



# Report and Recommendation of the President to the Board of Directors

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Project Number: 46040-003  
November 2014

## Proposed Loan People's Republic of China: Yunnan Pu'er Regional Integrated Road Network Development Project

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Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 1 October 2014)

Currency unit	–	yuan (CNY)
CNY1.00	=	\$0.16292
\$1.00	=	CNY6.1380

## ABBREVIATIONS

ADB	–	Asian Development Bank
EIA	–	environmental impact assessment
EMP	–	environmental management plan
km	–	kilometer
LAR	–	land acquisition and resettlement
PMG	–	Pu'er Municipal Government
PMO	–	project management office
PMTB	–	Pu'er Municipal Transport Bureau
PRC	–	People's Republic of China
YPG	–	Yunnan Provincial Government

## NOTE

In this report, "\$" refers to US dollars.

<b>Vice-President</b>	S. Groff, Operations 2
<b>Director General</b>	A. Konishi, East Asia Department (EARD)
<b>Director</b>	T. Duncan, Transport and Communications Division, EARD
<b>Team leader</b>	D. Fay, Transport Specialist, EARD
<b>Team members</b>	A. Barry, Senior Procurement Specialist, Operations Services and Financial Management Department T. Bisht, Safeguards Specialist, EARD C. Chu, Senior Portfolio Management Officer, PRC Resident Mission K. Guy, Transport Specialist, EARD S. Kawazu, Senior Counsel, Office of the General Counsel S. Lewis-Workman, Senior Transport Economist, EARD M. Macrohon, Associate Project Analyst, EARD G. O'Farrell, Environment Specialist, EARD
<b>Peer reviewer</b>	P. Seneviratne, Principal Transport Specialist, Central and West Asia Department

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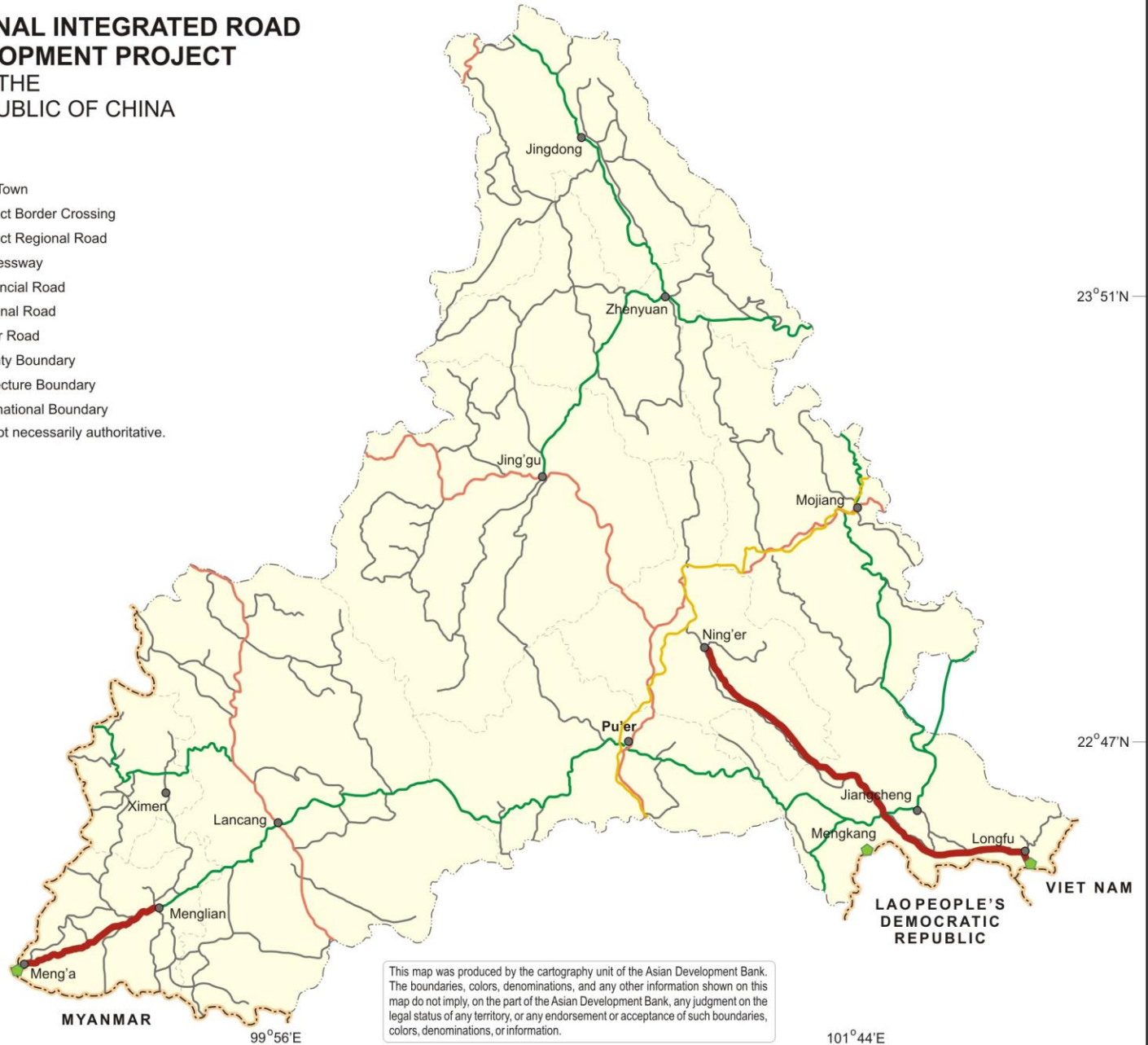
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## PROJECT AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number:</b> 46040-003	
<b>Project Name</b>	Yunnan Pu'er Regional Integrated Road Network Development Project	<b>Department /Division</b>	EARD/EATC
<b>Country Borrower</b>	China, People's Republic of People's Republic of China	<b>Executing Agency</b>	Yunnan Pu'er Municipal Government
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>	
✓ <b>Transport</b>	Road transport (non-urban)		200.00
		<b>Total</b>	<b>200.00</b>
<b>3. Strategic Agenda</b>	<b>Subcomponents</b>	<b>Climate Change Information</b>	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	High
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns		
Regional integration (RCI)	Pillar 1: Cross-border infrastructure		
<b>4. Drivers of Change</b>	<b>Components</b>	<b>Gender Equity and Mainstreaming</b>	
Governance and capacity development (GCD)	Organizational development	Effective gender mainstreaming (EGM)	✓
<b>5. Poverty Targeting</b>		<b>Location Impact</b>	
Project directly targets poverty	No	Rural	High
<b>6. Risk Categorization:</b>	Complex		
<b>7. Safeguard Categorization</b>	Environment: A Involuntary Resettlement: A Indigenous Peoples: A		
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>200.00</b>	
Sovereign Project loan: Ordinary capital resources		200.00	
<b>Cofinancing</b>		<b>0.00</b>	
None		0.00	
<b>Counterpart</b>		<b>389.53</b>	
Government		389.53	
<b>Total</b>		<b>589.53</b>	
<b>9. Effective Development Cooperation</b>			
Use of country procurement systems		Yes	
Use of country public financial management systems		No	

