Project Administration Manual

Project Number: 51190-001
Loan and Grant Numbers: LXXXX; GXXXX
July 2018

NEPAL: Disaster Resilience of Schools Project

ABBREVIATIONS

ADB	–	Asian Development Bank
CEF	–	Clean Energy Fund
CLPIU	–	central level project implementation unit
CPD	–	client portal for disbursement
CSSF	–	Comprehensive School Safety Framework
DDR	–	due diligence report
DLPIU	–	district level project implementation unit
DMF	–	design and monitoring framework
DTCO	–	District Treasury Controller Office
DRM	–	disaster risk management
DRR	–	disaster risk reconstruction
DSC	–	Design and supervision consultant
EARF	–	environment assessment and review framework
EEAP	–	Earthquake Emergency Assistance Project
EGM	–	Effective Gender Mainstreaming
EMIS	–	Education Management Information System
EMP	–	environment management plan
FCGO	–	Financial Comptroller General's Office
FMA	–	financial management assessment
FY	–	fiscal year
GESI	–	gender, equality and social inclusion
GON	–	Government of Nepal
GRC	–	grievance redress committee
GRM	–	grievance redress mechanism
ICS	–	individual consultation selection
ICT	–	information and communication technology
IEE	–	initial environmental examination
M&E	–	monitoring and evaluation
MOEST	–	Ministry of Education, Science and Technology
MOF	–	Ministry of Finance
NGO	–	non-governmental organization
NRA	–	National Reconstruction Authority
OAG	–	Office of the Auditor General
OBA	–	output-based aid
OCB	–	open competitive bidding
O&M	–	operation and maintenance
QCBS	–	quality and cost-based selection
RP	–	resettlement plan
SIDA	–	Structural Integrity Damage Study
SMC	–	school management committee
SOE	–	statement of expenditure
SPS	–	Safeguard Policy Statement
WASH	–	Water, Sanitation and Hygiene

CONTENTS

Project Administration Manual Purpose and Process

The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with the policies and procedures of the government and Asian Development Bank (ADB). The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

The National Reconstruction Authority (NRA) and the Ministry of Education, Science and Technology (MOEST) through central level project implementation unit [CLPIU (Education)] are wholly responsible for the implementation of ADB-financed projects, as agreed jointly between the borrower and ADB, and in accordance with the policies and procedures of the government and ADB. ADB staff is responsible for supporting implementation including compliance by NRA and MOEST of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At loan and grant negotiations, the borrower and ADB shall agree to the PAM and ensure consistency with the loan and grant agreements. Such agreement shall be reflected in the minutes of the loan negotiations. In the event of any discrepancy or contradiction between the PAM and the loan and grant agreements, the provisions of the loan and grant agreements shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP), changes in implementation arrangements are subject to agreement and approval pursuant to relevant government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval, they will be subsequently incorporated in the PAM.

I. PROJECT DESCRIPTION

1. The proposed project will improve disaster resilience of school infrastructure and communities in 3 provinces of Nepal. The project will support school infrastructure investments, disaster risk management and institutional strengthening. More specifically, it will upgrade 174 distinct schools through either reconstructing or retrofitting their damaged buildings. 154 will be secondary education schools (74 up to grade 10 and 80 up to grade 12) and 20 feeder basic education schools (up to grade 8). 70% of them will be in rural areas and 30% in urban areas and collectively they will provide a safe learning environment to 64,300 students of which 33,600 will be girls.

2. The project builds on and expands ADB's on-going emergency reconstruction support to be completed in June 2019.[1] It will also contribute to achieving results-based lending program's school reconstruction targets and complement efforts to improve quality of school education, access to education and school management.[2] The preparation of gender sensitive and inclusive planning and education program will complement the retrofitting and reconstruction efforts. The disaster risk management (DRM) action plan will be informed by the Comprehensive School Safety Framework (CSSF); and a gap assessment of activities to be covered by other development partners and interagency coordination.[3]

3. **Disaster risks and impacts in Nepal.** Nepal is among the most hazard-prone countries in the world. Earthquakes, landslides and floods are the most severe hazards in the country. The frequency and intensity of weather-related hazards, notably landslides, floods and droughts, may increase in Nepal due to climate change. Seismic events have the potential to trigger secondary hazards including landslides, floods and fires. Although massive earthquakes happen infrequently, they cause significant casualties, physical damage and losses to the economy.[4] The 2015 devastating Gorkha earthquake's damages and losses were assessed at $7 billion, with 8,790 casualties, 22,300 injuries, 7,800 schools damaged, and overall 8 million people affected, that is almost 29% of the population.[5]

4. While natural hazards trigger disasters, the risks and the consequences of such events are determined by the vulnerability and exposure of assets and communities. The degree of physical vulnerability of assets is affected by their design, quality of construction and maintenance, as well as weak institutional capacity and lack of know-how to pursue resilience. The level of exposure is affected by proximity of the asset to hazard zones; its age, occupancy, and usage; and communities' level of awareness of disaster risk and preparedness. Reducing the vulnerability and exposure of communities and physical assets to natural hazards and enhancing the capacity of communities at risk are critical to protect people, safeguard investments and promote sustainable development.

5. **Plans and need for safe school infrastructure.** More than 72% of the school buildings of the country's 35,000 schools are considered unsafe and require seismic retrofitting. The 2016

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[1] ADB. 2015. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to Nepal for the Emergency Earthquake Assistance Project* . Manila

[2] ADB. 2016. *Report and Recommendation of the President to the Board of Directors: Proposed Results-Based Loan and Technical Assistance Grant to Nepal for Supporting School Sector Development Plan.* Manila.

[3] National Society for Earthquake Technology, United Nations Children's Fund (UNICEF), United Nations Educational, Scientific and Cultural Organization (UNESCO), and other relevant sector and cluster groups.

[4] Major earthquakes occurred in 1934, 1980, 1988, 2011 and 2015.

[5] Government of Nepal, National Planning Commission. 2015. *Nepal Earthquake 2015: Preliminary Damage and Needs Assessment*. Kathmandu; National Reconstruction Authority. 2016. *Post Disaster Recovery Framework (2016-2020)*, Kathmandu.

Structural Integrity Damage Assessment (SIDA) estimated that 2,234 schools are heavily damaged and not in use in 14 districts that were severely affected by the 2015 earthquake.[6] These schools are functioning under temporary makeshift shelters and lack adequate facilities for learning such as laboratories, libraries and information and communication technologies (ICT). They also possess very limited basic facilities, such as water supply and sanitation, and electricity. About 25% will be reconstructed under planned and on-going projects that are supported by various development partners.[7] Government efforts are also underway to finance reconstruction of additional schools. However, a significant funding gap for school reconstruction remains. Additional 3,569 partially damaged schools with identified retrofitting or repair needs remain in use. The SIDA survey shows that all these schools are vulnerable to seismic hazards, 30-50% of the schools are vulnerable to both precipitation and earthquake triggered landslides, and 5% of them are susceptible to flooding. In addition to resilient school infrastructure needs, other disaster risk management (DRM) actions and related institutional capacity strengthening are needed to safeguard communities and investments.

6. The Ministry of Home Affairs integrated school safety in its National Disaster Risk Reduction Policy and Strategic Action Plan (2017-2030).[8] It designated schools as key centers for raising disaster awareness, a key major factor for reducing the vulnerability and exposure of communities. The CSSF guidelines were developed to provide safe learning facilities, school disaster risk management, and risk reduction and resilience education.[9] These guidelines are supported by the Asian Development Bank (ADB) and other international agencies.

7. **Project Outputs.** The three expected project outputs are: (1) heavily damaged schools reconstructed and improved; (2) unsafe schools retrofitted and disaster risk reduced; and (3) institutional capacity for disaster resilience strengthened.

8. **Output 1: Heavily damaged schools reconstructed and improved.** Output 1 will reconstruct heavily damaged buildings of 163 schools in 14 districts most affected by the earthquake.[10] The schools will be reconstructed to earthquake resilient standards. The reconstructed schools will include improved classrooms and facilities comprising of general science laboratories, computer-equipped ICT rooms, libraries, water, sanitation and hygiene facilities that are segregated, having changing and disposal facilities for menstruating females, and are accessible to people with disabilities and solar power supply or back up. To mitigate potential weather-related hazards to schools and to ensure a safe learning environment, reconstruction will follow the Indian Standard Criteria for Earthquake Resistant Design of

[6] Government of Nepal, Department of Education and the World Bank. 2016. *Structural Integrity and Damage Assessment*. Kathmandu.

[7] Through the Earthquake Emergency Assistance Project (footnote 2) and the Disaster Risk Reduction and Livelihood Restoration for Earthquake-Affected Communities Project (ADB. 2015. *Report and Recommendation of the President to the Board of Directors: Proposed Administration of Grant to Nepal for the Disaster Risk Reduction and Livelihood Restoration for Earthquake-Affected Communities Project*. Manila), ADB is reconstructing 160 schools in Nepal. The Japan International Cooperation Agency provided $112 million to reconstruct 236 schools, the Government of India allocated $50 million to reconstruct 70 schools, and the United States Agency for International Development and the Department for International Development of the United Kingdom provided their support. Together these contributions cover less than 25% of the identified needs.

