Report and Recommendation of the President to the Board of Directors

Project Number: 48218-003
November 2017

Proposed Loan and Technical Assistance Grant
Nepal: Rural Connectivity Improvement Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 2 November 2017)

Currency unit	–	Nepalese rupee/s (NRe/NRs)
NRe1.00	=	$0.00968
$1.00	=	NRe103.346

ABBREVIATIONS

ADB	–	Asian Development Bank
ADS	–	Agriculture Development Strategy
CPF	–	community participation framework
DOLIDAR	–	Department of Local Infrastructure Development and Agricultural Roads
GDP	–	gross domestic product
GESI	–	gender equality and social inclusion
km	–	kilometer
MOFALD	–	Ministry of Federal Affairs and Local Development
RBN	–	Rural Board Nepal
TA	–	technical assistance

NOTE

In this report, "$" refers to United States dollars.

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PROJECT AT A GLANCE

1. Basic Data — **Project Number:** 48218-003

Project Name	Rural Connectivity Improvement Project	**Department /Division**	SARD/SAER
Country	NEP	**Executing Agency**	Dept of Local Infra Devt & Agri Roads
Borrower	Nepal		

2. Sector	**Subsector(s)**	**ADB Financing ($ million)**
✓ **Agriculture, natural resources and rural development**	Rural market infrastructure	100.00
	Total	**100.00**

3. Strategic Agenda	**Subcomponents**	**Climate Change Information**	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation ($ million)	2.32
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	Climate Change impact on the Project	Medium

4. Drivers of Change	**Components**	**Gender Equity and Mainstreaming**	
Governance and capacity development (GCD)	Organizational development	Effective gender mainstreaming (EGM)	✓
Private sector development (PSD)	Public sector goods and services essential for private sector development		

5. Poverty and SDG Targeting		**Location Impact**	
Geographic Targeting	No	Rural	High
Household Targeting	No		
SDG Targeting	Yes		
SDG Goals	SDG1, SDG8, SDG11		

6. Risk Categorization: Low

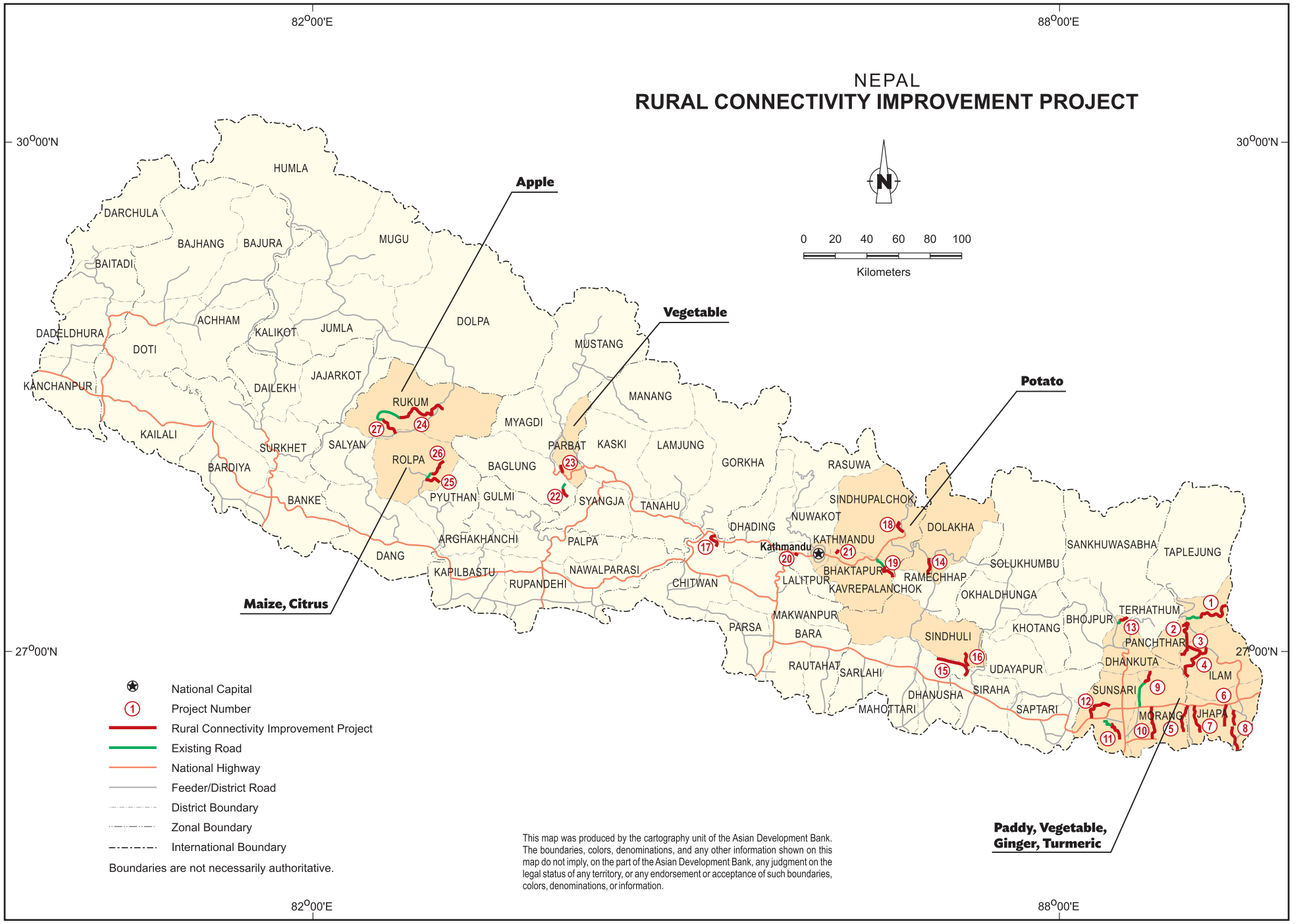
7. Safeguard Categorization **Environment:** B **Involuntary Resettlement:** C **Indigenous Peoples:** C

