

LESSONS LEARNED

A. Introduction

1. The Royal Government of Cambodia (RGC) has requested for a loan from Asian Development Bank (ADB) for the Rural Roads Improvement Project-II, which will implement the improvement of 39 roads about 729 km located in nine provinces including the improving climate resilience access by paving 50 km of roads and 11 jetties in the five Mekong River islands in Kampong Cham Province. The projects provinces are: Battambang, Banteay Meanchey Kampong Chhnang, Kampong Thom, Pursat, and Siem Reap, all located in the Tonle Sap region, and Kampong Cham, Kampong Speu, and Takeo located to the north east, south and southwest of Phnom Penh, respectively. The civil works comprise the improvement of existing earth or gravel surfaced roads to a double bituminous surface treatment (DBST) and green planting along the project roads. There will be no widening of the existing roads to avoid resettlement impact. Improvements to road drainage and road structures will also be undertaken where necessary.

2. There are five key outputs in this project: (i) rural road improvements; (ii) rural road asset management; (iii) rural road safety and community awareness program; (iv) project management support; and (v) connectivity improvements for Mekong River Islands.

3. The ongoing loan Rural Roads Improvement Project¹ designed the first four outputs of the proposed project through loan proceeds. For the fifth output's design, ADB provided a project preparatory technical assistance.² Therefore, all outputs have been designed based on lessons learned from the implementation of Loan 2670,³ which are summarized in this supplementary document.

4. Similar to implementation arrangements for Loan 2670, the project management unit (PMU) of the Ministry of Rural Development (MRD), the executing agency, will implement the project. Detailed design and implementation supervision consultants will assist PMU in project management.

B. Specific Lessons Learned in each Project Output

5. **Rural Road Improvements.** The provision of proper drainage facilities along market centers in rural areas has been impossible due to resettlement impact. In Loan 2670 the alternative approach adopted has been to hand concrete such short sections with labor-intensive-community participation methods. Such are considered mutually benefiting all stakeholders. This has been adopted in the proposed project's design.

6. Loan 2670 implementation also found that existing pipe culverts have not been strong enough with inadequate functioning to drain the rain water. Therefore, during implementation of Loan 2670, many of pipe culverts have been replaced or widened for road safety purposes as well. This lesson learned has been incorporated in the proposed project's basic design. Also, lack of information dissemination for road improvement to villagers and consultation with beneficiaries on their local knowledge during detailed design has been a lesson learned to

¹ 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).

² ADB. 2013. *Proposed Rural Roads Improvement Project II: Technical Assistance to the Kingdom of Cambodia for Preparing the Mekong River Islands Connectivity Output*. Manila (TA 8322-CAM).

³ Footnote 1.

capture historical information and also minimize inadvertent negative impacts to their residences. This will be remedied during the proposed project's detailed design.

7. **Rural Road Asset Management.** After completion of 550 km of DBST roads, a routine and recurrent maintenance, if not institutionalized appropriately, may become an issue for future maintenance. Therefore, the proposed project has taken into account a road asset management model⁴ developed by an ongoing project for MPWT.

8. The output should also explore the feasibility of yearly evaluating and sanctioning, if necessary for the unsatisfactory performance, of consultants and contractors during project implementation. This process is being considered under Loan 2670 to be fully implemented during the proposed project.

9. **Rural Road Safety and Community Awareness Program.** Loan 2670 implementation found, though ongoing and searching for effective solutions to this, that the international expert does not have expertise alone to fully support the community based road safety program. Also, since the resources of the national experts have not been sufficient cover education and training for whole project area, these are being remedied now. The proposed project will therefore focus on collaboration between the international and national experts with the assumption that only the appropriate team work may bring in the required-combined expertise. Finally, the delay caused by the aforementioned shortcomings in Loan 2670 indicated that in the proposed project the road safety awareness campaigns/training needs to start before road construction works; and should dynamically continue at all phase of construction and beyond the completion of paving as well.