[8] Government of Nepal. 2017. *National Disaster Risk Reduction Policy and Strategic Action Plan* (2017-2030). Kathmandu has been developed in line with United Nations Office for Risk Reduction. 2015. *Sendai Framework for Disaster Risk Reduction* 2015-2030. Kathmandu. (awaiting approval).

[9] United Nations Office for Disaster Risk Reduction. 2017. *Comprehensive School Safety Framework*. Kathmandu.

[10] The 14 districts are Bhaktapur, Dhading, Dolakha, Gorkha, Kathmandu, Kavrepalanchok, Lalitpur, Nuwakot, Okhaldunga, Ramechhap, Sindhuli, and Sindhupalchok.

Structures.[11] Off-grid and on-grid solar power systems will be installed in 130 of the 163 schools targeted.[12] The schools (163) are selected based on size of enrollment, scale of damage, and equity (gender and historically disadvantaged group) considerations.[13] Of the schools targeted, 36 schools include buildings with reconstruction needs only, and 127 schools include buildings with reconstruction and retrofitting needs. The targeted schools include 145 secondary schools and 18 feeder basic schools that will help achieve the SSDP goal of 85% enrollment in secondary schools. Drawing from EEAP's experience, the reconstruction works will be procured in two successive batches under open competitive bidding (OCB). First batch of 67 schools have been selected for advance procurement actions under OCB with international advertising.

9. A national consulting firm will be hired to prioritize about 130 schools to be equipped with solar energy supply as a sole power source for off grid schools or as a back-up or alternate cheaper electricity source for on grid schools; assess the needs, design the photovoltaic panel installation, and contract and supervise supply and installation under an output-based method. A national independent verification agent will be hired to proceed with the certification and commissioning of each installation before payment can be released. Solar panel installation will be funded by a co-financed grant from the Clean Energy Fund[14] (CEF) under the Clean Energy financing Partnership Facility and will be administered by ADB.

10. **Output 2: Unsafe schools retrofitted and disaster risk reduced**. Output 2 is targeting 138 schools that include buildings with retrofitting needs. Of these schools, 127 schools are also targeted under output 1, as these schools include buildings with reconstruction needs, and the remaining 11 schools include buildings with only retrofitting needs. The retrofitting works will be complemented by construction of improved facilities to reach comparable learning environment sought for the schools reconstructed under Output 1. The schools targeted for retrofitting will also be selected based on size of enrollment, scale of damage, and equity (gender and historically disadvantaged group) considerations. The project will also support development of a DRM action plan and relevant training for school management committees (SMC), students and communities, and field-test the risk management action plans in selected reconstructed and retrofitted schools in the 14 affected districts.

11. Repairs and retrofitting works to earthquake resilient standard will be executed under OCB with national advertising in two successive batches of 66 and 72 schools. The retrofitting works will be gender, equality and social inclusion (GESI) compliant. The project will recruit a DSC to conduct the field assessment surveys and prepare the retrofitting and necessary improvement designs for the 138 schools and supervise both reconstruction retrofitting works.

12. A national DRM consultancy will be hired to elaborate the DRM Action Plan, help set up a DRM organization in each school community and management committee, develop DRR trainings, and subcontract specialized non-governmental organization (NGO) to develop and deliver gender sensitive and inclusion education trainings as part of the GESI Action Plan. The DRM NGO will field-test the training program, the effectiveness of the disaster risk resilience (DRR) organization, and the execution of the social action plan in a representative sample of the reconstructed and retrofitted schools in each of the 14 project districts with the understanding that the municipalities would pursue this effort after project completion.

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[11] Government of India, Bureau of Indian Standards. 2002. *Indian Standard Criteria for Earthquake Resistant Design of Structures*. New Delhi.

[12] Renewable energy generation capacity will be 1 megawatt, resulting in 1,500 megawatt-hour of energy per year.

[13] Gender Action Plan (accessible from the list of linked documents in Appendix 2).

[14] Financing partners: the governments of Australia, Norway, Spain, Sweden and the United Kingdom.

13. **Output 3: Institutional capacity for disaster resilience strengthened.** Output 3 will strengthen (i) the education management information system (EMIS) to improve school building inventory and condition, as well as local level SMC reporting to the EMIS[15]; (ii) the capacity of an implementation unit and municipalities' to design and build disaster resilient structures; and (iii) SMC capacity to operate and adequately maintain schools using local government funding. Given the retrofitting needs that will remain, the project will develop a toolbox, which will be pilot tested in three schools, to help the community retrofit schools using local government funds.

14. The DRM NGO will subcontract national experts to enhance reporting from school management committee (SMC) to the EMIS database to improve school building inventory and introduce condition status and maintenance requirements. In a relevant sample of municipalities and as part of the DRM program, it will organize trainings to strengthen the capacity of 336 government engineers and 336 masons, of which 30% of women, to design and build disaster resilient structures and of SMCs to operate and adequately maintain schools utilizing local government funding and minimize disaster risks. The DRM NGO will collect data arising from community driven school retrofitting using low cost earthquake resilient design and develop practical and readily scalable set of methods that could be replicated across the country under government and/or municipal funding.

II. IMPLEMENTATION PLANS

A. Project Readiness Activities

Table 1: Project Readiness Activities

Activities	2018 Q1	2018 Q2	2018 Q3	2018 Q4	Responsible Agency	Status as of 23 July 2018
1. Project Staffing and Financing						
a. Appoint Project Director and team for project					NRA	Appointed.
b. Strengthen CLPIU with additional staff for project					CLPIU	Additional staff to be appointed by May (Completed).
c. Government budget inclusion for the 1st year of project implmentation					NRA and CLPIU	Counter part fund for FY2018/2019 allocated.
d. Approve additional COL financing					ADB	Approved.
2. Advance Contracting Actions for Civil Works & Consultancy Services						
a. Select first batch of schools to be reconstructed					CLPIU	Selected in Feb
b. Complete detailed engineering design and bill of quantities for first batch of schools to be reconstructed					CLPIU	Design, first draft and bill of quantities finalized.
c. Finalization and approval of procurement plan and master bidding document					CLPIU and ADB	Completed
d. Publish expression of interest for design and supervison consultants					CLPIU and ADB	Publised : 27 May
e. Publish Invititation of Bid (OCB international)					CLPIU and ADB	by 4 June
f. Submit technical bid evaluation report for civil works					CLPIU	by 8 August
g Endorse EARF and IEE reports					NRA and CLPIU	Completed.
h Endorse resettlment framework					NRA and CLPIU	Completed.
i. Award contracts for first batch of reconstruction schools					NRA and CLPIU	by 15 October
3. Project Implementation Arrangements						
a. Loan Negotiation completed					MOF and ADB	by 23 July
b. ADB Board approval					ADB	by 10 September
c. Loan Signing					MOF and ADB	by 10 October

ADB = Asian Development Bank, CLPIU=center level project implementation unit, COL = concessional ordinary capital resources, EARF = environment assessment and review framework, IEE = initial environmental examination report, MOF = Ministry of Finance, NRA = National Reconstruction Authority.
Source: Asian Development Bank

[15] EMIS is the Department of Education's main database for reporting on schools, students and teachers based on data collected twice a year.

B. Overall Project Implementation Plan

15. The project is expected to be approved in third quarter of 2018. After loan and grant effectiveness, anticipated in fourth quarter of 2018, the project implementation period is 4 years. The project is expected to be physically closed by 30 September 2022. Monitoring of project performance, outcome and financial closure will be until 31 March 2023 including preparation of project completion report. The project's overall implementation plan is in Table 2.

Table 2: Implementation Schedule

Activities	2018												2019												2020												2021												2022											
	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
A. DMF																																																								
Output 1: Heavily damaged public school infrastructure reconstructed and facilities improved																																																						
1.1 Reconstruct 163 schools																																																						
1.2 Install of Solar Power and ICT in 130 reconstructed schools																																																						
Output 2: Unsafe public schools retrofitted and disaster exposure reduced																																																						
2.1 Elaborate Retrofitting Designs																																																						
2.2 Retrofit 138 schools																																																						
2.3 Prepare and approve DRM action plan																																																						
Output 3:Institutional capacity for management and disaster resilience strengthened																																																						
3.1 Government engineers and masons trained.																																																						
3.2. Practical and readily scalable guidance manual developed.																																																						
3.3 Retrofitting pilots in selected remote schools completed.																																																						
3.4 Train School Management Committees in school O&M																																																						
B. Management Activities																																																						
1. Recruit DSC																																																						
2. Procure School Reconstruction works																																																						
3. Procure Solar Power consulting firm																																																					
4. Procure Solar and ICT installation (OBA)																																																					
5. Procure School Retrofitting works																																																					
5. Procure DRM consulting firm																																																					
6. Environment Management Plan activities																																																					
7. GESI Action Plan activities																																																					
8. Biannual and midterm reviews																																																					
9. Project Completion Report																																																					