8. Financing

Modality and Sources	**Amount ($ million)**
ADB	**100.00**
Sovereign Project (Concessional Loan): Ordinary capital resources	100.00
Cofinancing	**0.00**
None	0.00
Counterpart	**35.72**
Government	35.72
Total	**135.72**

Note: An attached technical assistance will be financed on a grant basis by the Technical Assistance Special Fund (TASF-6) in the amount of $1,000,000.

Source: Asian Development Bank


NEPAL
RURAL CONNECTIVITY IMPROVEMENT PROJECT
82°00'E
88°00'E
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N
0 20 40 60 80 100
Kilometers
Apple
Vegetable
Potato
Maize, Citrus
Paddy, Vegetable, Ginger, Turmeric
HUMLA
DARCHULA
BAJHANG
BAJURA
MUGU
BAITADI
DADELDHURA
DOTI
ACHHAM
KALIKOT
JUMLA
DOLPA
MUSTANG
KANCHANPUR
DAILEKH
JAJARKOT
MANANG
RUKUM
MYAGDI
KAILALI
SURKHET
SALYAN
ROLPA
PARBAT
KASKI
LAMJUNG
GORKHA
RASUWA
BARDIYA
BAGLUNG
PYUTHAN
GULMI
SYANGJA
TANAHU
SINDHUPALCHOK
BANKE
NUWAKOT
DHADING
DOLAKHA
ARGHAKHANCHI
PALPA
KATHMANDU
Kathmandu
SANKHUWASABHA
TAPLEJUNG
DANG
KAPILBASTU
NAWALPARASI
CHITWAN
BHAKTAPUR
RAMECHHAP
SOLUKHUMBU
LALITPUR
KAVREPALANCHOK
OKHALDHUNGA
RUPANDEHI
MAKWANPUR
TERHATHUM
BHOJPUR
PARSA
BARA
KHOTANG
SINDHULI
PANCHTHAR
RAUTAHAT
SARLAHI
UDAYAPUR
DHANKUTA
ILAM
DHANUSHA
SIRAHA
SUNSARI
MAHOTTARI
SAPTARI
MORANG
JHAPA
National Capital
Project Number
Rural Connectivity Improvement Project
Existing Road
National Highway
Feeder/District Road
District Boundary
Zonal Boundary
International Boundary
Boundaries are not necessarily authoritative.
This map was produced by the cartography unit of the Asian Development Bank. The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the Asian Development Bank, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.
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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Nepal for the Rural Connectivity Improvement Project. The report also describes proposed technical assistance (TA) for Institutional Strengthening of the Nepal Rural Road Sector for Sustainable Development, and if the Board approves the proposed loan, I, acting under the authority delegated to me by the Board, approve the TA.

2. The project will improve the accessibility of the road network in agriculture value chain development zones in Nepal and thereby increase rural population engagement in agricultural production and agribusiness development. It will improve 388 kilometers (km) of rural roads to all-weather standards in 16 districts located in five states, and enhance the capacity of the rural infrastructure agency to address institutional constraints on rural road development. [1]

II. THE PROJECT

A. Rationale

3. Nepal is one of the least developed countries in the world and has the second-lowest gross domestic product (GDP) per capita in South Asia. One-fifth of its population lives below the national poverty line and is concentrated in rural areas.[2] Between 2012 and 2016, Nepal's real GDP grew at an average annual rate of 3.4%. In 2017, GDP increased to 6.9%, recovering from lower GDP growth after the 2015 earthquake.[3] Although services comprised the largest sector, equivalent to 48% of GDP during this period, the majority of the country's working population (65%–70%) are employed in the agriculture sector, which contributes 35% to the country's GDP. This underscores how vital the agriculture sector is, especially to Nepalis living and finding sustenance in rural areas where poverty is widespread.

4. Nepal's agriculture suffers generally from low productivity caused by high transaction costs stemming from poor connectivity between farms and markets, poor economies of scale, and poor quality of produce, compounded by weak agricultural research and development. The country's three distinct agro-ecological zones—terai (lowland), hills, and mountains—influence agricultural production and define economic opportunities and the constraints facing farmers. While the geography creates difficulties, the wide range of agro-ecological zones and micro climates makes possible the production of a broad range of agricultural outputs. This creates the potential to improve agricultural productivity and farm incomes, and meet demands of domestic, regional, and global markets.