10. **Project Management Support.** Loan 2670 has progressed exceeding expectations, with its overall progress rate 5% ahead of schedule at its mid-term review in February 2013. However this is largely due to the accelerated progress of civil works output, while the other outputs have been delayed, which may be seen as an imbalance in focus, including implementation focus on social aspects. Therefore, it requires MRD to adopt this as a lesson learned during the proposed project's implementation to reduce the imbalance, starting with the remainder of Loan 2670; and strengthening of functions of SEO through closer monitoring of staff performance in achieving further improved capacity. ADB review missions will ensure this happens gradually with close monitoring and support to PMU.

11. Since the SEO staff resources have not been found sufficient to cover efficient project assignment, the proposed project will also focus on more training on specific assignments to each staff of SEO's responsibility.

12. **Connectivity Improvements for Mekong River Islands.** This output has a wide area of lessons learned from the Climate Change Adaptation (CCA) Output of Loan 2670⁵.

- (i) **Replication:** The approach for replication of the initiatives in the proposed Connectivity Improvements for Mekong River Islands Output stem from two policy areas: one is the poverty and gender aspects. The other is the potential application and/or replication of climate change adaptation in many other similar areas, some in other island clusters in the Mekong River, another in the Tonle

⁴ 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).

⁵ These are included in an Annexure of the link document: Output: Connectivity Improvements for Mekong River Islands.

Sap watershed where similar communities exist, and even in remote rural areas (though not separated from mainland by a body of water) which are totally disconnected from paved national and/or provincial road network given the extensive rural road network of nearly 40,000 km (in comparison with about 12,000 km of national and provincial road network).

- (ii) Apart from potential replication in Cambodia as outlined above, there are other geographical locations in Mekong River in Lao Peoples Democratic Republic, or archipelagic locations of Indonesia, the Philippines and Pacific Islands that may replicate this approach, with certain adjustments, to achieve self-sustainability, poverty reduction through inclusive growth, and most of all, climate resilience.
- (iii) The 5-island cluster has a total population of about 30,000, which is quite significant with respect to the benefits that this Output may provide, given the economic rate of return for the individual roads and jetties is above 12% threshold, with the entire output, as well as the overall proposed project passing this economic viability criteria.
- (iv) This approach may be extended to any remote community in Cambodia that it may be replicated, with appropriate adjustments to geographical parameters, to achieve self-sustainability, poverty reduction through inclusive growth, and climate resilience.
- (v) **Application of CCA Output's outcomes from Loan 2670 in Cambodia:** This, in fact, has been happening since 2 years ago even outside MRD when ADB designed the Increased Climate Resilience Output under Provincial Roads Improvement Project,⁶ which is being implemented now by the Ministry of Public Works and Transport (MPWT). The knowledge from CCA Output has been, and will be applied, with effective coordination with the CCA Output. Hazard mapping developed under the CCA Output will be directly utilized to plan maintenance activities in the Project area. Experience from emergency management pilot of the CCA Output will be used to plan emergency management in this Project's area. Green planning initiated in the CCA Output is also planned here, which will start with creating jobs for residents from a dedicated nursery to raise seedlings to tree planting over the national and provincial road sections, which MPWT is planning to continue over the entire road network under their jurisdiction, even after this project. This type of output and/or activities is expected to become a standard in newly proposed projects.
- (vi) Climate resilience knowledge from the CCA Output has been introduced into projects those have been approved prior to Loan 2670. One example is Greater Mekong Subregion: Cambodia Northwest Provincial Roads Improvement Project.⁷ The 29-km road section in National Road 56, to be improved under the project, was totally impassable during the 2011 floods, thus on the request of MPWT, ADB approved a contract variation in 2012 to redesign this road section to be climate resilient based on the basic principles of the CCA Output, works are currently ongoing.

⁶ ADB. 2011. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Cambodia for the Provincial Roads Improvement Project*. Manila (Loan 2839-CAM).

