

Evaluation Approach Paper

Project Performance Evaluation Report: North-South Road Corridor Investment Program—Tranche 1 (Loan 2561-ARM)

June 2020

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A. Rationale

1. The evaluation will assess the North-South Road Corridor Investment Program (Tranche 1) of the Asian Development Bank (ADB) in the Republic of Armenia that aimed to support the government's program to reconstruct the Agarak–Kapan–Yerevan–Bavra north-south corridor, crossing. The corridor complements the east–west highway between Azerbaijan and Georgia. ADB proposed to support the reconstruction of this corridor through separate multitranche financing facilities (MFFs).

2. On 15 September 2009, ADB and the government signed the framework financing agreement for ADB to provide MFF in an aggregate amount not exceeding \$500 million.¹ Following the MFF's approval, ADB approved Tranche 1 project (Loan 2561-ARM) amounting to SDR38.44 million (equivalent to \$60 million) on 6 October 2009. The loan agreement was signed on 12 October 2009 and became effective on 24 February 2010. The Ministry of Economic Development and Investments is the borrower and the executing agency is the Ministry of Transport, Communication, and Information Technologies (MTCIT).

3. In its project completion report (PCR), ADB assessed the project successful, based on a review of its relevance, effectiveness, efficiency, and sustainability.² The findings of this independent evaluation will inform future ADB operations and will feed into a broader evaluations of ADB operations.

B. Country Context and Project Description

4. Armenia, on the Caucasus subregion, is a landlocked country characterized by mountainous terrain and extreme weather fluctuations. The Caucasus subregion connects Central Asia to Europe, the Russian Federation, and Turkey. The subregion is becoming a transit route for crude oil exports. It has the potential to become an established business, logistics, and transit hub. But to tap this potential, it first needs to expand and improve its transport network, including roads, railways, and ports. Bordering Azerbaijan, Georgia, Iran, and Turkey, the country depends on cross-border transport for trade, but experiences high transaction costs due to the legacy of a transport network developed under the former Soviet Union, its landlocked geography, and restricted cross-border transport.

¹ ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility and Administration of Cofinancing Republic of Armenia: North–South Road Corridor Investment Program*. Manila (MFF0035-ARM). Of the \$500 million, \$440 million is sourced from ordinary capital resources and \$60 million from special funds resources.

² ADB. 2020. *Completion Report: Armenia: North–South Road Corridor Investment Program (Tranche 1)*. Manila.

5. The program aimed to support the government's objectives of regional trade development and economic growth by rehabilitating its road network and improving logistics, thereby increasing trade, investment flows, and jobs. The Yerevan–Ashtarak section was selected as Tranche 1 and processed together with the MFF proposal (footnote 2).³ Tranche 1 project comprised (i) reconstructing an 18.4-kilometer (km) four-lane section of the corridor between Yerevan and Ashtarak; (ii) improving road safety for a 38.1-km four-lane section on the Yerevan–Ararat road; (iii) preparing design and bidding documents for tranches 2 and 3, including due diligence, detailed design, and supervision consultancy; and (iv) helping implement the road subsector plan under the Transport Sector Strategy.

6. The cost of Tranche 1 was estimated at \$70.00 million at appraisal. ADB provided about 86% of the total estimated cost at SDR38.44 million or \$60 million equivalent, including \$38 million for civil works, \$5 million for consulting services, \$1 million for goods, \$1 million for project management support, \$2 million for financing charges, and \$13 million of contingencies. The government was to provide the remaining 14% of the total estimated costs at \$10 million to finance local taxes and duties, including value-added tax and import duties.

7. Mainly for cost overruns experienced during implementation, ADB approved the government's request to (i) reallocate funds to civil works from the contingencies (about \$13 million) and consulting services (\$1.2 million) and (ii) reallocate funds to project management support from unutilized goods (\$1.02 million). ADB approved reallocating funds to civil works from undisbursed interest during construction (\$0.92 million) on 8 December 2015 and also approved on 21 June 2017 the government's request to reallocate about \$42,000 remaining under consulting services to civil works (because of foreign exchange fluctuations). Despite these reallocations, a financing gap of about \$6.0 million still remained. Hence, ADB approved the government's request to change the scope of Tranche 1 by transferring the financing of 2 km of the M1 Yerevan–Ashtarak road from Tranche 1 (Loan 2561) to Tranche 2 (Loan 2729).