5. Recognizing this vast potential, the Government of Nepal took a bold step to bring in much-needed development to the sector by signing the Agriculture Development Strategy (ADS) in 2015.[4] The government recognized that dramatic changes were needed, such as improving connectivity, promoting agribusiness, and increasing commercialization across the sector, if the sector was to perform to its potential and raise its long-term annual growth rate from 3% to the government's goal of 5%. The ADS recognizes access as a major constraint on developing agriculture, particularly commercial agriculture value chains. Nepal's current road network has a total length of 70,126 km, of which 12,494 km form the strategic road network—the core network of national highways and feeder roads connecting district headquarters. The remaining 57,632 km are classified as the local road network—rural roads connecting rural communities to district headquarters.[5] Nepal's geology and topography, combined with its rural population distribution,

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[1] State 1 (Panchthar, Ilam, Jhapa, Morang, Sunsary, and Dhankuta), State 3 (Sindhuli, Kavre, Sindhupalchowk, Dolakha, Bhaktapur, Kathmandu, and Chitwon), State 4 (Parbat), State 5 (Rolpa), and State 6 (Rukum).

[2] $1.90 purchasing power parity per day.

[3] R. Sharma. 2017. *Economy to grow at 23-yr-high of 6.9pc*. The Kathmandupost. 26 April. http://kathmandupost.ekantipur.com/news/2017-04-26/economy-to-grow-by-23-yr-high-at-69pc.html.

[4] Government of Nepal, Ministry of Agricultural Development. 2015. *Agriculture Development Strategy 2015 to 2035*. Kathmandu.

[5] Government of Nepal, Department of Roads. 2014. *Statistics of Strategic Road Network 2013–2014*. Kathmandu.

restricts and complicates efforts to provide all-weather road connectivity to rural communities. Only 3.5% of the local road network is paved, while the rest is either gravel or earth roads. During the rainy season, the majority of rural roads are not operational and are in poor condition, restricting access to markets, schools, and hospitals, and limiting economic opportunities and social services in general.

6. Rural transport in many high-potential agricultural production areas is limited to earth roads which are not operational after rains, resulting in high transport costs and losses of production quality and quantity. The average travel time required for rural households to reach public facilities and markets is prohibitively long. An average household needs to spend more than 3.5 hours to reach the nearest bus stop and more than 2.0 hours to the nearest market center. Nearly 40% of rural households live more than 2 hours away from paved roads, over 25% live 2 hours away from the nearest bus stop or telephone booth, while a little less than 33% are 2 hours away from a market center. The ADS emphasizes the urgent need for rural road access to productive agricultural areas, and provides a target for the upgrading or construction of 50 km of rural roads per district during the first 5 years of the strategy period (2015 to 2020). In addition to coverage, quality of transport infrastructure should be ensured since it will greatly impact on rural communities' access to economic and social services, assistance during emergency events, and access to markets for agricultural inputs and produce. Improving rural road connectivity and transport efficiency throughout Nepal is thus key to ensuring that benefits of economic growth reach rural areas. However, many rural roads are either missing links (the "last mile" connecting to the core network), or only offer seasonal access, isolating a large portion of the population in rural areas during the rainy season. Constructing all-weather roads and ensuring sustainable maintenance of the constructed roads is required to improve the rural road connectivity and efficiency as envisaged in the ADS.

7. Only 17% of the rural population in Nepal has access to all-weather roads, compared with 60% in India and 37% in Bangladesh. The project will improve 388 km of rural roads to all-weather standards, serving the agriculture sector and 7.5 million rural people (28.5% of the country's population) in 16 districts in five states (footnote 1), which are critical to the agriculture value chain development zones as identified by the Prime Minister Agriculture Modernization Project.[6] The project will support the ADS goals of increasing agricultural productivity, encouraging commercial agriculture and agribusiness development, increasing employment opportunities for rural poor people, and reducing the poverty level. All the rural roads have been selected from the district road master plans through robust selection criteria which include an objective assessment for prioritization. The selection criteria took into consideration the population size, each district's agricultural potential, the number of agricultural farms and commercial establishments, economic potential, and access to education facilities, aligned with the ADS.

8. The project is consistent with the strategic objective set out in the government's Fourteenth Plan (2017–2019) to expand the rural road capacity to increase connectivity, provide greater access to social services and markets, and promote the agriculture sector.[7] The government also committed in the recent 2017 Vientiane Declaration on Sustainable Rural Transport to promote inclusive, affordable, accessible, and sustainable rural transport infrastructure and services.[8] The project is in line with the Asian Development Bank (ADB) country partnership strategy, 2013–2017.[9] The project is also included in the country operations business plan, 2018–2020 for Nepal.[10]

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[6] Out of seven super zones, five have been selected. Of the 30 districts, seven have been selected and farmers of the respective districts will benefit from the project. Ministry of Finance. 2016. Budget Speech of Fiscal Year 2016/2017. 28 May. http://www.mof.gov.np/uploads/document/file/Budget_Speech_final_2016_20160602105902.pdf

[7] Government of Nepal, National Planning Commission. 2016. *The Fourteenth Plan (FY2017–2019)*. Kathmandu.

[8] United Nations Centre for Regional Development. 2017. *Vientiane Declaration on Sustainable Rural Transport towards Achieving the 2030 Agenda for Sustainable Development.* Adopted at the 10th Regional Environmentally Sustainable Transport Forum in Asia. Lao People's Democratic Republic. 14–16 March.

[9] ADB. 2013. *Country Partnership Strategy: Nepal*, *2013–2017*. Manila.

[10] ADB. 2017. *Country Operations Business Plan: Nepal, 2018–2020.* Manila.