DMF = design and monitoring framework, DRM = disaster risk management, DRR = disaster risk resilience, DSC = design supervision consultant, EMIS = education management information system, GESI = gender, equality and social inclusion, ICT = information and communication technology, OBA = output-based aid, O&M = operation and maintenance

Source: Asian Development Bank

III. PROJECT MANAGEMENT ARRANGEMENTS

A. Project Implementation Organizations: Roles and Responsibilities

Table 3: Project Implementation Organizations: Roles and Responsibilities

Project Implementation Organizations	Management Roles and Responsibilities
Executing agency National Reconstruction Authority	• Provides overall strategic planning, guidance and management support to the project • Interagency coordination • Makes key policy level decisions to facilitate project implementation. • Ensures adequate allocation of budget, including counterpart funding • Ensures deputation of qualified staff and minimum staff turnover • Organizes monthly and quarterly project progress review meetings • Compliance with loan covenants • Submission of required reports (safeguard and quarterly progress)
Central Level Project Implementation Unit [CLPIU (Education)]	• Is responsible for overall project management, implementation and monitoring and for reporting to NRA and ADB • Coordinates with ADB and other line agencies at central level for smooth project implementation • Ensures timely decisions for efficient procurement and contract management • Recruits individuals and consulting teams for DSC, DRM, solar power, and capacity building • Establishes new and/or strengthens existing DLPIUs • Provides operational planning, guidance and management support to the project DLPIUs and monitors their activities • Appoints dedicated and qualified project staff • Monitors and ensures compliance with project covenants • Strengthens its existing MIS and organizes regular field visits to monitor work progress and contractual conformance • Timely prepares required monitoring reports and regularly updates the procurement plan and the PAM • Oversees the implementation of the DRM and the solar power installation programs • Oversees the implementation of the community-based school retrofitting pilot and the elaboration of the ensuing instruction manual for remote communities • Facilitates and oversees the activities designed to strengthen the collection and treatment of infrastructure data in the EMIS • Submission of audited financial statements
District Level Project Implementation Unit (DLPIU)	• Is responsible for project management, implementation and monitoring in the relevant district and for reporting to CLPIU • Verify and forward withdrawal applications to CLPIU
Design and Supervision Consultant	• Supervises works (reconstruction and retrofitting) • Designs retrofitting works in 14 districts • Prepares project performance baseline based on DMF and updates actual results quarterly

	• Prepares social, GESI, environmental, and project management reports • Prepares the project completion report
Disaster Risk Management (DRM) Consultants	• Assessing DRM needs • Design DRM component, including action plan and field test • Plan and conduct training activities • Setup arrangements to implement DRM • Design upgrade of EMIS for school inventory and support to implement
Solar Power Installation Consultants	• Undertake mapping and selection of the target schools for energy systems • Procure and install new or back-up solar PV systems (around 130 schools) • Provide training and outreach programs to use and maintain solar PV systems in schools involving youth, women and communities, including entrepreneurship oriented training • pilot income generation activities in selected school communities involving women, youth and local entrepreneurs • Independent verification to ensure schools are equipped with solar power packages as per specification and these systems are operational • Recommend reimbursement of OBA subsidy by the CLPIU to the service provider • Verify and collect project monitoring data
ADB	ADB monitors and reviews the overall implementation of the project including compliance with loan and agreement, project agreement and ADB guidelines. ADB will: • Overall project implementation • Field biannual review missions, midterm review mission and project completion review mission to assess project implementation progress and compliance with loan covenants; • Review submission for procurement of goods, civil works, and services • Ensure timely disbursement of funds subject to CLPIU's submission of withdrawal applications • Compliance on reporting requirements

ADB = Asian Development Bank, CLPIU = central level project implementation unit, DLPIU = district level project implementation unit, DMF = design and monitoring framework, DRM = disaster risk management, DSC = design and supervision consultant, GESI = gender, equality and social inclusion, OBA = output-based aid.
Source: Asian Development Bank

B. Key Persons Involved in Implementation

Executing Agency

National Reconstruction Authority	Mr. Arjun Kumar Karki Secretary Singha Durbar Kathmandu, Nepal Telephone: (977-1) 4211195 Email address: secretary@nra.gov.np

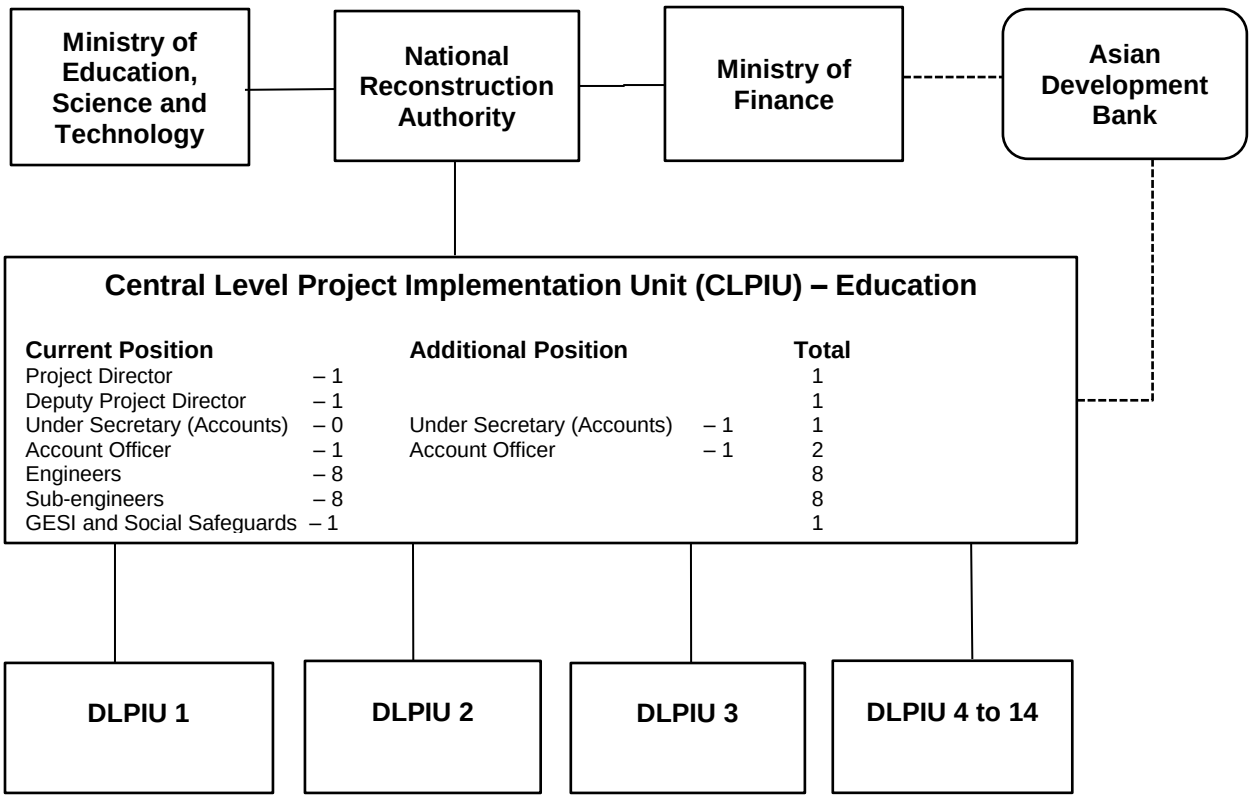
Implementing Agency

Central Level Project Implementation Unit - Education	Mr. Ima Narayan Shrestha Project Director Rato Pul, Gyaneshwor Kathmandu, Nepal Telephone: (977-1) 4420106 Email address:imanarayan@gmail.com

Asian Development Bank

Nepal Resident Mission	Mr. Mukhtor Khamudkhanov Country Director Metro Park Building Lazimpat, Kathmandu Telephone: (977-1) 400 5120 Email address: mkhamudkhanov@adb.org
Mission Leader	Mr. Mukhtor Khamudkhanov Country Director Metro Park Building Lazimpat, Kathmandu Telephone: (977-1) 400 5120 Email address: mkhamudkhanov@adb.org

C. Project Organization Structure



DLPIU = district level project implementation unit i.e.local level project implementation unit.

Note: CLPIU-Education will be referred in the henceforth as CLPIU. CLPIU will have one project director (gazette I class officer), one deputy project director (senior divisional engineer), one under secretary (account), one account officer, eight civil engineers, eight sub-engineers, one GESI and social safeguard officer, administrative staff and drivers. Each DLPIU will have project manager supported by engineers, sub-engineers, one account officer or accountant, administrative staff and drivers. NRA has confirmed that DLPIU staffing will be fully retained as local level project implementation unit.

