



Report and Recommendation of the President to the Board of Directors

Project Number: 48226-002
November 2017

Proposed Multitranche Financing Facility and Technical Assistance Grant India: Second Rural Connectivity Investment Program

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 6 October 2017)

Currency unit	–	Indian rupee/s (₹)
₹ 1.00	=	\$0.01533
\$1.00	=	₹ 65.2289

ABBREVIATIONS

ADB	–	Asian Development Bank
CPF	–	community participation framework
EARF	–	environmental assessment and review framework
EMP	–	environmental management plan
FAM	–	facility administration manual
FMA	–	financial management assessment
km	–	kilometer
MFF	–	multitranche financing facility
MORD	–	Ministry of Rural Development
NRRDA	–	National Rural Roads Development Agency
PIC	–	program implementation consultant
PIU	–	program implementation unit
PMGSY	–	Pradhan Mantri Gram Sadak Yojana (Prime Minister's Rural Road Program)
RCIP	–	Rural Connectivity Investment Program
RCTRC	–	rural connectivity training and research center
RRNMU	–	rural road network management unit
RSA	–	road safety audit
SRRDA	–	state rural road development agency
TA	–	technical assistance
TSC	–	technical support consultant

NOTES

- (i) The fiscal year (FY) of the Government of India and its agencies ends on 31 March. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2017 ends on 31 March 2017.
- (ii) In this report, "\$" refers to United States dollars.

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INVESTMENT PROGRAM^a AT A GLANCE

1. Basic Data		Project Number: 48226-002	
Project Name	Second Rural Connectivity Investment Program	Department /Division	SARD/SATC
Country	India	Executing Agency	Ministry of Rural Development, Panchayat and Rural Development Department (Government of Chhattisgarh), Panchayat and Rural Development Department (Government of Madhya Pradesh), Panchayat and Rural Development Department (Government of West Bengal), Public Works Roads Department (Government of Assam), Rural Development Department (Government of Odisha)
Borrower	India		
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✔ Transport	Road transport (non-urban)		500.00
		Total	500.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	28.33
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)	Conducive policy and institutional environment		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Rural	High
Household Targeting	No		
SDG Targeting	Yes		
SDG Goals	SDG8		
6. Risk Categorization:	Complex		
7. Safeguards Categorization [Tranche 1]	Environment: B	Involuntary Resettlement: C	Indigenous Peoples: C
8. Financing			

INVESTMENT PROGRAM^a AT A GLANCE

Modality and Sources	Indicative Tranches (\$million)		Amount (\$million)
	I	II	
ADB			500.00
Sovereign MFF-Tranche (Regular Loan): Ordinary capital resources	250.00	250.00	500.00
Cofinancing			0.00
None	0.00	0.00	0.00
Counterpart			725.26
Government	415.32	309.94	725.26
Total	665.32	559.94	1,225.26

Note: An attached technical assistance will be financed on a grant basis by the Technical Assistance Special Fund (TASF-OTHERS) in the amount of \$500,000.

9. Country Operations Business Plan

CPS

<https://www.adb.org/documents/india-country-partnership-strategy-2018-2022>

COBP

<https://www.adb.org/documents/india-country-operations-business-plan-2018-2020>

10. Investment Program Summary

The investment program will improve rural connectivity in the states of Assam, Chhattisgarh, Madhya Pradesh, Odisha, and West Bengal (the investment program states), facilitating safer and more efficient access to livelihood and socioeconomic opportunities for the rural communities. It will construct all-weather rural roads for the unconnected habitations and upgrade rural roads linking to the investment program states' district centers for an aggregate length of 12,000 kilometers (km). For the investment in physical infrastructure to be effective and sustainable, the investment program will strengthen the institutional capacity of the implementing agencies on road safety and road maintenance.

Impact: Mobility and accessibility in India improved.

Outcome: Rural connectivity in the investment program states improved.

Outputs: (i) Rural roads in the investment program states improved, (ii) institutional capacity of PMGSY implementing agencies strengthened, and (iii) operation and maintenance of PMGSY roads sustained.

Implementation Arrangements: Ministry of Rural Development, Panchayat and Rural Development Department (Government of Chhattisgarh), Panchayat and Rural Development Department (Government of Madhya Pradesh), Panchayat and Rural Development Department (Government of West Bengal), Public Works Roads Department (Government of Assam) and Rural Development Department (Government of Odisha) will be the executing agencies.

Project Readiness: Invitation for Bids have been issued in Assam (94 packages), Chhattisgarh (41 packages), Madhya Pradesh (119 packages) and Odisha (383 packages). Technical Bid Evaluation Report (TBER) for the sample package in Chhattisgarh and Odisha have been approved. TBER for the sample package in Assam is being reviewed.

11. Milestones

Modality	Estimated Approval	Estimated Completion ^b
Multitranchise financing facility	29 November 2017	30 June 2024
Tranche I	6 December 2017	30 June 2022
Tranche II	25 September 2019	31 December 2023

12. Project Data Sheet (PDS)

PDS^c <http://www.adb.org/projects/48226-002/main>

^a Multitranchise Financing Facility (MFF).

^b For MFF, this refers to the end of the availability period; for tranches, this refers to the tranche closing date.