9. **Value added by ADB assistance.** The project builds on the experience and key successes of ADB-supported rural road programs in India and Sri Lanka, particularly on (i) strengthening institutional capacity, (ii) designing rural roads to all-weather standards with safety features, and (iii) improving road maintenance.[11] The project executing agency, Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR), assists local governments in engineering aspects of various infrastructures. Due to its broad mandate of infrastructure development at the district level, there is much room to improve business procedures covering the whole life cycle of rural roads, and strengthen related capacities of DOLIDAR staff. The proposed TA will strengthen DOLIDAR as a key institution in the rural road sector contributing to sustainable development in the country. Road traffic accidents are rising in Nepal because of the increasing number of vehicles and unsafe road conditions. The project design adapted appropriate measures, including cautionary and informatory signs, guard posts, speed breakers, object markers, and temporary traffic control measures during construction at settlements and critical locations, and safety trainings for vulnerable road users including women and children. The government has increased its annual budget for local road network construction and maintenance from $264 million in 2014 to $546 million in 2017, and several development partners are participating in improving rural road maintenance.[12] However, the majority of the rural road network comprises earth roads which become impassable during the rainy season. To address this issue, the project roads will be improved to all-weather standards. This will significantly improve the maintainability of the rural road network. In addition, civil works contracts for the project roads will include post-completion performance-based maintenance for 3 years. It aims to assess the efficacy of adapting long-term performance-based maintenance by the private sector in Nepal, and encourage its use where appropriate. The possible benefits include better quality assurance and greater efficiency, which can further enable the prioritization of budget allocation for rural road maintenance.

B. Impact and Outcome

10. The project is aligned with the following impact: connectivity between rural communities, productive agricultural areas, and socio-economic centers in Nepal improved (footnote 7). The project will have the following outcome: transport efficiency on project roads increased.[13]

C. Outputs

11. **Output 1: Rural road conditions between the selected rural communities, productive agricultural areas, and socio-economic centers improved.** Road conditions of about 388 km rural roads between the selected rural communities, productive agricultural areas, and socio-economic centers will be improved to all-weather standards with safety features,[14] and will be maintained for 3 years.[15]

12. **Output 2: Capacity of rural infrastructure agency and road users in project areas enhanced.** Capacity development of DOLIDAR will involve (i) trainings on safeguards, road safety awareness, road asset management, contract management, and rural road design and construction; (ii) development of vision, policy, a business plan, and institutional structure frameworks for a state-of-the-art rural road agency; (iii) development of pavement design, quality control, and road safety guidelines; and (iv) development of a detailed design for the future

[11] ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Rural Roads Sector II Investment Program*. Manila (MFF0001- IND); ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Rural Connectivity Investment Program*. Manila (MFF0069-IND); ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to the Democratic Socialist Republic of Sri Lanka for the Integrated Road Investment Program*. Manila (MFF0086-SRI).

[12] Development Coordination (accessible from the list of linked documents in Appendix 2).

[13] The design and monitoring framework is in Appendix 1.

[14] Road safety measures such as cautionary and information signs, guard posts, speed breakers, and object markers.

[15] Performance-based maintenance will be undertaken for 3 years after construction by the same contractor in charge of the road construction.

pipeline. Awareness training of road users will include road safety, human trafficking, and sexually transmitted infection prevention.

D. Summary Cost Estimates and Financing Plan

13. The project is estimated to cost $135.7 million (Table 1). Detailed cost estimates by expenditure category and by financier are included in the project administration manual.[16]

Table 1: Summary Cost Estimates
($ million)

Item		Amount[a]
A.	**Base Cost**[b]	
	1. Rural road conditions improved[c]	102.49
	2. Capacity of rural infrastructure agency and road users enhanced[d]	10.54
	Subtotal (A)	**113.03**
B.	**Contingencies**[e]	**21.15**
C.	**Financial Charges during Implementation**[f]	**1.54**
	Total (A+B+C)	**135.72**

[a] Includes taxes and duties of $17.3 million. Such amount does not represent an excessive share of the project cost. The government will finance taxes and duties of about $17.3 million.
[b] In mid-2017 prices as of 3 July 2017.
[c] Includes social and environment mitigation, equipment, and vehicles.
[d] Includes the cost of a construction supervision consultant, project management consultant, and detailed project report consultant.
[e] Physical contingencies computed at 9% for civil works and 3% for consulting services. Price contingencies computed at 0.3%–1.5% on foreign exchange costs and 6.0%–6.5% on local currency costs in line with escalation rates published by the Asian Development Bank at http://lnadbg1.asiandevbank.org/erd0004p.nsf/; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate. In case there are savings from the "Unallocated" category, ADB in consultation with the Borrower, would prioritize reallocation of such savings to the "Civil Works" category and utilization for additional civil works.
[f] Interest during construction for the Asian Development Bank loan has been calculated at 1% per annum.
Source: Asian Development Bank estimates.

14. The government has requested a concessional loan in various currencies equivalent to SDR71,249,000 ($100 million equivalent)[17] from ADB's ordinary capital resources to help finance the project. The loan will have a 32-year term, including a grace period of 8 years; an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter; and such other terms and conditions set forth in the draft loan agreement.

15. The summary financing plan is in Table 2.[18] ADB will finance the expenditures in relation to investment costs, recurrent costs, contingencies, and financing charges during implementation.

Table 2: Summary Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (concessional loan)	100.00	74.0
Government	35.72	26.0
Total	**135.72**	**100.0**

Source: Asian Development Bank estimates.

