



Report and Recommendation of the President to the Board of Directors

Project Number: 49078-001
August 2015

Proposed Results-Based Loan and Technical Assistance Grant Armenia: Seismic Safety Improvement Program

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 17 August 2015)

Currency unit	–	dram (AMD)
AMD1.00	=	\$0.0021
\$1.00	=	AMD478.05

ABBREVIATIONS

ADB	–	Asian Development Bank
ATDF	–	Armenian Territorial Development Fund
DLI	–	disbursement-linked indicator
M&E	–	monitoring and evaluation
MIS	–	management information system
PAP	–	program action plan
RBL	–	results-based lending
TA	–	technical assistance

NOTE

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

Vice-President	W. Zhang, Operations 1
Director General	S. O'Sullivan, Central and West Asia Department (CWRD)
Director	A. Chiplunkar, Urban Development and Water Division, CWRD
Team leader	Y. Ye, Principal Urban Development Economist, CWRD
Team members	J. Asanova, Senior Education Specialist, CWRD
	L. Manalaysay-Buenavente, Operations Assistant, CWRD
	G. Mousaelyan, Senior Project Officer, Armenia Resident Mission, CWRD
	J. Ngai, Counsel, Office of the General Counsel
	A. Pokhrel, Disaster Risk Management Specialist, Sustainable Development and Climate Change Department
	R. Romasanta, Senior Project Officer, CWRD
	S. Russell, Procurement Specialist, Operations Services and Financial Management Department
	T. Tran, Senior Environment Specialist, CWRD
	Y. Xu, Senior Financial Management Specialist, CWRD

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RESULTS BASED PROGRAM AT A GLANCE

1. Basic Data		Project Number: 49078-001	
Project Name	Seismic Safety Improvement Program	Department /Division	CWRD/CWUW
Country Borrower	Armenia, Republic of Armenia, Republic of	Executing Agency	Ministry of Territorial Administration and Emergency Situations
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Water and other urban infrastructure and services	Other urban services		62.51
	Urban policy, institutional and capacity development		8.93
Education	Education sector development		17.86
		Total	89.30
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Disaster risk management		
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Anticorruption Civil society participation Institutional development Public financial governance	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas Knowledge sharing activities		
Partnerships (PAR)	Bilateral institutions (not client government) Civil society organizations Implementation International finance institutions (IFI) United Nations organization		
Private sector development (PSD)	Public sector goods and services essential for private sector development		
5. Poverty Targeting		Location Impact	
Project directly targets poverty	No	Rural Urban	Low High
6. Risk Categorization:	Low		
7. Safeguard Categorization	Environment: B Involuntary Resettlement: C Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		89.30	
Sovereign Capacity development technical assistance: Technical Assistance Special Fund		0.80	
Sovereign Results Based Lending: Asian Development Fund		88.50	
Cofinancing		0.00	
None		0.00	
Counterpart		18.50	
Government		18.50	
Total		107.80	
9. Effective Development Cooperation			
Use of country procurement systems		Yes	
Use of country public financial management systems		No	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Armenia for the Seismic Safety Improvement Program.¹ The report also describes proposed technical assistance (TA) for the Seismic Safety Improvement Program, and if the Board approves the proposed loan, I, acting under the authority delegated to me by the Board, approve the TA.

2. The program will support the implementation of the National Strategy for Disaster Risk Reduction² during 2015–2020 by (i) improving school seismic safety to reduce casualties and damage in schools during earthquakes, and (ii) enabling better use of school buildings as shelters for the general public and as focal points for emergency response after earthquakes.³ The program reflects the key focus areas advocated by the National Strategy for Disaster Risk Reduction, and is in line with the four priorities identified in the Sendai Framework for Disaster Risk Reduction, 2015–2030.⁴

II. THE PROGRAM

A. Strategic Context

3. Armenia is located in one of the most seismically active regions in the world. It is ranked first in the world for vulnerability to earthquakes.⁵ The Spitak earthquake in 1988, measuring 6.9 on the Richter scale, killed 25,000 people, including 6,000 school children, and left 517,000 people homeless. More than 40% of the country's manufacturing capacity was destroyed. The estimated direct economic loss from the Spitak earthquake was \$15 billion–\$20 billion. Since the Spitak earthquake, the country has experienced five earthquakes registering 4.5–7.0 on the Richter scale.⁶

4. Since the Spitak earthquake, the government has reorganized its emergency management system, including creating the Ministry of Emergency Situations and National Survey for Seismic Protection and appointing a cabinet minister responsible for disaster response. The government has passed significant legislation and decisions to improve seismic risk reduction and emergency management.⁷ In addition, design and construction codes and standards were revised and updated to reflect the real seismic hazard and to more correctly determine the seismic loads acting on buildings and structures.

5. The National Strategy for Disaster Risk Reduction, approved in 2012, defines the development of an efficient system for disaster risk reduction as one of the most important factors for sustainable development of the country. The strategy aims to improve the country's

¹ The design and monitoring framework is in Appendix 1.

² Government of Armenia. 2012. *National Strategy for Disaster Risk Reduction*. Yerevan.

³ The Asian Development Bank (ADB) provided program preparatory technical assistance. ADB. 2015. *Technical Assistance to Armenia for the Seismic Safety Improvement Program*. Manila.

⁴ Third World Conference on Disaster Risk Reduction. 2015. *Sendai Framework for Disaster Risk Reduction, 2015–2030*. Sendai, Japan.

⁵ United Nations Development Programme. 2004. *Reducing Disaster Risk: A Challenge for Development*. New York.

⁶ Armenia was also affected by 49 earthquakes that occurred in neighboring countries during this period.

⁷ Government of Armenia. 2002. *Law on Seismic Protection*. Yerevan; Government of Armenia. 2005. *Law on Armenian Rescue Service*. Yerevan; Government of Armenia. 2003. *Decision on defining the list of the objects of special and general importance in the field of seismic protection*. Yerevan; and Government of Armenia. 1999. *Decision on complex program on seismic risk reduction in the territory of Yerevan*. Yerevan.

resilience to disasters, increase the safety of individuals and society, and contribute to sustainable development. It identifies seismic risk as a primary disaster risk for the country.