^c Safeguard documents can be viewed by clicking the Document's hyperlink in the Project Data Sheet (PDS) page.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed multitranche financing facility (MFF) to India for the Second Rural Connectivity Investment Program.¹ The report also describes proposed technical assistance (TA) for Enhancing Sustainability and Innovation in Rural Road Development, and if the Board approves the proposed MFF, I, acting under the authority delegated to me by the Board, approve the TA.

2. The investment program will improve rural connectivity in the states of Assam, Chhattisgarh, Madhya Pradesh, Odisha, and West Bengal (the investment program states), facilitating safer and more efficient access to livelihood and socioeconomic opportunities for the rural communities.² It will construct all-weather rural roads for the unconnected habitations and upgrade rural roads linking to the investment program states' district centers for an aggregate length of 12,000 kilometers (km). For the investment in physical infrastructure to be effective and sustainable, the investment program will strengthen the institutional capacity of the implementing agencies on road safety and road maintenance.

II. THE INVESTMENT PROGRAM

A. Rationale

3. In India, rural roads comprise 80% of the overall road network, connecting rural habitations with major district roads, state roads, and national highways. The magnitude of the rural road network and its contribution in delivering inclusive economic growth in the country's rural area require continued engagement in the sector. The requirement of all-weather rural roads is essential for the last mile connectivity to enhance access to markets, health centers, education facilities, and other socioeconomic opportunities.

4. **Road map.** The Government of India seeks to improve rural connectivity through the Prime Minister's Rural Road Program or Pradhan Mantri Gram Sadak Yojana (PMGSY). It is a national flagship program, and is included in India's Three Year Action Agenda for FY2018–FY2020.³ The first phase of the PMGSY (PMGSY-I) started in 2000 to provide basic connectivity for about 133,900 rural habitations in all states by constructing rural roads to all-weather standards (531,500 km). So far in 2017, 513,000 km of rural roads (96.5%) have been built.⁴ The states that have substantially completed PMGSY-I will be eligible to proceed to the second phase of the PMGSY (PMGSY-II), which plans to upgrade an additional 50,000 km to improve access to district centers and rural hubs.⁵

5. **Strategic context.** Collectively, the PMGSY's main goals are to (i) reduce poverty faster for more inclusive growth; (ii) expand rural infrastructure to accelerate agricultural growth and the rural economy; (iii) create more jobs; and (iv) enable social development to improve education, health, and social indicators. PMGSY-I started with a basic and inclusive goal: to provide essential connectivity for all rural habitations. PMGSY-II is the next step: to enable mobility for self-employment and livelihood opportunities. It does this by upgrading existing rural roads that meet

¹ The design and monitoring framework is in Appendix 1.

² The Asian Development Bank (ADB) provided project preparatory TA for the Second Rural Connectivity Investment Program (TA 8828-IND).

³ Government of India, National Institution for Transforming India Aayog. 2017. India: *Three Year Action Agenda, 2017–18 to 2019–20*. New Delhi.

⁴ Pradhan Mantri Gram Sadak Yojana. <http://omms.nic.in/Home/CitizenPage/> (accessed on 24 June 2017).

⁵ So far, 7,700 km of rural roads have been upgraded under PMGSY-II.

certain criteria based on their economic potential and their role in facilitating such impacts. This provides additional capacity for traffic, including larger vehicles, and enables safer and more efficient mobility of people and goods.⁶ To ensure sustainability of its strategic outcomes, PMGSY includes a 5-year post construction maintenance provision included in the civil works contracts.

6. **Policy framework.** The Ministry of Rural Development (MORD) has established the National Rural Roads Development Agency (NRRDA) to manage the implementation of the PMGSY by the state governments. The NRRDA's tasks are to (i) oversee the technical aspects, (ii) conduct quality control and monitoring, and (iii) ease coordination between implementing agencies in the states. A program guideline is available to regulate (i) the selection and approval of subprojects to ensure effective use of funding, (ii) rural road maintenance, (iii) rural road safety, and (iv) funding flow between the central and state governments. Collectively, this institutional and regulatory set-up have been recognized as a sound country system by the Asian Development Bank (ADB) and other development partners. However, ensuring the capacity of the state governments to fully sustain the benefits is critical. This includes assuming responsibility for conducting maintenance beyond the 5-year post-construction maintenance provision, and ensuring road safety with suitable technical measures and community awareness campaigns.

7. **Previous ADB assistance.** Since 2003, ADB has provided assistance to PMGSY-I in the investment program states through loans totaling \$1.15 billion, and constructed over 22,600 km of all-weather rural roads. These were completed satisfactorily and rated *successful* or *highly successful*.⁷ In 2012, the first Rural Connectivity Investment Program (RCIP) using the MFF modality was approved for \$800 million to provide additional coverage under PMGSY-I for about 9,000 km of all-weather rural roads in the investment program states.⁸ The first and the second tranches were substantially completed, and the third tranche is ongoing.⁹ By the end of the first RCIP, Madhya Pradesh and Chhattisgarh will have completed their scope for PMGSY-I, and ready to proceed with PMGSY-II. The first RCIP also aims to strengthen institutional capacity to manage rural roads in the investment program states. This entails establishing rural road network management units (RRNMUs) for asset management and operation of the rural road networks, and rural connectivity training and research centers (RCTRCs) for staff training, knowledge management, and research. Under the first RCIP, the implementing agencies have successfully established one pilot RRNMU and one RCTRC in each investment program state, equipped with operation manuals and procedures prepared under ADB's technical assistance.¹⁰ Using the institutional set-up of the pilot RRNMU as a model, the implementing agencies are currently establishing another 25 RRNMUs to manage rural roads in the entire investment program states.