IV. COSTS AND FINANCING

16. The project is estimated to cost $198.86 million. The government has requested (i) a concessional loan of $148.86 million from ADB's ordinary capital resources, and (ii) a grant not exceeding $10.00 million from ADB's Special Funds resources (Asian Development Fund) to help finance the project. The loan will have a 32-year term, including a grace period of 8 years; an interest rate of 1.0% per year during the grace period and 1.5% per year thereafter; and such other terms and conditions set forth in the draft loan agreement. The loan and grants from ADB will finance: (i) part of civil works, goods and equipment costs, (ii) consulting services, (iii) part of incremental recurrent costs, (iv) contingencies and (v) financing charges during implementation. The government will provide $35.0 million equivalent to cover: (i) taxes and duties, (ii) part of civil works and equipment costs, (iii) part of incremental recurrent costs, (iv) land acquisition and social mitigation costs, and (v) any shortfall in the financing required to meet the agreed outputs. The CEF under the Clean Energy Financing Partnership Facility will provide grant cofinancing equivalent to $5 million, to be administered by ADB. The CEF grant will cover costs of designing and installation the solar systems, which also address climate change mitigation.[16] ADB loan and grants and CEF grant will not finance taxes. The investment plan is summarized in Table 4.

Table 4: Project Investment Plan
$ (million)

	Item	Amount [a]
A.	**Base Costs** [b]	
	1. Heavily damaged school reconstructed and improved	140.39
	2. Unsafe schools retrofitted and disaster risk reduced	30.00
	3. Institutional capacity for disaster resilience strengthened	4.23
	Subtotal (A)	**174.62**
B.	**Contingencies** [c]	20.37
C.	**Financing Charges During Implementation** [d]	3.87
	Total Project Cost (A+B+C)	**198.86**

Note: Numbers may not sum precisely because of rounding.
[a] Includes taxes and duties of 21.3 million to be financed from government resources
[b] In May 2018 prices; exchange rate of $1=NRP 106.36 is used (Nepal Rastra Bank)
[c] Physical contingencies are computed at 7% for civil works and 5% for consulting services
Price contingencies are computed at 1.5%-1.6% on foreign exchange costs and 6.5% on local currency costs; include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.
[d] Interest during construction of the ADB loan has been computed at 1.0% per annum
Source: Asian Development Bank and Government of Nepal estimates.

[16] Solar power installation will be using output based aid delivery mechanism whereby grants will be transferred upon achievement of outputs.

17. The summary financing plan is in Table 5

Table 5: Summary Financing Plan

Source	Amount ($ million)	Share of Total (%)
Asian Development Bank.	158.86	79.9%
Concessional Ordinary Capital Resources [a]	148.86	74.9%
Asian Development Fund DRR Grant	10.00	5.0%
Clean Energy Fund [b]	5.00	2.5%
Government of Nepal	35.00	17.6%
Total	198.86	100%

DRR = disaster risk reduction.
[a] Includes $20 million from ADF 12 disaster risk reduction funding.
[b] To be financed by the ADF 12 disaster risk reduction funding.
Source: Asian Development Bank estimates.

A. Cost Estimates Preparation and Revisions

18. The cost estimates have been prepared based on the detailed project reports, where available, or other relevant details of the subprojects[17]. The cost estimate model was prepared using Microsoft Excel and is available with the project team. The cost estimates shall be further updated by the CLPIU during project implementation.

B. Key Assumptions

19. The following key assumptions underpin the cost estimates and financing plan:

(i) Exchange rate: 106.36 = $1.00 (as of 3 May 2018)[18].

(ii) Price contingencies based on expected cumulative inflation over the implementation period are as follows:

Table 6: Escalation Rates for Price Contingency Calculation (%)

Item	2018	2019	2020	2021	2022	Average
Domestic rate of price escalation	6.5	13.0	19.5	26.0	32.5	19.5
Foreign rate of price escalation	1.5	3.0	4.5	6.1	7.7	4.6

Source: Asian Development Bank estimates

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[17] Costs have been projected based on EEAP Engineer's estimate for the first batch of school reconstruction and on adjusted costs of school retrofitting works undertaken prior to the 2015 earthquake.
[18] Source is the Nepal Rastra Bank, Kathmandu.

C. Detailed Cost Estimates by Expenditure Category

Table 7: Detailed Cost Estimates by Expenditure Category ($ million)

	Item	Foreign Exchange	Local Currency	Total Cost	% of Total Base Cost
A.	**Investment Costs**				
1	Solar Power Systems	2.75	1.83	4.58	2.6%
2	Civil Works	29.18	116.70	145.88	83.5%
	a. Reconstruction	24.71	98.83	123.53	70.7%
	b. Retrofitting	4.33	17.34	21.67	12.4%
	c. Retrofitting pilot	0.13	0.53	0.67	0.4%
3	Goods (Mechanical and Equipment)	3.24	-	3.24	1.9%
4	Consultants	9.09	10.34	19.43	11.1%
	a. Design supervising consultant	9.09	6.58	15.67	9.0%
	b. Disaster risk management	-	2.26	2.26	1.3%
	c. Solar installation consultant	-	0.77	0.77	0.4%
	d. Capacity development - individual consultants	-	0.73	0.73	0.4%
	Subtotal (A)	**44.24**	**128.87**	**173.12**	**99.1%**
B.	**Recurrent Costs**				
1	Incremental Recurrent Costs	0.30	1.20	1.50	0.9%
	Subtotal (B)	**0.30**	**1.20**	**1.50**	**0.9%**
	Total Base Cost	**44.54**	**130.07**	**174.62**	**100.0%**
C.	**Contingencies**				
1	Physical Contingencies	2.85	8.33	11.18	6.4%
2	Price Contingencies	-	9.19	9.19	5.3%
	Subtotal (C)	**2.85**	**17.51**	**20.37**	**11.7%**
D.	**Financing Charges**				
1	Interest During Implementation	3.87	-	3.87	2.2%
	Subtotal (D)	**3.87**	**-**	**3.87**	**2.2%**
Total Project Cost (A+B+C+D)		**51.27**	**147.59**	**198.86**	**113.9%**

Notes: Numbers may not sum precisely because of rounding.
Source: Asian Development Bank estimates.

D. Allocation and Withdrawal of Loan and Grant Proceeds

Table 8: Allocation and Withdrawal Loan Proceeds

Category		ADB Loan Financing Basis	
No	**Item**	**Total Amount Allocated for ADB COL Financing ($ '000)**	**Percentage of ADB Financing from the Loan Amount***
1	Works	111,580	
	a. Reconstruction	98,753	80.0% of total expenditure claimed
	b. Retrofitting and Retrofitting Pilot	12,827	57.4% of total expenditure claimed
2	Goods	2,870	88.5% of total expenditure claimed
3	Consulting Services	14,514	88.5% of total expenditure claimed
4	Incremental Recurrent Costs	660	44.0% of total expenditure claimed
5	Interest Charges	3,870	100.0% of amounts due
6	Unallocated	15,370	
Total		**148,864**	

Goods includes mechanical and equipment.
Source: Asian Development Bank estimates.

Table 9: Allocation and Withdrawal Grant Proceeds

Category		ADB Grant Financing Basis	
No	**Item**	**Total Amount Allocated for ADB Grant Financing ($)**	**Percentage of ADB Financing from the Grant Amount***
1	Works - Retrofitting and Retrofitting Pilot	6,943	31.0% of total expenditure claimed
2	Consulting Services	2,000	88.5% of total expenditure claimed
3	Unallocated	1,057	
Total		**10,000**	

Source: Asian Development Bank Estimates.

Table 10: Allocation and Withdrawal of CEF Grant Proceeds

Category		CEF Grant Financing Basis	
No	**Item**	**Total Amount Allocated for CEF Grant Financing ($'000)**	**Percentage of CEF Financing from the Grant Amount***
1	Solar Power Systems	4,050	88.5% of total expenditure claimed
2	Solar Installation Consultant	680	88.5% of total expenditure claimed
3	Unallocated	270	
Total		**5,000**	

Source: Asian Development Bank Estimates.