6. Most of the public buildings constructed during the Soviet time need strengthening or reconstruction to meet the seismic safety standard. The government has prioritized school buildings for seismic strengthening or reconstruction, as the school buildings will not only prevent loss of life of school children but will also be used as emergency shelters for temporary hospitals and dormitories after a disaster. Armenia has about 1,400 schools, about 1,000 of which need strengthening and reconstruction at an estimated cost of \$1.2 billion. There are various investment programs prepared by the government and development partners which focus on different types of schools (primary, secondary, or high schools) or different locations (Yerevan or other regions) with different prioritization criteria. With Asian Development Bank (ADB) support, the government has consolidated these investment programs into one priority School Strengthening and Renovation Program, using the prioritization criteria developed with support of the United Nations Children's Fund.⁸

B. Program Rationale

7. The program will support the implementation of the National Strategy for Disaster Risk Reduction by (i) improving school seismic safety to reduce casualties and damage in schools during earthquakes, and (ii) enabling better use of school buildings as shelters for the general public and as focal points for emergency response after earthquakes. The program reflects the key focus areas advocated by the National Strategy for Disaster Risk Reduction and is in line with the four priorities in the Sendai Framework for Disaster Risk Reduction, 2015–2030: (i) understanding disaster risk; (ii) strengthening disaster risk governance to manage disaster risk; (iii) investing in disaster risk reduction for resilience; and (iv) enhancing disaster preparedness for effective response, and rebuilding better in recovery, rehabilitation, and reconstruction.

8. The program supports equitable and sustainable urban development under the results framework of ADB's country partnership strategy for Armenia, 2014–2018.⁹ It is aligned with the Urban Operational Plan, 2012–2020 in terms of planning and investing in infrastructure and services for sustainable urban systems and promoting an improved environment and resilience. The program is aligned with ADB's Operational Plan for Integrated Disaster Risk Management, 2014–2020 and Education by 2020: A Sector Operations Plan.¹⁰ ADB has significant experience in disaster recovery including supporting recovery from major earthquakes in the People's Republic of China, India, Pakistan, and the Philippines, and improving school seismic safety in Bhutan and Nepal.¹¹ ADB also has gained considerable experience in Armenia since the country became an ADB member in 2005.

9. Results-based lending (RBL) is a suitable modality for the program because (i) the government has formulated the School Strengthening and Renovation Program in which the RBL program can be anchored; (ii) the government has gained and demonstrated reasonable capacity through implementing investments in school seismic strengthening and renovation using its own systems and through implementing projects funded by development partners; (iii) using the government's systems will provide incentives for the government to further improve its

⁸ Government of Armenia. 2015. *The 2015–2030 Program for the Improvement of the Seismic Safety of State Comprehensive Schools*. Yerevan. School buildings are prioritized based on the seismic risk level and impact without differentiating types of schools. Most of the prioritized school buildings are expected to be in urban areas.

⁹ ADB. 2015. *Country Partnership Strategy: Armenia, 2014–2018*. Manila.

¹⁰ ADB. 2014. *Operational Plan for Integrated Disaster Risk Management, 2014–2020*. Manila; and ADB. 2010. *Education by 2020: A Sector Operations Plan*. Manila.

¹¹ Schools strengthened with ADB assistance effectively withstood the recent earthquake in Nepal.

systems and enhance its already strong ownership; (iv) it will provide a platform for the government to effectively coordinate the support of various donors, fostering development coordination and harmonization for maximum development impact; and (v) the modality enables ADB to disburse for results related not only to seismic strengthening of schools but also the quality of construction, institutional strengthening, and capacity development.

10. The program's design has incorporated the lessons learned from earlier operations in seismic disaster recovery and risk management, including 10 lessons summarized by ADB's Independent Evaluation Department in response to Nepal's earthquake.¹² In addition, lessons learned from implementing RBL in other programs have also been incorporated in the program's design, including the need to have a small number of disbursement-linked indicators (DLIs), a strong focal unit dedicated to RBL implementation, actions to strengthen government systems, and a disbursement protocol that is not overly complicated or ambitious.

C. Program Scope

11. The program will support a portion of the government's School Strengthening and Renovation Program covering the activities from 2015 to 2020. The government program's scope and that of the RBL program are summarized in Table 1.

Table 1: Program Scope

Item	Broader Government Program ^a	Results-Based Lending Program
Outcome	Improved coverage of seismically safe school buildings	Same as the government's program
Key outputs	(i) increased seismic resilience of school buildings, (ii) strengthened seismic disaster preparedness and response capacity, (iii) improved supportive policies and systems for seismic disaster risk management, and (iv) enhanced national capacity in executing and implementing the seismic safety investment program	Same as the government's program
Program expenditure	\$617.0 million	\$107.0 million
Main financiers and respective financing amounts	Government: \$110.0 million Development institutions: \$507.0 million	Government: \$18.5 million ADB: \$88.5 million
Geographic coverage	Nationwide	Same as the government's program
Executing agency	Ministry of Territorial Administration and Emergency Situations	Same as the government's program
Implementation period	2015–2035 ^b	2015–2020

ADB = Asian Development Bank.

^a School Strengthening and Renovation Program.

^b Subject to debt sustainability.

Sources: Ministry of Territorial Administration and Emergency Situations and ADB.

D. Program Results

12. The program's impact is aligned with the National Strategy for Disaster Risk Reduction for establishing a resilient country, increasing the safety of individuals and society, and contributing to sustainable development. The outcome will be improved coverage of seismically safe school buildings. The key results areas and outputs are summarized in points (i)–(iv)

¹² ADB. 2015. *Response to Nepal's Earthquake: Ten Lessons From Evaluation*. Manila.

below. The outcome indicator and some output indicators, selected based on their significance to achieving the program impact and outcome, have been further developed and consolidated into the program DLIs.

- (i) **Results area 1: Increasing seismic resilience of school buildings.** The program will support the strengthening or reconstruction of school buildings of at least 46 priority schools identified under the government's School Strengthening and Renovation Program (DLI 2 and program action plan [PAP] 2–7), in accordance with updated building codes and the guidelines for school building retrofitting (DLI 4 and PAPs 12 and 13). The strengthened or reconstructed school buildings will meet the internationally accepted seismic safety standards for an earthquake of Medvedev–Sponheuer–Karnik scale IX. The strengthened or reconstructed buildings will also meet the government's requirements on energy efficiency, with wheelchair accessible trails and sex-segregated toilets.¹³
- (ii) **Results area 2: Strengthening seismic disaster preparedness and response capacity.** An emergency response action plan will be developed for each school strengthened or reconstructed under the program. Awareness campaigns will be conducted for at least 46 communities in the same neighborhoods as these schools (DLI 3 and PAP 10). Vocational training will be provided to at least 100 construction managers and workers to improve their seismic strengthening construction technology knowledge, techniques, and skills. In addition, equipment will be provided to modernize 15 seismic observation stations. At least 45 staff in the seismic observation stations will be trained to improve their seismic monitoring and projection capacity.
- (iii) **Results area 3: Improving supportive policies and systems for seismic disaster risk management and reduction.** The program will support (a) the review and update of the country's building codes for school buildings so they are harmonized with international seismic safety standards (DLI 4 and PAP 12), (b) development of guidelines for school building strengthening and retrofitting in line with international best practices (DLI 4 and PAP 13), (c) update of the government's School Strengthening and Renovation Program (DLI 4 and PAP 14), and (d) update of the probabilistic seismic hazard map and seismic risk assessments (DLI 4 and PAP 15 and 16). A financing strategy will be developed to guide the financing of the investment needs for seismic risk management of public infrastructure in the country.
- (iv) **Results area 4: Enhancing national capacity in executing and implementing the seismic safety investment program.** The program will strengthen the Armenian Territorial Development Fund (ATDF) for effective implementation of the government's School Strengthening and Renovation Program, including providing additional staff to the ATDF (DLI 5, PAP 19), updating the ATDF operations manual, and developing or enhancing necessary systems and reports for program implementation and management (DLI 5, PAPs 21–33). At least 30 staff working on program implementation and management will be trained, and at least 40% of them will be women (DLI 5, PAP 20).

