity development implementation • consultant recruitment and procurement of works • withdrawal applications • project progress reports • maintaining project accounts and complete loan financial records
<ul style="list-style-type: none"> • Coordinating Agency 	<p>Ministry of Road Transport and Highways</p> <ul style="list-style-type: none"> • Overall program coordination as the SASEC Transport Working Group representative
<ul style="list-style-type: none"> • ADB 	<ul style="list-style-type: none"> • Monitor and review overall implementation of the project in consultation with the EAs including: the project implementation schedule; actions required in terms of poverty reduction, environmental impacts, and resettlement plans (RPs) if applicable; timeliness of budgetary allocations and counterpart funding; project expenditures; progress with procurement and disbursement; statement of expenditure when applicable; compliance with particular loan covenants; and the likelihood of attaining the project’s immediate development objectives.

B. Key Persons Involved in Implementation

Road improvement: national highways

Executing Agency

Ministry of Road Transport and Highways

Mr. C. K. Varkeyachan
Chief Engineer (P3)
kc.varkeyachan@nic.in

Mr. Sunil Kumar Verma
Chief Engineer (P8)
Sunilkumar.verma@nic.in

Implementing Agency (Project Implementation Unit)

Ministry of Road Transport and Highways

Mr. S.C. Mondal
Project Director

West Bengal Public Works Department

Mr. Nirmal Mondal
Project Director
pdsasec.pwrd@gmail.com

Road improvement: state roads, and capacity development in Manipur

Executing Agency

Manipur Public Works Department

Mr. Y. Joykumar Singh
Project Director (EAP)
pdmanipur@gmail.com

Coordinating Agency

Ministry of Road Transport and Highways

Mr. Niraj Verma
Joint Secretary

ADB

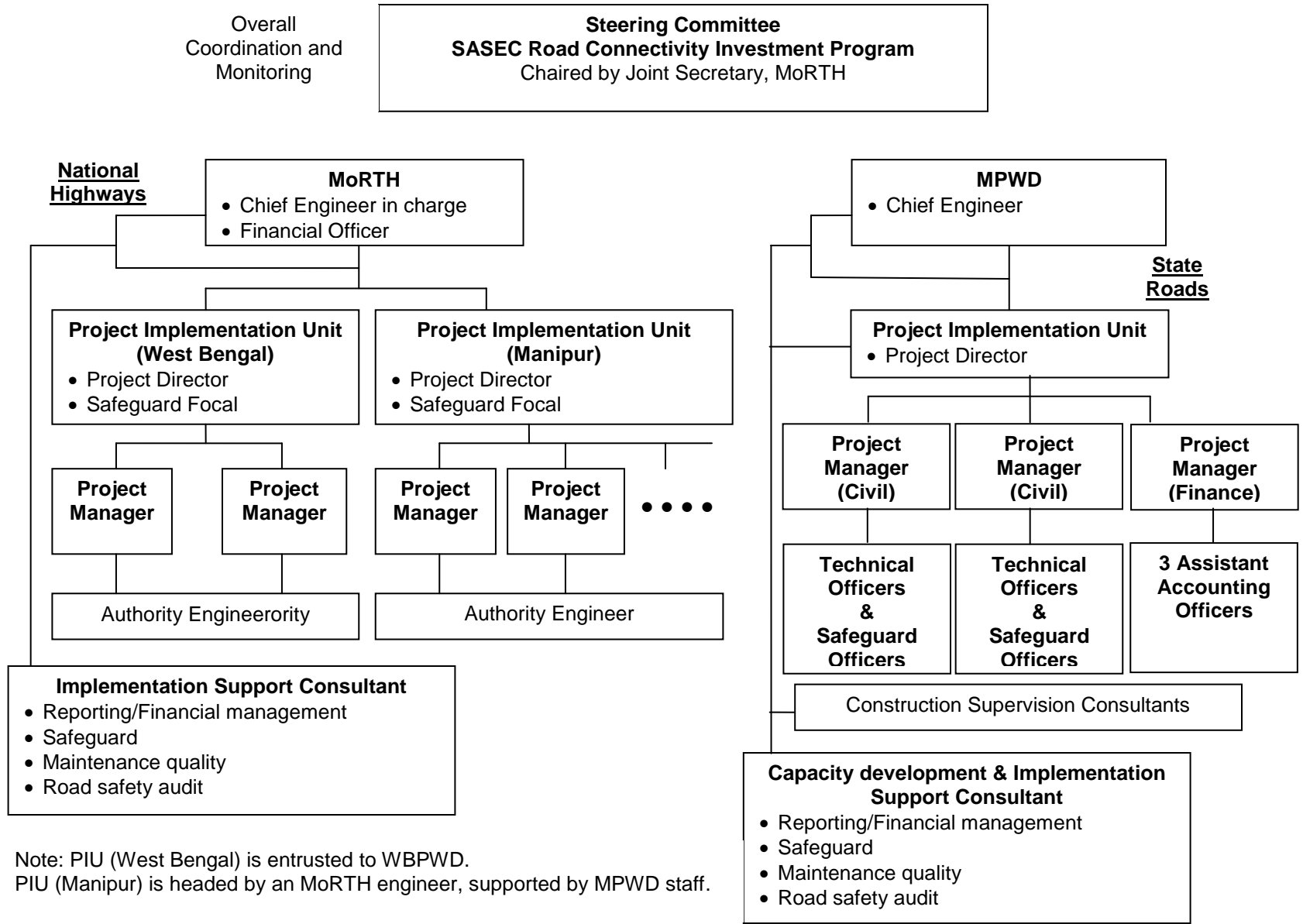
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C. Project Organization Structure



IV. COSTS AND FINANCING

A. Investment and Financing Plans

5. The investment program is estimated to cost **\$761.6 million**, including 5-year performance-based maintenance, taxes and duties, physical and price contingencies, interest and other charges during implementation (Table 1).

Table 1: Investment Program

Source	Amount (\$ million)		
	Tranche 1 (2014)	Tranche 2 (2015)	Total
Base Cost^a			
1. Road Improvement	367.3	265.7	633.0
2. MPWD Capacity Development and Implementation Support	1.0	0.0	1.0
3. 5-Year Performance-based Maintenance	24.1	21.5	45.6
Subtotal (A)	392.4	287.3	679.6
Contingencies^c	23.1	43.2	66.3
Financing Charges During Implementation^d	9.3	6.3	15.6
Total (A+B+C)	424.8	336.8	761.6

^a In 2013 prices, including taxes and duties of about \$88 million to be partially financed from ADB loan resources.

^b Physical contingencies computed at 5% for civil works. Price contingencies computed at 1% for foreign currency and 8% on local currency costs annually; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^c Includes interest and commitment charges. Interest during construction for ADB loan(s) has been computed at the 5-year forward London interbank offered rate plus a spread of 0.5% and applicable maturity based premium of **10 basis points**. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

6. The GoI has requested an MFF in an amount of up to \$500.0 million from ADB's ordinary capital resources to help finance a part of the investment program.² The MFF will consist of several tranches, subject to GoI's submission of related PFRs, execution of the related loan and project agreements for each tranche, and fulfillment of terms and conditions and undertakings set forth in the FFA. **For each tranche under the MFF, MoRTH will receive a portion of the ADB loan proceeds through the budgetary allocation. The state government of Manipur (GoM) will receive 90% of its share of ADB loan as a grant from GoI as Manipur is a special category state.**

7. The financing plan is in Table 2. GoI and GoM will finance the remaining cost of **\$261.6 million equivalent, or about 34.4%** of the total cost, including 5-year performance-based maintenance, land acquisition, part of taxes and duties, remuneration of counterpart staff, office accommodation, interest and financing charges during implementation, and other miscellaneous costs.

² Financing includes part of customs and duties of about \$88 million. The estimated expenditure is not excessive (15% of ADB loan resources) and will apply only with respect to ADB-financed expenditures.

Table 2: Indicative Financing Plan of the Investment Program

Source	Amount (\$ million)			Share of Total (%)
	Tranche 1 (2014)	Tranche 2 (2015)	Total	
A. Asian Development Bank				
Ordinary Capital Resources	300.0	200.0	500.0	65.6%
B. Central Government and Manipur state government	124.8	136.8	261.6 ³	34.4%
Total	424.8	336.8	761.6	100.0%

Source: Asian Development Bank estimates.

³ Including five-year performance-based maintenance, land acquisition, part of taxes and duties, remuneration of counterpart staff, office accommodation, interest and financing charges during implementation, and other miscellaneous costs.

B. Detailed Cost Estimates by Expenditure Category and Financier
(\$ million)

	Total Cost	GoI	GoM	ADB	GoI Share (%)	GoM Share (%)	ADB Share (%)
1. MoRTH (Tranche 1: AH2 & AH48)							
A. Road Construction							
Works	169.3	40.3		129.0	23.8		76.2
Utility shifting	8.1	8.1			100.0		
LA and R&R	18.8	18.8			100.0		
Subtotal (A)	196.2	67.2		129.0	34.2		65.8
B. 5-Year Performance-based Maintenance	16.1	16.1			100.0		
C. Project Management							
Authority's Engineer	5.6	5.6			100.0		
Implementation support	2.0			2.0			100.0
Wildlife external monitoring	0.5			0.5			100.0
Agency Cost	5.6	5.6			100.0		
Subtotal (B)	13.6	11.1		2.5	81.6		18.4
D. Contingencies							
Physical	9.3	2.2		7.1	23.8		76.2
Price	12.4	6.0		6.4	48.6		51.4
Subtotal (C)	21.7	8.2		13.5	38.0		62.0
E. Interest during Construction	5.0	5.0			100.0		
Total (A+B+C+D+E)	252.6	107.6		145.0	42.6		57.4
2. MoRTH (Tranche 2)							
A. Road Construction							
Works	211.7	50.4		161.3	23.8		76.2
Utility shifting	10.1	10.1			100.0		
LA and R&R	23.5	23.5			100.0		
Subtotal (A)	245.3	84.0		161.3	34.2		65.8
B. 5-Year Performance-based Maintenance	20.1	20.1			100.0		
C. Project Management							
Authority's Engineer	7.0	7.0			100.0		
Agency Cost	7.0	7.0			100.0		
Subtotal (B)	13.9	13.9			100.0		
D. Contingencies^o							
Physical	11.6	2.8		8.8	23.8		76.2
Price	16.2	8.3		7.9	51.0		49.0
Subtotal (C)	27.8	11.0		16.8	39.7		60.3
E. Interest during Construction	5.3	5.3			100.0		
Total (A+B+C+D+E)	312.4	134.3		178.0	43.0		57.0
3. MoRTH (Tranche 1&2)							
A. Road Construction	441.5	151.2		290.3	34.2		65.8
B. 5-Year Performance-based Maintenance	36.2	36.2		0.0	100.0		
C. Project Management	27.5	25.0		2.5	90.9		9.1
D. Contingencies^o	49.5	19.3		30.2	38.9		61.1
E. Interest during Construction	10.3	10.3		0.0	100.0		
Total (A+B+C+D)	565.0	242.0		323.0	42.8		57.2

(Table continues next page)

B. Detailed Cost Estimates by Expenditure Category and Financier (Continued)
(\$ million)

4. Manipur PWD (Tranche 1)							
A. Road Construction							
Works	144.1			144.1			100.0
Utility shifting	0.3		0.3			100.0	0.0
LA and R&R [a]	7.5		3.8	3.8		50.0	50.0
Subtotal (A)	151.9		4.1	147.9		2.7	97.3
B. 5-Year Performance-based Maintenance							
	8.0		8.0				
C. Project Management							
Design consultants	0.5		0.5			100.0	0.0
Construction and PBM Supervision	5.1			5.1			100.0
Implementation Support & Capacity Development	1.0			1.0			100.0
Subtotal (B)	6.6		0.5	6.1		6.9	93.1
D. Contingencies							
Physical	1.0		0.0	1.0			100.0
Price	0.4		0.4	0.0		100.0	0.0
Subtotal (C)	1.4		0.4	1.0		28.6	71.4
E. Interest during Construction							
	4.3		4.3	0.0		100.0	0.0
Total (A+B+C+D+E)	172.2		17.2	155.0		10.0	90.0
5. Manipur PWD (Tranche 2)							
A. Road Construction							
Works	6.6			6.6			100.0
Utility shifting							
LA and R&R							
Subtotal (A)	6.6			6.6			100.0
B. 5-Year Performance-based Maintenance							
	1.4		1.4			100.0	
C. Project Management							
D. Contingencies							
Physical	7.0			7.0			100.0
Price	8.5			8.5			100.0
Subtotal (C)	15.5			15.5			100.0
E. Interest during Construction							
	1.0		1.0			100.0	0.0
Total (A+B+C+D+E)	24.5		2.4	22.0		10.0	90.0
6. Manipur PWD (Tranche 1 & 2)							
A. Road Construction	158.5		4.1	154.4		2.6	97.4
B. 5-Year Performance-based Maintenance	9.4		9.4			100.0	0.0
C. Project Management	6.6		0.5	6.1		6.9	93.1
D. Contingencies^a	16.9		0.4	16.5		2.4	97.6
E. Interest during Construction	5.3		5.3			100.0	0.0
Total (A+B+C+D+E)	196.6		19.6	177.0		10.0	90.0
7. Total (MoRTH and Manipur PWD)							
A. Road Construction	599.9	151.2	4.1	444.7	25.2	0.7	74.1
B. 5-Year Performance-based Maintenance	45.6	36.2	9.4	0.0	79.3	20.7	0.0
C. Project Management	34.1	25.0	0.5	8.6	73.4	1.3	25.2
D. Contingencies^a	66.3	19.3	0.4	46.7	29.0	0.6	70.4
E. Interest during Construction	15.6	10.3	5.3	0.0	66.1	33.9	0.0
Total (A+B+C+D+E)	761.6	242.0	19.6	500.0	31.8	2.6	65.6

- a) ADB financing for LA and R&R in Manipur is limited to the works related to resettlement and no land acquisition and resettlement compensation will be financed by ADB, and such works will be included in civil work contracts to be 100% financed by ADB.