E. Detailed Cost Estimates by Financier

Table 11: Detailed Cost Estimates by Financier

Item		ADB Grant (ADF)		Concessional Ordinary Capital Resources (COL)		CEF[a]		GON		Total Cost	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category	Total	Taxes and Duties
A.	**Investment Costs**										
1	Solar Power Systems	-	0.00%	-	0.00%	4.05	88.50%	0.53	11.50%	4.58	0.53
2	Civil Works	6.94	4.76%	111.58	76.49%	-	0.00%	27.35	18.75%	145.88	16.78
	a. Reconstruction	-	0.00%	98.75	79.94%	-	0.00%	24.78	20.06%	123.53	14.21
	b. Retrofitting	6.74	31.08%	12.44	57.42%	-	0.00%	2.49	11.50%	21.67	2.49
	c. Retrofitting pilot	0.21	31.08%	0.38	57.42%	-	0.00%	0.08	11.50%	0.67	0.08
3	Goods (Mechanical and Equipment)	-	0.00%	2.87	88.50%	-	0.00%	0.37	11.50%	3.24	0.37
4	Consultants	2.00	10.29%	14.51	74.70%	0.68	3.50%	2.24	11.50%	19.43	2.24
	a. Design supervising consultant	-	0.00%	13.86	88.50%	-	0.00%	1.80	11.50%	15.67	1.80
	b. Disaster risk management	2.00	88.50%	-	0.00%	-	0.00%	0.26	11.50%	2.26	0.26
	c. Solar installation consultant	-	0.00%	-	0.00%	0.68	88.50%	0.09	11.50%	0.77	0.09
	d. Capacity development - individual consultants	-	0.00%	0.65	88.50%	-	0.00%	0.08	11.50%	0.73	0.08
	Subtotal (A)	**8.94**	**5.17%**	**128.96**	**74.49%**	**4.73**	**2.73%**	**30.49**	**17.61%**	**173.12**	**19.92**
B.	**Recurrent Costs**										
1	Incremental Recurrent Costs	-	0.00%	0.66	44.00%	-	0.00%	0.84	56.00%	1.50	-
	Subtotal (B)	**-**	**0.00%**	**0.66**	**44.00%**	**-**	**0.00%**	**0.84**	**56.00%**	**1.50**	**-**
	Total Base Cost	**8.94**	**5.12%**	**129.62**	**74.23%**	**4.73**	**2.71%**	**31.33**	**17.94%**	**174.62**	**19.92**
C.	**Contingencies**										
1	Physical Contingencies	0.59	5.24%	8.54	76.33%	0.03	0.30%	2.03	18.12%	11.18	1.29
2	Price Contingencies	0.47	5.13%	6.83	74.36%	0.24	2.56%	1.65	17.95%	9.19	0.06
	Subtotal (C)	**1.06**	**5.19%**	**15.37**	**75.44%**	**0.27**	**1.32%**	**3.68**	**18.04%**	**20.37**	**1.35**
D.	**Financing Charges**										
1	Interest During Implementation	-	0.00%	3.87	100.00%	-	0.00%	-	0.00%	3.87	-
	Subtotal (D)	**-**	**0.00%**	**3.87**	**100.00%**	**-**	**0.00%**	**-**	**0.00%**	**3.87**	**-**
Total Project Cost (A+B+C+D)		**10.00**		**148.86**		**5.00**		**35.00**		**198.86**	**21.27**
% Total Project Cost			**5.03%**		**74.86%**		**2.51%**		**17.60%**	**100.00%**	

Note: Numbers may not sum precisely because of rounding.
[a] Clean Energy Fund under the Clean Energy Financing Partnership Facility.
Source: Asian Development Bank estimates.

F. Detailed Cost Estimates by Outputs

Table 12: Cost Estimates by Outputs
($ million)

	Items	Total Cost	Output 1		Output 2		Output 3	
			Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
A.	**Investment Costs**							
1	Solar Power Systems	4.58	4.58	100.00%	-	0.00%	-	0.00%
2	Civil Works	145.88	123.53	84.69%	21.67	14.86%	0.67	0.46%
	a. Reconstruction	123.53	123.53	100.00%	-	0.00%	-	0.00%
	b. Retrofitting	21.67	-	0.00%	21.67	100.00%	-	0.00%
	c. Retrofitting pilot	0.67	-	0.00%	-	0.00%	0.67	100.00%
3	Goods (Mechanical and Equipment)	3.24	2.03	62.83%	-	0.00%	1.20	37.17%
4	Consultants	19.43	9.74	50.13%	7.83	40.28%	1.86	9.60%
	a. Design supervising consultant	15.67	8.97	57.26%	6.70	42.74%	-	0.00%
	b. Disaster risk management	2.26	-	0.00%	1.13	50.00%	1.13	50.00%
	c. Solar installation consultant	0.77	0.77	100.00%	-	0.00%	-	0.00%
	d. Capacity development - individual consultants	0.73	-	0.00%	-	0.00%	0.73	100.00%
	Subtotal (A)	**173.12**	**139.89**	**80.80%**	**29.50**	**17.04%**	**3.73**	**2.16%**
B.	**Recurrent Costs**							
1	Incremental Recurrent Costs	1.50	0.50	33.33%	0.50	33.33%	0.50	33.33%
	Subtotal (B)	**1.50**	**0.50**	**33.33%**	**0.50**	**33.33%**	**0.50**	**33.33%**
	Total Base Cost	**174.62**	**140.39**	**80.40%**	**30.00**	**17.81%**	**4.23**	**2.43%**
C.	**Contingencies**							
1	Physical Contingencies	11.18	9.13	81.68%	1.91	17.07%	0.14	1.25%
2	Price Contingencies	9.19	7.39	80.40%	1.58	17.18%	0.22	2.43%
	Subtotal (C)	**20.37**	**16.52**	**81.10%**	**3.49**	**17.12%**	**0.36**	**1.78%**
D.	**Financing Charges**							
1	Interest During Implementation	3.87	3.25	83.98%	0.55	14.30%	0.07	1.72%
	Subtotal (D)	3.87	3.25	83.98%	0.55	14.30%	0.07	1.72%
Total Project Cost (A+B+C+D)		**198.86**	**160.16**		**34.04**		**4.66**	
% Total Project Cost		**100.00%**		**80.54%**		**17.12%**		**2.35%**

Note: Numbers may not sum precisely because of rounding.
Source: Asian Development Bank estimates.

G. Detailed Cost Estimates by Year

Table 13: Detail Cost Estimates by Year
($ million)

	Item	Total	2018	2019	2020	2021	2022
A.	**Investment Costs**						
1	Solar Power Systems	4.58	-	3.66	0.92	-	-
2	Civil Works	145.88	7.70	48.57	60.35	21.05	8.20
	a. Reconstruction	123.53	7.70	48.37	56.63	10.83	-
	b. Retrofitting	21.67	-	-	3.25	10.23	8.20
	c. Retrofitting pilot	0.67	-	0.20	0.47	-	-
3	Goods (Mechanical and Equipment)	3.24	1.02	1.68	0.18	0.24	0.12
4	Consultants	19.43	1.39	4.54	7.25	3.77	2.48
	a. Design supervising consultant	15.67	1.35	3.14	6.16	2.68	2.34
	b. Disaster risk management	2.26	-	0.68	0.68	0.90	-
	c. Solar installation consultant	0.77	-	0.54	0.23	-	-
	d. Capacity development - individual consultants	0.73	0.04	0.18	0.18	0.18	0.14
	Subtotal (A)	**173.12**	**10.11**	**58.45**	**68.70**	**25.06**	**10.80**
B.	**Recurrent Costs**	**-**	**-**	**-**	**-**	**-**	**-**
1	Incremental Recurrent Costs	1.50	0.11	0.42	0.42	0.38	0.18
	Subtotal (B)	**1.50**	**0.11**	**0.42**	**0.42**	**0.38**	**0.18**
	Total Base Cost	**174.62**	**10.21**	**58.87**	**69.12**	**25.44**	**10.98**
C.	**Contingencies**	**-**	**-**	**-**	**-**	**-**	**-**
1	Physical Contingencies	11.18	0.61	3.63	4.59	1.66	0.70
2	Price Contingencies	9.19	0.12	2.32	3.88	1.86	1.01
	Subtotal (C)	**20.37**	**0.73**	**5.95**	**8.47**	**3.52**	**1.70**
D.	**Financing Charges**	**-**	**-**	**-**	**-**	**-**	**-**
1	Interest During Implementation	3.87	0.04	0.32	0.85	1.25	1.41
	Subtotal (D)	**3.87**	**0.04**	**0.32**	**0.85**	**1.25**	**1.41**
Total Project Cost (A+B+C+D)		**198.86**	**10.98**	**65.14**	**78.44**	**30.21**	**14.09**
% Total Project Cost		**100.00%**	**5.52%**	**32.76%**	**39.44%**	**15.19%**	**7.08%**

Source: Asian Development Bank estimates.

H. Contract and Disbursement S-Curve

Table 14: Loan (COL)-Contract Awards and Disbursement ($ million)

Item	2018	2019	2020	2021	2022	2023
Contract Awards	44.0	76.9	19.3	3.2	1.6	0.0
Disbursement	17.6	44.1	49.9	28.5	6.3	2.5

Figure 1: Contract Awards and Disbursement S-Curve

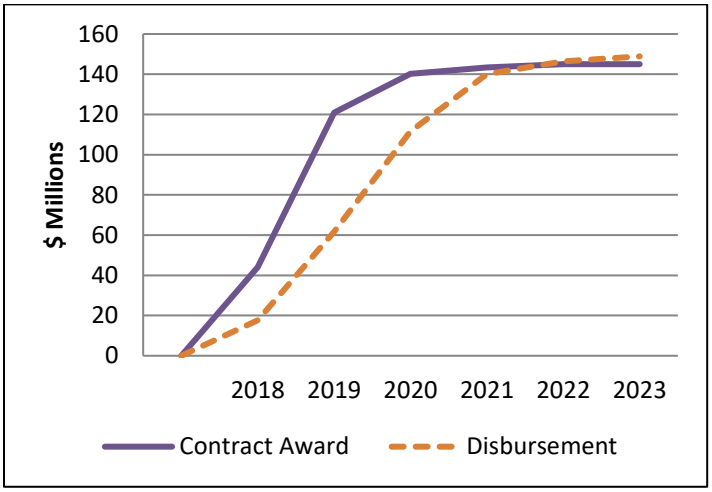


Table 15: Grant (ADF)-Contract Awards and Disbursement ($ million)

Item	2018	2019	2020	2021	2022	2023
Contract Awards	0.0	2.5	7.2	0.2	0.1	0.0
Disbursement	0.0	1.0	2.2	4.7	2.1	0.0