13. Disbursement allocation is summarized in Table 2. The largest DLI allocations are for DLIs 1 and 2 based on their importance to achieving the program outcome and impact, and resource requirements in achieving these results.

¹³ Government of Armenia. 2014. *Raising Energy Efficiency in Buildings Constructed, Reconstructed, or Renovated Through State Funds*. Yerevan.

Table 2: Disbursement-Linked Indicators

Indicator		Disbursement Allocated (\$ million)	Share of Total ADB Financing (%)
Outcome			
DLI 1	Coverage of seismically safe school buildings increased	25.9	29.3
Outputs			
DLI 2	Seismic resilience of school buildings increased	48.1	54.4
DLI 3	Seismic disaster preparedness and response capacity strengthened	3.6	4.1
DLI 4	Supportive policies and systems for seismic disaster risk management and reduction improved	3.4	3.8
DLI 5	National capacity in executing and implementing the seismic safety investment program enhanced	2.6	2.9
	Interest during program implementation	4.9	5.5
Total		88.5	100.0

ADB = Asian Development Bank, DLI = disbursement-linked indicator.
Source: Asian Development Bank.

14. The primary direct beneficiaries of the program will be approximately 58,700 students, teachers, and other school staff. The program will directly benefit about 18,000 students and 3,100 teachers and other school staff upon its completion in 2020, and an additional 37,600 expected new entrants during 2022–2040 by providing them with better protection against seismic disasters and making them aware of the seismic risks and proper responses during seismic emergencies. In addition, the strengthened or reconstructed school buildings will benefit about 87,500 residents living near the schools each year by providing temporary shelters for them during seismic events and emergencies as well as through the awareness programs which will enable them to make their houses safer and react better during a disaster.

E. Expenditure Framework and Financing Plan

15. **Program expenditures.** The program's expenditures are estimated to be \$107.0 million during 2015–2020 (Table 3).

Table 3: Summary of Program Expenditure Framework, 2015–2020
(in 2015 prices)

Item	Amount (\$ million)	Share of Total (%)
1. Recurrent expenditure	2.9	2.7
2. Capital expenditure		
Equipment	7.5	7.0
Civil works	89.1	83.3
3. Training and capacity development	7.5	7.0
Total	107.0	100.0

Sources: Ministry of Territorial Administration and Emergency Situations, and Asian Development Bank.

16. **Program financing.** The government will finance \$18.5 million (17.3%) of the \$107.0 million program cost. The government has requested a loan in various currencies equivalent to SDR63,259,000 from ADB's Special Funds resources to help finance the program. The loan terms and conditions are set out in para. 32. The interest during program implementation will be capitalized in the loan. The financing plan is summarized in Table 4.

Table 4: Program Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Government	18.5	17.3
Development partners		
Asian Development Bank		
Special Funds resources (loan)	88.5	82.7
Total	107.0	100.0

Source: Asian Development Bank.

17. The RBL will finance several prior results achieved before loan effectiveness but within 12 months before loan signing. These include recruiting and deploying additional staff for the ATDF (DLI 5 and PAP 19) and formulating and endorsing the government's School Strengthening and Renovation Program (DLI 4 and PAP 14). Achieving these results is essential for the successful implementation of the program. In addition, in response to the government's request to start the program implementation earlier, the RBL will finance detailed designs of school buildings for priority schools, to be prepared under the guidance of the international and national seismic engineers hired under the program preparatory TA.

18. **Disbursement arrangements.** Financing under the ADB loan will be disbursed over 5 years, subject to the achievement and verification of the agreed annual DLIs. The government will ensure that the total program expenditures are equal to, or exceed, the total amount of the loan withdrawn.¹⁴ Prior to submitting the first application to ADB for withdrawal from the loan account, the borrower will nominate a dedicated account for the program at the Central Bank of the Republic of Armenia into which all loan account withdrawals will be deposited. Financing for prior results and advance financing is allowed to address related financing requirements. The government will refund any advance financing amount outstanding within 6 months of program completion if DLIs are not achieved on or before program completion.¹⁵ Financing of prior results will be allowed to support the government in initiating actions required to achieve year 1 DLIs. Prior to the disbursement of loan proceeds, the Ministry of Finance will submit a withdrawal application, along with evidence verifying achievement of the DLIs in accordance with the verification protocols. Partial disbursements are allowed for all DLIs as specified in the DLI matrix.¹⁶ Disbursements can be deferred or take place ahead of the planned schedule depending on the achievements of the DLIs.

F. Capacity Development and Program Action Plan

19. Capacity development activities are included in the PAP, which has been developed to complement the program results framework and DLI matrix. The PAP includes key actions in specific technical areas, fiduciary management, procurement, monitoring and evaluation (M&E), safeguards, and gender and social equity. The capacity development activities will complement the physical investments under the program and support program results through increasing public awareness of seismic risk and emergency response; improving the country's seismic safety planning and management competencies; and strengthening the program management, implementation, and monitoring capacity.

¹⁴ Excluding local taxes and duties; expenditures for procurement of works, goods, and services from non-ADB member countries; and expenditures for any prohibited investment activities provided in Appendix 5 of ADB's Safeguard Policy Statement (2009).

¹⁵ Ceilings are 25% for advance financing and 20% for financing for prior results. The combined ceiling is 30%.

¹⁶ Given the meaningful impact of a strengthened or reconstructed school in protecting students during an earthquake, the minimum threshold is set at one school strengthened or reconstructed.

G. Technical Assistance

20. The attached capacity development TA will support the program implementation and guide the delivery of the program outputs.¹⁷ The TA is estimated to cost \$1,000,000, of which \$800,000 will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF-V). The government will provide counterpart support in the form of counterpart staff, office accommodation and supplies, and other in-kind contributions.