Note: The estimate includes tax and duties at about \$63 million for MoRTH and \$25 million for Manipur PWD, to be partially financed by ADB loan resources.

The conversion rate used is \$1 = Rs61.

C. Detailed Financial Projection

(\$ million)

	Total Cost	2014	2015	2016	2017	2018	2019	2020	2021	2022
1. MoRTH (Tranche 1: AH2 & AH48)										
A. Road Construction										
Works	169.3	16.9	33.86	50.8	67.7					
Utility shifting	8.1	6.5	1.6							
LA and R&R	18.8	18.8								
Subtotal (A)	196.2	42.2	35.5	50.8	67.7					
B. 5-Year Performance-based Maintenance	16.1					2.5	3.4	3.4	3.4	3.4
C. Project Management										
Authority's Engineer	5.6	1.1	1.1	1.1	1.1	0.2	0.2	0.2	0.2	0.2
Implementation support	2.0	0.4	0.4	0.4	0.4	0.4				
Wildlife External Monitoring	0.5	0.1	0.1	0.1	0.1	0.1	0.1			
Agency Cost	5.6	1.1	1.1	1.1	1.1	0.2	0.2	0.2	0.2	0.2
Subtotal (B)	13.6	2.7	2.7	2.7	2.7	0.9	0.5	0.4	0.4	0.4
D. Contingencies										
Physical	9.3		2.0	2.0	2.0	0.5	0.5	0.5	0.5	1.3
Price	12.4		3.7	3.7	3.7	0.2	0.2	0.2	0.3	0.3
Subtotal (C)	21.7		5.7	5.7	5.7	0.7	0.7	0.7	0.8	1.6
E. Interest during Construction	5.0		0.2	0.7	4.1					
Total (A+B+C+D+E)	252.6	44.9	44.1	59.9	80.3	4.2	4.6	4.5	4.6	5.4
2. MoRTH (Tranche 2)										
A. Road Construction										
Works	211.7		63.5	63.5	84.7					
Utility shifting	10.1		8.1	2.0						
LA and R&R	23.5	18.8	4.7							
Subtotal (A)	245.3	18.8	76.3	65.5	84.7					
B. 5-Year Performance-based Maintenance	20.1					4.2	4.2	4.2	4.2	4.2
C. Project Management										
Authority's Engineer	7.0	1.6	1.6	1.6	1.6	0.1	0.1	0.1	0.1	0.1
Agency Cost	7.0	1.6	1.6	1.6	1.6	0.1	0.1	0.1	0.1	0.1
Subtotal (B)	13.9	3.1	3.1	3.1	3.1	0.3	0.3	0.3	0.3	0.3
D. Contingencies^o										
Physical	11.6			4.5	4.5	0.5	0.5	0.5	0.5	0.5
Price	16.2			7.0	7.0	0.4	0.4	0.4	0.4	0.4
Subtotal (C)	27.8			11.5	11.5	0.9	0.9	0.9	0.9	0.9
E. Interest during Construction	5.3		0.2	0.8	4.3					
Total (A+B+C+D+E)	312.4	22.0	79.6	81.0	103.7	5.4	5.4	5.4	5.4	5.4
3. MoRTH (Tranche 1&2)										
A. Road Construction	441.5	61.0	111.8	116.3	152.4	0.0	0.0	0.0	0.0	0.0
B. 5-Year Performance-based Maintenance	36.2	0.0	0.0	0.0	0.0	6.8	7.6	7.6	7.6	7.6
C. Project Management	27.5	5.9	5.9	5.9	5.9	1.2	0.8	0.7	0.7	0.7
D. Contingencies^o	49.5	0.0	5.7	17.3	17.3	1.6	1.6	1.6	1.7	2.5
E. Interest during Construction	10.3	0.0	0.4	1.5	8.4	0.0	0.0	0.0	0.0	0.0
Total (A+B+C+D)	565.0	66.9	123.7	140.9	183.9	9.6	10.1	10.0	10.1	10.8
4. Manipur PWD										
A. Road Construction										
Works	150.7		45.2	45.2	60.3					
Utility shifting	0.3		0.2	0.1						
LA and R&R	7.5	2.0	5.5							
Subtotal (A)	158.5	2.0	50.9	45.3	60.3					
B. 5-Year Performance-based Maintenance	9.4					1.1	1.5	1.9	2.3	2.6
C. Project Management										
Design consultants	0.45	0.45								
Construction and PBM Supervision	5.1		1.5	1.5	1.5	0.1	0.1	0.1	0.1	0.1
Implementation Support & Capacity Development	1	0.2	0.2	0.2	0.2	0.2				
Subtotal (B)	6.6	0.7	1.7	1.7	1.7	0.3	0.1	0.1	0.1	0.1
D. Contingencies										
Physical	8.0			4.0	4.0					
Price	8.9			4.0	4.0	0.1	0.2	0.2	0.2	0.2
Subtotal (C)	16.9			8.0	8.0	0.1	0.2	0.2	0.2	0.2
E. Interest during Construction	5.3		0.2	0.9	4.2					
Total (A+B+C+D+E)	196.6	2.7	52.8	55.9	74.2	1.5	1.8	2.2	2.6	3.0
5. Total										
A. Road Construction	599.9	63.0	162.7	161.6	212.6	0.0	0.0	0.0	0.0	0.0
B. 5-Year Performance-based Maintenance	45.6	0.0	0.0	0.0	0.0	7.9	9.1	9.5	9.9	10.3
C. Project Management	34.1	6.5	7.6	7.6	7.6	1.5	0.9	0.8	0.8	0.8
D. Contingencies^o	66.3	0.0	5.7	25.3	25.3	1.7	1.8	1.8	1.9	2.7
E. Interest during Construction	15.6	0.0	0.6	2.4	12.6	0.0	0.0	0.0	0.0	0.0
Total (A+B+C+D+E)	761.6	69.5	176.6	196.8	258.1	11.1	11.9	12.2	12.6	13.8

D. Allocation and Withdrawal of Tranche 1

8. **First tranche.** The total cost of the tranche is estimated at \$300 million, inclusive of 5-year performance-based maintenance, taxes, duties, and financing charges on the loan during construction (Table 4).

Table 4. Detailed Cost Estimates and Financing Plan for Tranche 1

	Total Cost [a]	GoI	GoM	ADB	ADB Share (%)
1. MoRTH (Tranche 1: AH2 & AH48)					
A. Road Construction					
Works	169.3	40.3		129.0	76.2
Utility shifting	8.1	8.1			
LA and R&R	18.8	18.8			
Subtotal (A)	196.2	67.2		129.0	65.8
B. 5-Year Performance-based Maintenance	16.1	16.1			
C. Project Management [b]					
Authority's Engineer	5.6	5.6			
Implementation support	2.0			2.0	100.0
Wildlife external monitoring	0.5			0.5	100.0
Agency Cost	5.6	5.6			
Subtotal (C)	13.6	11.1		2.5	18.4
D. Contingencies [c]					
Physical	9.3	2.2		7.1	76.2
Price	12.4	6.0		6.4	51.8
Subtotal (D)	21.7	8.2		13.5	62.2
E. Interest during Construction[d]	5.0	5.0			
Total (A+B+C+D+E)	252.6	107.6		145.0	57.4
2. Manipur PWD (Tranche 1)					
A. Road Construction					
Works	144.1			144.1	100.0
Utility shifting	0.3		0.3		
LA and R&R [e]	7.5		3.8	3.8	50.0
Subtotal (A)	151.9		4.1	147.9	97.3
B. 5-Year Performance-based Maintenance	8.0		8.0		
C. Project Management					
Design consultants	0.5		0.5		
Construction and PBM Supervision	5.1			5.1	100.0
Implementation Support & Capacity Development	1.0			1.0	100.0
Subtotal (B)	6.6		0.5	6.1	93.1
D. Contingencies					
Physical	1.0			1.0	100.0
Price	0.4		0.4		
Subtotal (C)	1.4		0.4	1.0	71.4
E. Interest during Construction	4.3		4.3		
Total (A+B+C+D+E)	172.2		17.2	155.0	90.0
3. Total [a]					
A. Road Construction	348.1	67.2	4.1	276.9	79.5
B. 5-Year Performance-based Maintenance	24.1	16.1	8.0		
C. Project Management [b]	20.2	11.1	0.5	8.6	42.6
D. Contingencies [c]	23.1	8.2	0.4	14.5	62.7
E. Interest during Construction [d]	9.3	5.0	4.3		
Total (A+B+C+D+E)	424.8	107.6	17.2	300.0	70.6

^a In 2013 prices, including taxes and duties of about \$60 million to be partially financed from ADB loan resources.

^b The cost estimate of consulting services include contingencies.

^c Physical contingencies computed at 5% for civil works. Price contingencies computed at 8% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d Includes interest and commitment charges. Interest during construction for ADB loan(s) has been computed at the 5-year forward London interbank offered rate plus a spread of 0.5% and applicable maturity based premium of **10 basis points**. Commitment charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

^e ADB financing for LA and R&R in Manipur is limited to the works related to resettlement and no land acquisition and resettlement compensation will be financed by ADB, and such works will be included in civil work contracts to be 100% financed by ADB.

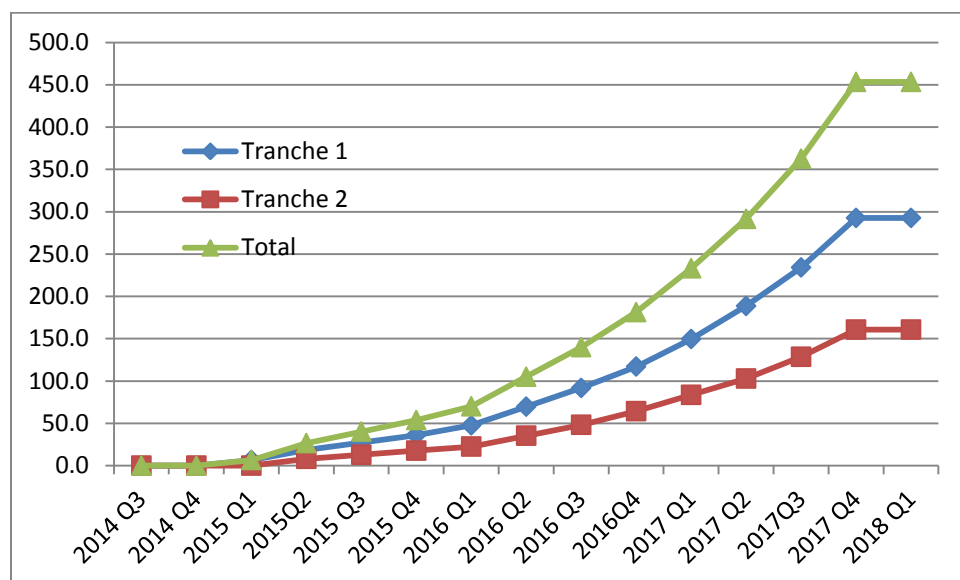
Source: Asian Development Bank estimates.