8. The initial contract duration of Tranche 1 was 18 months, with a completion date of 31 December 2013. The original loan closing date of 30 June 2014 was extended three times at the request of the government. The PCR reported a lengthy procurement and start-up delay caused by the failure of the first bidding round for civil works. Delays caused by slow mobilization by the contractor, failure to mobilize major equipment according to the program of works, modifications, design changes, unpredictable extreme weather conditions, and variations to the civil works contracts. Consequently, the loan was closed on 30 June 2017 and was declared financially closed on 23 February 2018.

C. Evaluation Findings

9. The PCR rated the project successful. It rated the project relevant as it was consistent with the government's Transport Sector Development Strategy 2020 and the North–South Road Corridor Investment Program under it, with a priority to rehabilitate, reconstruct and expand international transport corridors. The project was also aligned with ADB's Strategy 2020 and the regional economic cooperation economic program for Central Asia and the Caucasus. The project was rated effective because it increased the targeted original outputs. It was efficient in achieving its intended output and remained economically viable at completion, with implementation delays

³ The original scope of Tranche 1 project was a road section from Yerevan to Gyumri. During the project preparation, the ADB mission and the government agreed to change the originally agreed Yerevan (Ashtarak)–Gyumri road section to be included under Tranche 1 because of resettlement and environment impacts. It required more time to complete the resettlement plan and environmental assessment to comply with the MFF and ADB safeguard policy requirements.

not negatively affecting project outcomes. Economic internal rates of return (EIRRs) for sections 1 and 2 were recalculated at project completion and were found to be above the 12% opportunity cost of capital. The combined EIRR for both sections was reevaluated at 13% with a net present value of \$5.22 million, making the project economically viable. The PCR rated the project less than likely sustainable. The challenges faced by the project on the design and quality of the pavement constructed reduced pavement life and durability. Among other issues, the road maintenance agency and contractors also faced challenges in maintaining the concrete pavement and budget problems affected funding allocation for road rehabilitation and maintenance.

10. The PCR reported that the project strengthened the road safety features and brought more benefits to road users, neighboring communities, and residents. The improved roads were viewed to have positive impacts on women's lives because of shortened travel times to markets and social services, schools, clinics, other health facilities, and social service centers; increased traffic safety; increased female mobility; and more travel opportunities and benefits from new economic and social opportunities.

11. The PCR also reported that the project could have benefited from a more thorough planning and design effort. Initial bidding and project documents should be specific enough to reduce risks of failed bidding. The PCR also noted that actions on institutional reforms, staff relocation, acquisition, and training be ensured so that road management and maintenance is efficiently and effectively planned, programmed, and implemented. The PCR further noted that documentation and continuous monitoring of accidents along the project road be conducted to help the government implement preventive road safety policy instruments.

D. Evaluation Objectives and Methodology

12. The project performance evaluation report (PPER) will assess the performance of the project to inform future ADB operations and feed into relevant broader evaluation by the Independent Evaluation Department (IED) of ADB operations. It will address key issues related to project design and the results framework, including the indicators of the design monitoring framework of the Report and Recommendation of the President⁴ for Tranche 1 (Table 1), and achievement of intended outputs, outcome, and their sustainability. The assessment will be based on IED's Guidelines for the Evaluation of Public Sector Operations using the standard criteria of relevance, effectiveness, efficiency, and sustainability.⁵ It will also assess the non-core evaluation criteria such as development impacts and performance of ADB and the borrower. It will present the findings and identify key issues and lessons for future ADB operations. Due to the health security issues of COVID 19, the evaluation study will not conduct traffic survey, and will use the data collected by the government.

⁴ Footnote 1.

⁵ Independent Evaluation Department. 2016. *Guidelines for the Evaluation of Public Sector Operations*. Manila: ADB. The document has separate guideline appendixes. Guidelines for preparing PPERs are in Appendix 1. <https://www.adb.org/documents/guidelines-preparing-performance-evaluation-reports-public-sector-operations>

