



Technical Assistance Report

Project Number: 51314-001
Transaction Technical Assistance Facility (F-TRTA)
July 2018

Supporting Innovation and Knowledge Exchange for Transport Projects in South Asia

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Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
BNGB	–	Bihar New Ganga Bridge
COBP	–	Country Operations Business Plan
DMC	–	developing member countries
EA	–	Executing Agencies
NGO	–	Nongovernmental organizations
OCR	–	ordinary capital resources
SCCB	–	SASEC Chittagong–Cox’s Bazaar Railway Project, Phase 1
SARD	–	South Asia Department
SATC	–	South Asia Transport and Communications
TA	–	technical assistance

NOTE

In this report, “\$” refers to United States dollars.

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TRANSACTION TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 51314-001
Project Name	Supporting Innovation and Knowledge Exchange for Transport Projects in South Asia	Department/Division SARD/SATC
Nature of Activity	Project Preparation, Capacity Development	Executing Agency Asian Development Bank
Modality	Facility	
Country	REG (BAN, BHU, IND, NEP, SRI)	
2. Sector	Subsector(s)	ADB Financing (\$ million)
✓ Transport	Transport policies and institutional development	1.50
	Total	1.50
3. Strategic Agenda	Subcomponents	Climate Change Information
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project Low
Environmentally sustainable growth (ESG)	Environmental policy and legislation Natural resources conservation	
Regional integration (RCI)	Pillar 4: Other regional public goods	
4. Drivers of Change	Components	Gender Equity and Mainstreaming
Governance and capacity development (GCD)	Client relations, network, and partnership development to partnership driver of change	Some gender elements (SGE) ✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas	
Partnerships (PAR)	Knowledge sharing activities Implementation South-South partner	
5. Poverty and SDG Targeting		Location Impact
Geographic Targeting	Yes	Regional High
Household Targeting	No	
SDG Targeting	Yes	
SDG Goals	SDG9, SDG11, SDG15	
6. Risk Categorization	Complex	
7. Safeguard Categorization	Safeguard Policy Statement does not apply	
8. Financing		
Modality and Sources	Amount (\$ million)	
ADB	1.50	
Transaction technical assistance: Technical Assistance Special Fund	1.50	
Cofinancing	0.00	
None	0.00	
Counterpart	0.00	
None	0.00	
Total	1.50	

I. THE TECHNICAL ASSISTANCE FACILITY

A. Justification

1. The proposed transaction technical assistance (TA) facility will enhance the capacity of government agencies in South Asia to design and implement innovative features in transport projects that are scheduled for approval in 2019–2020 or are under implementation in 2018–2020.¹ The TA is not included in any country operations business plan (COBP). However, it will support transport projects listed in the COBP of Bangladesh, Bhutan, India, Nepal and Sri Lanka.² Knowledge exchange among government agencies, nongovernmental organizations (NGOs), think tanks, and the private sector will be one of the key methods of including innovative features in projects. Others will involve capacity building through technical advice and training programs. Innovative features may include subjects related to road and rail safety, engineering design, resettlement and rehabilitation, environment, disaster risk management, gender mainstreaming, communication, asset management and project finance.³ The TA facility approach is suitable as it will (i) provide project preparation and implementation support to a number of projects; (ii) enable efficient use of resources by having the same consultants or NGOs and think tanks work for a number of projects, avoiding repeated lengthy recruitment processes; and (iii) ease knowledge exchange and capacity building activities for a number of executing agencies and implementing agencies.

2. The TA will initially provide project preparation support to the following projects in the pipeline: (i) BAN: Dhaka Metro Line 5 North Investment Program; (ii) BAN: Railway Rolling Stock Maintenance Project; (iii) IND: Indore Metro Rail Project; and (iv) SRI: Railway Investment Program. For projects under implementation, capacity building and technical support will initially be provided to (i) BAN: Chittagong – Cox’s Bazaar Rail Project; (ii) BHU: SASEC Transport, Trade Facilitation and Logistics Project, and (iii) NEP: SASEC Road Connectivity Improvement Project.⁴ These projects involve challenging environmental and resettlement issues which are overwhelming the implementing agency and executing agency, and could potentially cause delays in project implementation.⁵ Hence, additional technical and capacity building support is necessary. This will require additional funds exceeding the budget available for the projects. Detailed information for each project is provided in Appendix 1.