E. Allocation and Withdrawal of Loan Proceeds

Table 5. ADB Ordinary Capital Resources Loan (OCR Loan) for Tranche 1

CATEGORY				ADB FINANCING
Number	Item	Amount Allocated (\$ million)		Percentage and Basis for Withdrawal From the Loan Account
		Category	Subcategory	
1	Works	276.9		
1A	MoRTH		129.0	76.2 percent of total expenditure
1B	Manipur		147.9	100 percent of total expenditure
2	Consulting Services	8.6		
2A	MoRTH		2.5	100 percent of total expenditure
2B	Manipur		6.1	100 percent of total expenditure
3	Unallocated	14.5		
	Total	300.0		

F. Contract and Disbursement S-curve



Excluding the period of performance-based maintenance, which is 100% financed by the governments.

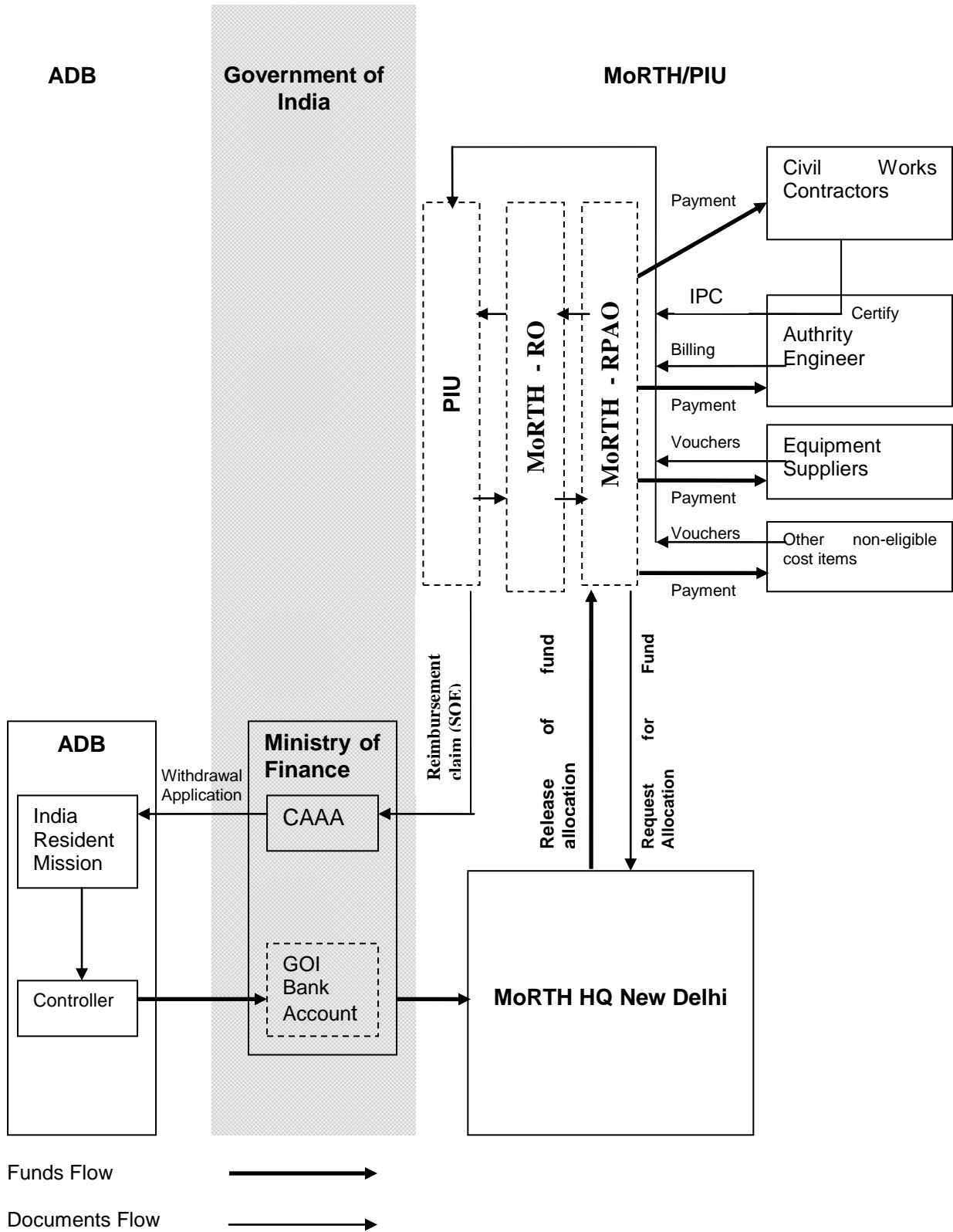
G. Fund Flow Diagram

9. For the national highway subprojects, the MoRTH Regional Office (RO) at Guwahati and Kolkata will be acting as administrative authority of MoRTH and Regional Pay and Accounts Office (RPAO) at Guwahati and Kolkata will act as the payment authority for the projects under the investment program. MoRTH will allocate necessary funds to the MoRTH RPAO in Guwahati and Kolkata. For the eligible ADB loan portion, RPAO Guwahati and Kolkata will prepare withdrawal applications and send them to Gol for reimbursement from ADB. The fund release from MoRTH to RPAO is through budgetary allocation in accordance with internal rules and regulations of MoRTH. All payments for expenditure incurred on project works will be centralized at the concerned RPAO. Bills in respect of works and invoices will be approved by the concerned Project Implementation Units and submitted to the concerned RO of MoRTH, which, after due verification, will forward them to the RPAO. RPAO will make payments directly to the concerned contractor, consultant and/or supplier.

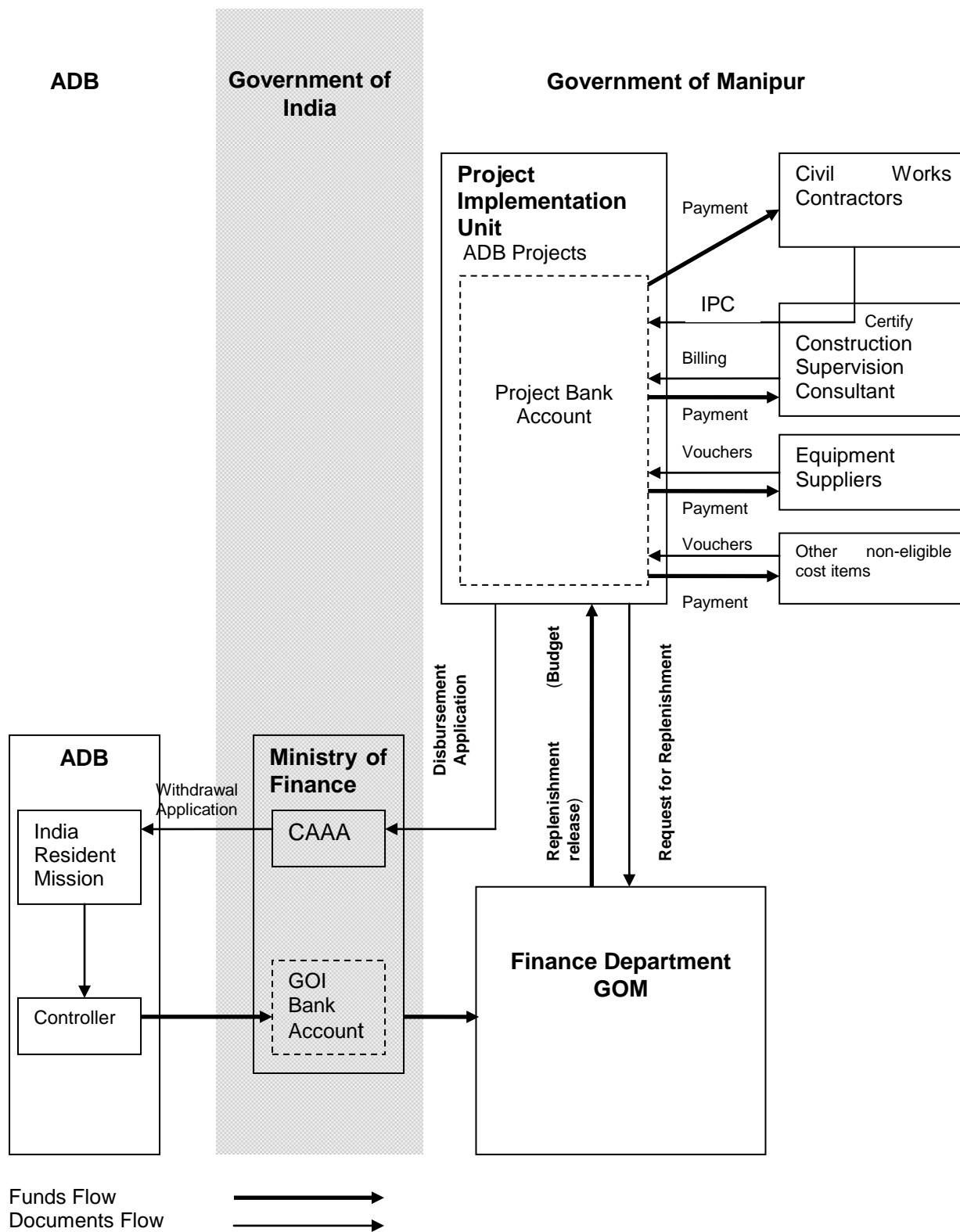
10. The funds flow of ADB loan proceeds for state road subprojects in Manipur will follow the reimbursement procedure of ADB. After the Finance Department of Manipur government releases the budget to PWD, PIU in PWD will make payments to the concerned contractor, consultant and/or supplier and prepare the withdrawal applications to be sent to the Ministry of Finance with necessary supporting documents. The fund released from ADB will be credited to the designated account of Gol.

11. Fund flow diagrams, as illustrated below, show how the funds will flow from ADB, and the Government to implement project activities.

Fund flow diagram for National Highway Subprojects:



Fund flow diagram for State Roads Subprojects in Manipur:



V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

12. The financial management assessment (FMA) was conducted in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects and Financial Due Diligence: a Methodology Note, and Technical Guidance Notes.⁴ The FMA assessed that the capacity is adequate in project financial accounting and in ADB disbursement procedures for the two Executing Agencies (EAs); Ministry of Road Transport and Highways (MoRTH) for national highways subprojects and Manipur Public Works Department (MPWD) for state roads subprojects. The MoRTH has the established financial management systems in the Regional Offices (RO), Regional Pay and Accounts Offices (RPAO) to account for and report on the project expenditure. A Project Financial Management Manual is being introduced and implemented by MoRTH with the assistance of the World Bank for further improving the financial management capacity, which will be followed by MoRTH at Central level and Regional Offices. MPWD follows Government Accounting System which is a cash based single entry system. MPWD's financial management capacity could be further enhanced through the computerization of the system and the establishment of auditor's report review mechanisms, which will be supported by the capacity development and implementation support consultant to be recruited under the investment program.

B. Disbursement

13. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2012, as amended from time to time),⁵ and detailed arrangements agreed upon between the GoI and ADB.

14. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS),⁶ ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of SPS.

15. Reimbursement procedure will be used for civil works, consulting services and equipment. The Statement of Expenditures (SOE) procedure will be used to reimburse eligible expenditures not exceeding \$100,000 equivalent per individual payment. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. ADB's imprest account procedure will not be used for projects under the investment program.

16. MoRTH for national highways and MPWD for state roads will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB through CAAA. Before the submission of the first withdrawal application, the Government shall 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. Individual payments below this amount

⁴ Available at: <http://www.adb.org/Documents/Others/FM-toolkit/Methodology-Note.pdf>, and Financial Management. See also Analysis of Projects Guidelines (2005): <http://www.adb.org/Documents/Guidelines/Financial/default.asp>.

⁵ Available at: http://www.adb.org/Documents/Handbooks/Loan_Disbursement/loan-disbursement-final.pdf

⁶ Available at: <http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf>

should generally be paid by the executing/implementing agencies and subsequently claimed to ADB through reimbursement. ADB reserves the right not to accept WAs below the minimum amount, or unless otherwise specified.

17. All disbursements under government financing will be carried out in accordance with regulations of the GoI and those of state governments of Manipur and West Bengal.

C. Accounting

18. The MoRTH for national highways and MPWD for state roads will maintain separate project accounts and records by funding source for all expenditures incurred on the Project.

D. Auditing

19. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for audit by C&AG.