8. **The investment program.** The proposed Second Rural Connectivity Investment Program will encompass both PMGSY-I and PMGSY-II to improve about 12,000 km of rural roads in the investment program states. It will continue capacity development and build on the achievement

⁶ PMGSY-II roads will have a standard width of 5.50 meters, wider than that of PMGSY-I (3.75 meters).

⁷ ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance to India for the Rural Roads Sector I Project*. Manila; and ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranchise Financing Facility to India for the Rural Roads Sector II Investment Program*. Manila.

⁸ ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranchise Financing Facility, Technical Assistance, and Administration of Technical Assistance to India for the Rural Connectivity Investment Program*. Manila.

⁹ Tranches 1 and 2 will close on 31 December 2017. Tranche 3 is ongoing, with 72% of its target length completed within 70% of time elapsed. The loan for tranche 3 and the facility will close on 30 June 2018.

¹⁰ Attached to ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranchise Financing Facility, Technical Assistance, and Administration of Technical Assistance to India for the Rural Connectivity Investment Program*. Manila.

of the first RCIP by strengthening the operations of the 25 RRNMUs and RCTRCs to sustain rural road maintenance and safety as required by the PMGSY guidelines. The investment program will allow continued assistance to the PMGSY and support the government's long-term goal for rural development. It will further strengthen the government's initiative toward achieving more inclusive economic growth and is also closely aligned with ADB's country partnership strategy, 2018–2022 for India.¹¹ Lessons from the previous MMFs have been incorporated in the design: provision of dedicated road safety support for the RRNMUs in each state, and financing of consulting services by the governments to allow continuous technical supports for the entire investment program.

9. An MFF is proposed as the financing modality because it is suitable for a large-scale investment requiring long-term implementation period and involving a large number of subprojects. An MFF allows a long-term partnership with the government for policy dialogue and capacity development. The NRRDA and the implementing agencies in the investment program states are familiar with the requirements and procedures of the MFF, and have a good track record of implementing the PMGSY under the MFF modality from over 10 years of ADB assistance in the rural road sector. All subprojects under tranche 1 and the subsequent tranches will be of a similar nature. Subproject with safeguard category A will not be included.

10. **Climate change adaptation.** Climate risks in the investment program states are increased intensity and frequency of rainfall, and storm surges in the states with coastal areas. The inundation and flooding of roads, slope failure, and inadequate capacity of drainage structures are the program roads' key climate risks. The engineering design will include suitable adaptation measures such as greater elevation of road embankments in flood-prone and coastal areas, increased capacity of side and cross drains, and slope protection. The incremental cost for the climate change adaptation measures in the investment program is about \$28.33 million.

11. **Innovative approach in rural road development.** The investment program will support the government's initiative for innovative approaches to reducing costs, conserving non-renewable natural resources, and promoting the use of waste materials. This includes the use of alternative materials such as jute fiber for soil stabilization, and alternative construction methods such as asphalt cold-mixing for about 15% of the total length of rural roads in each investment program state. The implementing agencies will also explore other innovative approaches to ensure the technical feasibility for future implementation.

12. **Finance plus.** The investment program will help bring about a transformational impact by institutionalizing road safety and road maintenance through the RRNMUs' and RCTRCs' operations in the investment program states. The investment program will continue to help develop their institutional capacity to deliver the road maintenance and safety objectives, and to operate as an integral part of the respective state rural road development agencies (SRRDAs).

B. Impact and Outcome

13. The impact of the investment program will be mobility and accessibility in India are improved. The outcome will be rural connectivity in the investment program states improved.

C. Outputs

14. The outputs of the investment program will be: (i) rural roads in the investment program states improved, (ii) institutional capacity of PMGSY implementing agencies strengthened, and

¹¹ ADB. 2017. *Country Partnership Strategy: India, 2018–2022*. Manila.

(iii) operation and maintenance of PMGSY roads sustained. The physical component includes the construction of 12,000 km of roads in the investment program states, i.e., building all-weather rural roads for unconnected habitations, and upgrading rural roads linking to the state's district centers.¹² The capacity-strengthening component includes providing training to PMGSY engineers and giving support to RRNMUs and RCTRCs on road safety and road maintenance in the investment program states.

15. **Road safety.** The implementing agencies, through the RRNMU operations, will carry out the road safety audits (RSAs) on the program roads at the design, construction and operation stages, following the procedures set out in the Rural Road Safety Manual, which was developed under ADB's TA (footnote 10). MORD approved the manual for application in the entire PMGSY. The investment program will strengthen the RRNMUs to manage and conduct the RSAs. The RCTRCs will provide regular training on rural road safety to retain the skill sets within the institutions.

16. **Sustainable road maintenance.** The program team will support the RRNMUs in managing road maintenance beyond the 5-year post-construction maintenance period by preparing and implementing a systematic road maintenance plan. This will prioritize the identification of scope for road maintenance and the associated costs for financing by the respective state government.