# YUNNAN PU'ER REGIONAL INTEGRATED ROAD NETWORK DEVELOPMENT PROJECT IN THE PEOPLE'S REPUBLIC OF CHINA

- City/Town
  - ◆ Project Border Crossing
  - ▬ Project Regional Road
  - ▬ Expressway
  - ▬ Provincial Road
  - ▬ National Road
  - ▬ Other Road
  - - - County Boundary
  - - - Prefecture Boundary
  - - - International Boundary
- Boundaries are not necessarily authoritative.



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## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the People's Republic of China (PRC) for the Yunnan Pu'er Regional Integrated Road Network Development Project.<sup>1</sup>

2. The project will alleviate poverty and promote regional integration through improved rural accessibility. It will enhance trade between Yunnan Pu'er and neighboring countries by (i) upgrading regional roads serving national borders; (ii) improving roads, road maintenance, and public transport services in rural areas; and (iii) strengthening institutional capacity.<sup>2</sup>

## II. THE PROJECT

### A. Rationale

3. Yunnan Province, located in southwest PRC, is one of the country's least developed provinces. Due to road network limitations the rural population suffers from lack of access to markets and economic opportunities. High transport costs limit the extent of regional trade and constrain residents' income-earning potential. With better road connections, Yunnan could serve as a gateway for transport and trade with neighboring countries.

4. Pu'er is a mountainous prefecture in southern Yunnan with a land area of 45,385 square kilometers (12% of Yunnan's total). Bordering Lao People's Democratic Republic (Lao PDR), Myanmar, and Viet Nam, it had a gross domestic product per capita of CNY11,795 in 2011, 62% of the Yunnan average and about half the national average. Rural gross domestic product per capita was one-third of the prefecture average (CNY4,338). Of 2.56 million inhabitants (5% of Yunnan's total), 950,000 were below the government's official poverty line,<sup>3</sup> representing a 37.1% poverty rate, with all nine counties designated as national poverty counties.<sup>4</sup>

5. Road transport is the dominant transport mode in Pu'er. It is an important enabling factor in economic development and poverty reduction. In 2011, total transport in Pu'er amounted to 3.8 billion ton kilometers and 2.8 billion passenger kilometers,<sup>5</sup> mostly carried by road.<sup>6</sup> Pu'er has 615,900 registered vehicles,<sup>7</sup> and 73 transport service enterprises employing over 11,000 people.

6. The road network in Pu'er has a total length of 19,424 kilometer (km), comprising 2,504 km of national and provincial roads and 16,291 km of county, township, village, and special roads. The proportion of unclassified roads in Pu'er (34%) is relatively high compared with the Yunnan average (23%), and although the proportion of unpaved roads is similar to the rest of

<sup>1</sup> The design and monitoring framework is in Appendix 1.

<sup>2</sup> The Asian Development Bank (ADB) provided project preparatory technical assistance for the Yunnan Pu'er Regional Integrated Road Network Development Project (TA 8149).

<sup>3</sup> Defined as an annual income of below CNY2,300.

<sup>4</sup> A national poverty county designation represents an average rural per capita net income of less than CNY2,300.

<sup>5</sup> Government of the People's Republic of China, Statistical Bureau of Yunnan Province. 2012. *Yunnan Statistical Yearbook*. Kunming.

<sup>6</sup> Water transport in Pu'er for 2011 involved 600,000 passengers (6% of Yunnan's total) and 160,000 tons (3% of Yunnan's total). In 2009, water transport serviced less than 1% of total passenger-kilometers and freight ton-kilometers. There are no railways in Pu'er. Government of the People's Republic of China, Statistical Bureau of Yunnan Province. 2012. *Yunnan Statistical Yearbook*. Kunming.

<sup>7</sup> Including 64,000 passenger vehicles, 41,900 trucks and other freight vehicles, 458,900 motorcycles, and 37,900 tractors. Government of the People's Republic of China, Statistical Bureau of Yunnan Province. 2012. *Yunnan Statistical Yearbook*. Kunming.

the province, a larger percentage of these are earthen roads (about 34% of the network in Pu'er compared with 20% for Yunnan Province).