Figure 2: Contract Awards and Disbursement S-Curve

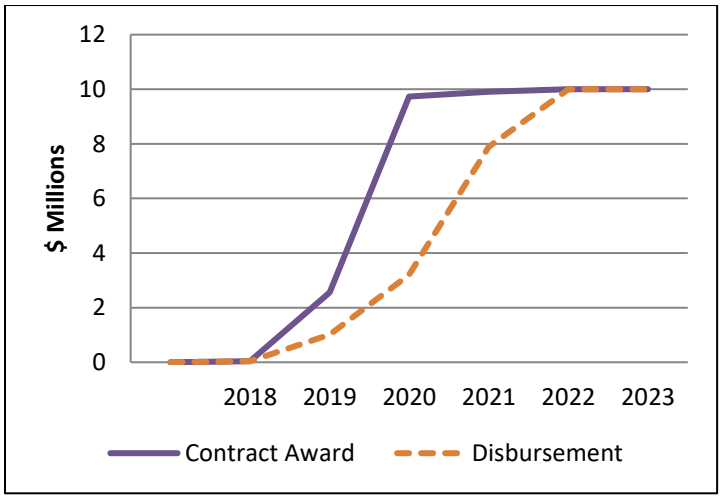
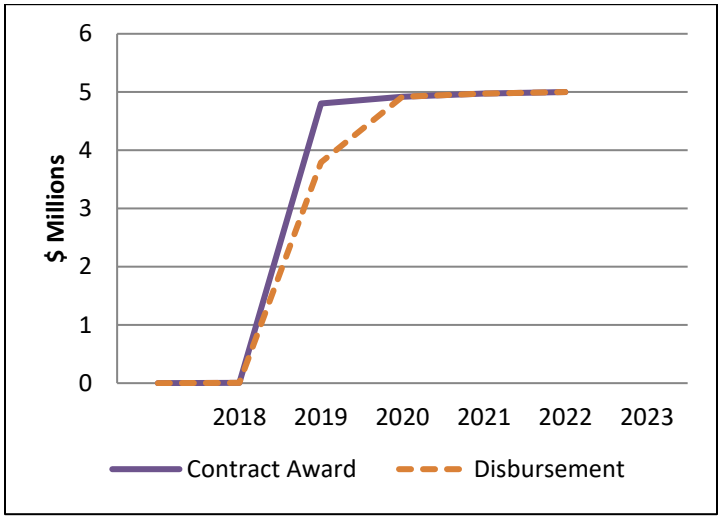


Table 16: Grant (CEF)-Contract Awards and Disbursement ($ million)

Item	2018	2019	2020	2021	2022	2023
Contract Awards	0.0	4.8	0.1	0.1	0.0	0.0
Disbursement	0.0	3.8	1.1	0.1	0.0	0.0

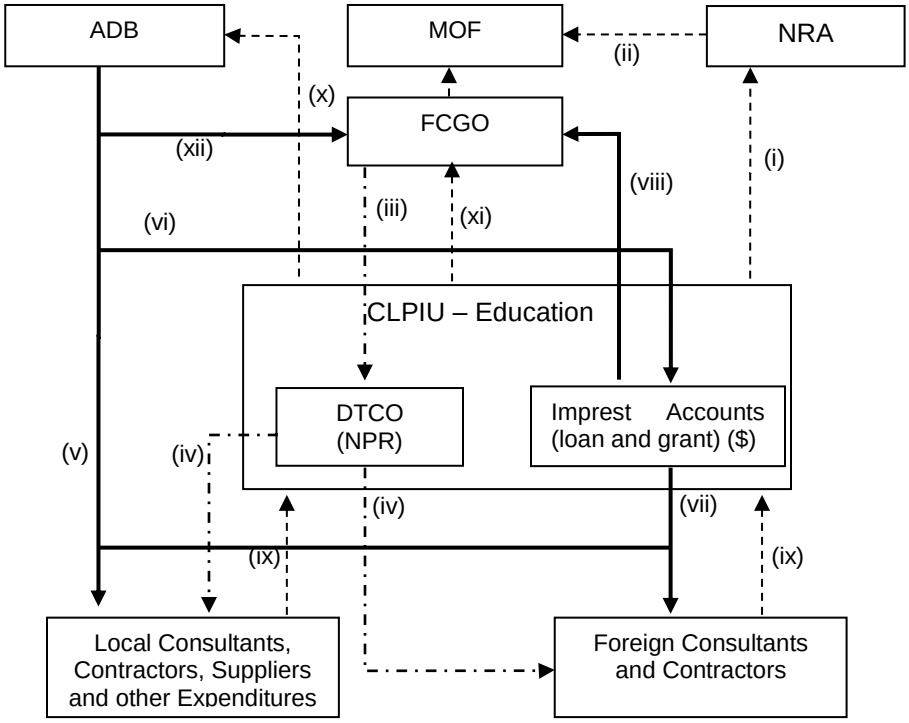
Figure 3: Contract Awards and Disbursement S-Curve



I. Fund Flow Diagram

20. The following diagram shows how the funds from ADB and the Borrower to implement project activities.

Figure 4: Funds Flow Diagram



ADB = Asian Development Bank, CLPIU = central level project implementation unit, DTCO = District Treasury Controller Office, FCGO = Financial Comptroller General Office, MOF = Ministry of Finance, NRA = National Reconstruction Authority

ADB Funds Flow ⟶ GON Fund flow –·–·→ Document Flow - - - - →

For Payment to Contractors, Consultants and Other Expenditures

(i) Annual program and budget request from MOF through NRA and progress report to NRA
(ii) Approval of program and budget and request to MOF to include program and budget in annual budget.
(iii) FCGO releases budget on trimester basis to CLPIU.
(iv) DTCO make payment to local and foreign contractors, consulting firms, suppliers and other expenditures for government share and ADB share (reimbursable and replenishable) in local currency.
(v) ADB makes direct payment of ADB share to contractors, consulting firms and suppliers
(vi) ADB replenishes advance account.
(vii) CLPIU pays local and foreign contractors, consulting firms and suppliers for ADB share in US$ and local currency
(viii) CLPIU transfers the funds from advance account to FCGO account.
(ix) Foreign and local contractors, consultants and suppliers submit invoices to the CLPIU for payment.
(x) CLPIU requests ADB for replenishment of advance account/Reimbursement/ Direct Payment.
(xi) Consolidated expenditure statement from CLPIU on monthly basis.
(xii) ADB reimburses the government for financing the ADB share of reimbursable expenses.

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

21. The financial management assessment (FMA) was conducted in February 2018 in accordance with ADB's Guidelines for the Financial Management and Analysis of Projects and the Financial Due Diligence: A Methodology Note. The FMA considered the capacity of the CLPIU, including funds-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. The CLPIU is implementing ADB funded EEAP satisfactorily and have capacity and experience in operation of advance account and statement of expenditure (SOE) procedures. Auditor issued unqualified opinion on the audited project financial statements for FY2015/16 and FY2016/17. Based on the assessment, the key financial management risks identified are (i) Project executing and implementing entities are time bound entity created for post earthquake reconstruction and recovery. Tenure of both entities is being completed in 2020 but the government can extend the tenure for one year more. But the project is planned be completed in September 2022. Continuation of project activates after the completion of tenure of the NRA and CLPIU is major risk factor of the project; (ii) The CLPIU does not have adequate accounting staff to perform additional financial management responsibility due to the project; (iii) Newly deputed accounting staff may not be trained in ADB disbursement procedures, reporting and SOE process. It is concluded that the overall pre-mitigation financial management risk of CLPIU is substantial. The Table 17 summarizes risks identified.

Table 17: Financial Management, Internal Control and Risk Assessment

SN	Risk Description	Impact	Likelihood	Risk Assessment	Mitigation Measures
1	**Inherent Risks**				
1.1	Country Specific –Based on the PEFA assessment 2014, Government of Nepal prepared PFM reform strategy actions from FY 2017-2015 based on weaknesses assessed during the process. The plan specifies improve PFM system as per the federal structure as well. Weakness in implementation of the PFM reform strategy may effect in PFM system of the country.	High	Unlikely	Substantial	World bank, USAID, DFID and other development partner are providing support in this sector reform. The development partners should engage to provide support to the government to implement the reform action plan. The ADB also providing support to the government to improve public financial management system as per the country partnership strategy. The ADB support in this sector in next country partnership strategy will help to mitigate risks.
1.2	Entity Specific - Nepal is in process of state restructuring and implementation of federal government system.	High	Unlikely	Substantial	GON and ADB should continue the policy dialogues through various occasions

SN	Risk Description	Impact	Likelihood	Risk Assessment	Mitigation Measures
	Constitution of existing Ministry of Education and their roles may change after fully implementation of federal governance system. There is high chance of shifting existing role of MOEST on school level education to the provincial government and local governments. However, this will not affect FM related project activities as fund flow will continue to be centralized. In addition, based on the legal mandate the NRA may not be continued after 2020. However, there is provision of one year extension after 2020.				including the country partnership strategy and the country operations business plan to restructure project implementation plan as per the changed situation.
1.3	**Overall Inherent Risk**			**Substantial**	
2	**Control Risks**				
2.1	**Implementing Entity -** CLPIU (Education) is established under the NRA to work on earthquake reconstruction and recovery in Education sector. After completion of NRA mandate, the CLPIU may not be continued till the end of the project period i.e. September, 2022.	High	Likely	High	The ADB and the GON will be agree on reviewing implementation arrangements at middle of the project period for alternative arrangements to implement remaining project activities including hand over and take over modalities.
2.2	**Funds Flow -** The CLPIU is facing problems in fund management due to mix of several donors' funds into a single budget line and program. It has created complexity in accounting and financial reporting to the government and donors.	Low	Likely	Moderate	GON and ADB will be agree on providing separate budget line for the project considering extended duration of the project after the tenure of NRA and facilitate clear accounting and financial reporting.