17. The first tranche of the investment program will deliver the following outputs:

- (i) **Rural roads in the investment program states improved.** This includes (a) 3,145.67 km of rural roads constructed to all-weather standards under PMGSY-I (976.99 km in Assam; 1,571.28 km in Odisha; and 597.40 km in West Bengal); and (b) 3,108.59 km of rural roads upgraded under PMGSY-II (1,001.08 km in Chhattisgarh and 2,107.51 km in Madhya Pradesh).
- (ii) **Institutional capacity of the PMGSY implementing agencies strengthened.** The RCTRCs will conduct and manage the training programs for 2,000 PMGSY engineers, including the project implementation units (PIUs) and RRNMU staff, *panchayat raj institution* staff, as well as consultants and contractors in the investment program states.¹³
- (iii) **Operation and maintenance of the PMGSY roads sustained.** This includes technical support for the RRNMUs to roll out RSAs and road maintenance.

D. Investment and Financing Plans

18. The investment program is estimated to cost \$1,225.26 million, including taxes and duties, physical and price contingencies, interest, and other charges during implementation (Table 1).

19. The government has requested an MFF in an amount of up to \$500 million from ADB's ordinary capital resources to help finance a part of the investment program. The MFF will consist of two tranches, subject to the government's submission of related periodic financing requests, execution of the related loan and project agreements for each tranche, and fulfillment of terms

¹² It consists of 2,000 km in Assam, 2,000 km in Chhattisgarh, 4,000 km in Madhya Pradesh, 3,000 km in Odisha, and 1,000 km in West Bengal.

¹³ A *panchayat* is a body of directly elected people responsible for development activities in an area. There are three levels: *gram panchayat* at the village, intermediate *panchayat* at the block, and *zilla panchayat* at the district. These are collectively called the *panchayat raj institution*. In some states, the institution is involved in rural road maintenance.

and conditions and undertakings set forth in the framework financing agreement. The financing plan is in Table 2.

Table 1: Investment Program
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Rural road improvement	1,120.49
2. Institutional strengthening	6.38
3. Rural road sustainability enhancement	1.00
Subtotal (A)	1,127.87
B. Contingencies^c	58.30
C. Financing Charges During Implementation^d	39.09
Total (A+B+C)	1,225.26

^a Includes taxes and duties of \$90.23 million to be financed from government resources.

^b In mid-2017 prices.

^c Price contingencies, computed at 1.4% on foreign exchange costs and 5.2% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate. Physical contingencies not included; to be financed using government funding only when required.

^d Includes interest and commitment charges. Interest during construction for Asian Development Bank loans has been computed at the 5-year forward London interbank offered rate plus a spread of 0.5%. Commitment charges for an Asian Development Bank loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

Table 2: Financing Plan

Source	Amount		Total	
	Tranche 1 (\$ million)	Tranche 2 (\$ million)	Amount (\$ million)	Share of Total (%)
Asian Development Bank				
Ordinary capital resources (loan)	250.00	250.00	500.00	40.81
Government	415.32	309.94	725.26	59.19
Total	665.32	559.94	1,225.26	100.00

Source: Asian Development Bank estimates.

20. **Tranche 1.** The first tranche of the MFF is estimated to cost \$665.32 million, with ADB financing of \$250.00 million. The scope of the first tranche includes civil works, consulting services, and project management. ADB will finance the civil works related to rural road construction, whereas the government will finance utility works, social mitigation, equipment, consulting services, and project management. The loan will use a sector lending modality, have a 25-year term, including a grace period of 5 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility,¹⁴ a commitment charge of 0.15% per year (the interest and other charges during construction to be capitalized in the loan), and such other terms and conditions set forth in the draft loan and project agreements. Based on the straight-line method, the average maturity is 15.25 years, and the maturity premium payable to ADB is 0.10% per year.

E. Implementation Arrangements

21. The implementation arrangements are summarized in Table 3 and described in detail in the facility administration manual (FAM).¹⁵

¹⁴ The interest includes a maturity premium of 10 basis points. This is based on the above loan terms and the government's choice of repayment option and dates.

¹⁵ Facility Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 3: Implementation Arrangements

Aspects		Arrangements	
Implementation period		November 2017–June 2024	
Estimated completion date		31 December 2023	
Estimated loan closing date		30 June 2024	
Management			
(i) Oversight		Coordination Committee—national level: joint secretary (rural connectivity) and director general of the NRRDA, MORD State level: secretary of the executing agency or chief executive officer of the implementing agencies	
(ii) Executing agencies		National level: MORD (through NRRDA); State level: Panchayat and Rural Development Department (Government of Chhattisgarh); Panchayat and Rural Development Department (Government of Madhya Pradesh); Panchayat and Rural Development Department (Government of West Bengal); Public Works Roads Department (Government of Assam); and Rural Development Department (Government of Odisha)	
(iii) Key implementing agencies		Assam State Road Board, Chhattisgarh Rural Roads Development Agency, Madhya Pradesh Rural Road Development Authority, Odisha State Rural Roads Agency, and West Bengal State Rural Development Agency	
(iv) Implementation units		Project implementation units established at the district level (53 in Assam, 50 in Chhattisgarh, 83 in Madhya Pradesh, 60 in Odisha, and 32 in West Bengal). Each unit has about 10 staff.	
Procurement		National competitive bidding	About 2,100 contracts \$1,110 million
Retroactive financing and/or advance contracting		Civil works	
Disbursement		The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.	