[16] Project Administration Manual (accessible from the list of linked documents in Appendix 2).
[17] SDR0.71249 = $1.00 as of 3 November 2017.
[18] The Swiss Agency for Development and Cooperation is currently financing a project for the construction of rural roads in Sindhuli (one of the proposed project districts) in State 3, under its Local Roads Improvement Program. ADB is discussing with the agency the opportunity to capture their program as cofinancing on a parallel basis and for it not to be administered by ADB.

16. Climate adaptation is estimated to cost $2.9 million. ADB will finance 80% of adaptation costs.[19]

E. Implementation Arrangements

17. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual (footnote 16).[20]

Table 3: Implementation Arrangements

Aspects	**Arrangements**		
Implementation period	January 2018–January 2023[a]		
Estimated completion date	31 January 2023		
Estimated loan closing date	31 July 2023		
Management			
(i) Executing agency	MOFALD through DOLIDAR		
(ii) Implementation unit	Project coordination unit in Kathmandu and five project implementation units at state level and 10 project site offices (82 staff)		
Procurement	National competitive bidding	11 contracts (civil works) 2 contracts (vehicles)	About $95.4 million About $0.9 million
	Shopping	1 contract (vehicles) Multiple contracts (office equipment)	About $0.2 million
Consulting services	QCBS (CSC) 80:20	24 person-months international and 2,797 person-months national	About $6.6 million
	QCBS (DPR) 80:20	70 person-months national	About $3.0 million
	QCBS (TRTA) 90:10	16 person-months international and 24 person-months national	About $1.0 million
	Individual (project management)	99 person-months national	About $1.0 million
Retroactive financing and/or advance contracting	Retroactive financing and advance contracting will be used for goods, civil works, and consulting services. Retroactive financing will be provided to finance expenditure incurred prior to loan effectiveness but not earlier than 12 months before the date of signing of the loan agreement and not exceeding 20% of the respective loan amount.		
Disbursement	The loan proceeds will be disbursed following ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, CSC = construction supervision consultant, DOLIDAR = Department of Local Infrastructure Development and Agricultural Roads, DPR = detailed project report, MOFALD = Ministry of Federal Affairs and Local Development, QCBS = quality- and cost-based selection, TRTA = transaction technical assistance.

[a] Performance-based maintenance will be undertaken for 3 years after construction. After the loan closing, performance-based maintenance will be financed by the government.

Source: Asian Development Bank.

[19] Project Climate Risk Assessment and Management Report (accessible from the list of linked documents in Appendix 2).

[20] The project organization is structured such that changes in form of government anticipated following the 2017 elections will not hamper the administration of the civil works contracts. A project coordination unit (PCU) will be established at the central level in DOLIDAR. Under the PCU, five project implementation units, with permanent engineers deputed from DOLIDAR, will be established in five states each administering non-overlapping contracts.

III. ATTACHED TECHNICAL ASSISTANCE

18. Transaction technical assistance (TA) will be provided for Institutional Strengthening of the Nepal Rural Road Sector for Sustainable Development. The focus of the TA will be to (i) redefine and restructure DOLIDAR into a state-of-the-art rural road agency, and (ii) develop and implement new business procedures, and train DOLIDAR and state and municipal officials to enable DOLIDAR to adopt a new institutional and management structure. New business procedures will cover (i) planning processes, (ii) procurement and contracting processes, (iii) quality assurance systems, (iv) engineering, and (v) human resource management. The TA is estimated to cost $1,250,000, of which $1,000,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF 6).[21] The government will provide counterpart support in the form of counterpart staff, office space, workshop venues, and other in-kind contributions. The executing agency of the TA will be the Ministry of Federal Affairs and Local Development (MOFALD) through DOLIDAR. A Kathmandu-based project coordination unit established within DOLIDAR will support the implementation of the TA. The TA will be implemented over 12 months, from October 2018 to September 2019. An international consulting firm will be recruited in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time) to help with this work (footnote 16).

IV. DUE DILIGENCE

A. Technical

19. DOLIDAR prepared the detailed design of the project roads using its own resources and is compliant with the government's standards and specifications for rural roads to improve project readiness. The project adopted environmentally friendly road construction practices and a participatory approach in project preparation through transect surveys, which enhanced the climate-resilience aspect of the design. These practices emphasize the use of (i) existing alignments; (ii) mass-balancing to minimize soil and vegetation disturbance and risk of erosion; (iii) flexible, porous gabions to stabilize steep slopes; and (iv) bio-engineering to minimize erosion from exposed soils, while the participatory approach incorporates local knowledge into the design of sections that are prone to flooding and erosion. With bidding documents ready, advance actions have been taken to ensure that construction can commence early.

B. Economic and Financial

20. **Economic viability.** The economic analysis was carried out in accordance with ADB's Guidelines for the Economic Analysis of Projects.[22] The proposed project will improve connectivity in the rural communities in 16 districts by upgrading fair-weather roads to all-weather roads, and will have large positive impacts on agricultural productivity and quality of life, with rural communities having better access to health and education.[23] The principal benefits considered in the analysis were transport cost savings in terms of vehicle operating costs, and travel time savings of the existing and incremental traffic of people and goods over the analysis period, separately capturing the additional cost of travel and transportation during the rainy season when roads are not accessible. With the project providing reliable all-year connectivity and significantly lowering transportation costs, there will be increased agricultural production and crop diversification in the project areas, but these are not quantified and included in the analysis. The economic analysis indicated that the project is economically viable overall, with an economic internal rate of return of 13.4%, with all individual road projects having an economic internal rate of return above the acceptable rate of return of 9.0%. Sensitivity analysis indicated that with a 10% increase in capital costs or a 10% decrease in benefits the overall investment remains economically viable.