7. The Yunnan Highway Administration Bureau is responsible for administering most of the national and provincial roads in Pu'er prefecture.<sup>8</sup> The Pu'er Municipal Transport Bureau (PMTB) administers just under a third of provincial roads, along with all county, township, village, and special roads, accounting for about 90% of the classified road network. The PMTB manages road construction and large-scale maintenance works, in part through the Pu'er Highway Maintenance and Management Company.<sup>9</sup> County transport bureaus, supported by staff in townships and villages, maintain roads below the provincial level.

8. Poor transport access is strongly associated with higher poverty levels in Pu'er. Agricultural trade volumes are limited because many agricultural products are perishable.<sup>10</sup> This contributes to the vulnerability of farmers during periods when roads are impassable. Limited access has also led to the prevalence of monopoly transport intermediaries that suppress farm-gate prices. Poor transport provision limits interaction with more advanced areas, and reduces the effectiveness of government-led agricultural and rural development programs. Villagers in mountain areas are less aware of the employment and service opportunities available in urban areas, making them less likely to migrate and contribute to rural incomes through remittances.

9. **Cross-border trade and transport.** Kunming, the capital of Yunnan Province, is the northern anchor of the Greater Mekong Subregion North–South Economic Corridor that connects the PRC to Thailand via routes through both the Lao PDR and Myanmar. It is a hub for trade between the PRC and countries in the Association of Southeast Asian Nations, and also India and Bangladesh. Yunnan's external trade is growing rapidly. The total value of imports and exports has risen from under \$2 billion in 2001 to \$12.3 billion in 2011, representing an average increase of 20% per annum over 10 years. In 2011, the values of imports and exports were roughly equal (a little over \$6 billion each), but imports are growing substantially faster than exports.

10. Despite being the only prefecture in Yunnan bordering Lao PDR, Myanmar, and Viet Nam, international trade generated in Pu'er was \$100 million in 2011 (less than 1% of the Yunnan total). This reflects a lack of high-quality border crossings and road connections. Of the prefecture's 20 existing border crossings, only three are class I crossings (one with Myanmar and two with the Lao PDR).<sup>11</sup> A fourth class I crossing is needed to serve the border with Viet Nam at Longfu in Jiangcheng county. This requires investment in upgrading the Ning'er–Jiangcheng–Longfu road to connect the border and the provincial expressway network. This improvement, along with the newly constructed Menkang crossing to the Lao PDR, will place Jiangcheng county at the center of Yunnan's trade with neighboring countries, since it is equidistant from the nearest trading centers in Yunnan (Pu'er), Lao PDR (Phongsali), and Viet Nam (Dien Bien Phu).

11. In 2005, the Pu'er Municipal Government (PMG) commissioned development of a border economic cooperation zone at Meng'a to serve trade with Myanmar's Shan State. Between

<sup>8</sup> Responsibility is assigned to the Simao General Section, supported by a maintenance center (heavy equipment), county-level maintenance sections (management staff), maintenance stations (maintenance workers), and equipment stations (equipment and workers).

<sup>9</sup> This company is owned by the Pu'er Municipal Government, but placed under the authority of the PMTB.

<sup>10</sup> Fruit, tobacco, tea, sugar cane, and meat.

<sup>11</sup> Of the 20 border crossings, 17 are with Myanmar, 2 with the Lao PDR, and 1 with Viet Nam.

2007 and 2012, total trade through Meng'a increased from \$59 million to \$271 million,<sup>12</sup> at an average annual growth rate of 35%.<sup>13</sup> However, trade facilities and road connections to Meng'a are inadequate to service demand and are constraining growth in trade volumes. To meet demand it is necessary to expand transit and storage facilities at Meng'a and improve road connections from Meng'a to the provincial highway network at Lancang via Menglian.

12. **Rural access.** About 94% of the province's land area is covered by mountains and hills, which pose a great obstacle to the provision of basic access to rural roads. At present, Pu'er's rural roads provide communities with access to (i) markets for sale and purchase of produce and agricultural inputs; (ii) collection or processing stations for the sale of cash crops; (iii) towns and cities for seasonal employment opportunities; and (iv) social services. Although some limited services and facilities exist in or around the administrative villages (clinic, processing stations, and primary schools), most are located in the townships (markets, hospitals, primary and middle schools, banks, police, coffee collection stations, and tea processing plants). Some services and facilities are only available in the county towns (major markets, large hospitals, and secondary schools). Demand for rural transport is substantial—between the villages and the nearest townships up to five times a month for each household, to the county town once or twice a month, and to the prefecture capital a few times a year.

13. Better approaches to road maintenance planning and management are required to protect Yunnan's growing stock of rural road assets. Annual funding levels for the different road types vary according to the county, from CNY1,200 per km for village roads to CNY11,200 per km for county roads. Nearly half this funding is used for financing maintenance stations (construction and maintenance of buildings, and equipment purchases), and about 32% is spent on servicing pension liabilities, leaving only 25% for actual maintenance work.

14. The lack of a consistently applied road maintenance system results in underutilization of funding allocations. In some areas along the township and village road network, no maintenance is organized. Local villages then assume responsibility, with households voluntarily contributing a few work days a year. In practice, the burden is carried disproportionately by women and the poor. The system has failed to improve road conditions. The voluntary nature results in low productivity, less than optimal timing, and a lack of investment in technical skills, all of which compromise maintenance quality. A community-based maintenance system needs to be introduced, with (i) remuneration to ensure timely performance; (ii) training in management and maintenance practices; and (iii) provision of tools, safety equipment, and construction materials. A practical, cost-effective system could generate jobs and serve to reduce poverty.