ADB = Asian Development Bank, MORD = Ministry of Rural Development, NRRDA = National Rural Roads Development Agency.

Source: Asian Development Bank.

III. TECHNICAL ASSISTANCE

22. ADB will provide TA to strengthen the capacity of the implementing agencies in terms of road maintenance, disaster resilience, and innovation. To achieve this objective, the project team, through the TA, will (i) support the RRNMUs to prepare and implement a systematic road maintenance program, (ii) prepare disaster risk and vulnerability assessments in natural-disaster-prone areas, and (iii) engage with RCTRCs to identify and assess the feasibility of innovative approaches in rural road development.

23. The TA is estimated to cost \$720,000, of which \$500,000 equivalent will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-other sources). The government will provide counterpart support in the form of staff, office accommodation, office supplies, fees for research organizations and academic institutions, testing materials, travel and logistics during site visits, and other in-kind contributions. The executing agency of the TA will be MORD through the NRRDA, and the implementing agencies will be the state governments through the respective SRRDAs. The TA will be implemented over 48 months, from January 2018 to December 2021. ADB will recruit an international consulting firm and an individual expert as capacity-building

consultants. The recruitment will be carried out in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The consulting firm will submit a biodata technical proposal, and the selection will be in accordance with the quality- and cost-based selection method, using a quality–cost ratio of 90:10.¹⁶

IV. DUE DILIGENCE

A. Technical

24. The rural roads to be constructed or upgraded are selected on a priority basis following the PMGSY-I and PGMSY-II guidelines.¹⁷ The rural road design follows the design criteria in line with applicable Indian Road Congress regulations, particularly regarding road safety aspects.¹⁸ It also considers site-specific information gathered during transect walks.¹⁹ ADB will recruit road safety experts to support the RRNMUs in rolling out RSAs. The project implementation consultant (PIC) includes safeguard experts to ensure the proper incorporation of safeguard requirements in the bidding documents. The technical support consultant (TSC) will monitor the implementation of the safeguard requirements and road safety requirements.

B. Economic and Financial

25. Under PMGSY-I, the rural roads will be reconstructed or upgraded to bituminous surfaced roads with sufficient side and cross drains to provide safe all-year access to the habitations. Under PMGSY-II, the rural road upgrades include widening single-lane roads to intermediate-lane roads where traffic projections indicate the need for capacity augmentation. The program team conducted economic analysis for tranche 1 on the sample roads in each state. The benefits considered in the analysis are: (i) vehicle operating costs savings for motorized vehicles, (ii) travel time savings for passengers of motorized vehicles, (iii) value of equivalent energy savings for slow-moving vehicles, (iv) savings from avoided higher travel costs during rainy seasons in the case of existing gravel or earthen roads, and (v) savings from reduced emissions valued in monetary terms. The analysis indicated that, overall, the investment program is economically viable—the economic internal rates of return range from 13.0% to 15.9% depending on the state, which is well above the acceptable rate of 9%. Sensitivity analysis indicated that, with a 10% increase in capital costs or a 10% decrease in benefits, the overall investment program remains economically viable. All-year access will bring several additional benefits to the villages, such as greater crop diversification and less spoilage, an increase in land values, more educational opportunities, and better access to health facilities. These additional benefits are not included in the economic analysis. The investment program includes an impact evaluation study that will compare socioeconomic conditions of affected communities before and after the implementation of PMGSY-II in Chhattisgarh and Madhya Pradesh. The results and recommendations from this study will be shared with the MORD to inform the planning for future investment.

¹⁶ Attached Technical Assistance Report (accessible from the list of linked documents in Appendix 2).

¹⁷ A rural road to be built under PMGSY-I will connect a habitation with at least 500 residents in plain areas, or at least 250 residents in hilly areas. A rural road to be upgraded under PMGSY-II is proposed by the state as part of a district rural road plan to be approved by MORD. Government of India, Ministry of Rural Development. 2015. *Pradhan Mantri Gram Sadak Yojana Program Guidelines*. New Delhi; and Government of India, Ministry of Rural Development. 2013. *Pradhan Mantri Gram Sadak Yojana Program Guidelines (PMGSY-II)*. New Delhi.

¹⁸ The Indian Road Congress is the national body responsible for sharing knowledge in the road transport sector.

¹⁹ A transect walk is a public consultation activity—by walking along the proposed road alignment, aspirations and concerns from rural communities directly affected by the road are captured. A transect walk is performed jointly by the design consultant, the PIC, and PIU staff for each subproject road.

26. The program will not generate revenue. The sustainability of rural roads constructed or upgraded under the investment program is ensured through the 5-year post-construction maintenance included in each civil works contract. After this period, road maintenance will be managed by the SRRDAs through the RRNMUs' operations. The state government will finance road maintenance in accordance with the PMGSY guidelines (footnote 17). In 2016, the SRRDAs spent an aggregate amount of \$306.16 million on the maintenance of PMGSY roads. The incremental recurring cost for the state governments of the rural roads built under tranche 1 are estimated to range from 2.6% to 6.0%. Observations during project preparation confirmed that the rural roads that had benefited from the 5-year post-construction maintenance agenda were in reasonably good conditions. The investment program will support the RRNMUs in devising and implementing a systematic road maintenance program to ensure the most effective maintenance.