H. Implementation Arrangements

21. The program will be implemented from November 2015 to November 2020. The Ministry of Territorial Administration and Emergency Situations will be the executing agency and the ATDF will serve as the implementing agency. The ATDF board will serve as the program steering committee to oversee the program implementation.¹⁸ It will set the policy guidelines and strategic direction for the program.

III. SUMMARY OF ASSESSMENTS

A. Program Technical Assessments

22. The assessment concluded that (i) the national building codes need to be further improved to meet international standards, (ii) guidelines for seismic strengthening of buildings need to be developed to guide proper retrofitting of buildings in line with the seismic safety standards, (iii) the probabilistic seismic hazard map and seismic hazard assessments for schools need to be updated, and (iv) the national seismic observation network needs to be modernized and the capacity of its staff strengthened. Overall, public awareness of the seismic risks and the proper response during an earthquake remains inadequate. These conclusions underpin the result areas, key actions, and performance indicators of the program. The program's design and implementation arrangements are sound and the results framework is well designed. The program implementing agency, the ATDF, is an agency with experience in projects focused on community development targeting vulnerability and physical infrastructure.

23. Given the vulnerable state of the school buildings, their importance to the general public, and their intended use as shelters after earthquakes, public spending on strengthening school buildings is justified. Under the government's School Strengthening and Renovation Program, school buildings are assessed and prioritized based on comprehensive criteria including considerations of the climate change risks to ensure the economic efficiency of the investment.¹⁹ The program will support the update of the building code for school buildings to ensure it is equivalent to international standards. Development of guidelines for building retrofitting will guide proper strengthening of school buildings in accordance with the targeted seismic safety standards. The costs for school building retrofitting and reconstruction are estimated based on the most effective technical solution. Additional support for improving

¹⁷ To be implemented from November 2015 to October 2017.

¹⁸ The ATDF board consists of the prime minister (chair), vice-prime-minister; minister of territorial administration and emergency situations, minister of finance, minister of economy, minister of urban development, minister of education and science, minister of labor and social affairs, representatives from four civil society organizations (Vardanants Knights, Hayastan All Armenia Fund, Armenian General Benevolent Union, and Aznavour for Armenia charitable organization), and the ATDF executive director.

¹⁹ Prioritization criteria include seismic hazard levels of the school locations; vulnerability level of the building types; the number of students; the age of the school buildings; technical and physical conditions; the existence of secondary hazards, including climate change risks; and the existence of buildings, structures, and objects with high vulnerability adjacent to the school buildings.

seismic disaster preparedness and response capacity, strengthening supportive policies and systems for seismic disaster risk management, and enhancing capacity in executing and implementing the seismic safety investment program will complement the physical investment to maximize the program's development impact and improve its sustainability.

24. The National Strategy for Disaster Risk Reduction provides for, among others, consideration of the different but equal needs of men and women in disaster risk management and encouragement of women's participation in decision-making processes. The country's Gender Policy Strategic Action Plan also calls for gender assessment and monitoring in emergency situations and the provision of mechanisms and resources to mainstream gender in the management of emergency situations. The social and gender assessment identified the following gaps and risks: (i) limited participation of women in disaster risk management; (ii) limited awareness of students and community members, especially housewives often left at home with young children and the elderly, on seismic and disaster risks; (iii) limited collection of sex-disaggregated data in disaster management; and (iv) lack of systematic emergency response plans in schools and local communities. The program is categorized as effective gender mainstreaming and has incorporated social and gender indicators and actions in the design and monitoring framework, DLIs, and PAP to address these issues. While the ATDF has a social and gender focal person, more systematic gender training will be provided for ATDF staff to further strengthen the gender perspective in the program implementation.

B. Program Systems Assessments

25. **Monitoring and evaluation system.** Responsibility for M&E is dispersed among several institutions. Most of the systems have been developed in the context of donor-funded projects, mainly projects supported by the World Bank. Institutions such as the National Centre of Education Technologies, the Centre for Education Project, the ATDF, and the Ministry of Urban Development have reasonably well-developed systems with databases and management information systems (MISs) largely focused on inputs and outputs. The ATDF's MIS and M&E unit needs to be modestly restructured and expanded to cater to the new program's elements. The following actions have been included in the PAP with results incorporated in the program results framework, including selected DLIs: (i) increase staff strength and improve their capabilities through training, capacity development, and consultancy support; (ii) provide technical support to strengthen the ATDF's MIS to incorporate program-specific indicators, including social and gender indicators; and (iii) develop capacity to assess quality, verify design and building standards, and validate technical and social assessments.

26. **Fiduciary systems.** Assessments identified strong performance in policy-based budgeting and budget execution but weakness in internal control, quality of annual financial statements, and internal and external audit. The government's annual budget execution reports are prepared according to a consistent format guided by Soviet-era accounting instructions. However, this format is not consistent with International Public Sector Accounting Standards. Audit is not fully consistent with International Organization of Supreme Audit Institutions standards, and audit opinion does not fully reveal the accounting standards used by the government or the standards used by the auditors. There would be significant financial reporting and auditing risks in using the country's public financial management system in the short and medium term. To mitigate the risks, a separate program account will be set up for the program covering all sources of finances, and annual consolidated program financial statements will be prepared and audited, applying international standards on financial reporting and auditing.

27. **Procurement systems.** Armenia is a member of the Government Procurement Agreement of the World Trade Organization. Its public procurement legislative and regulatory

frameworks, including the Public Procurement Law, are generally consistent with international standards including European Union procurement directives.²⁰ Electronic government procurement has been in place since 2014. Several development partners are supporting the government in improving the quality of electronic government procurement. The ATDF has been implementing projects funded by the World Bank following national competitive bidding procedures adjusted for World Bank guidelines. To implement the program, the ATDF needs to engage additional procurement staff, adopt recommended procedures, develop standard bidding documents, strengthen its capacity for technical bid evaluation including a pass or fail standard for nonconforming bids, update its operations manual, and submit an annual procurement monitoring report to the ATDF board. For schools to be covered under the program, the majority of the procurement will be done using national competitive bidding for civil works. The average cost of each contract is estimated to be \$1.5 million–\$2.0 million.

28. The Guidelines to Prevent or Mitigate Fraud, Corruption, and Other Prohibited Activities in Results-Based Lending for Programs (Anticorruption Guidelines) were explained to and discussed with the government, the Ministry of Territorial Administration and Emergency Situations, and the ATDF.²¹

29. **Safeguard systems.** The program will trigger an environmental assessment to mitigate moderate adverse environmental impacts which are typical for reconstruction and rehabilitation of small to medium-sized buildings.²² The following gaps are identified between the national environmental system and the principles under ADB's Safeguard Policy Statement (2009): (i) no environmental assessment is required by the national legislation for school buildings of less than 1,500 square meters, (ii) inadequate enforcement of environmental assessment and management for buildings larger than 1,500 square meters, and (iii) no environmental assessment review framework with grievance redress mechanism. The actions and measures to address these gaps have been included in the PAP and results framework, including strengthening the ATDF to implement environmental safeguard actions in line with ADB's Safeguard Policy Statement principles for environment category B projects. No involuntary resettlement or indigenous peoples impact are envisaged under the program, as strengthening or reconstruction of school buildings will be at existing locations and Armenia is fairly homogeneous in ethnic composition. A screening checklist has been developed to ensure that any program activities which may fall under ADB category A for environment or involve any involuntary resettlement as defined in ADB's Safeguard Policy Statement are excluded.