Table 1: Indicators of Design Monitoring Framework —Tranche 1 Project

ADB Inputs	Outputs	Outcome	Impact
A loan of SDR38.44 million or \$60 million equivalent from ADB's ADF, including \$38 million for civil works, \$5 million for consulting services, \$1 million for goods, \$1 million for project management support, \$2 million for financing charges, and \$13 million unallocated amount; and \$10 million counterpart funds from government to finance local taxes and duties, including value-added tax and import duties	Yerevan–Ashtarak section improved	Improved section of road corridor from Yerevan to Gyumri	Increased subregional trade and accelerated economic growth in Armenia
	Road subsector plan strengthened and implemented	(Tranche 1) Reduced travel time from Yerevan to Gyumri to 1.0 hour by 2015 from 1.5 hours in 2008	(Tranche 1) Increase in Armenia's exports from \$300 million in 2007 to \$600 million in 2017
	(Tranche 1) 18.4-km four-lane road improved to 100 km/hr operational standard	Increased daily traffic from Yerevan to Gyumri to 7,000 vehicles in 2015 from 3,000 vehicles in 2008	Increase in Armenia's imports from \$1.1 billion in 2007 to \$2.0 billion in 2017
	5% annual increase in road maintenance financing from actual budget in 2008 adjusted for inflation	About 1.6 million people will benefit from improvement of Yerevan to Gyumri road	
	Road asset management system introduced		
	Project planning, evaluation, execution and reporting capacities reinforced		

ADB = Asian Development Bank, km = kilometer, ADF = Asian Development Fund, SDR = Special Drawing Rights.
Source: Asian Development Bank.

13. **Overarching question.** To what extent has the project contributed to increasing subregional trade, and improving the access to markets and social services by improving the regional transport corridor?

14. **Subquestions:**

- (i) To what extent upgraded and rehabilitated roads contributed to increase access to markets and social services, economic growth and social development?
- (ii) To what extent has the project improved management of road assets and sector resources?
- (iii) How was connectivity with cross border transport improved?
- (iv) What were changes in geospatial data such as population, environment and nighttime light.
- (v) To what extent has the project empowered and strengthened the institutional capacity of the MTCIT in asset management?

- (vi) In what ways has ADB's financing of the project on the road sector added value in terms of technology transfer, know-how, and capacity building, among other?

15. The evaluation will involve (i) review of relevant documents and papers; (ii) consultations in ADB, primarily with staff at the Central and West Asia Regional Department and the Armenia Resident Mission through video conferences or face-to-face meetings; (iii) data collection for evaluation through internet and interviews; (iv) visit to the project road; and (v) discussion of the project's relevance effectiveness, efficiency, sustainability, and impact, according to the proposed evaluation framework in the Attachment, with staff from government, implementing agency, project implementation units and project management offices, local governments, and other stakeholders including business associations and local communities. If conducting mission is not appropriate for COVID 19, the evaluation team will utilize information technology as much as possible and will have a national consultant recruited by IED to meet staff from the governments, implementing agency, and other stakeholders.

E. Tentative Schedule and Resources

16. The evaluation will be undertaken by an evaluation team comprising Toshiyuki Yokota (Principal Evaluation Specialist/Team Leader), Caren Joy Mongcopa (Associate Evaluation Officer), and Irene Garganta (Evaluation Analyst), supported by external consultants. The report will be reviewed by Sung S. Shin (Senior Evaluation Specialist) and an external peer reviewer, Steven Lewis-Workman (Unit Head of Kyrgyz Resident mission of ADB (to be confirmed).

17. The evaluation team will review the project files and conduct consultations with the Central and West Asia Regional Department and the Armenia Resident Mission on the main issues associated with the formulation and implementation of the project. It is envisaged that the consulting services of one international consultant (Transport Economist/Specialist) and two national consultants (Transport Specialist and Geospatial Specialist)⁶ will be needed. The external peer reviewer will comment on the draft report and submit a statement on the final evaluation.

18. It is proposed that an independent evaluation mission (IEM) be undertaken in Armenia for approximately 5 days in Yerevan. The IEM will have meetings with staff at the MTCIT and the Ministry of Economic Development and Investments, project management unit, Armenia Resident Mission, and other relevant agencies and stakeholders,⁷ if the COVID 19 situation allows IED to place IEM. If not, the national consultant of Armenia will interview governments, implementing agency, and other stakeholders, and will visit the field.

19. The following proposed schedule is subject to government clearance of the mission and availability of suitable consultants:

Activity	Timing
EAP approval	II June 2020
Data collection, interviews, and an initial draft of PPER	IV August 2020
Fielding of IEM or a national consultant of Armenia	II September 2020
Circulate draft report to commenter and peer reviewer	IV September 2020

⁶ Independent Evaluation Department will utilize the resource of national consultant who was recruited for the Transport Sector-Wide Evaluation.