C. Governance

27. **Institutional.** Each investment program state has established equivalents of the SRRDAs and field PIUs to manage PMGSY implementation. Since the start of the PMGSY in 2000, the SRRDAs have gained adequate implementation experience and strengthened staff qualifications. The PIC will support the SRRDAs in implementing safeguard frameworks and RSAs. The NRRDA has shown a good track record in providing technical supports to the SRRDAs and working with ADB to monitor the overall project implementation. The TSC will support MORD and the NRRDA in overall due diligence and compliance monitoring. ADB and the NRRDA will recruit consulting services to provide hands-on operational support to the newly established RRNMUs and RCTRCs in the investment program states.

28. **Financial management.** The fund flow from the central to the state governments will follow the pattern of grants-in-aid under the centrally sponsored schemes of the government, and its relevant financial rules will apply. All states use the PMGSY's online management, monitoring, and accounting system for project accounting and reporting. The program team conducted a financial management assessment of the SRRDAs, covering fund-flow arrangements, governance, staffing, budgeting, accounting and financial reporting systems, internal control procedures, financial information systems, and internal and external auditing arrangements. The assessment concluded that (i) the minimum required policies and procedures are in place, and that (ii) the statutory audit function of the SRRDAs is currently carried out by an independent auditor appointed as per the PMGSY guidelines. The assessment also found that the overall financial management risk is moderate, and suggested mitigation measures for the key risks: (i) improve the records of financial transactions, (ii) ensure regular submission of reliable financial statements, (iii) ensure reliable monitoring reports, and (iv) maintain the financial assets.²⁰

29. The SRRDAs will continue to maintain separate program records and accounts to identify the financing resources received and expenditures under the program, ensuring an adequate audit trail. This will also lead to the review of the annual financial statements by an auditor acceptable to ADB, following auditing standards acceptable to ADB.

30. **Procurement of civil works.** The procurement of civil works will be in accordance with ADB's Procurement Guidelines (2015, as amended from time to time). It will follow national competitive bidding procedures and use the standard bidding document used for the first RCIP as well as an electronic procurement system (e-procurement) that has been improved as needed,

²⁰ The financial management assessment was carried out in 2016. Further details are in the FAM.

in agreement with ADB.²¹ The procurement procedures adopted under the investment program are detailed in the FAM (footnote 15).

31. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the central government and the governments of the investment program states. Specific policy requirements and supplementary measures are described in the FAM (footnote 15).

D. Poverty and Social

32. **Poverty and social.** The investment program states still lag behind various development indicators. The provision of all-weather roads in rural areas will be a key factor in reducing poverty. Specifically, (i) farmers will benefit from better access to rural markets and stronger agricultural productivity will increase their incomes, (ii) rural communities will be able to shift from subsistence farming to more commercially oriented agricultural production, (iii) production of high-value perishable products will be possible, (iv) poor households will be able to access better-paying jobs outside their villages, (v) investments in nonagricultural enterprises will grow at a faster pace, and (vi) the investment program itself will create labor opportunities for the rural poor.

33. **Gender and development.** During preparation, the program team consulted more than 14,130 women who participated in transect walks, representing about 27% of the total number of participants. Gender analysis highlighted several key benefits, which the all-weather roads constructed under the investment program will bring, including an increase in the rate of safe child deliveries, reduction in maternal and prenatal deaths and mortality of children, and increased enrollment of girls in schools and universities. The gender action plan prepared for tranche 1 incorporates several gender mainstreaming targets—(i) participation of women in the transect walks to be at least 20%; (ii) 100% of vulnerable households led by women and affected by the investment program to be identified and to directly benefit from appropriate mitigation measures, and/or to be linked to poverty alleviation and/or livelihood restoration programs; (iii) at least 33% of workers hired in road construction and road maintenance works to be women; and (iv) at least 30% of members in the grievance redress committees are women.

34. **HIV/AIDS and labor.** The investment program's social assessments do not anticipate any rise in the incidence of HIV/AIDS. Each investment program state will ensure that works contracts follow all applicable labor laws and regulations and include provisions requiring contractors to conduct HIV/AIDS awareness programs for those employed during road construction. The PIUs will conduct close monitoring and, along with the contractors, will coordinate with the State AIDS Control Society on carrying out HIV/AIDS awareness programs. Core labor standards will be followed. Men and women will be paid equal wages for equal work.

E. Safeguards

35. **Environment.** Tranche 1 is categorized as *B* in accordance with the ADB Safeguard Policy Statement (2009). None of the project roads will be located inside or near a protected or environmentally sensitive area. The program team prepared an environmental assessment and review framework (EARF) for the MFF and initial environmental examination reports for each state for tranche 1, which were disclosed on the ADB website. The predicted environmental impacts are minimal, temporary, and reversible since they relate mainly to occupational health and safety or to minor issues of dust, noise, and water pollution, which occur mostly during construction. The program team developed mitigation measures for all environmental impacts and integrated them

²¹ ADB approved the e-procurement for national competitive bidding in all investment program states in 2009–2011.

by incorporating a standard environmental management plan (EMP) in the bidding documents, and providing road-specific EMPs in the detailed project reports. The program team conducted public consultations on all roads during transect walks, as required under the PMGSY guidelines. Environmental checklists prepared from the data collected on the transect walks were integrated into the EMP to give proper guidance on site-specific issues. The environmental assessment of the subsequent tranches will follow the same approach as used for tranche 1 and is given in the EARF. A grievance redress mechanism will manage the concerns of local stakeholders. The PIC will assist the safeguard focal person at each SRRDA in supervising the contractor's implementation of the EMP and preparing the required monitoring reports. The TSC will carry out external monitoring of environmental safeguards. The institutional capacities and arrangements should therefore suffice to effectively implement the EARF, initial environment examinations, and EMPs.

