

## OUTPUT: RURAL ROAD ASSET MANAGEMENT

### A. Introduction

1. The Royal Government of Cambodia has requested for a loan from Asian Development Bank (ADB) for the proposed Rural Roads Improvement Project (RRIP) III. The project will rehabilitate about 360 kilometers (km) of rural roads in ten provinces (Kampong Cham, Kratie, Prey Veng, Svay Rieng and Tboung Khmum) to paved condition. The rehabilitated roads will provide poor rural provinces with climate-resilient, safer, and cost-effective rural road network with all-year access to markets and other social services. The proposed RRIP III will continue to support sustainability of this rural road network through: (i) a rural road maintenance regime in the Ministry of Rural Development (MRD), the executing agency; and (ii) a community-based road safety program. The project will also support an HIV/AIDS and human trafficking awareness and prevention program.

2. Similar to implementation arrangements for RRIP<sup>1</sup> and RRIP II,<sup>2</sup> the project management unit (PMU) of the MRD will implement the project. Detailed design and implementation supervision consultants will assist PMU in project management.

3. This supplementary appendix focuses on the rural road asset management output under the proposed RRIP III.

4. **Road Network of Cambodia and Related Issues.** The principal mode for transport in Cambodia is by road. The road network of approximately 61,500 km includes: (i) national roads (primary national highways) with a total length of about 7,260 km; (ii) provincial roads (secondary national highways) with a total length of about 9,000 km; and (iii) about 45,200 km of rural roads. Management of national and provincial roads is the responsibility of the Ministry of Public Works and Transport (MPWT), whereas management of rural roads is the responsibility of MRD.

5. In recent years, the Government and its development partners have invested strongly to improve the road network at the national and provincial levels of the road network, much of which is now at a bitumen-surfaced standard. However, as the rural economy is becoming increasingly dependent on the improved national road network, the rural road network continues to deteriorate due to rapidly growing traffic, combined with lack of maintenance financing, poor road maintenance standards, inadequate institutional capacity in road maintenance and management, lack of private contractor capacity, and shortcomings in design and construction methods. As a consequence of relatively rapid economic development and activity, overloading of cargo vehicles has become the major cause of road damage in Cambodia in the past 5 years. This is also a serious issue on rural roads due to overloaded trucks that haul agricultural products and carry quarry materials for construction.

6. **Initiatives to date.** ADB and other development partners have initiated several interventions to remedy these issues. As almost no rural road has all-weather access, the RRIP initiated a large-scale road improvement in 2010 which paved 545 km of priority rural roads in seven provinces (Battambang, Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, Pursat, and Siem Reap) to double bituminous surface treatment (DBST) standard, at its

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<sup>1</sup> ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Cambodia for Rural Roads Improvement Project*. Manila (Loan 2670-CAM).

<sup>2</sup> ADB. 2014. *Report and Recommendation of the President to the Board of Directors: Propose Loan and Administration of Grant to the Kingdom of Cambodia for Rural Roads Improvement Project II*. Manila (Loan 3151-CAM).

completion in 2016.

7. Preservation of the road investments through effective road asset management is of the utmost importance to MRD and, although some capability has been developed for the management of gravel surfaced roads and those of a lower standard, there is a demand for significantly higher standards and capability in all levels of asset management. Therefore, RRIP had taken initiatives to introduce the need for effective management of bitumen-surfaced roads. The RRIP II, approved by ADB Board in 2014, is to further implement a 1,200-km improvement of MRD's road assets from a laterite surface to DBST.

8. An essential part of the effective road asset management is the effective control of overloaded vehicles in arresting deterioration and preserving the road assets. While ADB is currently supporting axle load control programs for the national and provincial road networks, RRIP initiated axle load control on rural roads as a pilot. Ongoing RRIP II and the proposed RRIP III aims to extend the overloading control program to rural roads in all project provinces.

9. The capability and experience of local contracting firms has been limited in Cambodia, which in turn limits their business opportunities and capability in providing quality services for the Government. This situation can be changed through a system of registration and effective training of registered firms to develop their eligibility for work. It is seen that support at the most local levels including commune and road maintenance committee levels will produce local opportunities for long-term employment in the roads sector.