[21] Attached Technical Assistance Report (accessible from the list of linked documents in Appendix 2).
[22] ADB. 2017. *Guidelines for the Economic Analysis of Projects*. Manila.
[23] Gravel or earth roads.

21. **Financial sustainability.** MOFALD's budget allocation has more than doubled in 3 years from about $404 million in 2014 to $906 million in 2017; about 60% of this funding, i.e., about $546 million, is estimated to be available for rural road construction and maintenance in 2017. The Road Board Nepal (RBN) generates revenue from fuel levies and toll charges, and provides maintenance funding for rural roads. The allocation from the RBN has also more than doubled during 2017; about $16.7 million for rural road maintenance. Rural road maintenance is currently undertaken through district development committees and district technical offices with DOLIDAR providing the overall administrative, technical, and program support. There is an established maintenance planning and budget allocation system in Nepal with the district development committees preparing an annual road maintenance plan; budget is allocated based on this plan. Rural communities are involved in road maintenance activities through the road maintenance groups. Development partners also support rural road maintenance in Nepal. The annual maintenance funding requirement for rural roads which are in maintainable condition (comprising about one-third of the rural roads) is estimated at about $90 million per year, or about 25% of the average annual budget allocation from 2013 to 2017. An assessment of maintenance requirements and budget allocation indicated that with the annual road maintenance plan, the maintenance needs of upgraded roads will be fully met. To further support financial sustainability, the project will include performance-based maintenance in civil works contracts for 3 years to ensure better asset quality and improved maintenance. DOLIDAR has established a rural transport information and management system which incorporates improved asset management practices. DOLIDAR's capacity on fund and asset management will be strengthened through the attached TA.

C. Governance

22. **Institutional.** DOLIDAR was established in 1998 under MOFALD as the lead national institution for supporting local infrastructure initiatives. DOLIDAR is responsible for assisting local governments in the districts in engineering aspects of civil engineering construction. This includes planning of local rural roads, irrigation and river control, water supply and sanitation, suspension bridges, housing and building, and rural energy under the ministry in coordination with local authorities. In the rural transport subsector, DOLIDAR is responsible for the development and maintenance of the local road network (57,632 km) connecting to major feeder roads and national arterial roads. DOLIDAR is headed by a director general who reports to the secretary of MOFALD. DOLIDAR is experienced in implementing projects funded by development partners such as ADB, the World Bank, Swiss Agency for Development and Cooperation, and the Department for International Development of the United Kingdom.

23. **Financial management.** The financial management risk is *moderate*. DOLIDAR has implemented five ADB projects with the first one approved in 2004; three projects are ongoing. The department has a dedicated finance section with sufficient staff and adequate capacity in financial accounting and ADB disbursement procedures. Overall, the disbursement and budgeting mechanisms are adequate. However, improvements are required in the areas of internal audit function, detailed accounting and financial reporting, and effective use of available accounting software. To strengthen DOLIDAR's financial management and internal control, the project coordination unit will (i) develop internal audit control guidelines for the project, (ii) engage a financial expert to conduct internal checks and controls and work on the integration of project accounting with DOLIDAR's financial management information systems, and (iii) adopt a computerized government accounting system for accounting and monitoring. Each of the project implementation units will have one accountant. Project management staff will be trained on ADB policies and procedures on loan disbursement, financial reports, and audit requirements.

24. **Procurement and anticorruption.** Procurement will be in accordance with ADB's Procurement Guidelines (2015, as amended from time to time). The government promulgated the Public Procurement Act (2007) and Public Procurement Regulations (2007), both of which are generally acceptable to ADB and encompass best international procurement practices. The Public Procurement Monitoring Office was assigned as the national procurement oversight body under

the Office of the Prime Minister and Council of Ministers. The government will publish project information on DOLIDAR's website, including business opportunities associated with the project.

25. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and DOLIDAR. The specific policy requirements and supplementary measures are described in the project administration manual (footnote 16).

D. Poverty, Social, and Gender

26. **Poverty reduction and social impact.** There are 7.5 million people (or 28.5% of the country's population) living in 16 districts crossed by the project roads. The coverage of all-weather roads is about 35% of the total road network in these districts compared to the national average of 67%. Household surveys carried out in the project area reveal that the major sources of income are agricultural produce (20%), trade and business (12%), and services (10%). The results of a household survey among 30% of the total number of households and 178 focus group discussions conducted as part of the poverty and social assessment indicate that the project will increase economic and employment opportunities. The project will generate an estimated 3.8 million person-days of employment over the construction and maintenance periods.

27. **Gender equality and social inclusion.** The poverty and social analysis included a gender assessment based on the socio-economic characteristics of 6,742 women and consultations with 584 women. Overall, women were supportive of the project because of the potential access to economic opportunities and services. The project is categorized *effective gender mainstreaming*, and a gender equality and social inclusion (GESI) action plan was prepared, which includes the following activities: (i) target at least 33% women participants in project orientation, planning, and public and social auditing of project roads; (ii) conduct awareness training on STI including HIV/AIDS, and anti-human-trafficking to 4,000 people and secondary school children; (iii) implement core labor standards with gender-inclusive provisions and women-friendly work environments; (iv) conduct road safety awareness programs to 4,000 people (including 40% women) and 27 schAools along the project roads; (v) develop and deliver special livelihood enhancement skills training to all project-affected vulnerable households and to 200 poor families living in the project areas, with 33% women targeted; and (vi) conduct technical training of DOLIDAR staff including women staff. GESI experts and field staff will be hired to ensure effective implementation of the GESI action plan.