20. The annual audit report for the project financial statements will include an audit opinions which cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether loan proceeds were used only for the purposes of the project or not; (iii) the level of compliance for each financial covenant contained in the legal agreements for the project; and (iv) the statement of expenditure procedure is used in accordance with the ADB's Loan Disbursement Handbook. If a management letter is prepared by the auditor, this shall also be submitted to ADB.

21. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

22. To ensure the timely submission of audited project financial statements, EAs shall formally request the CAG to include audits of subprojects under the investment program in their yearly work plan through the DEA. Unaudited project financial statements should be submitted to CAG for audit within 3 months of the end of the fiscal year.

23. The Government and EAs have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.⁷ ADB reserves the right to require an addition in the auditor as mutually agreed with the borrower, if the audits required are not conducted in a manner satisfactory to

⁷ ADB Policy on delayed submission of audited project financial statements:

- When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- When audited project financial statements have not been received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (i) inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next six months.
- When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.

ADB, or if the audits are substantially delayed. 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.

24. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011)⁸. After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The Audit Management Letter will not be disclosed.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

25. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines (2013, as amended from time to time) (ADB's *Procurement Guidelines*)⁹ and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time) (ADB's *Guidelines on the Use of Consultants*).¹⁰ The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, Ministry of Road Transport and Highways (MoRTH) and Manipur Public Works Department (MPWD) have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the investment program.

26. **Advance contracting.** MoRTH and MPWD have requested advance action for procurement of works to expedite the consultant selection process, including finalization of the request for proposal; and the tender process of works, including preparation of the bidding documents for civil works and call for tender.

27. **Retroactive financing.** MoRTH and MPWD have requested approval for retroactive financing. If approved by the ADB Board, up to 20% of the amount of the loan proceeds (for the first tranche \$ 30 million, 20% of the first tranche of \$150 million) will be eligible for retroactive financing, provided that expenditures are incurred on works, equipment, and consulting services for the investment program in accordance with agreed procedures and during the 12 months before the signing of the loan and project agreements for each PFR.

B. Procurement of Goods, Works and Consulting Services

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

29. MoRTH, MPWD, and ADB have discussed procurement packages and procedures and understood that the proposed MFF does not involve national competitive bidding (NCB). The procurement plan should be updated whenever change in the procurement arrangements is required and agreed.

30. MoRTH has proposed to use the Engineering, Procurement, and Construction (EPC) modality for all projects, in line with the Government of India's mandated requirement for

⁸ Available from <http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

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

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

national highways. For this purpose, MORTH has proposed the use of the standard EPC contract documents approved by the Government of India, for national highways. ADB will review these documents and modify them, by way of a corrigendum/ addendum, as required for use under ADB loan.

31. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages is in **Attachment A (Procurement Plan)**. The Implementation Support Consultant (ISC) will be recruited according to ADB's Guidelines on the Use of Consultants.¹¹ The terms of reference for ISC for MoRTH are detailed in **Attachment B**, while **Attachment C** covers ISC including capacity development for MPWD and **Attachment D** covers the terms of reference for construction supervision consultants (CSC) for MPWD roads. For EPC contracts under MoRTH, MoRTH will recruit the consultants for project management (called 'Authority's Engineer') under the terms of reference as given in the standard EPC contract document of Government of India. MoRTH will budget for and fund payments for such consultants. An agency for external monitoring on wildlife conservation activities will also be engaged during construction and initial operation periods (**Attachment E**).

32. Procurement activities under MoRTH and MPWD will be the responsibility of the Chief Engineer, MoRTH and MPWD who will be supported by the staff and consultants. ADB will closely monitor all major project implementation activities. Contracts for civil works will comprise about **8** international competitive bidding (ICB) packages. All contracts for civil works and goods will be procured in accordance with ADB's Procurement Guidelines. ADB's standard bidding documents will be used in all cases, except for national highway packages under MoRTH, where the standard EPC contract documents approved by the Government of India, for national highways will be used, modified appropriately by way of a corrigendum/addendum, as required for use under ADB loan.

33. Separate firms of international consultants in association with national consultants (subject to DEA guidelines) will support MoRTH and MPWD to implement the project by (i) monitoring the implementation of safeguards in accordance with ADB's Safeguard Policy Statement; (ii) enhancing road safety measures; (iii) assisting MoRTH/ MPWD in preparing a financial management system, including preparing financial statements; (iii) preparing the monthly and quarterly reports as required for management of the project and reporting to ADB; (iv) provide proper monitoring of the funds available, fund flows within the project, disbursements of funds from the loan account, projections of future financial needs; (v) scheduling the project implementation and establishing project schedules with milestones and critical path analysis based on international best practice; (vi) advise the MoRTH/MPWD on any potential issues and coordinate within the project or third parties as necessary, and (vii) prepare the reports and documentation needed for the MoRTH/ MPWD to submit the subsequent PFRs to ADB to secure funding of later tranches. For MPWD, training/workshops will also be provided to MPWD staff in project management including safeguard implementation.

34. The person-month inputs of international consultants and national consultants are given in the relevant sections of the respective terms of reference in Attachments. The consulting firm will be engaged using the quality-and cost-based selection (QCBS) method (full technical proposal) with a quality: cost ratio of 90:10. MORTH will engage the project management consultants for the EPC contracts ("Authority's Engineer") by its own financing. For MPWD, construction supervision consultants will be recruited and funded out of loan proceeds.

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

C. Procurement Plan

35. The procurement plan is in **Attachment A** and describes all procurement of good and works to be undertaken for the Project based on the Procurement Capacity Assessment undertaken separately for MoRTH and MPWD.

D. Consultant's Terms of Reference

36. The consultant's terms of reference are provided in the following:

Implementation Support Consultants for MoRTH:	Attachment B
Implementation Support Consultants for MPWD:	Attachment C
Construction Supervision Consultant for MPWD:	Attachment D
External Monitoring on Wildlife Conservation Activities	Attachment E

VII. SAFEGUARDS

A. Social Safeguard

37. **Involuntary Resettlement.** The policy framework and entitlements for the Program are based on national laws: The Land Acquisition Act, 1894 (LAA, amended in 1984), the National Highways Act, 1956, the National Rehabilitation and Resettlement Policy, 2007 (NRRP); State laws and regulations and ADB's SPS, 2009. Provisions for land acquisition in the tribal areas are included below in case land will be required for the project in tribal areas. Further, the new act, 'The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013' became effective during project processing and prior to the implementation of the investment program. The act provides for transparent process and fair compensation to land owners and those affected by land acquisition, for land acquired for public purpose. In determining market price, (Sec 26 read with 1st Schedule) the land owner in urban area will get twice, due to the 100% solatium and in rural area, the multiplying factor is 1 to 2 depending on distance from nearest urban centre, to be notified by appropriate government, and then 100% solatium. Sec 40 (2) restricting use of emergency clause to defense, national security and natural calamities. For other requirement, parliamentary approval is required for invoking emergency clause. Addition 75% compensation to be provided if emergency clause is invoked.

38. The Central Government has notified January 01, 2014 as the effective date of the act, in accordance with Sec 1(3) of LARR. The existing National Highways Act (NH Act) and other Acts specified in the Fourth Schedule of LARR will have 1 year to adopt the; (i) compensation for land owners (First Schedule); (ii) rehabilitation and resettlement entitlements (Second Schedule); and (iii) provision of infrastructure amenities (Third Schedule). If the changes in the NH Act are notified prior to the RP implementation, the MoRTH and WBPWD will have the RF and RP revised in accordance with the provisions of modified NH Act.

39. The Draft Rules framed by Ministry of Rural Development, Gol is under review and is expected to be notified.. Upon such notification the respective State Governments are expected to enact and adopt the LARR, frame rules and constitute the various committees envisaged under LARR. If the enactment and adoption of the LARR and the rules for the same are notified by state government, prior to RP implementation, the RF and RP will revised by MoRTH and MPWD in accordance with the new act.

40. The first tranche is categorized as “A” in accordance to ADB SPS. Two combined resettlement plans and indigenous peoples plans (RP) have been prepared for AH-02 and AH-48.

41. Details of compensation rates for the loss of land and structures, shifting assistance, income restoration assistance, and additional support provisions for the vulnerable groups are provided in the resettlement framework (RF) prepared for the investment program and also in the RPs. Meaningful consultation and information disclosure during the preparation of RPs with the project displaced persons including land acquisition and compensation process and to general public through the ADB website were undertaken. If during implementation of the facility, any modification or additional land requirement or involuntary resettlement impacts are identified, a related RP will be prepared or modified in accordance with the applicable laws referred to in the RP, and prior approval of the ADB will be obtained before any further implementation of the relevant section of the subproject. A RP will be prepared for subsequent subprojects with resettlement impact.

42. EA through PIU will (i) implement the subprojects in accordance with the resettlement framework, resettlement plans prepared; (ii) provide semiannual progress reports on the implementation of the resettlement plans; (iii) ensure that all displaced persons should be paid compensation and assistance prior to the commencement of the civil works and in accordance with the RPs, (iv) ensure that the land should be made free of encumbrances and obstructions from the related section required to be handed over to the civil works contractor for and prior to commencement of construction thereof in accordance with the work schedule under the related civil works contract, and (v) establish efficient grievance redressal mechanism in accordance with the related RP to assist affected persons to resolve grievances and complaints if any in a timely manner.

43. **Impact on indigenous peoples.** Tranche 1 is categorized as “C” per ADB SPS. Two combined resettlement plans and indigenous peoples plans have been prepared for AH-02 and AH-48. An indigenous peoples planning framework was prepared for the investment program. In accordance with the framework, if any significant impacts on indigenous people are identified in the subsequent subprojects, the relevant EA will prepare an indigenous peoples plan and submit it to ADB for approval before award of related civil works contract and implemented before commencement of the relevant section of the civil works contract as applicable. Any update of IPP during implementation shall follow requirements similar to the RPs as described for involuntary resettlement.

B. Environment Safeguard

44. **Environmental assessment.** In accordance with the ADB SPS, tranche I has been categorized as A for environment safeguards as one of the two highways pass through a National Park and cross wildlife migratory routes. A combined Environmental Impact Assessment (EIA) report has been prepared for AH-02 and AH-48. The EIA includes an Environmental Management Plan (EMP) and an Environmental Monitoring Plan (EMOP). An Environmental Assessment and Review Framework (EARF) has been prepared to guide environmental assessment of succeeding tranche’s under the program. Categorization and assessments for succeeding tranche’s will be carried out in accordance with the requirements of the EARF, Ministry of Environment and Forests (MOEF) of the Government of India (GOI) and ADB SPS.

45. **Ensuring Implementation of Environmental Standards.** The EA and IA will ensure that all environment safeguard requirements under the program will be implemented as required by the EARF and respective EIA or IEE including EMP and EMOP. The EMP and EMOP with detailed budget estimates for tranche I roads are given in EIA report. Since AH-02 and AH-48 are following the Engineering Procurement and Construction (EPC) modality the final detailed design will be prepared by the contractor. Hence, updating of the EMP and EMOP where necessary as well as implementation of the EMP and EMOP during construction will be included under the contractor's tasks. For succeeding subprojects following EPC modality similar requirements will be made for the contractor. For cases where the contract awards are based on other modalities such as item rates, necessary clauses on environment safeguards will be included in the main text of the contract documents and the EMP matrix from the final EIA or Initial Environmental Examination (IEE) report will be attached to the bidding documents. Hence, the contractor will be required to include the costs for implementing the environmental clauses and EMP in their bid.

46. The EMP is a plan for mitigating all anticipated environment impacts during project construction and operation. Specific mitigation measures with details on location, time and responsible agency for implementation is given in the EMP. Mitigation measures for implementation during the construction stage is implemented by the contractor and during operation stage by the EA and IA or PIU.

47. As mentioned in the EARF, for the case of environment category A and B tranche's, an external monitoring agency, such as a consultancy firm or NGO etc. for conducting third party monitoring on implementation of environment safeguards will be recruited. For the case of tranche I, an external monitoring agency will be recruited to provide technical guidance and monitor implementation of environment safeguard activities during road construction and their effectiveness during road operation for at least three years.

48. The EMOP is a plan for monitoring various environment quality parameters and checking the effectiveness of the EMP. It comprises of activities on testing the quality of air, water, noise through laboratory tests and physical monitoring of problems of soil erosion, tree plantations and habitat enhancement activities carried out and occupational health and safety issues. Quality testing of air, water and noise will be outsourced by the contractor to recognized and approved laboratories, while physical monitoring activities will be carried out by the ISC and external monitoring agency where applicable.