C. Integrated Risk Assessment and Mitigating Measures

30. Major risks and mitigating measures are summarized in Table 5. The overall benefits and impacts are expected to outweigh the risks and costs.

Table 5: Summary of Integrated Risk Assessment and Mitigating Measures

Risks	Rating	Key Mitigating Measures
Results. The absence of guidelines for school seismic strengthening and reconstruction may result in inadequate strengthening and reconstruction of school buildings.	Substantial	Development and approval of guidelines in line with international best practices is a disbursement-linked indicator in year 2 (DLI 4).
Fiduciary. The government's financial	Substantial	International standards on financial reporting and

²⁰ Government of Armenia. 2011. *Public Procurement Law*. Yerevan.

²¹ ADB. 2013. *Piloting Results-Based Lending for Programs*. Manila.

²² The program safeguard systems assessment was conducted in consultation with stakeholders and disclosed on the ADB website on 14 July 2015.

Risks	Rating	Key Mitigating Measures
statements and their audit in Armenia are not in line with international standards on financial reporting and auditing.		auditing will be used for the program.
Environment safeguards. The absence of or inadequate guidelines for managing environmental impact and handling public concerns during reconstruction and strengthening of school buildings	Substantial	The EARF developed for the program will be used as part of the ATDF operations manual. Environment consultants and trainings will be provided to strengthen the capacity of the ATDF.
Procurement. Inadequate capacity to manage procurement for scaled-up activities; qualification criteria used in standard bidding documents are not aligned to best procurement practices	High	ATDF's operations manual will be updated and Procurement Unit will be strengthened. ATDF staff will participate in ADB procurement workshops. Prequalification shall not be used. Pass-fail qualification criteria will be specified in the invitation for bids and bidding documents.
Operating environment. ATDF's current capacity is inadequate to implement the program, which has a large investment component with several new initiatives and reform agenda.	Substantial	Strengthening the ATDF with additional staff resources and trainings, updating its operations manual, and enhancing its operations systems are linked with disbursement in years 1 and 2 (DLI 5).
Overall RBL program risk	Substantial	

ADB = Asian Development Bank, ATDF = Armenian Territorial Development Fund, DLI = disbursement-linked indicator, EARF = environmental assessment and review framework, RBL = results-based lending.

Note: Risk factors are assessed against two dimensions: (i) the likelihood that the risk will occur, and (ii) the impact of the risk on the outcome. Rating scale: low = low likelihood and low impact; moderate = substantial to high likelihood but low to moderate impact; substantial = low to moderate likelihood but substantial to high impact; high = high likelihood and high impact.

Source: Asian Development Bank.

IV. ASSURANCES

31. The government has agreed with ADB on certain covenants for the program, which are set forth in the loan agreement.

V. RECOMMENDATION

32. 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 in various currencies equivalent to SDR63,259,000 to Armenia for the Seismic Safety Improvement Program, from ADB's Special Funds resources, with an interest charge at the rate of 2% per annum during the grace period and thereafter; 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 agreement presented to the Board.

Takehiko Nakao
President

25 August 2015

DESIGN AND MONITORING FRAMEWORK

Impact the Results-Based Lending Program is Aligned with:

To establish a resilient country, increase the safety of individuals and society, and contribute to the sustainable development of the country (National Strategy for Disaster Risk Reduction, 2012)^a

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Improved coverage of seismically safe school buildings	By 2020: Percentage of male and female students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by 5.3 percentage points (2014 baseline: 13.4% [female = 6.5%, male = 6.9%]) ^b	ATDF's semiannual program performance reports Program completion report	Extreme earthquakes exceeding the targeted magnitude reduce the safety standard of the strengthened buildings.
Outputs 1. Seismic resilience of school buildings increased	School buildings of 46 schools renovated and/or reconstructed meeting the safety standards for MSK 9 (IX) scale earthquakes as validated by an internationally accredited third party, with wheelchair access and sex-segregated toilets by 2020	ATDF's semiannual program performance reports	Complex and prolonged government approval procedures may delay program implementation. Difficulty in recruiting and retaining qualified staff for ATDF may affect program implementation.
2. Seismic disaster preparedness and response capacity strengthened	2a. 46 communities received public awareness campaigns (with at least 50% female participation) on seismic risk and response in accordance with the seismic emergency response plans by 2020 2b. 100 construction managers and workers received vocational trainings on seismic safety construction technologies, techniques, and skills by 2018	2a. ATDF's semiannual program performance reports 2b. Training course evaluation survey reports	Difficulty in recruiting and retaining qualified staff for ATDF may affect program implementation.
3. Supportive policies and systems for seismic disaster risk management and reduction improved	3a. Updated and consolidated School Strengthening and Renovation Program, using the prioritization criteria developed with support of the United Nations Children's Fund, approved by 2015 3b. Guidelines in line with international best practices for school seismic strengthening and retrofitting approved by 2016 3c. Updated building codes for school buildings harmonized with international standard and approved by 2016	3a. Government resolution 3b–c. Order of the MOUD	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
	<p>3d. National seismic hazard probabilistic map updated based on the seismic risk assessment and approved by 2018</p> <p>3e. A financing strategy for seismic safety improvement and management of public infrastructure approved by 2020</p>	<p>3d. Order of the MOTAES</p> <p>3e. Government decree</p>	
4. National capacity in executing and implementing the seismic safety investment program enhanced	<p>4a. At least 11 additional staff recruited and deployed in ATDF by 2015</p> <p>4b. Program monitoring and evaluation system with social and gender indicators in place by 2016</p> <p>4c. ATDF's operations manual updated and adopted for the program by 2016</p> <p>4d. 30 government officials, with at least 40% women, involved in the program management, implementation, and monitoring trained and licensed, when necessary by 2018</p>	<p>4a. ATDF's staffing reports</p> <p>4b–c. ATDF's semiannual program performance reports</p> <p>4d. Training course evaluation survey reports</p>	

Key Program Actions

1. Seismic resilience of school buildings increased

- 1.1 Select priority school buildings in batches by 2017.
- 1.2 Complete detailed designs in batches by 2018.
- 1.3 Complete strengthening and renovation and/or reconstruction of school buildings by 2020.