10. This has been achieved through RRIP with one out of two key international competitive bidding contracts, and for all national competitive bidding contracts having been awarded, and successfully completed with satisfactory quality by local contractors.

## **B. Objective of the Output**

11. Given this background, the objective of this output is to have MRD and/or the social and environment office (SEO) fully implement the output in managing its road assets and prioritizing investments in a manner that it suitable for attracting funding through national or development partner resources. Initiatives to reduce the force account, and attract private sector contractors to perform MRD's recurrent road maintenance activities, is another key objective under this output. Continuous training of MRD staff and other road engineering professionals, in association with the Board of Engineers of Cambodia (BEC) and the Cambodian contractor industry, was achieved to an extent under RRIP and further being achieved under the ongoing RRIP II.

## **C. Scope of the Output**

12. The SEO and the Provincial Department of Rural Development (PDRD) under this output will be responsible for enhancing the capacity for road asset management in MRD, applying the road asset management model initiated in MPWT,<sup>3</sup> with proper modification and lessons learned through RRIP and RRIP II to minimize the force account in road maintenance works for private contracting.

13. The SEO and PDRD's role and responsibilities will include the following:

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<sup>3</sup> ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Cambodia for the Road Asset Management Project*. Manila (Loan 2406-CAM).

- (i) investigate the current situation of force account within MRD for recurrent maintenance works and propose a practical model similar to that developed under the Road Asset Management Project<sup>4</sup> for MPWT and pilot implement this model within this output.
- (ii) analyze and evaluate the road asset management regimes used or developed by MRD.
- (iii) review MRD's current capabilities for road inventory and asset management, and the methodologies and systems that are in use.
- (iv) review MRD's system for annual and periodic budgeting, and enhance such systems to ensure rural national and development partners.
- (v) devise and implement a pilot program for a classified traffic counting system for MRD's road assets using national standard systems of classification and quantification, including factors for vehicle loading based on data held by the MPWT, and include analysis in the prioritization of the network.
- (vi) prepare and deliver effective formal and practical training programs which is consistent with the project's Labor and Gender Action Plan to enhance the capability of MRD and its PDRDs in the design, construction, maintenance, and management of both earth and gravel surfaced roads, and having developed an understanding for the current capability for paved roads, prepare and provide effective training for the management of paved roads.
- (vii) provide management training, as well as technical training, to the PDRDs.
- (viii) support the BEC by preparing and delivering effective formal and practical training programs suitable for formal road engineering professional development to a national and international standard. Some of the training will be using the training network requirements captured and prioritized for effective investments in the network by training of the trainers approach to ensure sustainability.
- (ix) support the BEC through the planning and undertaking of visits for senior BEC officials to a regional and international institute of substantial international reputation to assist in their development of a suitable model for a professional body (BEC) for Cambodia.
- (x) based on an understanding of the capability of the existing national, provincial, and local contracting firms and entities, devise and assist in the development of a professional association to support the industry in Cambodia. Provide the same for the consulting firms. Devise suitable linkages from the professional associations to the BEC.
- (xi) coordinate all aspects of the program with project stakeholders to inform and ensure the program is complementary in nature to the country-wide effort to achieve durable road infrastructure.

#### **D. Implementation Arrangements**

14. It is expected under this sub-output that the SEO implements the output and support PDRDs in planning aspects, while PDRDs implement routine and periodic maintenance programs.

#### **G. Reporting**

15. The SEO will submit reports to ADB, and MRD as shown in the table below.

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<sup>4</sup> Footnote 3.

**Table 2: Reports for Submission to ADB, and MRD**

<b>Report</b>	<b>ADB</b>	<b>MRD</b>
Inception Report (after six weeks)	3	3
Monthly Progress Reports	3	3
Quarterly Reports	3	3
Project Completion Report	3	3

ADB =Asian Development Bank; MRD =Ministry of Rural Development.