49. All required clearances such as the environmental clearance, forestry clearance for diversion of forest land, No Objection letters from Wildlife agencies etc. must be obtained by the PIU before start of construction works in the respective road sections. Permits, certificates, No objection letters etc. for activities such as operation of hot mix plants, operation of equipment and machinery, sourcing of ground water etc. must be obtained by the contractor before the implementation of the respective construction activity.

C. Grievance Redress Mechanism.

50. The project specific grievance redress mechanism will be established to receive, and facilitate the resolution of displaced people's concerns, complaints and grievances about the social and environmental performance at the project level. The GRM will aim to provide a time bound and transparent mechanism to voice and resolve social and environmental concerns linked with the project. The project specific GRM is not intended to bypass the government's own redress process, rather it is intended to address project affected people's concerns and

complaints promptly, making it readily accessible to all segments of affected persons and is scaled to the risks and impacts of the project. Hence, depending on the nature and significance of the grievances or complaints, the GRM will comprise procedures to address grievances at the project site level, IA level, EA level and the Grievance Redress Committee (GRC). Most serious complaints which cannot be addressed at the EA level will be forwarded to the respective GRC.

D. Monitoring and Reporting

51. Implementation of the EMP, RP, IPP, and social mitigation measures will be monitored internally by the PIU, and externally by the ISC.

52. **Environment Safeguard Monitoring.** For environment safeguards records on implementation of the mitigation measures on site will be maintained by the contractor. Based on these records and spot checks of at least once a month by the PIU and ISC, monitoring reports will be compiled on a quarterly basis. These quarterly monitoring reports will further be compiled into a semi-annual reports for category A tranche's and annual monitoring report for category B tranche's to be submitted to ADB for disclosure on the ADB website. If there are any changes in the design or alignment, the EMP of the respective sub-project will be updated to account for any additional or new environmental impacts. Further the need for revising the respective EIA or IEE report will also be reviewed and confirmed in discussion with ADB.

53. **Social Safeguard Monitoring.** The internal monitor will be responsible for overall internal monitoring and evaluation of the project progress for resettlement implementation. The internal monitor will monitor and verify RP implementation to determine whether resettlement goals have been achieved, livelihood and living standards have been restored, and provide recommendations for improvement. The internal monitor will undertake biannual monitoring during the R&R implementation period. Monitoring will also ensure recording of DP's views on resettlement issues such as; DP's understanding of entitlement policies, options, and alternatives; site conditions; compensation valuation and disbursement; grievance redress procedures; and staff competencies. The internal monitor will also evaluate the performance of the NGOs. The will report its findings simultaneously to the EA and the reporting responsibility of monitoring to ADB lies with the EA. The monitoring reports will be sent to ADB twice a year. For subprojects will have significant adverse safeguard impacts, the resettlement specialist of the ISC will be the external monitor. An important function of the external monitoring expert is to advise the EA on safeguard compliance issues. If significant non-compliance issues are identified, the EA is required to prepare a corrective action plan to address such issues. The EA will document monitoring results, identify the necessary corrective actions, and reflect them in a corrective action plan. The EA, in each quarter, will study the compliance with the action plan developed in the previous quarter. Compliance with loan covenants will be screened by the EA.

54. Safeguard categorization under the MFF Tranches are as follows:

	Tranche 1	Tranche 2 (estimated)
Environment	A	A
Involuntary Resettlement	A	A
Indigenous Peoples	C	C

VIII. GENDER AND SOCIAL DIMENSIONS

55. **Gender.** Design features have been formulated in order to: (i) maximize women's access to project benefits; (ii) minimize social vulnerability; and (iii) mitigate risk of health and social issues related with highway project.

56. Women in AH-02 and AH-48 project area are mainly involved in household work, cultivation, working in tea estates, and other farming activities. Women indicated that improved road conditions and connectivity will provide better access to health services, higher levels of education, economic opportunities, and social interactions. The EA and IA will ensure that the following mitigation and proactive key actions for the subprojects are implemented: (i) constructing over 30 km of paved raised sidewalk in urban areas that will be highly beneficial to pedestrians, elderly, women and children; (ii) encouraging civil works contractors to engage women workers as wage laborers and ensuring equal pay for equal work; and (iii) providing awareness-raising seminars for contractors, construction workers, and women in the project areas on HIV/AIDS, health and hygiene, road safety, and human trafficking. This will be undertaken with support from the State AIDS Prevention and Control Society, Primary Healthcare Centers, road safety expert of the implementation support consultant, and relevant NGOs working to counter human trafficking. A Memorandum of Understanding, or a similar agreement, needs to be in place between the EA and the relevant institution to ensure coordination and delivery of awareness raising programs in the project area. The ICS will monitor the implementation.

57. **Labor.**

The EA and IAs will ensure that civil Works contracts (i) follow all applicable labor laws of India and the States and that these further include provisions to the effect that contractors (a) carry out HIV/AIDS awareness programs through the ISC for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction and in project influenced areas; (b) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions; and (c) encourage increased employment of women and local poor and disadvantaged persons for construction purposes, provided that the requirements for efficiency are adequately met. The contracts will include clauses for termination in case of any breach of the stated provisions by the contractors.

58. Men and women will be paid equally for equal work. Provisions are in the bidding documents for the contractors to ensure that all the civil works comply with core labor standards (e.g. no child labor; no bonded labor; no work discrimination regardless of gender, race, and ethnicity; and freedom of association and collective bargaining). EA and IA shall cooperate with the Labor Department (GOI) to monitor the implementation of this clause. The ISC will monitor the implementation.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

59. The design and monitoring framework (DMF) is in Schedule 2 of FFA ([Linked Document 2](#)).

B. Monitoring

60. **Project performance monitoring:** The achievement of the project performance targets will be assessed following the DMF. Within 3 months of execution of the FFA, EAs and PIUs, assisted by the implementation support consultants (ISC), will establish a systematic project performance management system acceptable to ADB. Within 3 months of effectiveness of the first loan under the MFF, EAs and PIUs will establish baselines for performance indicators to be used for monitoring implementation of each project. A project completion report¹² will be submitted within 3 months of physical completion of the project, providing detailed evaluation of the progress of implementation, costs, consultant performance, social and economic impact, and other details as requested by ADB.

61. **Compliance monitoring:** Compliance with covenants will be monitored through ADB's project administration missions – including project inception mission to discuss and confirm the timetable for compliance with the loan covenants; project review missions to review the Government's compliance with particular loan covenants and, where there is any noncompliance or delay, discuss proposed remedial measures with the Government; and mid-term review mission if necessary to review covenants to assess whether they are still relevant or need to be changed, or waived due to changing circumstances.

62. **Safeguards monitoring:** The PIU will be responsible for internal monitoring and the ISC will be responsible for external monitoring of safeguards implementation. In addition, for environment category A and B projects, there will be another external monitoring agency for monitoring implementation of environment and social safeguards. Monitoring reports will be sent to ADB for review semi-annually.

63. **Gender and social dimensions monitoring.** PIU will be responsible for internal monitoring, and the external monitoring will be undertaken by the ISC. Monitoring reports will be sent to ADB for review bi-annually.

C. Evaluation

64. The project inception mission will be fielded soon after the legal agreements for the Project are declared effective; thereafter, regular reviews will follow at least annually. As necessary, special loan administration missions and a midterm review mission will be fielded, under which any changes in scope or implementation arrangement may be required to ensure achievement of project objectives. MoRTH, MPWD and WBPWD will monitor project implementation in accordance with the schedule and time-bound milestones, and keep ADB informed of any significant deviations that may result in the milestones not being met.

D. Reporting

65. EAs 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. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency AFSs, together with the associated

¹² Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.

auditor's report, should be adequately reviewed. These materials will, after submission to ADB, also be promptly published on the relevant EA's website.

E. Stakeholder Communication Strategy

66. Various information regarding the project, including scope, general progress status, beneficiaries, invitation for bid and consultant recruitment notices, will be provided to the general public. The information will be made available and updated through the official websites of executing agencies.

X. ANTICORRUPTION POLICY

67. The Government, MoRTH, MPWD and WBPWD are advised of ADB's Anticorruption Policy (1998, as amended to date).¹³ Consistent with its commitment to good governance, accountability and transparency, implementation of the Project shall adhere to ADB's Anticorruption Policy. ADB reserves the right to review and examine, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. In this regard, investigation of government officials, if any, would be requested by ADB to be undertaken by the government.

68. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the Loan Regulations and the bidding documents. In particular, 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, implementing agencies, and all Project contractors, suppliers, consultants and other service providers. As they relate to the Projects under the Facility. 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.¹⁴

69. MoRTH will follow internal controls prescribed in the Civil Accounts Manual (CAM), the General Financial Rules (GFR), 2005 of the GoI and its internal circulars. As prescribed in CAM, Pay and Accounts Officer (PAO) and concerned executive authorities are responsible to examine contracts or agreements for works or supplies. In case irregularities in procurement procedure or deviation from the contract are found, PAO brings to the notice of the proper authority. Rule 26 of GFR prescribes that Controlling Officer is responsible for preventing and detecting errors and irregularities in the financial proceedings to ensure the public money is spent efficiently. The MoRTH has a Chief Vigilance Officer who is responsible for taking measures to cope with the fraud and corruption complaints received. Furthermore, MoRTH has introduced e-procurement system to reduce collusion in procurement exercise.

70. MPWD will follow norms and standards prescribed in the Central Public Works Department (CPWD) code and manuals, and also the executive orders issued by the State Government from time to time, which emphasizes on transparency in managing of works. To achieve this goal, the e-tendering system has been introduced in July 2010. Other initiatives such as computerization of accounts and web based work progress monitoring system have been developed to enhance transparency.

¹³ Available at: <http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf>

¹⁴ ADB's Integrity Office web site is available at: <http://www.adb.org/integrity/unit.asp>

71. ADB's Anticorruption Policy designates the Office of Anticorruption and Integrity as the point of contact to report allegations of fraud or corruption among ADB-financed projects or its staff. Office of Anticorruption and Integrity is responsible for all matters related to allegations of fraud and corruption. For a more detailed explanation refer to the Anticorruption Policy and Procedures. Anyone coming across evidence of corruption associated with the Project may contact the Anticorruption Unit by telephone, facsimile, mail, or email at the following numbers/addresses:

by email at integrity@adb.org or anticorruption@adb.org

by phone at +63 2 632 5004

by fax to +6326362152

by mail at the following address (Please mark correspondence Strictly Confidential):

Office of Anticorruption and Integrity

Asian Development Bank

6 ADB Avenue Mandaluyong City

1550 Metro Manila, Philippines

72. The website of MoRTH, MPWD and WBPWD will provide updated, detailed information on project implementation. For example, it will include procurement-related information, such as the list of participating bidders, name of the winning bidder, basic details on bidding procedures adopted, amount of contract awarded, and the list of goods and/or services procured.

XI. ACCOUNTABILITY MECHANISM

73. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.¹⁵

74. The investment program will establish a grievance redress mechanism to ensure greater accountability. With the assistance of ISC, PIU will set up the grievance redress mechanism within 6 months of the loan effectiveness, to receive and resolve complaints, as well as to act upon stakeholders' reports of irregularities on project related matters, including grievances concerning environment and resettlement. The existence of this mechanism will be publicize to ensure that stakeholders are aware that a venue is available to address concerns or grievances relating to fraud, corruption, abuse, and any other aspects of project implementation.

¹⁵ For further information see: <http://www.adb.org/Accountability-Mechanism/default.asp>.

XII. RECORD OF FAM CHANGES

75. All revisions/updates during course of implementation should be recorded and retained under this Section to provide a chronological history of changes to implemented arrangements recorded in this FAM.

Rev.	Date	Description of Revisions

PROCUREMENT PLAN

Basic Data

Project Name: SASEC Road Connectivity Investment Program (SRCIP)	Executing Agency: Ministry of Road Transport and Highways and Manipur Public Works Department
Country: INDIA	Loan (Grant) Number: 47116-IND
Loan Amount: \$ 500 million	Date of this Procurement Plan: 16 December 2013
Date of First Procurement Plan	

A. Process Thresholds, Review and 18-Month Procurement Plan

1. Investment Program Procurement Thresholds

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

Procurement of Goods and Works	
Method	Threshold
International Competitive Bidding (ICB) for Works	\$40,000,000 and more
International Competitive Bidding for Goods ¹	\$1,000,000 and more
National Competitive Bidding (NCB) for Works ¹	Less than \$40,000,000
National Competitive Bidding for Goods ¹	Less than \$1,000,000
Shopping for Works	Less than \$100,000
Shopping for Goods	Less than \$100,000

All bids for works and goods under the MFF will adopt ICB only.