36. Involuntary resettlement. Tranche 1 is categorized as *C* in accordance with ADB's Safeguard Policy Statement. Road construction or upgrades will be mostly within existing rights-of-way, with some cases of widening and minor realignments that will require narrow strips of land to be made available. In such cases, the voluntary land donation principle will apply, as it did in the preceding ADB interventions. Activities under the investment program are not expected to involve involuntary resettlement, and the state government will ensure that no involuntary land acquisition takes place. In case of refusal to donate land, eminent domain will not take place, and that the Safeguard Policy Statement will not be triggered. Specific procedural requirements involving comprehensive consultations with the communities are provided in the state-specific community participation frameworks (CPFs), which are disclosed on the ADB website. The social due diligence for tranche 1 confirmed that the communities and affected individuals were consulted about the project roads. In accordance with the CPF, the program team conducted transect walks for all project roads. Affected persons were made aware that they had the option to refuse land donation and, as a result, some of the road designs were slightly altered. The implementing agencies conducted census surveys and identified 9,938 persons who donated land; 1,938 of them are considered vulnerable. Vulnerable affected individuals who do not benefit from government-sponsored poverty alleviation schemes will be linked to these programs through the investment program. The surveys revealed that no physical relocation would result from the program, as impacts identified were minor—affecting 5% or less of an individual's plot of land and, in rare instances, external sections of privately owned structures, which the *panchayats* will support in rebuilding. No affected person has fallen under the poverty line as a result of the donations. The PIUs secured a memorandum of understanding with each affected individual, verified by a third party. A grievance redress committee was set up for each project road. For more information, state-specific social compliance reports for the tranche 1 roads were disclosed on the ADB website.

37. Indigenous peoples. Tranche 1 is categorized as *C* in accordance with ADB's Safeguard Policy Statement. The social assessment identified the presence of scheduled tribes in all investment program states. However, these groups are largely assimilated into the local population. The investment program will not have any differential impact on scheduled tribes—they will receive similar benefits from the investment program as nonscheduled tribe households, and the impact on tribal and cultural identity will not be significant. All outputs will be delivered in a culturally appropriate and participatory manner. To further mitigate the risks, the CPFs identify special provisions for all scheduled tribe households, ensuring that their living standards are not adversely affected because of land donation or in the event of any loss of nonland assets and impacts on their livelihoods.

F. Risks and Mitigating Measures

38. The integrated benefits and impacts of the investment program are expected to outweigh the costs. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.²²

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Low response by contractors during the initial stage of procurement	Advance contracting will be used. E-procurement with ADB-approved standard bidding documents will be used. Experienced PIU staff are in place with sufficient support from the PIC to ensure that issues during the design process are properly addressed and checked.
Start-up of operations of RRNMUs and RCTRCs delayed	All states have committed sufficient staff and budget for the operations of the RRNMUs and RCTRCs. Consulting services will be provided for hands-on assistance to the staff.

ADB = Asian Development Bank, PIC = program implementation consultant, PIU = program implementation unit, RCTRC = rural connectivity training and research center, RRNMU = rural road network management unit.
Source: Asian Development Bank.

V. ASSURANCES

39. The Government of India and the state governments have assured ADB that implementation of the program 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 FAM and loan documents.

40. The Government of India and the state governments have given ADB certain undertakings for the MFF, which are set forth in the framework financing agreement. Specific covenants agreed by the Government of India and the state governments with respect to individual tranches under the MFF are set forth in the loan agreement and project agreement for the respective tranches.

VI. RECOMMENDATION

41. I am satisfied that the proposed multitranche financing facility would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the multitranche financing facility to India for the Second Rural Connectivity Investment Program in an aggregate principal amount not exceeding the equivalent of \$500,000,000, which comprises the provision of loans from ADB's ordinary capital resources, in regular terms, with interest and other terms to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; and is subject to such other terms and conditions as are substantially in accordance with those set forth in the framework financing agreement presented to the Board.