15. **Road safety.** Yunnan's road crash fatality rate per 100,000 persons is 4.1 (3.9 in Pu'er), comparable to the rates in France and the United Kingdom. However, the fatality rate per 10,000 vehicles or per billion vehicle-kilometers is 3–5 times higher, implying that low overall fatality rates are due to the low number of vehicles, not to high road safety. As rapid motorization continues, fatality rates are likely to rise unless more attention is given to road safety. A road safety emphasis needs to be an integral part of the engineering design process.

16. On lower-class rural roads, fatality rates are much lower due to low driving speeds, and collisions are not common. Many of the fatalities that do occur involve vehicles rolling over sharp declines (47%). Crashes resulting in multiple casualties are largely due to people using

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<sup>12</sup> Includes the value of international trade from all origins in PRC external to Pu'er prefecture.

<sup>13</sup> The main imports are ore sands, rubber, timber, sugar cane, and fruit. The main exports are construction equipment, building materials, commodities, fuel oil, vehicles, and electrical products.



inappropriate and overloaded vehicles. This is partly because rural village-based public transport services either do not exist or are inadequate. School children are routinely transported to and from school on motorcycles or tractor-trailers, which offer little protection in a crash. There is a need to establish sustainable models of safe rural public transport services.

17. **Lessons.** ADB has supported six road projects in Yunnan since 1994.<sup>14</sup> Several lessons have informed the present project design, most notably the need to (i) carefully plan and monitor land acquisition and resettlement, (ii) establish a focused project performance and monitoring system, (iii) consult widely with key stakeholders during the design stage, and (iv) incorporate post-project maintenance planning.

18. **Strategic relevance.** Connecting rural villages to regional transport and trade systems is in line with the government's 12th Five-Year Plan,<sup>15</sup> which attaches importance to regionally balanced growth. The project is aligned with ADB's assistance to the PRC under the 2011–2015 country partnership strategy<sup>16</sup> in the areas of (i) inclusive growth and balanced development and (ii) regional cooperation and integration. The project provides a replicable model that fits well with ADB's Sustainable Transport Initiative,<sup>17</sup> which identifies regional cooperation and integration, road safety, and social sustainability as priorities for ADB operations. This project will alleviate access constraints and ensure that benefits from the expanding regional road network extend to rural areas.

## B. Impact and Outcome

19. The impact of the project will be enhanced regional integration and trade between Yunnan Pu'er and neighboring countries. The outcome of the project will be improved accessibility between rural and border areas, and an improved regional transport network in Yunnan Pu'er.

## C. Outputs

20. The project will include three outputs for ADB financing: (i) regional roads development, (ii) rural access improvement, and (iii) institutional development.

21. **Output 1: Regional roads development.** This involves (i) upgrades to or construction of 234 km of class III, IV, and III highway between Ning'er–Jiangcheng–Longfu;<sup>18</sup> (ii) upgrades to or construction of the 48.75 km Menglian–Meng'a section of the Lancang–Menglian–Meng'a class III and IV border road, mainly to class II standard; (iii) introduction of road safety measures

<sup>14</sup> ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Yunnan Sustainable Road Maintenance (Sector) Project*. Manila; ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Yunnan Integrated Road Network Development Project*. Manila; ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Central Yunnan Roads Development Project*. Manila; ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Western Yunnan Roads Development Project*. Manila; ADB. 1999. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Southern Yunnan Road Development Project*. Manila; ADB. 1994. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Yunnan Expressway Project*. Manila.

<sup>15</sup> National People's Congress. 2011. *Twelfth Five-Year Plan for National Economic and Social Development 2010–2015*. Beijing.

<sup>16</sup> ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015*. Manila.

<sup>17</sup> ADB. 2010. *Sustainable Transport Initiative Operational Plan*. Manila.

<sup>18</sup> Class III from Ning'er to Xuande, class IV from Xuande to Baozang, and class III from Baozang to Longfu.

determined by the ChinaRAP road safety design decision-making tool;<sup>19</sup> and (iv) development of trade facilities at the Meng'a Material Transit Center.

22. **Output 2: Rural access improvement.** This will provide all-weather access to administrative villages and links with higher-level roads. It comprises (i) upgrading to class IV standard of 600 km of village earthen or gravel roads selected in accordance with the rural road assessment criteria,<sup>20</sup> (ii) spot improvements on up to 1,200 km of connecting lower-level village roads, (iii) introduction of five new village bus service routes on a pilot basis, and (iv) a gender-focused rural road maintenance program.<sup>21</sup>

23. **Output 3: Institutional development.** This will strengthen the implementation capacity of the PMG. A project management consultant will assist the PMG in implementing and monitoring the project in accordance with ADB procedures. The project will finance a 3-year program of international and domestic training in financial and project management, road maintenance engineering, road maintenance practices, road safety, environmental management, social safeguard management, and enforcement of laws that ban the trafficking of humans, drugs, and wildlife.

#### D. Investment and Financing Plans

24. The project is estimated to cost \$589.53 million, including taxes and duties (Table 1).

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

Item	Amount <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>	
1. Regional roads development	443.47
2. Rural access improvement	76.89
3. Institutional development	3.34
<b>Subtotal (A)</b>	<b>523.70</b>
<b>B. Contingencies<sup>c</sup></b>	<b>56.02</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>9.81</b>
<b>Total (A+B+C)</b>	<b>589.53</b>

<sup>a</sup> Includes taxes and duties of \$15.1 million, which will be financed by the government. The Asian Development Bank (ADB) will finance taxes and duties applicable to consulting services. The financing of taxes and duties related to consulting services is acceptable as (i) the amount is within the reasonable threshold identified during preparation of the country partnership strategy, (ii) the amount does not represent an excessive share of the project investment plan, (iii) the taxes and duties apply only to ADB-financed expenditures, and (iv) the financing of taxes and duties is material and relevant to the success of the project.