2. ADB Prior or Post Review

2. 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 Investment Program.

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
ICB Works	Prior	
ICB Goods	Prior	
NCB Works	Post	Refer to note
NCB Goods	Post	Refer to note
Shopping for Works	Post	
Shopping for Goods	Post	
Recruitment of Consulting Firms		
Quality- and Cost-Based Selection (QCBS)	Prior	
Quality-Based Selection (QBS)	Prior	
Other selection methods: Consultants Qualifications (CQS), Least-Cost Selection (LCS), Fixed Budget (FBS), and Single Source (SSS)	Prior	
Recruitment of Individual Consultants		
Individual Consultants	Prior	

Note: The first draft English language version of the procurement documents should be submitted for ADB review and approval regardless of the estimated contract amount. For any contract above \$40 million, the review will be Prior.

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

3. 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
Asian Highway No 2: Panitanki-Shivamandir Mor-Medical Mor-Fulbari (Nepal-India-Bangladesh)	\$ 63 million	ICB	Y	Q1-2014	Adopting MoRTH standard EPC documents with modification and e-tendering (refer to Section C)
Asian Highway No. 48: Jaigaon-Hasimara-Dhupguri and Mainaguri-Changrabandha (Bhutan-India-Bangladesh)	\$ 89 million	ICB	Y	Q1-2014	Adopting MoRTH standard EPC documents with modification and e-tendering (refer to Section C)
Imphal Ring Road	\$40 million	ICB	N	Q2-2014	Adopting e-tendering (refer to Section C)
Imphal-Kanchup-Tameglong Road	\$81 million	ICB	N	Q2-2014	Adopting e-tendering (refer to Section C)

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

4. 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 ¹	Advertisement Date (quarter/year)	International or National Assignment	Comments
Implementation Support Consultant for MoRTH	\$ 2.0 million	QCBS, 90:10	Q1-2014	International	Refer to Note
Implementation Support and Capacity Development Consultant for MPWD	\$ 1.0 million	QCBS, 90:10	Q1-2014	International	Refer to Note
Wildlife External Monitoring	\$0.5 million	QCBS, 90:10	Q1-2014	National	Refer to Note
Construction Supervision Consultant for MPWD	\$ 5.0 million	QCBS, 90:10	Q3-2014	International	Refer to Note

Note: Assignments of all consultants will involve technical expertise in managing border areas involving multiple stakeholders coordination. The quality- and cost-based selection should be adopted, with a weight of technical proposal at 90%.

B. Indicative List of Packages Required Under the Investment Program

5. The following table provides an indicative list of all procurement (goods, works and consulting services) over the life of the Investment Program. 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
Works	\$342 million	5	ICB	No	National Highways, on EPC basis
	\$151 million	3	ICB	No	State Roads
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Recruitment Method	Type of Proposal	Comments
Consulting Services	\$3.0 million	2	QCBS, 90:10	FTP and STP	Implementation Support and Capacity Development
	\$ 5.0 million	1	QCBS, 90:10	FTP	Construction and Maintenance Supervision Consultants
	\$0.5 million	1	QCBS, 90:10	BTP	Wildlife external monitoring
	\$0.5 million	1	N.A.	N.A.	Design Consultants financed by MPWD
	\$11.3 million	2	N.A.	N.A.	Authority's Engineer financed by MoRTH

C. EPC Contracts and E-Tendering

6. Gol has stipulated that all contracts for national highway development works, which are not under public private partnership, will be taken up under engineering, procurement, and construction (EPC) mode, with elements of a maintenance period, post construction. Gol has also approved standard EPC contract documents. These documents are also being followed for World Bank funded projects under MoRTH. For this project, EPC contracts following the standard documents of Gol will be used. These documents will be reviewed and modified to be suitable for ADB funded projects. For state highways, however, item rate contracts under ADB's standard bidding documents (harmonized FIDIC contracts), will be followed. Performance-based maintenance may be included to the ADB's SBD.

7. E-procurement will be adopted for international competitive bidding (ICB) work packages by MoRTH. Distribution of bidding documents and submission of bids will be done only electronically. The World Bank has adopted the same approach for projects with MoRTH. The e-procurement system is in use for the past 4-5 years with the National Highways Authority of India, MoRTH, and many state Government departments. Assessment for E-procurement in the roads sector has indicated that there is substantial response and competition. The system has been assessed to be secure, accessible, and robust. The associated procedure and mechanism in place have been reviewed as satisfactory. The e-procurement may also be adopted for state roads.

OUTLINE TERMS OF REFERENCE Implementation Support Consultants

A. Introduction

1. The Government of India has applied for financial assistance from the Asian Development Bank (ADB) towards the cost of the proposed IND (47116): SASEC Road Connectivity Investment Program (SRCIP). The SRCIP is a multitranche financing facility (MFF) that aims to improve about 500 km of priority road sections in the North Bengal and Northeast of India, through an investment program set out in phases (tranche). The first tranche of the SRCIP covers two packages: AH-02 (about \$60m) and AH-48 (about \$85m).

2. The project contracts will be structured as engineering, procurement and construction (EPC), largely based on the model EPC contracts of MORTH, and duly amended for use by ADB. Under these contracts, MORTH, through Chief Engineer (National Highway) Public Works Roads Directorate, would be designated as “Authority” (or “Employer” as the case may be). MORTH would separately appoint an agency as “Authority’s Engineer.” The objective of this consultancy services is to assist the MORTH to implement the project works by supporting areas that are not covered under the scope of the “Authority’s Engineer, but relate to areas that are required for fulfilling MORTH’s role under the ADB loan.

3. The main objective of the consulting services is to support the MORTH to implement the project, as required under the ADB loan, by (i) monitoring the implementation of safeguards in accordance with ADB’s Safeguard Policy Statement, specially act as the external monitor; (ii) enhancing road safety measures; (iii) assisting MORTH in preparing a financial management system, including preparing financial statements; (iii) preparing the monthly and quarterly reports as required for management of the project and reporting to ADB; (iv) provide proper monitoring of the funds available, fund flows within the project, disbursements of funds from the loan account, projections of future financial needs; (v) scheduling the project implementation and establishing project schedules with milestones and critical path analysis based on international best practice; (vi) advise the MORTH on any potential issues and coordinate within the project or third parties as necessary, and (vii) prepare the reports and documentation needed for the MORTH to submit the subsequent PFRs to ADB to secure funding of later tranches of the project.

4. The consultancy will be financed from the loan and be carried out by an international consulting firm (Implementation Support Consultants – ISC), recruited in accordance with ADB’s Guidelines on the Use of Consultants, March 2013 and subject to DEA’s guidelines. The consultant will be selected in accordance with ADB’s Quality- and- Cost- based selection method (QCBS - full technical proposal) with a quality to cost ratio of 90:10. The ISC will be mobilized in along with the project supervision consultants.

B. Staffing

5. The consulting services will be implemented from 2014 to 2017. The inputs of international and national experts required are summarized in table 1 below.

Table 1: Summary of Consulting Services Requirement

International Name of Positions	Person-months	National Name of Positions	Person-months
1. Consultants based in MORTH PIU at Siliguri			
Financial Management Expert (TL)	15	Contract Management Expert (DTL)	24
Project Management Expert	10	Reporting and Scheduling Expert	24
Road Safety Expert	6	Resettlement/Social Development Expert	18
		Environmental Expert	24
2. Consultants based in field offices			
		Reporting & Scheduling Expert	24

MORTH = Ministry of Road Transport and Highways, Government of India, TL = Team Leader; DTL = Deputy Team Leader.

Source: ADB.

C. Scope of Works

6. The scope of works for the consulting services provided by the ISC will include, but not be limited, to the following:

7. **Financial Management Expert/ Team Leader** (international, 15 person-months): Define the overall reporting process and standards in the project to fulfill the requirements of MORTH and ADB by (i) assisting MORTH in preparing a financial management system, including preparing financial statements; (ii) preparing the monthly and quarterly reports as required for management of the project and reporting to ADB; (iii) monitoring the implementation of safeguards in accordance with ADB's Safeguard Policy Statement; (iv) scheduling the project implementation and establishing project schedules with milestones and critical path analysis based on international best practice; (v) advise the EA on any potential issues, including road safety activities, and coordinate within the project or third parties as necessary; (v) provide proper monitoring of the funds available, fund flows within the project, disbursements of funds from the loan account, projections of future financial needs; and (vi) prepare the reports and documentation needed for the MORTH to submit the subsequent PFRs to ADB to secure funding of later trenches of the project.

8. In the field of financial project management: Prepare a financial management system to consolidate financial data and monitor continuously with the inputs from the Reporting & Scheduling Specialists posted with the Project Implementation Unit (PIU) the financial progress of the project. Prepare projections of contract awards and disbursements for the project and continuously update the requirement for financing based on the change orders and contract variations agreed upon in the project. Ensure that the payment certificates of the contractors are processed in a timely manner and organize and monitor the overall process of reimbursement for payments to the contractor for reimbursement by ADB through the necessary process within MORTH and Government of India. Ensure continuous flow of funds and disbursements and timely reimbursement of invoices to reduce the amount of commitment charges paid by the Government.

9. **Project Management Expert** (international, 10 person-months); **Reporting & Scheduling Expert** (national, 2 positions for 24 person-months): The Project Management

Expert will define the overall parameters for the schedules to be established and identify the IT-Systems to be used for scheduling in the subprojects. The Expert will prepare an overall project schedule based on the schedules provided by the contractors, milestone requirements from MORTH, and carrying-out critical path analysis considering internal and external factors, such as monsoon patterns. The project schedule shall include times required for internal and external approvals, interfaces with and actions required from third parties such as for example municipalities, utilities operators, PWD/RCD of the States, times for advance notice for specific actions, etc. The Reporting and Scheduling Expert will update the individual project schedules for the project, from time to time, with support of the local Reporting & Scheduling Expert dispatched to the projects, and will provide inputs to the Financial Management Expert on the timing of funds required. The Reporting and Scheduling Expert will review work programs provided by contractors with respect of issues such as staff and equipment resource constraints, interfaces with third parties and alert MORTH on critical actions or approvals required and monitor the overall progress of the project. Thing Reporting and Scheduling Expert will provide support to the contractors and supervision consultants in establishing and reviewing project schedules and provide training and workshops as needed.

10. **Road Safety Expert** (international, 6 person-months): Review the technical project design and the project schedules to identify safety related issues in design and project implementation. Conduct awareness programs to concerned MORTH officers, supervision consultants, and contract staff. Involve local community, including women, in safety awareness activities.

11. **Contract Management Expert/ Deputy Team Leader** (national, 24 person-months): Will support the Team Leader in project scheduling and management, providing local condition inputs. The Expert will review, monitor and advise on the implementation of EPC contracts of MORTH, modified and prepared in accordance with ADB's procurement guidelines; assist the local PMC and contractors in contract management related questions, support MORTH in contract administration. The Expert will also collate data on the project indicators, as required for establishing the baselines for the design and monitoring framework of the project.

Resettlement/Social Development Expert (national, 18 person-months): Ensure implementation of Resettlement Plans (RPs) in accordance with ADB's Safeguard Policy Statement (2009) and other related policies such as the Public Communications Policy (2012). The Expert will ensure payment of compensation to people affected by the project prior to hand-over of the site to the contractor. Prepare the due-diligence reports on resettlement implementation as needed for processing of subsequent loans under the MFF. Provide monthly and quarterly reports on resettlement implementation, including close monitoring of resettlement implementation of Indigenous Peoples, and provide updates on the schedule and financial aspects of resettlement to the team. Monitor and provide guidance to the work of the NGOs for resettlement implementation engaged by MORTH and monitor the resettlement implementation at the project sites and provide training, if required, to the local MORTH and supervision consultant staff. Act as the external monitor for the project, tasks include: (i) develop specific monitoring indicators for undertaking monitoring of RP; (ii) review results of internal monitoring and verify claims through random checking by adopting suitable sampling method at the field level to assess whether land acquisition/resettlement objectives have been generally met; (iii) Involve the affected people and community groups in assessing the impact of land acquisition for monitoring and evaluation purposes; (iv) Evaluate and assess the adequacy of compensation given to the DPs and the livelihood opportunities and incomes as well as the quality of life of DPs of project-induced changes; and (v) evaluate and assess the adequacy and effectiveness of the consultative process with DPs, particularly those vulnerable, including the

adequacy and effectiveness of grievance procedures and legal redress available to the displaced persons, and dissemination of information about these. Lastly, ensuring the implementation of the social and gender relevant features included in the design of the project, including monitoring of HIV and human trafficking community awareness activities, as well as compliance of core labor standards by civil works contractors.