Takehiko Nakao
President

7 November 2017

²² Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

DESIGN AND MONITORING FRAMEWORK FOR THE INVESTMENT PROGRAM

Impact the Program is Aligned with			
Mobility and accessibility in India improved (India: Three Year Action Agenda, 2017–18 to 2019–20) ^a			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Rural connectivity in the investment program states improved	By 2024: a. Average travel time on PMGSY-I roads reduced by 30% (2017 baseline: 3.3 minutes per km) b. Average travel time on PMGSY-II roads reduced by 20% (2017 baseline: 2.5 minutes per km)	a–b. RRNMU annual report and annual socioeconomic impact report.	Extreme weather conditions derail program implementation.
Outputs 1. Rural roads in the investment program states improved	By 2023: 1a. At least 12,000 km of rural roads constructed or upgraded (2017 baseline: 0 km) 1b. At least 2,200 habitations connected by rural roads under PMGSY-I (2017 baseline: 0) 1c. At least 15% of total kilometers in each investment program state used innovative approach methods (2017 baseline: 0%) 1d. Feasibility study for rural road innovation conducted (2017 baseline: not conducted) 1e. 100% of communities (at least 20% of participants are women) consulted in the design process (2017 baseline: not applicable)	1a–b. OMMAS 1c. TSC report 1d. TA consultant's report 1e. PIC report	Low response by contractors during the initial stage of procurement
2. Institutional capacity of PMGSY implementing agencies strengthened	By 2023: 2a. At least 4,000 PMGSY engineers have increased knowledge and skills on rural	2a. RCTRC annual report	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	road development, road maintenance, and road safety through RCTRC operations. At least 15% of PMGSY engineers whose knowledge and skills have increased are women. (2017 baseline: 0)		
3. Operation and maintenance of PMGSY roads sustained	<p>By 2023:</p> <p>3a. State-specific road maintenance program prepared. (2017 baseline: not prepared)</p> <p>3b. Road maintenance program executed by RRNMU for at least 10% of PMGSY roads for which the 5-year maintenance contract has been completed. (2017 baseline: not executed; 0% PMGSY roads)</p> <p>3c. 55% of PMGSY-I roads and 60% of PMGSY-II roads under the investment program have road safety audits conducted in the first year; increased by 5% in the consecutive years. (2017 baseline: 0% PMGSY-I roads and 0% PMGSY-II roads)</p> <p>3d. 100% of the recommendations from road safety audits incorporated into the road maintenance program by RRNMUs. (2017 baseline: not applicable)</p> <p>3e. At least 30,000 students have increased understanding of road safety. At least 40% students participating in the road safety awareness sessions are girls. (2017 baseline: 0)</p> <p>3f. State-specific disaster risks and vulnerability reports with gender-segregated data prepared. (2017 baseline: not prepared)</p>	<p>3a–b. RRNMU annual report</p> <p>3c–e. PIC and TSC reports</p> <p>3f. TA consultant's report</p>	

Key Activities with Milestones**1. Rural roads in the investment program states improved**

- 1.1 Select the PMGSY-I and PMGSY-II roads by state, approved by MORD's Empowered Committee, by the start of the project year (2017 for tranche 1, 2019 for tranche 2).
- 1.2 Mobilize PIC by May 2017 and TSC by January 2018.
- 1.3 Ensure that DPRs are cleared by TSC 3 months before submitting PFRs to ADB.
- 1.4 Award all civil works contracts of tranche 1 by June 2018, and tranche 2 by June 2020.
- 1.5 Mobilize TA consultant (consulting firm) by June 2018.

2. Institutional capacity of PMGSY implementing agencies strengthened

- 2.1 Mobilize institutional strengthening consultant by January 2018.
- 2.2 Roll out training program by March 2018.

3. Operation and maintenance of PMGSY roads sustained

- 3.1 Mobilize individual consultant for road safety and rural road maintenance by March 2018.

Inputs

ADB: \$500 million loan; \$500,000 technical assistance grant

Government: \$725.26 million

ADB = Asian Development Bank; DPR = detailed program report; km = kilometer, OMMAS = online management, monitoring, and accounting system; PFR = periodic financing request, PIC = program implementation consultant; PMGSY = Pradhan Mantri Gram Sadak Yojana (Prime Minister's Rural Road Program); PRI = panchayat raj institution; RCTRC = rural connectivity training and research center; RRNMU = rural road network management unit; TA = technical assistance; TSC = technical support consultant.

^a Government of India, National Institution for Transforming India Aayog. 2017. *India: Three Year Action Agenda, 2017–18 to 2019–20*. New Delhi.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=48226-002-3>

1. Loan Agreement
2. Project Agreement: State of Assam
3. Project Agreement: State of Chhattisgarh
4. Project Agreement: State of Madhya Pradesh
5. Project Agreement: State of Odisha
6. Project Agreement: State of West Bengal
7. Framework Financing Agreement
8. Periodic Financing Request for Project 1
9. Sector Assessment (Summary): Road Transport
10. Facility Administration Manual
11. Contribution to the ADB Results Framework
12. Development Coordination
13. Attached Technical Assistance Report
14. Economic and Financial Analysis
15. Country Economic Indicators
16. Summary Poverty Reduction and Social Strategy
17. Gender Action Plan
18. Initial Environmental Examination: Assam
19. Initial Environmental Examination: Chhattisgarh
20. Initial Environmental Examination: Madhya Pradesh
21. Initial Environmental Examination: Odisha
22. Initial Environmental Examination: West Bengal
23. Environmental Assessment and Review Framework
24. Risk Assessment and Risk Management Plan

Supplementary Documents

25. Community Participation Framework: Assam
26. Community Participation Framework: Chhattisgarh
27. Community Participation Framework: Madhya Pradesh
28. Community Participation Framework: Odisha
29. Community Participation Framework: West Bengal
30. Social Safeguards Compliance Report: Assam
31. Social Safeguards Compliance Report: Chhattisgarh
32. Social Safeguards Compliance Report: Madhya Pradesh
33. Social Safeguards Compliance Report: Odisha
34. Social Safeguards Compliance Report: West Bengal
35. Climate Risk Assessment and Management
36. Comparison of Financing Modality
37. Impact Evaluation Study Proposal for Subproject 2
38. ADB Engagements in Rural Road Sector in India