2. Seismic disaster preparedness and response capacity strengthened

- 2.1 Provide equipment and trainings for the national seismic observation network of the National Survey for Seismic Protection in accordance with government decree by 2018.
- 2.2 Provide vocational trainings on seismic safety construction technologies, techniques, and skills for the construction managers and workers working for the program by 2018.
- 2.3 Develop the seismic emergency response plans for priority schools by 2020.
- 2.4 Conduct public seismic safety awareness campaigns in the communities where the priority school buildings are located by 2020.

3. Supportive policies and systems for seismic disaster risk management and reduction improved

- 3.1 Update the School Strengthening and Renovation Program annually from 2016.
- 3.2 Develop guidelines in line with international best practices for school seismic strengthening and retrofitting by 2016.
- 3.3 Review, update, and harmonize the building codes for school buildings by 2016.
- 3.4 Conduct national seismic risk assessment and update the national seismic hazard probabilistic map by 2018.

<p>Key Program Actions</p> <p>3.5 Develop a financing strategy for seismic safety improvement and management of public infrastructure by 2020.</p> <p>4. National capacity in executing and implementing the seismic safety investment program enhanced</p> <p>4.1 Recruit additional staff for ATDF required for the program management, implementation, and monitoring by 2015.</p> <p>4.2 Review and strengthen the program systems, including the fiduciary and financial management systems, safeguard systems, procurement systems, and monitoring and evaluation systems in accordance with the program action plan by 2016.</p> <p>4.3 Review, expand, and update ATDF's operations manual for the program by 2016.</p> <p>4.4 Train and license, as necessary, the key technical and financial management officials involved in the program management, implementation, and monitoring by 2018.</p>
<p>Financing Plan</p> <p>Asian Development Bank: \$88.5 million (Asian Development Fund loan) and \$800,000 (Technical Assistance Special Fund [TASF-V]) Government of Armenia: \$18.5 million</p>
<p>Assumptions for Partner Financing</p> <p>Not applicable.</p>

ATDF = Armenian Territorial Development Fund, MOTAES = Ministry of Territorial Administration and Emergency Situations, MOUD = Ministry of Urban Development, MSK = Medvedev–Sponheuer–Karnik.

^a Government of Armenia. 2012. *National Strategy for Disaster Risk Reduction*. Yerevan.

^b The baseline data is percentage of students studying in school buildings meeting the existing government seismic safety standards, which do not necessarily meet the international safety standards for MSK 9 (IX) scale earthquake.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://adb.org/Documents/RRPs/?id=49078-001-3>

1. Loan Agreement
2. Country Economic Indicators
3. Summary Sector Assessment: Water and Other Urban Infrastructure and Services (Seismic Risk Management)
4. Program Soundness Assessment
5. Program Results Assessment
6. Program Results Framework
7. Program Expenditure and Financing Assessment
8. Program Monitoring and Evaluation System Assessment
9. Program Fiduciary Systems Assessment
10. Program Safeguard Systems Assessment
11. Integrated Risk Assessment and Mitigating Measures
12. Program Action Plan
13. Attached Technical Assistance
14. Contribution to the ADB Results Framework
15. Development Coordination
16. Summary Poverty Reduction and Social Strategy
17. Program Implementation Document

Supplementary Documents

18. Country Public Financial Management System Assessment
19. Terms of Reference for Attached Technical Assistance
20. Social and Gender Assessment
21. Environmental Assessment Review Framework

DISBURSEMENT-LINKED INDICATORS, VERIFICATION PROTOCOLS, AND DISBURSEMENT SCHEDULE

Table A3.1: Disbursement-Linked Indicators

DLIs	Baseline and Year	Prior Results (2015)	2016	2017	2018	2019	2020
DLI 1: Coverage of seismically safe school buildings increased	In 2014, the percentage of school students studying in school buildings meeting the existing government seismic safety standards was 13.4% (female = 6.5%, male = 6.9%) ^a			The percentage of school students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by at least 2.1 percentage points from the baseline (partial disbursement allowed)		The percentage of school students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by at least 3.9 percentage points from the baseline (partial disbursement allowed)	The percentage of school students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by at least 5.3 percentage points from the baseline (partial disbursement allowed)
DLI 2: Seismic resilience of school buildings increased	In 2014, number of schools with school buildings strengthened and reconstructed based on existing government seismic safety standards was 288 ^a	Detailed design for strengthening and reconstruction of school buildings of eight priority schools completed and approved	Number of schools with school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by nine from the baseline (partial disbursement allowed)		Number of schools with school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by 27 from the baseline (partial disbursement allowed)		Number of schools with school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by 46 from the baseline. (partial disbursement allowed)
DLI 3: Seismic disaster preparedness and response capacity strengthened	No baseline		At least eight communities received public awareness campaigns with at least 50% women participating in the onsite meetings on seismic risk and response in accordance with the		At least 26 communities received public awareness campaigns with at least 50% women participating in the onsite meetings on		At least 46 communities received public awareness campaigns with at least 50% women participating in the onsite meetings on

DLIs	Baseline and Year	Prior Results (2015)	2016	2017	2018	2019	2020
			<p>seismic emergency response plans</p> <p>(partial disbursement allowed)</p>		<p>seismic risk and response in accordance with the seismic emergency response plans (cumulative)</p> <p>(partial disbursement allowed)</p>		<p>seismic risk and response in accordance with the seismic emergency response plans (cumulative)</p> <p>(partial disbursement allowed)</p>
<p>DLI 4: Supportive policies, systems, and structures for seismic disaster risk management and reduction improved</p>	No baseline	<p>Updated and consolidated School Strengthening and Renovation Program approved</p>	<p>The updated building codes for school buildings, harmonized with international standard, approved</p> <p>Guidelines in line with international best practices for school seismic strengthening and retrofitting approved</p> <p>(partial disbursement allowed)</p>		<p>National seismic hazard probabilistic map, updated based on the seismic risk assessment, approved</p>		
<p>DLI 5: Capacity in executing and implementing the seismic safety investment program enhanced</p>	No baseline	<p>At least 11 additional staff for program implementation recruited and deployed by ATDF</p>	<p>Template bidding documents are prepared in accordance with internationally accepted procurement procedures</p> <p>ATDF operations manual expanded and updated in accordance with the program requirements</p> <p>Program monitoring and evaluation</p>	<p>At least 30 staff working for program implementation, with at least 40% women, are trained</p>			

DLIs	Baseline and Year	Prior Results (2015)	2016	2017	2018	2019	2020
			system established (partial disbursement allowed)				

ADB = Asian Development Bank, ATDF = Armenian Territorial Development Fund, DLI = disbursement-linked indicator, MSK = Medvedev–Sponheuer–Karnik.