12. **Environment Expert** (national, 24 person-months): Ensure implementation of the Environmental Management Plan (EMP) and other measures related to environmental protection in accordance with ADB's Safeguard Policy Statement (2009). Prepare the due-diligence reports on EMP implementation as needed for processing of subsequent loans under the MFF. Provide monthly and quarterly reports on EMP implementation and provide updates on the schedule and financial aspects to the team. Monitor EMP implementation at the project sites and provide training, if required, to the local MORTH and PMC staff.

D. Reporting

13. The consultants will provide the EA and ADB with monthly and quarterly progress reports based on the reports provided by the supervision consultants and contractors. The consultant will prepare an Inception Report within 30 days after mobilization and will define the reporting requirements and procedures in this Inception Report. The consultant will prepare other reports as required by MORTH and ADB, especially the due diligence reports for processing of subsequent loans under the MFF.

COST ESTIMATE (\$'000)

Item	Total Cost
1. Consultants	
a. Remuneration and per diem	
i. International consultants (31 person months)	744.0
ii. National consultants (116 person months)	754.0
b. International and local travel	100.0
c. Reports and communications	20.0
2. Per diem	100.0
3. Equipment	25.0
4. Training, seminars, and conferences	25.0
5. Miscellaneous administration and support costs	50.0
6. Office accommodation and transport	Provided by MORTH
7. Contingencies	132.0
Total	1,950.0

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE
Implementation Support and Capacity Development Consultants (MPWD)

A. Introduction

1. The Government of India has applied for financial assistance from the Asian Development Bank (ADB) towards the cost of the proposed IND (47116): SASEC Road Connectivity Investment Program (SRCIP). The SRCIP is a multitranche financing facility (MFF) that aims to improve about 500 km of priority road sections in the Noth Bengal and Northeast of India, through an investment program set out in phases (tranche). The first tranche of the SRCIP covers two packages: AH-02 (about \$60m) and AH-48 (about \$85m). Subsequent tranches will cover state roads in various states. These terms of reference refer to state roads in Manipur, covering about 190km.

2. The project contracts will be based on FIDIC documents, harmonized for multi-lateral banks, and be executed as item-rate, bill-of-quantities (BOQ) construction contracts. Under these contracts, Manipur Public Works Department (MPWD) would be designated as “Employer”. MPWD would separately appoint an agency as “Engineer” under the FIDIC contracts. The objective of this consultancy services is to assist the MPWD to implement the project works by supporting areas that are not covered under the scope of the “Engineer,” but relate to areas that are required for fulfilling MPWD’s role under the ADB loan.

3. The main objective of the consulting services is to support the MPWD to implement ADB subprojects, in conjunction with the training to MPWD staff.

4. The approach is the on-the-job training through actual project implementation. While the focus is on the actual project implementation, the consultants will undertake a minimum 2 training sessions to MPWD staff in all aspects, especially with case studies encountered in the project and best practices.

5. Implementation support is provided by (i) monitoring the implementation of safeguards in accordance with ADB’s Safeguard Policy Statement, including act as the external monitor; (ii) enhancing road safety measures; (iii) assisting MPWD in preparing a financial management system, including preparing financial statements; (iii) preparing the monthly and quarterly reports as required for management of the project and reporting to ADB; (iv) provide proper monitoring of the funds available, fund flows within the project, disbursements of funds from the loan account, projections of future financial needs; (v) scheduling the project implementation and establishing project schedules with milestones and critical path analysis based on international best practice; (vi) advise the MPWD on any potential issues and coordinate within the project or third parties as necessary, and (vii) prepare the reports and documentation needed for the MPWD to submit the subsequent PFRs to ADB to secure funding of later tranches of the project.

6. The consultancy will be financed from the loan and be carried out by an international consulting firm (Implementation Support Consultants – ISC), recruited in accordance with ADB’s Guidelines on the Use of Consultants, March 2013. The consultant will be selected in accordance with ADB’s Quality- and- Cost- based selection method (QCBS - full technical proposal) with a quality to cost ratio of 90:10. The ISC would be mobilized along with the project supervision consultants.

B. Staffing

7. The consulting services will be implemented from 2014 to 2017. The inputs of international and national experts required are summarized in table 1 below.

Table 1: Summary of Consulting Services Requirement

International Name of Positions	Person-months	National Name of Positions	Person-months
1. Consultants based in MPWD office in Imphal			
Financial Management Expert	6	Project Management Expert (TL)	24
		Road Safety Expert	6
		Reporting and Scheduling Expert	24
		Resettlement/Social Development Expert	18
		Environmental Expert	24

MPWD = Manipur Public Works Department, TL = Team Leader
Source: ADB.

C. Scope of Works

8. The scope of works for the consulting services provided by the ISC will include, but not be limited, to the following:

9. **Financial Management Expert** (international, 6 person-months): Define the overall reporting process and standards in the project to fulfill the requirements of MPWD and ADB by (i) assisting MPWD in preparing a financial management system, including preparing financial statements; (ii) preparing the monthly and quarterly reports as required for management of the project and reporting to ADB; (iii) monitoring the implementation of safeguards in accordance with ADB's Safeguard Policy Statement; (iv) scheduling the project implementation and establishing project schedules with milestones and critical path analysis based on international best practice; (v) advise the EA on any potential issues, including road safety activities, and coordinate within the project or third parties as necessary; (v) provide proper monitoring of the funds available, fund flows within the project, disbursements of funds from the loan account, projections of future financial needs; and (vi) prepare the reports and documentation needed for the MPWD to submit the subsequent PFRs to ADB to secure funding of later tranches of the project.

10. In the field of financial project management: Prepare a financial management system to consolidate financial data and monitor continuously with the inputs from the Reporting & Scheduling Specialists posted with the Project Implementation Unit (PIU) the financial progress of the project. Prepare projections of contract awards and disbursements for the project and continuously update the requirement for financing based on the change orders and contract variations agreed upon in the project. Ensure that the payment certificates of the contractors are processed in a timely manner and organize and monitor the overall process of reimbursement for payments to the contractor for reimbursement by ADB through the necessary process within MPWD and Government of India. Ensure continuous flow of funds and disbursements and timely reimbursement of invoices to reduce the amount of commitment charges paid by the Government. Provide training workshop to MPWD staff on the financial management system.

11. **Project Management Expert/ Team Leader** (national, 24 person-months); Reporting & Scheduling Expert (national, 24 person-months): The Project Management Expert will define the overall parameters for the schedules to be established and identify the IT-Systems to be used for scheduling in the subprojects. The Expert will prepare an overall project schedule based on the schedules provided by the contractors, milestone requirements from MPWD, and carrying-out critical path analysis considering internal and external factors, such as monsoon patterns. The project schedule shall include times required for internal and external approvals, interfaces with and actions required from third parties such as for example municipalities, utilities operators, PWD/RCD of the States, times for advance notice for specific actions, etc. The Reporting and Scheduling Expert will update the individual project schedules for the project, from time to time, with site visits, and will provide inputs to the Financial Management Expert on the timing of funds required. The Reporting and Scheduling Expert will review work programs provided by contractors with respect of issues such as staff and equipment resource constraints, interfaces with third parties and alert MPWD on critical actions or approvals required and monitor the overall progress of the project. Thing Reporting and Scheduling Expert will provide support to the contractors and supervision consultants in establishing and reviewing project schedules and provide training and workshops as needed. Provide training workshop to MPWD staff on the project management system.
12. **Road Safety Expert** (national, 6 person-months): Review the technical project design and the project schedules to identify safety related issues in design and project implementation. Conduct awareness programs to concerned MPWD officers, supervision consultants, and contract staff. Involve local community, including local women, in safety awareness activities. Provide training workshop to MPWD staff on road safety.
13. **Resettlement/Social Development Expert** (national, 18 person-months): Ensure implementation of Resettlement Plans (RPs) in accordance with ADB's Safeguard Policy Statement (2009) and other related policies such as the Public Communications Policy (2012). The Expert will ensure payment of compensation to people affected by the project prior to hand-over of the site to the contractor. Prepare the due-diligence reports on resettlement implementation as needed for processing of subsequent loans under the MFF. Provide monthly and quarterly reports on resettlement implementation, including close monitoring of resettlement implementation of Indigenous Peoples, and provide updates on the schedule and financial aspects of resettlement to the team. Monitor and provide guidance to the work of the NGOs for resettlement implementation engaged by MPWD and monitor the resettlement implementation at the project sites and provide training, if required, to the local MPWD and supervision consultant staff. Act as the external monitor for the project, tasks include: (i) develop specific monitoring indicators for undertaking monitoring of RP; (ii) review results of internal monitoring and verify claims through random checking by adopting suitable sampling method at the field level to assess whether land acquisition/resettlement objectives have been generally met; (iii) Involve the affected people and community groups in assessing the impact of land acquisition for monitoring and evaluation purposes; (iv) Evaluate and assess the adequacy of compensation given to the DPs and the livelihood opportunities and incomes as well as the quality of life of DPs of project-induced changes; and (v) evaluate and assess the adequacy and effectiveness of the consultative process with DPs, particularly those vulnerable, including the adequacy and effectiveness of grievance procedures and legal redress available to the displaced persons, and dissemination of information about these. Lastly, ensuring the implementation of the social and gender relevant features included in the design of the project, including monitoring of HIV and human trafficking community awareness activities, as well as compliance of core labor standards by civil works contractors.

14. **Environment Expert** (national, 24 person-months): Ensure implementation of the Environmental Management Plan (EMP) and other measures related to environmental protection in accordance with ADB's Safeguard Policy Statement (2009). Prepare the due-diligence reports on EMP implementation as needed for processing of subsequent loans under the MFF. Provide monthly and quarterly reports on EMP implementation and provide updates on the schedule and financial aspects to the team. Monitor EMP implementation at the project sites and provide training, if required, to the local MPWD and PMC staff.

D. Reporting

15. The consultants will provide the EA and ADB with monthly and quarterly progress reports based on the reports provided by the supervision consultants and contractors. The consultant will prepare an Inception Report within 30 days after mobilization and will define the reporting requirements and procedures in this Inception Report. The consultant will prepare other reports as required by MPWD and ADB, especially the due diligence reports for processing of subsequent loans under the MFF.

COST ESTIMATE

(\$'000)

Item	Total Cost
1. Consultants	
a. Remuneration and per diem	
i. International consultants (6 person months)	150.0
ii. National consultants (96 person months)	624.0
b. International and local travel	25.0
c. Reports and communications	15.0
2. Per diem	35.0
3. Equipment	15.0
4. Training, seminars, and conferences	60.0
5. Miscellaneous administration and support costs	15.0
6. Office accommodation and transport	Provided by MPWD
7. Contingencies	61.0
Total	1,000.0

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE Construction Supervision Consultants

A. Introduction

1. The Government of India has applied for financial assistance from the Asian Development Bank (ADB) towards the cost of the proposed IND (47116): SASEC Road Connectivity Investment Program (SRCIP). The SRCIP is a multitranche financing facility (MFF) that aims to improve about 500 km of priority road sections in the North Bengal and Northeast of India, through an investment program set out in phases (tranche). The first tranche of the SRCIP covers two packages: AH-02 (about \$60m) and AH-48 (about \$85m). Subsequent tranches will cover state roads in various states. These terms of reference refer to state roads in Manipur.

2. The project contracts will be based on FIDIC documents, harmonized for multi-lateral banks, and be executed as item-rate, bill-of-quantities (BOQ) construction contracts. Under these contracts, Manipur Public Works Department (MPWD) would be designated as “Employer”. The Construction Supervision Consultant (CSC), under these terms of reference, would act as the “Engineer” under the FIDIC contracts.

3. The objective of the proposed consultancy services is to assist the MPWD to implement the project works by: (i) proper management of contracts as "the Engineer" in terms of contract; (ii) comprehensive supervision of project implementation activities carried out by the contractors to ensure compliance with the drawings, technical specifications and various stipulations contained in the Contract Documents, with high standards of quality assurance in supervision and in the execution of work; (iii) completing the work within the stipulated time for completion. CSC will be especially responsible for quality and timely completion.

4. The consultancy will be financed from the loan and be carried out by an international consulting firm (Construction Supervision Consultants – CSC), recruited in accordance with ADB’s Guidelines on the Use of Consultants, March 2013. The consultant will be selected in accordance with ADB's Quality- and- Cost- based selection method (QCBS - full technical proposal) with a quality to cost ratio of 90:10.