⁷ Due to the ongoing global health crisis, feasibility of undertaking travel related to the preparation of the PPER will be assessed further. Travel arrangements for the mission are to be referred to the ADB Supervising Officer or an authorized representative of ADB for endorsement prior to initiating any travel. Remote video-and tele-conferencing technology (Skype, webex, other apps) in lieu of face-to-face meetings are to be considered.

Activity	Timing
Submission of draft PPER to Director	II October 2020
Interdepartmental review of draft PPER	III October 2020
Circulation of draft PPER to the government for review	IV October 2020
OSEC editing	II November 2020
Submission of draft final PPER to Director	IV November 2020
Submission to Director General, IED for approval	I December 2020
Circulation of final PPER	II December 2020

PPER = project performance evaluation paper

F. Dissemination Plan

20. The PPER will be available to the public after the approval by the Director General, IED. The report will be uploaded on ADB's external and internal websites and will provide inputs to ADB's evaluation information system.

Attachment:
Evaluation Framework

EVALUATION FRAMEWORK

Evaluation Criteria	Evaluation Questions	Indicators/ Information Required	Source of Information	Methods/Analysis to be Used
Relevance	<p>Was the project relevant to national priorities?</p> <p>Was the project aligned with ADB's policies and strategies at the sector and ADB-financed project level?</p> <p>Was the project and program design appropriate in addressing the envisaged impact, outcome, and outputs?</p> <p>Did the project inputs, outputs, and outcomes follow the logical results chain to achieve the project's objective?</p>	<p>National socio-economic background</p> <p>Government development policies</p> <p>ADB's policy, country operational strategy, and sector strategy</p> <p>Project design and monitoring framework</p>	<p>RRP, PCR, PVR and BTORs</p> <p>Minutes of Board meetings, Staff Review Committee meeting, Management review meetings</p> <p>Relevant government documents</p> <p>Discussions with project staff, government officials, and other key stakeholders</p>	<p>Desk review</p> <p>Key informant interviews</p> <p>Analysis of program design indicators</p>
Effectiveness	<p>To what extent were project outputs, and outcomes achieved as indicated in the design and monitoring framework?</p> <p>What are the factors that contributed to the achievement or non-achievement of expected outputs and outcomes?</p>	<p>Realized project outputs and outcomes in relation to the targets set</p> <p>Project monitoring framework Implementation process</p> <p>Issues and challenges related to achieving outputs and outcomes</p>	<p>RRP, PCR, PVR, and BTORs</p> <p>Discussions with project staff, government officials, and other key stakeholders</p> <p>Monitoring reports of outputs and outcomes</p>	<p>Desk review</p> <p>Key informant interviews</p> <p>Analysis of program design indicators</p>
Efficiency	<p>How well were the project's resources used in achieving the expected outcomes?</p>	<p>Recalculated economic rate of return Implementation and procurement arrangements</p> <p>Monitoring data on inputs and outputs</p>	<p>Project documents</p> <p>Discussions with project staff, government officials and ADB procurement staff</p>	<p>Desk review</p> <p>Key informant interviews</p> <p>Cost-benefit analysis</p>
Sustainability	<p>What is the likelihood that project benefits would be sustained beyond the life of the project?</p> <p>Are there provisions for generating adequate revenue or funding for maintenance?</p> <p>Are there any institutional issues to affect the performance of the project?</p> <p>Are there any risks that may degrade the</p>	<p>Assessment of financial capacity and activities</p>	<p>Discussions with project staff, government officials</p>	<p>Desk review</p> <p>Key informant interviews</p>

Evaluation Criteria	Evaluation Questions	Indicators/ Information Required	Source of Information	Methods/Analysis to be Used
	<p>environmental protection and social benefits?</p> <p>Are there any issues on resettlement after the operation?</p> <p>Are there any risks that affect the sustainability of the project?</p>			
Impact	<p>What are the socioeconomic impacts? To what extent income increased and poverty reduced in the project affected areas? To what extent regional trade increased?</p> <p>Did the project have any unintended or adverse impact on the society and economy?</p>	Growth of economy and trade. Information on beneficiaries (e.g., extent of access to services, livelihoods and income earning opportunities)	<p>Government reports and statistics</p> <p>Discussions with project staff, government officials, stakeholders</p>	<p>Direct observation through field visits</p> <p>Key informant interviews</p>

ADB = Asian development Bank, BTOR = back-to-office report, PCR = project completion report, PVR = project completion report validation report, RRP = report and recommendation of the President.
Source: Asian Development Bank Independent Evaluation Department.