^a The existing government seismic safety standards do not meet the international seismic safety.

Source: Asian Development Bank.

Table A3.2: Verification Protocols

DLIs	Definition and Description of Achievement and Verification	Information Source and Reporting Time Frame	Verification Agency and Procedure
DLI 1: Coverage of seismically safe school buildings increased			
<p>2017: The percentage of school students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by at least 2.1 percentage points from the baseline.</p> <p>2019: The percentage of school students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by at least 3.9 percentage points from the baseline.</p> <p>2020: The percentage of school students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by at least 5.3 percentage points from the baseline</p>	<p>Definitions: Percentage is obtained by dividing the number of students studying in school buildings meeting the safety standards for MSK 9 (IX) scale earthquake (numerator) by the total student number in primary, secondary, and high schools (denominator).</p> <p>School buildings mean classrooms, dormitories, libraries, gymnasiums, canteens, and washrooms in the primary, secondary, and high schools.</p> <p>Meeting the safety standards means that the structural strength and safety features of a building meet or exceed the requirements for standing against the shock of an earthquake of the targeted scale.</p> <p>A MSK 9 (IX) scale earthquake means an earthquake scaled at level 9 (IX) in Medvedev-Sponheuer-Karnik scale, which is a macro seismic intensity scale used to evaluate the severity of ground shaking on the basis of observed effects in an area of the earthquake occurrence.</p> <p>[Partial DLI disbursement will be made on a pro rata basis as per the following formula: Partial DLI disbursement = planned DLI disbursement for the period* (actual achievement of the current period–targeted achievement of the previous period)/(targeted achievement of the current period–targeted achievement of the previous period) If the actual achievement of the current period is less than the targeted achievement of the previous period, no disbursement will be made.]</p>	<p>Information sources: NCET database and ATDF’s semiannual program performance reports</p> <p>Time frame: November</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches the M&E reports and construction completion reports validated by an internationally accredited third party in terms of its compliance with the MSK 9 (IX) scale earthquake safety requirements.</p> <p>2. Within 1 month from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met.</p>
DLI 2: Seismic resilience of school buildings increased			
<p>Prior results (2015): Detailed design for strengthening and</p>	<p>Definitions: Detailed design means design drawings, specifications, bills of quantity, and contract documents, with cost estimates.</p>	<p>Information sources: MOUD approval documents</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches</p>

DLIs	Definition and Description of Achievement and Verification	Information Source and Reporting Time Frame	Verification Agency and Procedure
reconstruction of school buildings of eight priority schools completed and approved	<p>School buildings mean classrooms, dormitories, libraries, gymnasiums, canteens, and washrooms in the primary, secondary, and high schools.</p> <p>Approved means approval of the MOUD after adequacy of the detailed design is validated by an international accredited seismic expert and necessary reviews and clearance by relevant authorities according to the government's regulations.</p>	Time frame: November	<p>MOUD approval documents.</p> <p>2. ADB will review the report and confirm if the DLI target is met.</p>
<p>2016: Number of schools with school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by 9 from the baseline</p> <p>2018: Number of schools with school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by 27 from the baseline.</p> <p>2020: Number of schools with school buildings meeting the safety standards for MSK 9 (IX) scale earthquake increased by 46 from the baseline</p>	<p>Definitions: School buildings mean classrooms, dormitories, libraries, gymnasiums, canteens, and washrooms in the primary, secondary, and high schools.</p> <p>Meeting the safety standards means that the structural strength and safety features of a building meet or exceed the requirements for standing against the shock of an earthquake of the targeted scale as validated by an internationally accredited party.</p> <p>A MSK 9 (IX) scale earthquake means an earthquake scaled at level 9 (IX) in Medvedev-Sponheuer-Karnik scale, which is a macro seismic intensity scale used to evaluate the severity of ground shaking on the basis of observed effects in an area of the earthquake occurrence.</p> <p>[Partial DLI disbursement will be made on a pro rata basis as per the following formula: Partial DLI disbursement = planned DLI disbursement for the period* (actual achievement of the current period–targeted achievement of the previous period)/(targeted achievement of the current period–targeted achievement of the previous period) If the actual achievement of the current period is less than the targeted achievement of the previous period, no disbursement will be made.]</p>	<p>Information sources: ATDF's semiannual program performance reports and construction completion reports</p> <p>Time frame: November</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches construction completion report validated by an internationally accredited third party in terms of its compliance with the MSK 9 (IX) scale earthquake safety requirements.</p> <p>2. Within 1 month from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met.</p>
DLI 3: Seismic disaster preparedness and response capacity strengthened			
<p>2016: at least 8 communities received public awareness campaigns with at least 50% women participating in the onsite meetings on seismic risk and response in accordance with the seismic emergency response plans</p> <p>2018: at least 26 communities</p>	<p>Definitions: Communities mean a local community in the neighborhood in which a school strengthened or reconstructed under the program is located.</p> <p>Public awareness campaigns mean activities to raise the knowledge base of the population via information dissemination on seismic risk through onsite meetings and any of the information outlets including media, printed documents, and educational events.</p> <p>Seismic emergency response plans are localized plans that (i) adapt the national strategies for seismic risk to the specific conditions of the communities, and (ii) are social- and gender-sensitive. A seismic emergency response plan is deemed to be social- and gender-sensitive,</p>	<p>Information sources: ATDF's semiannual program performance reports</p> <p>Reports from community leaders, principals of schools and NGOs</p> <p>Time frame: December</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches the M&E reports and relevant supporting reports from the community leaders, principals of schools, or NGOs.</p> <p>2. Within 1 month from receipt of ATDF report,</p>