<sup>b</sup> In mid-2014 prices.

<sup>c</sup> Physical contingencies are 5% of base cost. Price contingencies were computed on foreign exchange costs at 1.0% in 2015, 1.4% in 2016, 1.4% in 2017, and 1.4% in 2018. Price contingencies were computed on local currency costs at 3.0% in 2015, 3.0% in 2016, 3.0% in 2017, and 3.0% in 2018.

<sup>19</sup> The ChinaRAP design methodology uses road attribute risk factors, often called crash modification factors, to relate road attributes to crash rates. These factors assess the likelihood that a crash will occur, and the severity of those that do occur, for both existing roads and for road designs. The methodology involves an economic analysis of road safety countermeasures, with benefits expressed in the value of deaths and injuries prevented.

<sup>20</sup> Rural road assessment criteria shall include the following: (i) the road connects multiple village groups and administrative villages; (ii) the road connects to a national or provincial highway or an important county road; (iii) the road will not have a dead end or stop between village groups; (iv) the road will not involve new construction or major impacts on environment and resettlement (safeguards category B or C); and (v) there will be a balance in investment among the nine counties.

<sup>21</sup> The project uses the implementation manual developed for the community-based routine maintenance of roads by women's groups in Dehong Yunnan Province that was financed by ADB's Gender and Development Cooperation Fund in 2010. The Dehong pilot provided a boost to household incomes and demonstrated that routine maintenance can be performed effectively by women's groups.

<sup>d</sup> Interest during construction on ADB loan computed at 2.164%, being the sum of the 5-year US dollar swap rate on 3 December 2013 plus 0.5% spread and a maturity premium of 0.2%. Commitment charges were computed at 0.15% of the undisbursed amount.

Source: Asian Development Bank estimates.

25. The PRC requested a loan of \$200 million from ADB's ordinary capital resources, 98.8% of which will finance civil works with the remaining 1.2% financing consulting services. The loan will 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, a commitment charge of 0.15% per year, a maturity premium of 0.2%, and such other terms and conditions as set forth in the draft loan and project agreements. The government requested that repayment follows the annuity 10% repayment option and such other terms and conditions set forth in the draft loan and project agreements. The government will finance contingencies to cover any finance shortfall that may arise during implementation.

26. The borrower is the PRC. The PMG will assume the foreign exchange and interest rate risks for the ADB loan. The borrower has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) assurances that these choices were its own independent decision and not made in reliance on any communication or advice from ADB.

27. The borrower will relend the loan proceeds to the Yunnan Provincial Government (YPG) on terms and conditions acceptable to ADB, and the YPG will make the proceeds of the loan available to the PMG. Unless ADB agrees otherwise, the terms for such onlending arrangements shall include (i) commitment charge and interest at rates identical to those applied to the loan, (ii) a grace and principal repayment period identical to that applied to the loan, and (iii) the PMG bearing the foreign exchange and interest rate variation risks.

28. The borrower shall cause the YPG, and the YPG shall cause the PMG, to apply the proceeds of the loan to the financing of expenditures on the project in accordance with the provisions of the loan and project agreements. Counterpart funding is sourced from Ministry of Transport subsidies (63%) and domestic loans. The financing plan is in Table 2.

**Table 2: Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (loan)	200.00	33.93
Government	389.53	66.07
<b>Total</b>	<b>589.53</b>	<b>100.00</b>

Source: Asian Development Bank estimates.

## **E. Implementation Arrangements**

29. The Pu'er Municipal Leading Group, headed by the deputy mayor, will provide high-level project oversight. The PMG will be the executing agency. The PMTB will be the implementing agency and will establish a project management office (PMO) in charge of overall project coordination and liaison with ADB. The PMO will be directly in charge of procurement and supervision of the project under PMTB oversight. County transport bureaus will have day-to-day management responsibility for the outputs concerning rural access and institutional development, under PMO guidance. A project management consultant, a procurement agent, and external environmental, resettlement, and ethnic minority monitors will support the PMO.

30. Procurement under the ADB loan will be in accordance with ADB's Procurement Guidelines (2013, as amended from time to time). Consultants will be recruited in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The implementation schedule incorporates procurement action before loan effectiveness. The PMG requested advance contracting and retroactive financing for the regional roads output and recruitment of the project management consultant. Advance contracting does not commit ADB to subsequently approve the project or finance the procurement costs. Retroactive financing will apply to 20% of the loan proceeds, for expenditures incurred and paid for not earlier than 12 months before the signing date of the loan agreement.

31. Five of the 10 Ning'er–Longfu road subgrade contracts and the Menglian–Meng'a pavement contract will be government financed and tendered with the ADB-financed contracts. ADB financing and procurement guidelines will be adopted for at least 150 km of rural roads that will be designed, tendered, and implemented first. The remaining rural roads will be fully government funded and will follow the design, management, scheduling, and implementation procedures used for the ADB-financed rural roads, and use domestic bidding procedures.

32. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.<sup>22</sup>

**Table 3: Implementation Arrangements**

Aspects	Arrangements		
Implementation period	December 2014–September 2020		
Estimated completion date	30 December 2020		
Management			
(i) Oversight body	Pu'er Municipal Leading Group		
(ii) Executing agency	Pu'er Municipal Government		
(iii) Key implementing agency	Pu'er Municipal Transport Bureau		
(iv) Implementation unit	Project management office; 6 staff		
Procurement	International competitive bidding	10 contracts	\$186.7 million
	National competitive bidding	Rural road packaging to be determined	\$10.9 million
Consulting services	Quality- and cost-based selection (80:20)	80 person-months	\$2.0 million
	Individual consultant selection	50 person-months	\$0.4 million
Retroactive financing and/or advance contracting	Advance contracting and retroactive financing is proposed for the consulting services recruitment and the regional roads procurement.		
Disbursement	The loan proceeds will be disbursed in accordance with Asian Development Bank's (ADB) <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

Source: Asian Development Bank.

### III. DUE DILIGENCE

#### A. Technical

33. The project includes roads of class I, II, III, and IV. Road designs will be based on PRC standards, with site-appropriate adjustments, particularly for road safety features.<sup>23</sup> Road safety audits conducted during and after construction will ensure compliance with loan covenants and the required road safety standards.

<sup>22</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

<sup>23</sup> PRC Road Classification Information (accessible from the list of linked documents in Appendix 2).

## **B. Economic and Financial**

34. **Economic analysis.** The project is economically viable, with an economic internal rate of return of 14.5% and net present value of CNY706 million at a 12.0% discount rate. Costs include investment in civil works and equipment, land acquisition and resettlement, and operation and maintenance. Benefits include savings in vehicle operating costs and travel time, and improved road safety. The sensitivity analysis demonstrated robust economic viability.

35. **Financial evaluation.** The project has no revenue-generating components. Construction and incremental operating costs do not represent a substantial financial burden on the PMG, which has sufficient financial capacity to provide the required counterpart funds, cover operating costs, and service the ADB loan. Financial management risks were assessed to be moderate.

## **C. Governance**

36. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the PMG. The specific policy requirements and supplementary measures are described in the project administration manual (footnote 22).

## **D. Poverty and Social**

37. The project will benefit a population of 405,000. Pu'er's nine counties are national poverty counties. The average poverty incidence along the project roads is 36.9%, higher than the 34.8% Pu'er average. The project roads will serve the poor and non-poor by (i) reducing transport costs and increasing profitability of cash crops, (ii) increasing access to nonfarm employment, and (iii) improving access to economic and employment opportunities and social services. The project will stimulate investment, promoting growth of cash crops and the livestock industry. An estimated 6,130 skilled and unskilled jobs will be created during construction, directly benefiting local people. The project is designated effective gender mainstreaming. The gender action plan identifies a lack of convenient transport services, and constraints imposed by limited access, as the issues faced by women. The gender action plan responds by ensuring (i) women's equitable participation, and promotion of employment and income opportunities; and (ii) gender-responsive designs targeting village access and road safety improvements.

## **E. Safeguards**

38. **Environment (category A).** A consolidated environmental impact assessment (EIA), environmental management plan (EMP), and environmental assessment and review framework have been prepared for the project. These documents comply with the PRC's regulatory requirements and ADB's Safeguard Policy Statement (2009) and were disclosed on the ADB website on 13 June 2014. Public consultations informed the project design and EIA process, and will continue throughout project implementation. Anticipated environmental impacts and risks are mostly modest and can be limited to an acceptable level through EMP implementation and compliance with loan covenants. The EMP outlines potential impacts, mitigation and monitoring measures, institutional arrangements, training requirements, and EMP implementation budgets. The EMP implementation budget is 0.21% of the project budget. The environmental assessment and review framework sets out procedures for screening and assessment of the rural roads (output 2) to be considered after loan approval. Capacity development and institutional strengthening are proposed to minimize environmental risks. Environmental complaints will be handled through a grievance redress mechanism.

39. The project will result in the permanent loss of 925 hectares of land and temporary loss of 136 hectares, mostly modified habitats of limited value.<sup>24</sup> Other negative impacts including noise, dust, sedimentation, and erosion are short-term and localized. Road improvements will minimize dust and inefficient driving practices but overall, there will be increases in traffic noise, pollutants, and greenhouse gas emissions during operation. Aggregate carbon dioxide (CO<sub>2</sub>) emissions from projected traffic will be 278,375 tons per annum by 2030. This exceeds the Safeguard Policy Statement's emission threshold and requires annual reporting.

40. Regional road improvements will enhance border access. A due diligence study on wildlife trafficking concluded that increased trafficking could be an induced project impact. A range of mitigation measures—such as capacity building of border control staff, awareness raising, and improvement of coordination mechanisms between government agencies—will be implemented through the institutional development output.

41. **Climate change.** Initial climate risk screening determined that the project is at high risk from climate change effects. A detailed climate risk and vulnerability analysis determined the nature and level of project risks and specified design features to mitigate the project risks.<sup>25</sup>

42. **Involuntary resettlement (category A).** Land acquisition and resettlement (LAR) impacts are attributable to the regional roads component. The two full resettlement plans for the regional roads address the LAR impacts.<sup>26</sup> The estimated permanent land acquisition is 4,265.5 mu, including paddy land, non-irrigated farmland, forestry land, house plots, and other land.<sup>27</sup> Permanent land acquisition will partially affect 3,998 households with 15,127 people. The total area of house and building demolition amounts to 83,155 square meters, involving residential houses and simple structures, and will affect 600 households with 2,368 people. Overall, an estimated 17,495 persons from 4,598 rural households will be affected. Rural roads are unlikely to result in significant LAR impacts. To ensure LAR impacts are managed, a resettlement framework with two short sample resettlement plans was prepared.<sup>28</sup> These documents adequately deal with LAR impacts.