¹ Innovative features are activities or new ideas that are being designed or implemented for the first time in the state or country or region.

² ADB. 2017. *Country Operations Business Plan: Bangladesh, 2018-2020*. Manila.

<https://www.adb.org/sites/default/files/institutional-document/358591/cobp-ban-2018-2020.pdf>.

ADB. 2015. *Country Operations Business Plan: Bhutan, 2016-2018*. Manila.

<https://www.adb.org/sites/default/files/institutional-document/175406/cobp-bhu-2016-2018.pdf>.

ADB. 2017. *Country Operations Business Plan: India, 2018-2020*. Manila.

<https://www.adb.org/sites/default/files/institutional-document/363336/cobp-ind-2018-2020.pdf>.

ADB. 2015. *Country Operations Business Plan: Nepal, 2016-2018*. Manila.

<https://www.adb.org/sites/default/files/institutional-document/174298/cobp-nep-2016-2018.pdf>.

ADB. 2017. *Country Operations Business Plan: Sri Lanka, 2018-2020*. Manila.

<https://www.adb.org/sites/default/files/institutional-document/342221/cobp-sri-2018-2020.pdf>.

³ Includes climate change risks.

⁴ The executing agency for these projects have expressed interest in receiving support from the TA during missions conducted in March–May 2018. The aide memoire of the respective missions documents discussions on the proposed scope of the TA.

⁵ The Bangladesh SASEC Chittagong–Cox’s Bazaar Rail Project, for instance, involves the construction of a 102 km greenfield rail line that passes through three protected areas and several elephant crossings. Innovative mitigation measures proposed under the project include: (i) elephant overpasses (first of its kind in the world), (ii) wildlife underpasses, (iii) funnel fencing, and (iv) sensor systems to provide early warning to train drivers on presence of elephants near the railway line (also first of its kind in the world).

3. The Asia and the Pacific region is experiencing change in various fronts due to rapid economic growth. This creates an evolving financial landscape with shifting development needs. This is the key principle on which the ADB Strategy 2020 is based. Rapid economic growth brings a host of challenges identified in Strategy 2020 such as (i) continued poverty, (ii) disparities in well-being within and among developing member countries (DMCs), (iii) the growing strain on the natural environment, (iv) inadequate infrastructure to deliver social services, (v) the need for better regional cooperation and integration, and (vi) the need for more emphasis on innovation, technology, and higher education.

4. The existence of an evolving business environment among DMCs combined with the OCR-ADF merger has pushed ADB's regional departments to prepare projects that are increasingly complex in nature and are of a larger scale.⁶ In the South Asia Transport and Communications (SATC) division, this has translated into a significant increase in the total number of projects and lending volume, accounting for 44% in 2016 and 30% in 2017 of the overall ADB transport sector lending. Transport sector lending in South Asia Department (SARD) comprised 32% in 2016 and 29% in 2017.⁷ Between 2006 and 2015, SATC has processed an annual average of six projects with a total value of \$1.2 billion. In 2016, 11 projects worth \$2.075 billion and in 2017, nine projects worth \$2.034 billion were approved. This trend is expected to continue, with approximately 10 projects each in the pipeline for approval in 2018 and 2019.