DLIs	Definition and Description of Achievement and Verification	Information Source and Reporting Time Frame	Verification Agency and Procedure
<p>received public awareness campaigns with at least 50% women participating in the onsite meetings on seismic risk and response in accordance with the seismic emergency response plans</p> <p>2020: at least 46 communities received public awareness campaigns with at least 50% women participating in the onsite meetings on seismic risk and response in accordance with the seismic emergency response plans</p>	<p>if it considers the specific vulnerabilities of women, children, the elderly, and persons with disabilities, when designing specific courses of actions that local government bodies and community members should take during seismic and other disaster situations.</p> <p>[Partial DLI disbursement will be made on a pro rata basis as per the following formula: Partial DLI disbursement = planned DLI disbursement for the period * (actual achievement of the current period–targeted achievement of the previous period)/(targeted achievement of the current period–targeted achievement of the previous period) If the actual achievement of the current period is less than the targeted achievement of the previous period, no disbursement will be made.]</p>		<p>ADB will review the report and confirm if the DLI target is met.</p>
DLI 4: Supportive policies, systems, and structures for seismic disaster risk management and reduction improved			
<p>Prior results (2015): Updated and consolidated School Strengthening and Renovation Program approved.</p>	<p>School Strengthening and Renovation Program refers to the government's program for school strengthening and renovation, which prioritizes all schools of high seismic risks (with assessment scores equal or higher than 40) in the country based on the United Nations Children's Fund's prioritization criteria with cost estimates for each school strengthening (or reconstruction) and renovation.</p> <p>Approved means approval of the MOTAES after necessary reviews and clearance by relevant authorities according to the government's regulations.</p>	<p>Information source: MOTAES's approval document</p> <p>Time frame: November</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches the MOTAES approval document.</p> <p>2. Within 2 weeks from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met.</p>
<p>2016: The updated building codes for school buildings, harmonized with international standard, approved</p> <p>Guidelines in line with international best practices for school seismic strengthening and retrofitting approved</p>	<p>Harmonized means Armenian standards adapted to international standards.</p> <p>International standards mean accredited standards accepted by the United Nations, the World Bank, and other international development agencies.</p> <p>International best practices mean best practices adopted, demonstrated, and proven widely by countries and international organizations.</p> <p>Approved means approval of the MOUD after necessary reviews and clearance by (i) an international accredited third party, and (ii) relevant authorities according to the government's regulations. (Partial DLI disbursement will be made on a pro rata basis: one targets achieved: 50%, two targets achieved: 100%)</p>	<p>Information sources: MOUD approval documents</p> <p>Time frame: December</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches the MOUD approval documents.</p> <p>2. Within 2 weeks from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met.</p>

DLIs	Definition and Description of Achievement and Verification	Information Source and Reporting Time Frame	Verification Agency and Procedure
<p>2018: National seismic hazard probabilistic map, updated based on the seismic risk assessment, approved</p>	<p>National seismic hazard probabilistic map is a map showing the seismic risks and hazard levels in different locations of Armenia in case of earthquakes.</p> <p>The seismic risk assessment is an assessment of seismic risk which is essential to identify areas of needed interventions and specific actions items with maximum risk reduction effects. The map will include all cities with population of more than 2,000, other geographical features such as rivers, as well as all schools in Armenia.</p> <p>Approved means approval of the MOTAES after necessary reviews and clearance by relevant authorities according to the government's regulations.</p>	<p>Information sources: Approval documents of MOTAES</p> <p>Time frame: December</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches the MOTAES approval documents.</p> <p>2. Within 2 weeks from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met.</p>
DLI 5: Capacity in executing and implementing the seismic safety investment program enhanced			
<p>Prior Results (2015): At least 11 additional staff for program implementation recruited and deployed by ATDF</p>	<p>11 additional staff include 1 deputy director, 3 seismic engineers, 2 procurement specialists, 1 contract management specialist, 1 financial specialist, 1 accountant, 1 environment specialist, 1 social, poverty and gender development specialist, and 1 M&E specialist</p>	<p>Information sources: ATDF reports</p> <p>Time frame: November</p>	<p>1. ATDF prepares an attestation that DLI is met and specific positions and filling time.</p> <p>2. Within 2 weeks from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met.</p>
<p>2016: Template bidding documents developed</p> <p>ATDF Operations Manual expanded and updated in accordance with the program requirements</p> <p>Program M&E system established</p>	<p>Template bidding documents means a set of documents to be used as standards during the bidding process, including bids for different procurement methods, evaluation criteria, and conditions of contracts.</p> <p>ATDF operations manual means the manual specifying the processes and procedures for ATDF operations.</p> <p>The program requirements mean the processes and procedures required by the program, which are not covered by the existing ATDF operations manual.</p> <p>Program M&E system means the improved management and information system, tools of analysis and indicators for M&E, to be implemented by trained specialists to monitor the program implementation progress, quality control, and achievements of outputs and results under the program, including those for social, environment, gender and poverty targets.</p> <p>(Partial DLI disbursement will be made on a pro rata basis: one target achieved: 33.3%, two targets achieved: 66.7%, three targets achieved: 100%.)</p>	<p>Information sources: ATDF's semiannual program performance reports</p> <p>Time frame: December</p>	<p>1. ATDF prepares an attestation that DLI is met and attaches the relevant sample bidding documents, operations manual, and M&E system manual.</p> <p>2. Within 1 month from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met</p>

DLIs	Definition and Description of Achievement and Verification	Information Source and Reporting Time Frame	Verification Agency and Procedure
2017: At least 30 staff working for program implementation, with at least 40% women, are trained in the areas of project implementation and management, financial management and reporting, procurement, environmental safeguards, social and gender development, and M&E	Trained means a person has gone through a training process and has passed the necessary exams or tests, if required by the training process. Training means teaching, or developing in oneself or others, any skills and knowledge that relate to specific useful competencies in any areas of project implementation and management, financial management and reporting, procurement, environmental safeguards, social and gender development, and M&E.	Information source: ATDF's semiannual program performance reports Time frame: December	1. ATDF prepares an attestation that DLI is met and attaches the training records. 2. Within 2 weeks from receipt of ATDF report, ADB will review the report and confirm if the DLI target is met.

ADB = Asian Development Bank, ADTF = Armenian Territorial Development Fund, DLI = disbursement-linked indicator, M&E = monitoring and evaluation, MSK = Medvedev–Sponheuer–Karnik, MOTAES = Ministry of Territorial Administration and Emergency Situations, MOUD = Ministry of Urban Development, NCET = National Center for Education Technology, NGO = nongovernment organization.

Source: Asian Development Bank.

Table A3.3: Disbursement Schedule
(\$ million)

	Indicator	Total ADB Financing Allocation	Share of ADB Financing (%)	Financing for Prior Results	2016	2017	2018	2019	2020	Total
Outcome										
DLI1	Coverage of seismically safe school buildings increased	25.9	29.3			9.5		9.4	7.0	25.9
Outputs										
DLI2	Seismic resilience of school buildings increased	48.1	54.4	3.0	18.5		18.8		7.8	48.1
DLI3	Seismic disaster preparedness and response capacity strengthened	3.6	4.1		1.5		1.4		0.7	3.6
DLI4	Supportive policies, systems, and structures for seismic disaster risk management and reduction improved	3.4	3.8	0.9	0.9		0.9		0.7	3.4
DLI51	Capacity in executing and implementing the seismic safety investment program enhanced	2.6	2.9	0.5	0.9	1.2				2.6
Subtotal		83.6	94.5	4.4	21.8	10.7	21.1	9.4	16.2	83.6
Interest during program implementation		4.9	5.5							
Total		88.5	100.0							

ADB = Asian Development Bank, DLI = disbursement-linked indicator.

Source: Asian Development Bank.