28. **STI, including HIV/AIDS, and human trafficking.** The National Center for AIDS and Sexually Transmitted Diseases Control under the Ministry of Health and Population coordinates activities under the National AIDS Strategy, 2006–2011, which emphasizes prevention as the most effective response.[24] The Ministry of Women, Children, and Social Welfare coordinates activities to counter human trafficking. A large amount of information and print material on human trafficking has been developed with the support of the United States Agency for International Development, which will be reproduced for use in project areas. The project incorporates measures to mitigate STI (including HIV/AIDS) risks and counter human trafficking by having consultants conduct awareness programs in the corridors of influence. The civil works contractors will carry out STI (including HIV/AIDS) and human trafficking awareness sessions for their laborers at work sites, which will be monitored by the construction supervision consultant.

E. Safeguards

29. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.[25]

[24] Government of Nepal, National Center for AIDS and Sexually Transmitted Diseases Control. 2011. *National HIV/ AIDS Strategy*. Kathmandu. https://www.ncasc.gov.np//uploaded/publication/pub/National_HIV_AIDS_Strategy_2011_2016__November_29_2011.pdf.

[25] ADB. Safeguard Categories. https://www.adb.org/site/safeguards/safeguard-categories.

30. **Environment (category B).** Impacts from all 27 roads were screened and assessed using an environmental checklist developed in similar projects and adapted to local conditions and road design (footnote 11). A single initial environmental examination report was prepared in line with ADB's Safeguard Policy Statement. Most of the negative impacts are coterminous with the construction stage, site specific, limited within the construction corridor, and easily mitigated. Anticipated environmental impacts are typical to road construction, such as the generation of dust, noise, exhaust, and waste from construction and worker camps; water contamination; and occupational health and safety hazards. Mitigation measures for all impacts have been developed and integrated into construction works through incorporation of a standard environmental management plan in the bidding documents and provision of road-specific environmental management plans with the detailed project reports. An integrated social and environmental grievance redress mechanism has been formed to continue receiving feedback and complaints from affected parties and addressing them during the construction and operation stages. To ensure the effective implementation of safeguard requirements, the existing institutional capacities and arrangements will be augmented by environmental experts in the project coordination unit and the construction supervision consultant. The initial environmental examination report will be disclosed on the ADB and DOLIDAR websites.

31. **Involuntary resettlement (category C).** The construction will be carried out mostly within existing road corridors and rights-of-way, with minor widening because of road safety in some cases, which will require narrow strips of land (less than 5% of total holdings) to be made available. Due diligence identified no major impacts to land and no displacement of structures, private trees, or community resource properties. A grievance redress mechanism will be set up in all project areas. Should land be required when implementing projects, the voluntary land donation system will be used. Specific procedural requirements for land donation, involving comprehensive consultations with the communities, have been prepared in the community participation framework (CPF)[26] which was developed in similar projects (footnote 11). The government will ensure that land donation is undertaken without coercion and documented in a transparent manner, and will have the process verified by an independent monitor. The CPF was disclosed on the ADB website and also includes a mitigation measures matrix which details the types of support provided for all types of losses, including special assistance for vulnerable households.

32. **Indigenous peoples (category C).** The project will improve existing road corridors and rights-of-way and thus will not have any impact on the culture, human rights, or livelihood systems. The social assessment identified the presence of *Janajati* (indigenous peoples) in project areas. However, these groups are largely assimilated into the local population. The project will not have any differential impact on indigenous peoples; they will receive similar benefits from the project to those received by nonindigenous peoples, and there will be no impact on their tribal and cultural identity. To further mitigate the risks, the CPF identifies special provisions for any affected indigenous peoples, ensuring that their living standards are not adversely affected by the project.

F. Summary of Risk Assessment and Risk Management Plan

33. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.[27]

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Unstable political environment could delay implementation	General risks associated with the internal security situation and political instability in certain parts of the country can hinder construction activities. The overall design was made with increased focus on people's participation in decision making using a community participation

[26] Community Participation Framework (accessible from the list of linked documents in Appendix 2). The framework was disclosed on the ADB website in October 2017.
[27] Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Risks	Mitigating Measures
	framework for designing the project, which helped garner support from the community.
Weak governance and possibility of collusion and intimidation during procurement	E-procurement system will be used to ensure transparency and good governance. DOLIDAR will also disclose on its website information concerning the project and business opportunities associated with the project. It will exert increased efforts to control collusion and intimidation. ADB will closely monitor procurement process.
Weak capacity of newly appointed staff in PCU and PIUs in ADB procedures and policies on disbursement and audits	PCU will develop internal control guidelines to strengthen the internal audit. Training will be provided to project management staff. A financial expert will support PCU and PIUs in ensuring proper financial management and audit during project implementation.
Extreme weather conditions could cause significant damage to the road network	To address climate change impacts, road embankment height on flood-prone areas will be increased, side drains and new culverts will be provided, and bridges and gabion retaining walls will be constructed.