SN	Risk Description	Impact	Likelihood	Risk Assessment	Mitigation Measures
2.3	**Staffing –** (i)The CLPIU has only three accounting staff to perform existing financial administration activities of the entity and are overloaded. After the project, they need at least two accounting staff from the FCGO within Q3 2018 and one financial management expert in Y1 of the project. Considering the bureaucratic process, there may be delay in deputation of accounting staff from the FCGO. The newly deputed project accounting staff may not be experienced in ADB disbursement procedures, reporting and SOE process.	High	Likely	High	The CLPIU will send staffing request letter to the FCGO within Q2 2018 with necessary supporting documents and start recruitment process for the for financial management expert after loan agreement with the ADB. The CLPIU with the support of the ADB will organize trainings to the accounting staff of the project at least once in every two years on disbursement procedures, reporting and SOE procedures.
	(ii) In absence of procedures manuals the staff may have different understanding on roles, responsibility and accountability caused conflict in project implementation activities.	High	Likely	High	(ii) Define roles, responsibilities and accountability of project staff in PAM.
2.4	**Accounting Policy and Procedures** (i)The government has prepared chart of accounts as per the NPSAS for government purpose and does not financial reports based on the project outputs. Therefore, the project need to maintain additional project accounts separately as per the need of project reporting. In absence of clear guidance on project accounting and reporting there may be delay in disbursement and accounts settlement.	Low	Likely	Moderate	(i) Provide guidance/training to the accounting staff for satisfactory accounting and reporting to the ADB.
	(ii) The CLPIU has maintained contract records and communicated them at the	High	Unlikely	Low	(ii) Start contract account reconciliation with the contractor after each bill payment.

SN	Risk Description	Impact	Likelihood	Risk Assessment	Mitigation Measures
	time of payment. The formal reconciliation process to be done to avoid potential disputes between two parties on contract record and payment.				
2.5	**Internal Audit -** Internal audit of the government accounts are carried out by the DTCO staff mostly and accounting staff rather than qualified internal auditors. This may effect in quality of internal audit of the entity.	Low	Likely	Moderate	Under the PFM reform strategy, internal auditing reform is one of the area identified. The project will provide necessary support to implement internal audit reform activities.
2.6	**External Audit -** There may be delay in submitting audit report to the ADB within 6 months.	High	Unlikely	Substantial	The government and CLPIU will ensure the OAG will complete external audit program of CLPIU within 6 months after the completion of fiscal year.
2.7	**Reporting and Monitoring –**The NRA is developing integrated accounting software with the support of USAID and expected to be in operation from FY 2018/19. The integrated accounting software system may not be completed in stipulated timeframe.	Low	Unlikely	Low	While the new software is under development, manual preparation of reporting will be enhanced by developing checklist for review.
2.8	**Information System –**The CLPIU is using a standalone accounting software for the use of CLPIU accounting, Common accounting software may be delayed.	Low	Unlikely	Low	Continue existing locally developed accounting software with necessary modification until the common software became ready to use.
	Overall Control Risk			**Moderate**	
	Overall (combined) Risk			**Substantial**	

ADB = Asian Development Bank; CLPIU = Central Level Project Implementation Unit; DTCO = District Treasury Controller Office; FCGO = Financial Comptroller General's Office; GON = Government of Nepal; MOEST = Ministry of Education, Science and Technology; MOF = Ministry of Finance; NPSAS = Nepal Public Sector Accounting Standards; NRA = National Reconstruction Authority; PEFA = Public Expenditure and Financial Accountability; PFM = Public Financial Management, SOE – Statement of Expenditure,
Source: Asian Development Bank

22. However, it is concluded that CLPIU has sufficient capacity to administer advance fund and SOE procedures based on following: (i) no major disbursement issues reported under EEAP, and (ii) the CLPIU have agreed to implement an action plan as key measures to address the deficiencies. The financial management action plan is provided in Table 18.

Table 18: Time-bound Action Plan

No	Risks	Mitigation Actions	Responsibility	Timeframe
1	Tenure of NRA will be completed in 2020 with possible extension of 2021. Continuation of project activities might be hampered.	The ADB and the GON will review and agree on implementation arrangements at middle of the project period to ensure project implementation will not be disrupted.	NRA, MOEST and MOF	Mid-term review (2020)
2	The CLPIU does not have adequate accounting staff to perform additional financial management responsibility for the project. This may hamper timely and efficient implementation.	Three additional staff (Senior accounts officer, accounts officer and accountant from FCGO) and financial management expert (consultant) will be deployed: (i) The CLPIU will send staffing request letter to the FCGO with necessary supporting documents (ii) The CLPIU will start recruitment process for the for financial management expert.	CLPIU, MOEST, MOF and FCGO	July 2018.
3	Newly deputed accounting staff may not be trained in ADB disbursement procedures. This may hamper the timely and efficient implementation.	Organize trainings on ADB disbursement process, financial reporting requirement and SOE once in every two years	ADB and CLPIU	As soon as new staff is deployed
4	Under the on-going project (EEAP), CLPIU donors' funds are managed under a single budget line and program. It has created complexity in accounting and financial reporting to the government and donors. The same might happen if no separate budget line is provided.	GON will provide a separate budget line for the project.	CLPIU, NRA and MOF	March 2018 To be implemented by June 2018
5	The government chart of account does not provide complete financial information based on the project outputs and sub-components. This might hamper proper accounting and reporting.	Chart of account to be reviewed and manual to be developed. Provide trainings to the accounting staff on project accounting and reporting based on the ADB's reporting requirements.	CLPIU	Beginning of fiscal year 2018/2019.
6	Submission of audited financial statements (APFS) might be delayed.	Government and CLPIU to ensure external audit program of OAG will be prepared to complete external audit of CLPIU within 6 months after the completion of FY.	CLPIU and MOF	Beginning of every fiscal year.

No	Risks	Mitigation Actions	Responsibility	Timeframe
7	Existing computer software is not able to produce financial reports and not linked with the other GON systems. This might hamper proper financial reporting.	Operationalize common accounting software being developed under the NRA and FCGO for all reconstruction programs. While the new software is under development, manual preparation of reporting will be enhanced by developing checklist for review.	NRA and CLPIU	Beginning of fiscal year 2018/2019

ADB = Asian Development Bank, CLPIU = Central Level Project Implementation Unit, FCGO = Financial Comptroller General's Office, GON = Government of Nepal, MOEST = Ministry of Education, Science and Technology; MOF = Ministry of Finance, NRA = National Reconstruction Authority, SOE – Statement of Expenditure
Source: Asian Development Bank.

B. Disbursement

Disbursement Arrangements for ADB and ADB-administered cofinancier Funds

23. The loan and grant proceeds including ADB-administered CEF funds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time)[19], and detailed arrangements agreed upon between the government and ADB. Online training for project staff on disbursement policies and procedures is available.[20] Project staff are encouraged to avail of this training to help ensure efficient disbursement and fiduciary control.

24. The cofinancier funds will be administered by the ADB as grant. The CLPIU will prepare consolidated financial statements including cofinancier funds, ADB Loan and grants. CLPIU will be responsible for (i) collecting and retaining supporting documents, and (ii) preparing and sending withdrawal applications to ADB.

25. **Advance fund procedure.** Separate advance accounts should be established and maintained by the CLPIU for each funding source. The currency of the advance accounts is the US dollar. The advance accounts are to be used exclusively for ADB's and ADB-administered cofinancier funds share of eligible expenditures. The government who administers the advance account is accountable and responsible for proper use of advances to the advance accounts including advances to any sub-accounts.

26. The total outstanding advance to the advance accounts should not exceed the estimate of ADB's share of expenditures to be paid through the advance accounts for the forthcoming 6 months. The CLPIU may request for initial and additional advances to the advance accounts based on an Estimate of Expenditure Sheet[21] setting out the estimated expenditures to be financed through the accounts for the forthcoming 6 months. Supporting documents should be submitted to ADB or retained by the CLPIU in accordance with ADB's *Loan Disbursement Handbook* (2017, as amended from time to time) when liquidating or replenishing the advance accounts.