43. LAR costs are estimated at CNY358.54 million and include land compensation, house relocation, livelihood support, taxes, fees, and contingency funding. The PMG confirmed that adequate counterpart funding will be made available for LAR. Resettlement implementation will be monitored internally and externally. The PMO social safeguard unit will (i) coordinate internal supervision, (ii) report on plan implementation, and (iii) engage an independent external monitor for semiannual monitoring and reporting. Public consultations will continue throughout the project cycle. Capacity development and institutional strengthening will minimize LAR risks. A grievance redress mechanism will be established before LAR starts. Grievances will be resolved and documented in a timely manner.

44. **Indigenous peoples (ethnic minorities) (category A).** About 71% of the project beneficiaries represent ethnic minorities. The PMG prepared an ethnic minority development plan to ensure the project does not adversely impact ethnic minority communities and that ethnic minorities actively participate and benefit in a culturally appropriate way. Investigations

<sup>24</sup> These estimates were from the feasibility study report and EIA report and include land use types over and above those considered in the resettlement plan. Following detailed design and finalization of the resettlement plan, these figures should be updated.

<sup>25</sup> Project Climate Risk Assessment and Management (accessible from the list of linked documents in Appendix 2).

<sup>26</sup> Resettlement Plans (accessible from the list of linked documents in Appendix 2).

<sup>27</sup> A *mu* is a Chinese unit of measurement—1 hectare = 15 mu; 1 mu = 666.7 square meters.

<sup>28</sup> Resettlement Framework (accessible from the list of linked documents in Appendix 2).

found that improved access may increase the Wa and Lahu ethnic minorities' vulnerability to human and drug trafficking risks. Measures are incorporated in the ethnic minority development plan to complement the government's existing programs. The plan adequately deals with the identified risks. The plan is posted on the ADB website and has been disclosed to the ethnic minority communities in the project area.

## F. Risks and Mitigating Measures

45. Major risks and mitigating measures are summarized in Table 4. The integrated benefits and impacts are expected to outweigh the costs. Further analysis and detailed descriptions are provided in the risk assessment and risk management plan.<sup>29</sup>

**Table 4: Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigating Measures</b>
Inexperience of executing and implementing agencies	Training on ADB requirements and procedures will be undertaken at loan inception. Early recruitment of the project management consultant will support establishment of safeguard monitoring and reporting protocols.
Procurement delays	A procurement agent was recruited in July 2014.
Delayed provision of counterpart financing	The PMG's fiscal situation is adequate. Through a loan assurance, the PMG has agreed to ensure timely provision of counterpart funding.
Project may induce cross-border trafficking	Targeted project interventions will enhance community awareness and develop enforcement capacity to combat human, drug, and wildlife trafficking. Cooperation with ADB regional technical assistance will increase the effectiveness of project interventions aimed at combating wildlife trafficking. Representatives from provincial authorities responsible for trafficking control will be represented on the project steering committee. The executing agency has committed to provide budget allocations to finance the project trafficking mitigating measures.

ADB = Asian Development Bank, PMG = Pu'er Municipal Government.

Source: Asian Development Bank.

## IV. ASSURANCES

46. The government and the PMG 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 and project documents. The government and the PMG have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement.

## V. RECOMMENDATION

47. 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 of \$200,000,000 to the People's Republic of China for the Yunnan Pu'er Regional Integrated Road Network Development Project, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao  
President

17 November 2014

<sup>29</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Regional integration and trade between Yunnan Pu'er and neighboring countries is enhanced.</p>	<p>Value of trade at Meng'a and Longfu border crossings increased by 100% by 2023 (2013 baseline: \$340 million at Meng'a and \$904,000 at Longfu)</p> <p>Border crossings by vehicles and people between Myanmar and PRC at Meng'a (219,700 vehicles and 998,700 people in 2013) and between Viet Nam and PRC at Longfu<sup>a</sup> increase 100% by 2023 compared with 2013</p> <p>Poverty rate in Pu'er declines from 37.1% in 2013 to 25% by 2023 (poverty line is CNY2,300)</p>	<p>Yunnan Pu'er Statistical Yearbook PRC Customs Office survey</p>	<p><b>Assumptions</b> Supportive trade agreements established between the PRC and neighboring countries.</p> <p>Appropriate approvals are issued for the development of project border crossing sites.</p> <p><b>Risk</b> Expected economic growth fails to materialize.</p>
<p><b>Outcome</b> Accessibility between rural and border areas, and the regional transport network in Yunnan Pu'er are improved.</p>	<p>Average travel time between villages and townships decreases from 42 minutes in 2013 to 30 minutes by 2020.</p> <p>Average number of trips between villages and townships for rural households increases from 5.2 trips per month in 2013 to 7 trips per month by 2023.</p> <p>Travel time by car between Ning'er and Longfu border reduced from 8 hours to 5 hours by 2020</p> <p>Vehicle operating costs/km on project roads reduced by 20% by 2020 compared with 2013</p> <p>Crashes in project counties reduced from 11.6 per 100,000 persons in 2012 to 10 per 100,000 persons by 2020</p> <p>Fatalities in project counties reduced from 3.9 per 100,000 in 2012 to 3 per 100,000 by 2020</p>	<p>Before-and-after survey</p> <p>Before-and-after survey</p> <p>Executing agency's project monitoring reports</p> <p>Before-and-after survey</p> <p>Traffic police data</p> <p>Traffic police data</p>	<p><b>Assumption</b> Roads are maintained</p> <p><b>Risk</b> Lack of long-term sustainable asset management regime</p>
<p><b>Outputs</b> <b>1. Regional roads development</b></p>	<p>234.07 km of Ning'er–Longfu road upgraded to paved class III–IV standards by 2019</p> <p>48.75 km of Menglian–Meng'a road upgraded to class I–II</p>	<p>ADB review missions and progress reports Executing agency's project completion report</p>	<p><b>Assumptions</b> Counterpart funding sufficient and available in a timely manner</p> <p>Good coordination between executing, implementing, and</p>



Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>2. Rural access improvement</b></p>	<p>Road by 2018</p> <p>Meng'a Material Transit Center complete by 2018</p> <p>Three-star ChinaRAP rating achieved on regional roads</p> <p>At least 20% women employed for unskilled construction jobs</p> <p>At least 50% of available unskilled jobs for ethnic minorities, women, poor, and people affected by land acquisition</p> <p>Of the affected people: (i) 50% of women receive livelihood restoration training, and (ii) new house titles contain the names of both the men and women householders</p> <p>600 km of roads upgraded to paved class IV standards by 2017</p> <p>Spot improvements on 1,200 km of (or CNY24 million invested in) village access roads by 2017 (at least 30% of unskilled jobs are for women)</p> <p>At least 50% of available unskilled jobs for ethnic minorities, women, poor, and people affected by land acquisition</p> <p>Five pilot public bus transport routes servicing the project rural roads implemented by 2017</p> <p>Gender-focused and performance-based community road maintenance program implemented on 600 km of rural roads (at least 75% of the 42,000 days of employment generated will be assigned to women)</p>	<p>ChinaRAP report</p> <p>ADB review missions and progress reports</p> <p>ADB review missions and progress reports</p> <p>ADB review missions and progress reports</p> <p>ADB review missions and progress reports</p> <p>Executing agency's project completion report</p> <p>ADB review missions and progress reports</p> <p>ADB review missions and progress reports</p> <p>ADB review missions and progress reports</p>	<p>customs agencies</p> <p><b>Risk</b> Difficulties in complying with ADB procurement procedures</p>
<p><b>3. Institutional development</b></p>	<p>40 person-months of domestic and international training provided to PMG and PMTB staff by Q4 2018; with 8 person-months (or 20% of the total training budget) reserved for women</p>	<p>ADB review missions and progress reports EA project completion report</p>	

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	20% of PMO staff are women  Executing and implementing agency staff trained on social safeguards and gender requirements  Gender sensitivity training is conducted for PMG staff with at least 50% male participation	ADB review missions and progress reports ADB review missions and progress reports  ADB review missions and progress reports	
<b>Activities with Milestones</b> <b>1. Regional roads development</b> 1.1 Conduct detailed design of Ning'er–Longfu road, safety audit (Q3 2014); construct civil works, pre-open safety audit (Q3 2018) 1.2 Conduct detailed design of Menglian–Meng'a road, safety audit (Q3 2014); construct civil works, pre-open safety audit (Q3 2017) 1.3 PMG updates resettlement plans and the ethnic minority development plan (Q1 2015) 1.4 Complete land acquisition and resettlement (Q1 2016) 1.5 Complete construction-phase monitoring and implementation of environmental management, resettlement, and ethnic minority development plans (Q3 2018) 1.6 Complete Material Transit Center at Meng'a Port (Q3 2017) <b>2. Rural access improvement</b> 2.1 Complete selection, safety audit and detailed design of rural roads (Q4 2015) 2.2 Complete civil works, pre-open safety audit (Q1 2017) 2.3 Complete construction-phase monitoring and implementation of ethnic minority development plan and, if needed, environmental management and resettlement plans (Q1 2017) 2.4 Implement transport services pilot, rural road maintenance, and spot improvement tasks as agreed (completed by Q2 2018) 2.5 Review results of 2.4 (Q4 2018) <b>3. Institutional development</b> 3.1 Create a PMO with at least 6 full-time qualified professionals (by Q3 2014) 3.2 Establish GRM (by Q3 2014) 3.3 Establish contracts with consultants that help build capacity for safeguard, gender, and trafficking issues (by Q4 2014) 3.4 Provide training on specific competencies (completed by Q4 2016) 3.5 Implement and monitor resettlement plan, EMDP, GAP (Q3 2019)		<b>Inputs</b>  <b>Loan</b>  <b>ADB: \$200,000,000</b>  <b>Government: \$389,530,000</b>	

ADB = Asian Development Bank, CNY = Chinese yuan, EMDP = ethnic minority development plan, GAP = gender action plan, GRM = grievance redress mechanism, km = kilometer, PMG = Pu'er Municipal Government, PMO = project management office, PMTB = Pu'er Municipal Transport Bureau, PRC = People's Republic of China, Q = quarter.

<sup>a</sup> Data at the Longfu border crossing will only be captured when the crossing is reclassified to class II or class I.

Source: Asian Development Bank.

### **LIST OF LINKED DOCUMENTS**

<http://adb.org/Documents/RRPs/?id=46040-003-3>

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Transport
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Financial Analysis
8. Economic Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Gender Action Plan
12. Environmental Impact Assessment
13. Environmental Assessment and Review Framework
14. Resettlement Plan: Ning'er to Longfu
15. Resettlement Plan: Menglian to Meng'a
16. Resettlement Framework
17. Indigenous Peoples Plan: Ethnic Minority Development Plan
18. Risk Assessment and Risk Management Plan

#### **Supplementary Documents**

19. Trade and Logistics Review
20. Road Safety Action Plan
21. Project Climate Risk Assessment and Management
22. PRC Road Classification Information