B. Staffing

5. The consulting services will be implemented from 2015 to 2018. The inputs of international and national experts required are summarized in table 1 below.

Table 1: Summary of Consulting Services Requirement

Sl. No	Position	Person months
I	Key International Expert	
1	Team Leader/ Senior Contract Administration Specialist– 1	30
	Total Person months* (Key International Expert)	30
II	Key National Experts	
1	Senior Highway Engineer – 1	22
2	Senior Pavement / Material Engineer – 1	6
3	Senior Quantity Surveyor cum Contract Specialist – 1	24
4	Senior Bridge Engineer – 1	22
5	Resettlement/Social Development Specialist – 1	8
6	Environmental Specialist – 1	6

7	Resident Engineer – 3	78
8	Assistant Resident Engineer (Roads) – 6	144
9	Assistant Resident Engineer (Bridge) – 3	72
	Total Person months* (Key National Experts)	382
III	Non – Key National Experts	
1	Quantity Surveyor – 4	96
2	Material Engineer / Quality Control Engineer – 3	72
3	Field Engineer – Roads – 12	288
4	Field Engineer – Bridge – 6	144
5	Field Engineer – Survey – 6	144
6	CAD Expert – 2	48
7	Lab Technician – 12	288
	Total Person months* (Non-Key National Experts)	1080
	Total Person months (International + National)	1490
IV	Administrative & Support Staff	
1	Office Manager – 1	26
2	Accountant – 1	26
3	Computer Operator – 8	208
	Total Person months (Administrative & Support)	260

* Includes two months (intermittently) during Defect Liability Period.

Note: For evaluation purposes, only the CVs of all Key International Experts and Key National Experts will be evaluated. However, all staff under (III) & (IV) above shall also be made available in the field, and be competent to undertake the respective tasks.

C. Scope of Works

6. The scope of works for the consulting services provided by the CSC will include (i) the scope of work of the “Engineer” under the FIDIC construction contracts; and (ii) Aspects of coverage required for ADB’s loan, including safeguards related work. The outline scope shall include, but not be limited, to the following:

- (i) Act as the ‘Engineer’ in terms of contract to the extent of the delegation given and assist MPWD PIU staff in contract administration and management of the project and the civil works contract;
- (ii) Review designs, drawings, BOQ provisions and specifications with respect to actual site conditions and suggest modifications, if required or deemed appropriate. Any realignment, redesign/modification, any additional design of bridge desired for completion of the project will be done by CSC and related approvals from concerned authorities will be obtained by the CSC without any extra cost including remuneration of personnel, equipment, software and office supplies;
- (iii) Review compliance with the documentation and advance actions requirements, including securing of all statutory clearances and permits or handing over of site, and advise on issuing the notice to set the Commencement Date;
- (iv) Ensure the contractor effects and implements a system for the quality assurance of the works. The system of control of quality of materials and completed works shall also include sampling methods and criteria and acceptance criteria. The sampling methods and the acceptance criteria shall be based on statistical methods and the recommendations of the relevant IRC and MORTH/ BIS publications (as applicable) and international practices;

- (v) Scrutinize the contractor's detailed work program, suggest modifications, if any, to the program after a careful study and ensure the contractor complies with the program;
- (vi) Review the horizontal and vertical alignment for the roads based on review of tender drawings and the topographic survey carried out by the contractor. This work will include if required, amending the DPR alignment plan and profile drawings based on the updated topographic surveys. Issue of finalized or revised 'Good for Construction' drawings and prepare and provide additional detailed drawings, if and as necessary, including drainage (inclusive of drainage scheme through the built-up areas), junctions, road signs and markings, safety measures, km stones, protection works etc. based on the contractor's survey and setting out;
- (vii) Scrutinize and approve the Contractor's working drawings based on survey setting out details, and drawings for temporary works, as required under the contract;
- (viii) Carry out supervision of all works as per approved method statements of various items of work and ensure proper supervision as per requirement;
- (ix) Supervise the Contractor in all matters concerning safety and care of the work including environmental aspects and labor welfare;
- (x) Witness sampling and testing being carried out by staff of the Contractor and undertake additional audit tests as necessary to ensure the quality of works and promptly inform the contractor of the results. Maintain a permanent record of all tests carried out for monitoring the quality of works;
- (xi) Measurement of quantities and certification, recording of measurements; verify, certify and issue interim and final payment certificate of the contractor based on the conditions of the contract/approval of employer;
- (xii) Support the MPWD in matters relating to land acquisition and resettlement including updating the Resettlement Plan, monitoring the implementation of the resettlement plan and providing expert advice in all matters relating to acquisition and resettlement which include, but not necessarily limited to, the following activities;
 - (a) Review results of internal monitoring and verify claims through random checking at the field level to assess whether resettlement objectives have been generally met. Involve the affected people and the community groups in assessing the impact of land acquisition for monitoring and evaluation purposes.
 - (b) Identify the strengths and weaknesses of the resettlement objectives and approaches, implementation strategies and suggest corrective action plans.
 - (c) Review and verify the progress in land acquisition/ resettlement implementation and prepare monthly and semi-annual monitoring reports for MPWD and ADB respectively.
 - (d) Evaluate and assess the adequacy of compensation given to the affected persons and the livelihood opportunities and incomes as well as the quality of life of the affected persons after the project induced changes.
 - (e) Evaluate and assess the adequacy and effectiveness of the consultative process with the affected persons, particularly those who are vulnerable, especially women, including the adequacy and effectiveness of the grievance redressal mechanism and procedures available to the affected persons and dissemination of information about these.
 - (f) Advise MPWD on safeguard compliance issues and, if necessary, prepare a corrective action plan to address such issues.
 - (g) Ensuring the implementation of the social and gender relevant features included in the design of the project, including monitoring of HIV and

human trafficking community awareness activities, as well as compliance of core labor standards by civil works contractors.

- (xv). Assist MPWD in arranging the relocation of services including providing plans of the location of all services if not shown in sufficient detail on the existing plans, preparing correspondence for the MPWD's, arranging meetings and generally ensuring that the MPWD is meeting the deadlines necessary to avoid delay claims from the Contractor;
- (xiii) Prepare Financial Statements;
- (xiv) Review and approve 'as-built' drawings prepared by the contractor and maintain records of all test data and results and also certify "as constructed" drawings for each component of the works furnished by the contractor;
- (xv) Inspect the works on completion of the milestone before accepting the work and indicate to Project Manager/Nodal Officer any outstanding work to be carried out by the contractor before issuing a milestone certificate;
- (xvi) Review the IEE report and update the Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMOP) in accordance with the details given in the Appendix. Ensure the contractor implements the EMP, and conduct coordination and training workshops on roles and responsibilities on EMP and EMOP implementation. Prepare Environmental Monitoring reports based on the EMP monitoring and EMOP implementation activities as given in the Appendix to be submitted to ADB (Once a year at least). Monitor the status of the contractor's compliance with HIV/AIDS provisions in the Civil Works Contracts;
- (xvii) Operate a quantitative and qualitative project performance monitoring system (PPMS) in consultation with ADB and to monitor and evaluate the performance of the project in relation to its goals, purposes and outputs.
- (xvii) During the performance-based maintenance period,
 - (a) aid and advise the Contractor in the preparation of its monthly Maintenance Programme and for this purpose carry out a joint monthly inspection with the Contractor;
 - (b) undertake regular inspections, at least once every month, to evaluate compliance with the Maintenance Requirements and submit a Maintenance Inspection Report to the Client and the Contractor;
 - (c) specify the tests, if any, that the Contractor shall carry out, or cause to be carried out, for the purpose of determining that the project roads are in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Contractor in this behalf.
 - (d) In respect of any defect or deficiency, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit;
 - (e) examine the request of the Contractor for closure of any lane(s) of the project roads for undertaking maintenance/repair thereof, and shall grant permission with such modifications, as it may deem necessary, within 5 (five) days of receiving a request from the Contractor. Upon expiry of the permitted period of closure, the consultants shall monitor the reopening of such lane(s), and in case of delay, determine the Damages payable by the Contractor to the Client.

COST ESTIMATE
(\$'000)

Item	Total Cost
1. Consultants	
a. Remuneration and per diem	
i. International consultants (30 person months)	750.0
ii. National consultants (166 person months)	1,604.0
b. International and local travel	100.0
c. Reports and communications	50.0
2. Per diem	150.0
3. Equipment	100.0
4. Training, seminars, and conferences	50.0
5. Miscellaneous administration and support costs (including non-key national experts)	1,400.0
6. Office accommodation and transport	500.0
7. Contingencies	296.0
Total	5,000.0

Source: Asian Development Bank estimates.

Terms of Reference
External Monitoring for Wildlife Conservation Activities

1) Position: Wildlife Expert

Key Qualifications: Minimum of a Master's Degree in Wildlife Conservation or Ecosystem Management and related subjects

Experience: Minimum of 7 years of working experience wildlife conservation activities in critical habitat areas involving wildlife migratory routes and linear development activities.

Person months: 27 months over six years (6 months per year during construction for 3 years, and 3 months per year during operation for 3 years)

Budget estimate: \$252,000 (Remuneration: 27x6000 + Per diem: \$200x200 days + Equipments: \$50,000)

The key responsibility of the External Monitoring Agency will be to provide technical guidance and monitor implementation and effectiveness of all the environment safeguard activities including wildlife conservation related activities under the project in relation to: i) construction of the underpasses, ii) compensatory afforestation, iii) and other habitat improvement.

Specific tasks of the expert are:

- Review the Environmental Impact Assessment (EIA) report prepared for the project to understand the background of the conservation issues and proposed project activities
- Based on the wildlife conservation related activities proposed in the EIA, further prepare a detailed Wildlife Management Plan (WMP) including activities on construction of the underpasses, compensatory afforestation and habitat enhancement through plantation of fodder and shade trees, and creation of water hole's for wildlife in the project area
- Provide technical guidance to the contractor for implementing the WMP
- Coordinate with the local forestry officials, wildlife officials and local Panchayat and Women self-help groups to implement the afforestation program so as to generate employment for local people, especially women to the extent possible
- Monitor the implementation of the WMP on a periodic basis and prepare semi-annual monitoring reports for submission to the EA, IA and ADB
- After completion of the construction works and implementation of all WMP activities, during the project implementation period for atleast three years continue monitoring the effectiveness of the habitat enhancement activities including use of underpasses, water holes by elephants and other wildlife. Based on the monitoring activities prepare annual monitoring reports during the project operation stage
- To facilitate easier monitoring of the effectiveness of the habitat enhancement activities, identify and procure necessary equipments such as camera traps, GPS tracking devices etc. and use them for monitoring during project operations

Expected Outputs:

- 1) Bi-annual monitoring reports during project construction
- 2) Annual monitoring reports during project operation

2) Environmental Specialist

Key Qualifications: Minimum of a Master's Degree in Environmental Assessment (EIA) or Environmental Engineering or related subjects

Experience: Minimum of 5 years of working experience in implementing environment safeguard and related activities for road projects

Estimated person months: 21 (6 months per year during construction for 3 years and 1 month per year during operation for 3 years)

Budget Estimate: \$220,000 (Remuneration: \$6000x30 + Per diem: \$200x200 days)

1. Review EIA/IEE reports (including the EMP and EMOP) and all monitoring reports prepared for the project to understand the environmental issues in the project area and mitigation and monitoring requirements of the project
2. Review the EMP for inclusion of all site specific issues and make necessary amendments if any issues are not covered.
3. Review the EMOP and ensure that the location and timing of checking/testing all environmental parameters are in accordance with the site conditions
4. Prepare or review (if already existing) monitoring checklists for weekly or monthly checklists (as necessary) for monitoring implementation of the Environment Management Plan by the contractor.
5. Prepare or review (if already existing) reporting formats for monthly, quarterly, biannual and annual monitoring reports
6. Monitor implementation of the EMP by the contractor on a weekly and monthly basis. In doing so complete the weekly, or monthly monitoring checklists.
7. Prepare monthly, quarterly and biannual Environmental Monitoring reports based on monitoring site visits and completed checklists for submission to the IA and ADB during project construction. The semi-annual monitoring reports will be disclosed on the ADB website
8. Based on the traffic data collected under the project, monitor the GHG emissions generated from the traffic for a minimum of three years during project operation following the approach used in the EIA report.
9. Include test results of environment monitoring carried out in the monitoring reports and advise/support the contractor in taking remedial actions if any of the test results are not within the required limits