ADB = Asian Development Bank, DOLIDAR = Department of Local Infrastructure Development and Agricultural Roads, PCU = project coordination unit, PIU = project implementation unit.
Source: Asian Development Bank.

V. ASSURANCES

34. The government and DOLIDAR have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and loan documents.

35. The government and DOLIDAR have agreed with ADB on certain covenants for the project, which are set forth in the draft loan agreement.

VI. RECOMMENDATION

36. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan in various currencies equivalent to SDR71,249,000 ($100,000,000 equivalent)[28] to Nepal for the Rural Connectivity Improvement Project, from ADB's ordinary capital resources, in concessional terms, with an interest charge at the rate of 1.0% per year during the grace period and 1.5% per year thereafter; for a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Takehiko Nakao
President

17 November 2017

[28] SDR0.71249 = $1.00 as of 3 November 2017.

DESIGN AND MONITORING FRAMEWORK

Impact the Project is Aligned with Connectivity between rural communities, productive agricultural areas, and socio-economic centers in Nepal improved (Fourteenth Plan, FY2017–2019) [a]			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources and Reporting**	**Risks**
Outcome Transport efficiency on project roads increased	By 2024: a. Average travel time along project roads reduced by 60% (2017 baseline: 5 minutes/km) b. Average daily vehicle-km increased to 110,000 (2016 baseline: 50,000 vehicle-km)	Post-implementation measurement and traffic survey by DOLIDAR	Extreme weather conditions cause significant damage to the road network.
Outputs 1. Rural road conditions between the selected rural communities, productive agricultural areas, and socioeconomic centers improved	**By 2023:** 1a. At least 388 km of rural roads improved to all-weather standards with safety features and maintained under PBM contracts (2017 baseline: 0) 1b. 3.8 million person-days employment generated (at least 15% for women) by road construction, maintenance, and bioengineering activities (2017 baseline: N.A.)	1a–b. Quarterly monitoring reports and PCR by DOLIDAR	Unstable political environment could delay implementation.
2. Capacity of rural infrastructure agency and road users in project areas enhanced	**By 2023:** 2a. 100% of DOLIDAR staff, state and municipal officials, including all women staff, increased knowledge and skills on safeguards, road safety awareness, performance-based maintenance, contract management, rural road design, and rural road construction (2017 baseline: 0) 2b. Vision, policy, business plan, and institutional structure frameworks for dedicated rural road agency developed (2017 baseline: N.A.) 2c. 4,000 people with at least 40% women, 40% from vulnerable groups,[b] and students and teachers from 27 schools along project roads acquired knowledge on road safety (2017 baseline: N.A.) 2d. 4,000 people with at least 40% women, and students and teachers from 27 schools along project roads acquired knowledge on human trafficking and STI (including HIV/AIDS) prevention (2017 baseline: N.A.)	2a–e. Post-implementation survey by DOLIDAR	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	2e. At least 33% women participated in project orientation, planning, and public and social auditing of project roads (2017 baseline: N.A.)		
Key Activities with Milestones **Output 1: Rural road conditions between the selected rural communities, productive agricultural areas, and socio-economic centers improved** 1.1 Award and mobilize construction supervision consultant by Q1 2018. 1.2 Award contracts for improving about 388 km of roads to all-weather standards by Q3 2018 and complete construction by Q3 2020, and maintain until Q3 2023. **Output 2: Capacity of rural infrastructure agency and road users in project areas enhanced**. 2.1 Mobilize project management consultants and other capacity development consultants by Q4 2018. 2.2 Develop capacity development training programs for DOLIDAR and project communities by Q3 2019. 2.3 Conduct the training programs by Q4 2020. 2.4 Develop detailed design for future pipeline, low-cost pavement design, and rural road safety guidelines by Q1 2021. 2.5 Develop vision, policy, business plan, and institutional structure frameworks for dedicated rural road agency by Q3 2019.			
Inputs ADB: $100.00 million (concessional ordinary capital resources loan) Government: $35.72 million Technical Assistance (TASF 6 grant): $1.00 million			
Assumptions for Partner Financing Not Applicable.			

ADB = Asian Development Bank, DOLIDAR = Department of Local Infrastructure Development and Agricultural Roads, km = kilometer, PBM = performance-based maintenance, PCR = project completion report, Q = Quarter, STI = sexually transmitted infection, TASF = technical assistance special fund.

[a] Government of Nepal, National Planning Commission. 2016. *The Fourteenth Plan (FY2017–2019)*. Kathmandu.

[b] Vulnerable groups are defined as those suffering the effects of marginalization within or outside their community because of their ethnicity, gender, caste, religion, disability, health, education, or socio-economic status. For the purposes of this project, this specifically includes *Dalit, Janajati*, disabled, disaster-affected, marginalized, and endangered indigenous groups that are politically, socially, or economically excluded.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/RRPs/?id=48218-003-3

1. Loan Agreement
2. Sector Assessment (Summary): Agriculture, Natural Resources and Rural Development
3. Project Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Attached Technical Assistance Report
7. Economic and Financial Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Gender Equality and Social Inclusion Action Plan
11. Initial Environmental Examination
12. Risk Assessment and Risk Management Plan

Supplementary Documents

13. Community Participation Framework
14. Community Participation Plans
15. Social Safeguard Due Diligence Report
16. Project Climate Risk Assessment and Management Report