⁷ ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Cambodia for the Greater Mekong Subregion: Cambodia Northwest Provincial Road Improvement Project*. Manila (Loan 2539-CAM).

- (vii) Another example is the Flood Emergency Management Project⁸ for three agencies MPWT, MRD and the Ministry of Water Resources, Hydrology, and Meteorology, which used the pilot approach from CCA Output in this project's design to have national level application of emergency management planning to assist the National Disaster Reduction Committee.
- (viii) The Connectivity Improvements for Mekong River Islands Output has been totally designed based on CCA Outputs knowledge. Hazard maps were effectively used, with rainfall data and benchmarks were applied to study the infrastructure design (roads with drainage and jetties) to provide 365-day access to the islands where more than 10 lives were lost, and unaccounted losses of livestock have been reported annually. Further, emergency management planning knowledge is also applied here to save those lives and livestock.
- (ix) Following Loan 2670, MRD has included climate resilience as one priority area in 2012 in their policy, which has already been approved by the MRD Minister.
- (x) **Linkage between ongoing CCA Output and Connectivity Improvements for Mekong River Islands.** As explained above, all policy areas proposed and/or implemented under the CCA Output have been moving forward in several other projects already. This is even more prominent in the Connectivity Improvements for Mekong River Islands Output, but not limited to one output, which stands out visible though.
- (xi) Summarizing the linkage between CCA Output and the proposed project, we observe the following: in the road improvement output, all road designs in flood prone areas have adopted climate resilient road design over the proposed 729 km of rural roads. Rural road asset management output of the project incorporates outcomes of the CCA Output in planning road maintenance works, taking into account predicted climate patterns. In the project management support output, there is already an established SEO in the ongoing Loan 2670, which will be further strengthened during the proposed project to increase the capacity of the environment specialists through continuous engagement on the job, while increasing the resources.
- (xii) In the Connectivity Improvements for Mekong River Islands Output, there are two major sub-outputs. Sub-output 1: Improved climate resilient access to Mekong River Islands; and Sub-output 2: Climate Change Adaptation Framework. While sub-output 1 aims to improve the year-around access to islands through climate resilient design that includes drainage and water management, sub-output 2 aims to develop a climate change adaptation framework and implement the related activities through a multi-sector approach for inclusive growth in the islands in a sustainable manner. This sub-output 2 takes the policy agenda initiated under CCA Output further to a broader application in Cambodia as its first initiative. Therefore, the proposed project is designed to take the policy agenda of Loan 2670 forward in all perspectives of the project.
- (xiii) **Integration of CCA to the Entire Project:** From the discussion points above, we can observe how: (a) the proposed project has integrated CCA activities to the whole project; (b) the important and valuable climate change related knowledge introduced in MRD through the CCA Output has expanded in scale and scope; (c) the proposed project applies a systematic continuation of this CCA Output activities further; and (d) the expansion of CCA activities has been taking place

⁸ ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Cambodia for the Flood Damage Emergency Rehabilitation Project*. Manila (Loan 2852-CAM).

over the transport sector in Cambodia. Therefore, important initiatives have progressed into the proposed project's climate change adaptation activities, integrated to the overall project, but not as a stand-alone activity allowing any risk of marginalization.

C. Cross-cutting Themes

13. **Resettlement and Temporary Impacts.** Loan 2670 developed a resettlement framework during its design, although no project roads were expected to be widened, thereby inducing resettlement impacts. The proposed project also adopted a similar approach while none of the project roads will be widened or will have resettlement impacts.

14. **Environment.** Loan 2670 implementation indicated two areas that need close monitoring by all stakeholders that have led to lessons learned which are essential features in the project's Environment Management Plan: (i) organization of sites, provision of facilities for personal safety of all workers; and (ii) safety during construction especially for the road users. While the ongoing Loan 2670 is gradually making random checks by the international environment specialist to ensure that the DDIS consultants issue strict compliance orders to the contractors and sub-contractors (who are usually ignorant of FIDIC requirements), followed by sanctions of work stoppage in case of noncompliance. This approach will be strengthened and followed during the proposed project implementation.