5. The Bangladesh SASEC Chittagong–Cox's Bazaar Railway Project, Phase 1 (SCCB) worth \$2.2 billion, with ADB financing of \$1.5 billion, was approved in 2016. This was the largest project approved by ADB that year and the largest project approved in SATC in the past 10 years. In the same year, the India Bihar New Ganga Bridge (BNGB) Project worth \$832 million with ADB financing of \$500 million was also approved. Support for such mega flagship projects are increasingly being requested by ADB DMCs. Inevitably, these projects come with major challenges and risks, and test the capacity of all project participants including government implementing agencies. Mitigating risks of flagship projects require world class engineering design, thorough financial and economic analysis including investigating private sector participation, and innovative maintenance systems to ensure sustainability of the infrastructure. The complexity of safeguard issues is immensely compounded. For example, the social and environment safeguards categories for both the SCCB and BNGB projects are A as they lead to significant impact on involuntary resettlement and involve highly sensitive environmental issues. Mandatory climate change assessment is rapidly advancing at a global level, hence, the project team and government require additional support in meeting evolving requirements during project preparation and implementation.⁸ These challenges call for engaging high quality technical experts, implementing innovative ideas, and collaborating closely with executing agencies.

6. Similar challenges arise in projects among SARD DMCs due to geographic proximity and similar institutional systems. For example, Bhutan and Nepal are both landlocked and mountainous countries that suffer from severe road blocks due to landslides every monsoon. Hence, similar slope protection measures and road maintenance systems could be applied. Flooding is common in Bangladesh, in some states in India, and the Terai region of Nepal, hence, requiring similar flood and drainage management systems. SATC has been implementing rural road projects in India and Sri Lanka where similar challenges are faced on road design, road

⁶ The merger is a groundbreaking initiative of ADB to combine ordinary capital resources (OCR) and the Asian Development Fund (ADF) approved by the ADB board in 2016. It became effective in January 2017 and is expected to expand ADB's lending capacity by as much as 50%.

⁷ Including cofinancing.

⁸ In place since 2014.

safety, climate resilience, land donation and public consultations. Significant involuntary resettlement is being encountered for projects in Bangladesh, India, Nepal, and Sri Lanka with similar types of social risks, compensation and rehabilitation-related issues. Road safety is a paramount concern in all SARD DMCs where large numbers of railway and road accidents occur in Bangladesh and India. Many common environmental issues such as those related to wildlife exist across SARD DMCs. SATC is currently implementing one rail project in Bangladesh and two road projects in Nepal and Bhutan with elephant routes crossing the road.⁹ All these projects involve innovative wildlife impact mitigation measures. Finally, communication with external stakeholders remains a challenge in most transport projects. Good practices under the India Jaipur Metro Rail Project and Karnataka State Highways Improvement Project, could be shared and replicated in similar projects in South Asia.¹⁰

7. Common issues and challenges within and among the SARD DMCs bring tremendous opportunities for regional cooperation, collaborative learning and South-South collaboration. Under the standard framework of investment projects and TAs where resource packaging is largely project-focused and country-focused, it is difficult to exchange knowledge and expertise on regional and global best practices which is often more efficient and more likely to bring successful results. There are limited avenues for government officials to collaborate with NGOs, think tanks or the private sector within and outside South Asia on topics such as road and rail safety, engineering design, resettlement and rehabilitation, environment management, climate resilience, gender mainstreaming, asset management, and project finance.

B. Outputs and Activities

8. **Output 1: Innovative features developed and/or implemented.** The TA will support the development and implementation of innovative features in at least four projects being implemented in 2018–2020 or proposed for approval in 2019–2020. Innovative features may include specific subject matters under road and rail safety, engineering design, resettlement and rehabilitation, environmental issues, disaster risk management including climate change risks, gender mainstreaming, communication, asset management, and project finance. This may be accomplished through knowledge exchange, collaborative learning, or South-South partnership.

9. **Output 2: Knowledge products disseminated.** To document the innovative features, knowledge exchange, collaborative activities developed and/or implemented, at least three knowledge products will be prepared based on activities under output 1.

⁹ ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Multiranche Financing Facility and Technical Assistance Grant to the People's Republic of Bangladesh for the South Asia Subregional Economic Cooperation Chittagong-Cox's Bazar Railway Project, Phase 1*. Manila. <https://www.adb.org/sites/default/files/project-document/198841/46452-002-rrp.pdf>.

ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Nepal for the South Asia Subregional Economic Cooperation Roads Improvement Project*. Manila. <https://www.adb.org/sites/default/files/project-document/210611/48337-002-rrp.pdf>.

ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant to the Kingdom of Bhutan for the Road Network Project II*. Manila. <https://www.adb.org/sites/default/files/project-document/64685/39225-bhu-rrp.pdf>.

¹⁰ ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Jaipur Metro Rail Line 1-Phase B Project*. Manila. <https://www.adb.org/sites/default/files/project-document/79730/46417-001-rrp.pdf>.

ADB. 2017. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to India for the Karnataka State Highways Improvement III Project*. Manila. <https://www.adb.org/sites/default/files/project-documents/42513/42513-014-rrp-en.pdf>.

10. **Output 3: Capacity building support to transport executing agencies provided.** The TA will provide technical support to at least five government counterparts in the transport sector for the preparation and monitoring of transport projects. Capacity building support will also be provided through training, workshops, seminars and conferences related to the transport sector.

C. Cost and Financing

11. The TA facility is estimated to cost \$1.500 million which will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-6). The key expenditure items are listed in Appendix 2. The TA scope is expected to be expanded depending on changes in projects listed in the pipeline, new challenges that may arise in projects under implementation, and changing needs of the executing agencies. The TA resources may also be replenished from time to time as and when funds are identified and required.¹¹

12. Activities in each participating country will be financed after obtaining the no objection from the respective government. The governments were informed that approval of the TA does not commit ADB to finance any ensuing project.

D. Implementation Arrangements

13. ADB will administer the TA. In particular, the SATC will be responsible for implementing the TA and working closely with government executing agencies in SARD DMCs. The TA will be implemented from August 2018 to December 2020. Disbursements under the TA will be in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time). The indicative implementation arrangements are summarized in the table.

Indicative Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	August 2018 – December 2020		
Executing agency	ADB		
Consultants	To be selected and engaged by ADB		
	Number of contracts	Mode of procurement	Cost Estimates ^a
	Firms 3 contracts (21 person-months)	QCBS (90:10, Quality: Cost ratio)	\$314,500.00
	International Consultants (14 person-months)	ICS	\$321,000.00
	National Consultants (44 person-months)	ICS	\$292,250.00
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Handbook</i> (2010, as amended from time to time).		
Asset turnover or disposal arrangement upon TA completion	Equipment and goods purchased through the TA will be handed over to the executing agency in accordance with ADB's Administrative Order No. 4.02.		

^a Includes remuneration and per diem.

ADB = Asian Development Bank; ICS = individual consultant selection; QCBS = quality and cost-based selection; SATC = South Asia Transport and Communications Division; TA = technical assistance.

Source: ADB estimates.

¹¹ The Republic of Korea e-Asia and Knowledge Partnership Fund (EAKPF) has been identified as a potential financier for the TA. The South Asia Transport and Communications (SATC) Division has submitted an application to access the fund and the Government of Korea is expected to announce its approval by the end of July.

14. **Consulting services.** ADB will engage the consultants and carry out procurement following the *ADB Procurement Policy* (2017, as amended from time to time) and its associated project administration instructions or TA staff instructions. The TA will provide approximately 58 person-months of individual consulting services and 21 person-months of firm-based consulting services in the following areas under transport: road and rail safety, engineering design, resettlement and rehabilitation, environmental issues, disaster risk management including climate change risks, gender mainstreaming, communication, procurement, asset management, and project finance.

II. THE PRESIDENT'S DECISION

15. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$1,500,000 on a grant basis for Supporting Innovation and Knowledge Exchange for Transport Projects in South Asia, and hereby reports this action to the Board.