15. **Gender.** As almost all gender indicators of the design and monitoring framework (DMF), as well as Gender Action Plan (GAP) of Loan 2670, were unrealistic, the proposed project's design made a careful analysis on gender indicators based on field data. Therefore, the proposed project's DMF and GAP now have realistic indicators with minimal negative impacts on women.

16. It should also be noted that the implementation of GAP has to focus more on practical ways of attracting and/or ensuring job opportunities for local women, than meeting the indicator targets. Forcing sub-contractors to meet targets only may have negative effects on women, like exploitation, harassment, facing difficult working environment, etc. from the sub-contractors. These impacts may not be easily observed while the executing agency or ADB Missions have any practical control to protect women.

17. **HIV/AIDS and Human Trafficking Prevention.** During Loan 2670 implementation, there were shortcomings in the provision of awareness training to construction workers. Complete and up-to-date lists of construction workers were not available to the service provider to enable them to assess accurate participation rates, or to enable them to effectively target transient workers in their regular training schedules. As a result, there were significantly lower participation rates among workers who regularly changed construction sites.

18. The outline of the HIV/AIDS and Human Trafficking and Awareness Program (HHTPP) in the project administration manual, as well as the draft HHTPP document, includes responsibilities of the civil works contractors and service provider monitoring and evaluation (M&E) officer to address this issue. Accordingly, the civil works contractors and subcontractors will be required to request and encourage all workers to participate in HIV awareness training. Conditions to this effect will be included in the relevant works contracts. Contractors are to maintain up-to-date lists of workers employed by work site and provide this information, on a monthly basis, to the service provider to enable the service provider to monitor participation rates in training and awareness-raising activities. Civil works contractors will also be required to

assign an HIV focal person for each work site who will be responsible for passing on relevant Information, Education, and Communication materials to any new worker who commence at a given work site if the HIV awareness training had already been conducted at the site. The service provider M&E officer is to maintain data on the number of workers who participate in the awareness training (including unique individuals rather than just instances), as well as number of workers not participating in the awareness training per site, based on lists of workers provided by the contractor and/or subcontractor, as well as other anecdotal information.

D. Consultant Selection and Procurement

19. For Loan 2670, the PMU completed both captioned processes in record time, with delays occurring only due to complaints, but not due to slow processing or numerous errors in submissions. PMU needs to sustain this good quality and efficient processes, even improving them during the proposed project's implementation, starting with advance actions. However, the implementation also found negative effects due to delayed of expert mobilization, expert replacement often, late report submission, and frequent changes in personnel schedule, all of which are related to performance of the consultants/contractors. As specified in para. 8, performance evaluation and action type approaches will be adopted in the proposed project.

E. Future Project Design and ownership

20. Loan 2670 has been the first project in Cambodia's portfolio which designed the future project (i.e. proposed project) through loan proceeds. This helped the executing agency in: (i) increasing the PMU capacity by developing a strong candidate-road screening criteria and selecting the shortlist on consensus within the executing agency; (ii) further shortlisting the roads based on available financing; (iii) being inclusive with all stakeholders in the proposed project design with respect to details of outputs; and (iv) achieving a seamless transition between implementation of Loan 2670 and processing and/or approval process of the proposed project. Therefore, the proposed project has included a financing allocation through loan proceeds to design the future project (likely in 2018). In this future project, the executing agency wishes to aim for improving 1,500 to 2,000 km of rural roads with similar development objectives.

F. Co-financing

21. The proposed project design carefully considered co-financing related requirements in two key areas: (i) how to allocate co-financing in an optimal financing mix to achieve best outcomes; and (ii) to identify and comply with the needs of the co-financing partner in project design, approval process, requirements, milestones, and implementation requirements including communications and monitoring requirements. Although actions by ADB mission/s related to these key areas are somewhat complicated the proposed project has been able to find some constructive solutions. These need to be taken forward in future projects as well, as further-lessons-learned.