INITIAL LIST OF PROJECTS TO BE SUPPORTED BY THE TECHNICAL ASSISTANCE FACILITY

Table A1.1: Projects For Approval in 2019-2020

Project Name	Approval Date	Loan Amount (\$ million)	Risk Category	Type of Support Required
1. BAN: Dhaka Metro Line 5 North Investment Program	2020	250	Complex	Review and finalization of project documents to ensure consistency with ADB requirements; detailed quantification of GHG emission reductions and social and environmental benefits; explore possibility of seeking climate finance; inclusion of best practice project communications
2. BAN: Railway Rolling Stock Maintenance Project	2020	200	Low	Revision and introduction of international best practices in manuals and codes; training module; maintenance hubs; and rolling stock specifications for Rolling Stock Unit under Bangladesh Railways; finalization of safeguards documents
3. IND 51356-001: Indore Metro Rail Project	2020	350	Complex	Exploration of special design features to reduce noise and vibration; inclusion of best practices in noise and vibration monitoring protocols and project communications; preparation of safeguards due diligence documents and other project documents to fulfill ADB requirements
4. SRI: Railway Investment Program	2020	500	Complex	Preparation of safeguards due diligence reports and other project documents to fulfill ADB requirements; capacity building of executing agency on quantification of GHG emissions and reductions; explore opportunities for climate finance

ADB = Asian Development Bank, BAN = Bangladesh, GHG = greenhouse gas, IND = India, SRI = Sri Lanka
Source: Asian Development Bank.

Table A1.2. Projects Under Implementation In 2018-2020

Project Name	Year Approved	Loan Amount (\$ million)	Risk Category	Type of Support Required
1. BAN: SASEC Chittagong Cox's Bazaar Railway Project (Project no. 46452-003)	2016	300.00	Complex	Pilot testing of sensor technology systems for detecting elephant presence near railway lines; rail safety awareness campaigns; project communications
2. BHU: SASEC Transport, Trade Facilitation and Logistics Project (Project No. 47284-002)	2016	19.61	Low	Capacity building of executing agency and implementing agency on preparation of safeguards monitoring and due diligence reports
3. NEP: SASEC Roads Improvement Project (Project no. 48337-002)	2016	186.80	Complex	Technical support for finalizing baseline wildlife survey and designing wildlife mitigation measures; inclusion of innovative wildlife conservation activities in partnership with relevant local organizations in the biodiversity conservation plan; and implementation of the biodiversity conservation plan

BAN = Bangladesh, BHU = Bhutan, NEP = Nepal, SASEC = South Asia Subregional Economic Cooperation
Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
A. Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	574.00
ii. National consultants	353.75
b. Out-of-pocket expenditures	
i. International and local travel	201.50
ii. Reports and communications	8.00
iii. Equipment ^b	120.00
iv. Surveys	110.00
v. Training, seminars, and conferences ^c	55.0
2. Miscellaneous administration and support costs ^d	7.04
3. Contingencies	70.71
Total (A)	1,500.00

Note: The technical assistance (TA) is estimated to cost \$1.5 million. Contributions from the Asian Development Bank are presented in the table above.

^a Financed by the Asian Development Bank's Technical Assistance Special Fund (TASF-VI).

^b Equipment necessary for implementing innovative ideas such as sensor system required for detecting elephant presence near railway tracks. Equipment will be procured by consultants and handed over to the executing agency and/or implementing agency upon TA completion.

^c Includes payments for rental of venue, travel expenses and meals of participants, tailor-made training programs and workshops that will be organized and conducted by TA consultants, and other regional, international conferences, seminars, and training programs

^d Incurred by the consultants during TA implementation.

Source: Asian Development Bank estimates.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=51314-001-TARreport>

1. Terms of Reference for Consultants
2. ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Multiranche Financing Facility and Technical Assistance Grant to the People's Republic of Bangladesh for the South Asia Subregional Economic Cooperation Chittagong-Cox's Bazar Railway Project, Phase 1*. Manila.
3. ADB. 2016. Report and Recommendation of the President to the Board of Directors: *Proposed Loan and Grant to the Kingdom of Bhutan for the South Asia Subregional Economic Cooperation Transport, Trade Facilitation and Logistics Project*. Manila.
4. ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to Nepal for the South Asia Subregional Economic Cooperation Roads Improvement Project*. Manila.
5. ADB. 2016. *Technical Assistance for the Dhaka Metro Project*. Manila.