[19] The handbook is available electronically from the ADB website (http://www.adb.org/documents/ loan-disbursement-handbook
[20] Disbursement eLearning. http://wpqr4.adb.org/disbursement_elearning
[21] Estimate of Expenditure sheet is available in Appendix 8A of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time),

27. **Statement of expenditure procedure**.[22] The SOE procedure may be used for reimbursement of eligible expenditures or liquidation of advances to the advance accounts. The ceiling of the SOE procedure is the equivalent of $100,000 per individual payment. Supporting documents and records for the expenditures claimed under the SOE should be maintained and made readily available for review by ADB's disbursement and review missions, upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit. Reimbursement and liquidation of individual payment in excess of the SOE ceiling should be supported by full documentation when submitting the withdrawal application to ADB.

28. Before the submission of the first withdrawal application, the Government should submit to ADB sufficient evidence of the authority of the persons who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is stipulated in the Loan Disbursement Handbook (2017, as amended from time to time). Individual payments below such amount should be paid (i) by the CLPIU and subsequently claimed to ADB through reimbursement, or (ii) through the advance fund procedure, unless otherwise accepted by ADB. The borrower should ensure sufficient category and contract balances before requesting disbursements. Use of ADB's Client Portal for Disbursements (CPD)[23] system is encouraged for submission of withdrawal applications to ADB.

Disbursement Arrangements for Counterpart Funds

29. The Government will provide counterpart funds through the annual approved budget to the CLPIU. The government will pre-finance the ADB share of funds together with the government counterpart funds. The District Treasury Controller Office of Kathmandu releases one third of the project budget to CLPIU's project account in the beginning of each fiscal and subsequent installments based on the physical progress of the annual program of the project. The CLPIU will be responsible for preparing disbursement projections and requesting budgetary allocations for counterpart funds. Taxes will be paid by using government funds.

C. Accounting

30. The CLPIU will maintain, separate books and records by funding source for all expenditures incurred on the project following Nepal Public Sector Accounting Standards (NPSAS) which is based on International Public Sector Accounting Standard for cash-based accounting. The CLPIU will prepare project financial statements in accordance with Nepal Public Sector Accounting Standard and government's accounting laws and regulations which are consistent with international accounting principles and practices.

D. Auditing and Public Disclosure

31. The CLPIU will cause the detailed project financial statements to be audited in accordance with Nepalese Auditing Standards which is in accordance to the International Organization for Supreme Audit Institutions (INTOSAI), by an independent auditor acceptable to ADB. The audited project financial statements together with the auditor's opinion will be presented in the English language to ADB within 6 months from the end of the fiscal year by the CLPIU.

[22] SOE forms are available in Appendix 7B and 7D of ADB's *Loan Disbursement Handbook* (2017, as amended from time to time).

[23] The CPD facilitates online submission of WA to ADB, resulting in faster disbursement. The forms to be completed by the Borrower are available online at https://www.adb.org/documents/client-portal-disbursements-guide.

32. The audit report for the project financial statements will include a management letter and auditor's opinions, which cover (i) whether the project financial statements present an accurate and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting standards; (ii) whether the proceeds of the loan/grant were used only for the purpose of the project; and (iii) whether the borrower or executing agency was in compliance with the financial covenants contained in the legal agreements.

33. Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program supervision, and followed up regularly with all concerned, including the external auditor.

34. The government, NRA and CLPIU have been made aware of ADB's approach to delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements.[24] ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

35. Public disclosure of the audited project financial statements, including the auditor's opinion on the project financial statements, will be guided by ADB's Public Communications Policy 2011.[25] After the review, ADB will disclose the audited project financial statements and the opinion of the auditors on the project financial statements no later than 14 days of ADB's confirmation of their acceptability by posting them on ADB's website. The management letter, additional auditor's opinions, and audited entity financial statements will not be disclosed.[26]

VI. PROCUREMENT AND CONSULTING SERVICES

36. The Project will include procurement of goods, works, and consulting services. The civil works will include reconstruction of damaged schools and retrofitting of existing school buildings to make them earthquake resilient. A design and supervision consultant (DSC) will be recruited to undertake design and supervision of works, among others.

A. Advance Contracting and Retroactive Financing

37. All advance contracting and retroactive financing will be undertaken in conformity with ADB *Procurement Policy* (2017, as amended from time to time) and ADB *Procurement*

[24] ADB's approach and procedures regarding delayed submission of audited project financial statements:
(i) When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (a) the audit documents are overdue; and (b) if they are not received within the next 6 months, requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
(ii) When audited project financial statements are not received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of advance accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (a) inform the executing agency of ADB's actions; and (b) advise that the loan may be suspended if the audit documents are not received within the next 6 months.
(iii) When audited project financial statements are not received within 12 months after the due date, ADB may suspend the loan.

[25] Public Communications Policy: http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications

[26] This type of information would generally fall under public communications policy exceptions to disclosure. ADB. 2011. *Public Communications Policy*. Paragraph 97(iv) and/or 97(v).

Regulations (2017, as amended from time to time). The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The government, NRA and CLPIU have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project.

38. **Advance contracting.** The government has requested ADB's approval of advance contracting for the procurement of (i) the first batch of civil works for the reconstruction of heavily damaged school buildings; and (ii) DSC. The steps to be included in advance are (i) preparation of bidding documents, (ii) bid evaluation of civil works contractors, and (iii) recruitment of consultants.

39. **Retroactive financing.** Retroactive financing is allowed for reimbursement of eligible expenses mentioned in para 35, up to a maximum amount equivalent to 20% of the total ADB loan and grant, incurred before loan effectiveness, but not more than 12 months before the signing of the loan and grant agreements.

B. Procurement of Goods, Works, and Consulting Services

40. All procurement of goods and works will be undertaken in accordance with ADB *Procurement Policy* (2017, as amended from time to time) and ADB *Procurement Regulations* (2017, as amended from time to time).

41. OCB method with international advertisement will be used for any civil works contract estimated to $5.0 million or more, and any goods contract estimated to cost $2.0 million or more. OCB method with national advertisement will be used for any civil works contract estimated to cost below $5.0 million and any goods contract estimated to cost below $2.0 million. Shopping will be used for any civil works or goods contract estimated to cost below $100,000.

42. Before the start of any procurement following OCB with national advertisement, ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB *Procurement Policy* (2017, as amended from time to time) and ADB *Procurement Regulations* (2017, as amended from time to time).

43. An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and OCB procedure with national advertisement guidelines is provided in **Appendix 1**.

44. All consultants will be recruited according to ADB *Procurement Policy* (2017, as amended from time to time) and ADB *Procurement Regulations* (2017, as amended from time to time). The terms of reference for all consulting services are detailed in Section D.

45. An estimated 7,418 person-months[27] (7,262 through firm and or NGO and 156 through individual person-months) are required to (i) facilitate project management and coordination, (ii) design and supervise civil works, (iii) organize community disaster risk reduction, (iv) implement of solar component, and (v) strengthen the institutional and operational capacity of the implementing agency. Consulting firm will be engaged using the quality and cost-based selection (QCBS) method with a standard quality–cost ratio of 80:20.

[27] Including about 6,624 of non-key persons.

C. Procurement Plan

46. Project procurement classification is B, and the project procurement risk is assessed as substantial. The procurement plan is in Appendix 1 and describes all procurement of goods, works and services to be undertaken for the project.

D. Consultant's Terms of Reference

47. Four types of consultant services are planned to be recruited under the project, which are as follows:

(i) The **Design and Supervision Consultants** will be engaged to supervise subprojects reconstruction and retrofitting works and design subprojects retrofitting works in 14 districts. DSC will set up an effective monitoring and information system to provide timely update on work progress to CLPIU (**Appendix 2**).

(ii) The **Disaster Risk Management Consultants** will be engaged to design and field-test a DRR program in selected school communities of the project targeted districts, strengthen the capacity of school management committees in DRR, implement the project social action plan at the school community level, organize and monitor the pilot community driven school retrofitting works, and develop guidelines and appropriate documentation to allow MOEST to scale up the pilot in other municipalities under government funding (**Appendix 3**).

(iii) The **Solar Power Installation Consultants** will be engaged to identify and prioritize about 130 schools, procure and install solar PV systems therein, provide training and outreach programs for their use and maintenance, and pilot income generation activities in selected school communities (**Appendix 4**).

(iv) Five **Individual Consultants** will be engaged to support CLPIU in project implementation and monitoring and provide on demand capacity building. These individuals will respectively cover the following topics: financial management, social safeguards (GESI and safeguards), procurement and contract management, structural engineering, and legal matters. (**Appendix 5**).

VII. SAFEGUARDS

48. **Prohibited investment activities.** Pursuant to ADB's Safeguard Policy Statement (SPS), 2009, ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS 2009.

49. **Social Safeguards.** The project is classified as 'B' for involuntary resettlement and 'C' for indigenous people. No involuntary resettlement and no impact on indigenous people have been reported for the school studied for due diligence report (DDR) preparation. A DDR for social safeguard has been prepared covering 67 school subprojects. Additional schools will be identified and selected after board approval. In accordance with ADB's SPS 2009, a resettlement framework has been formulated to provide guidance for screening, impact assessment, safeguard planning and implementation (for detailed implementation guideline refer to linked document No 16: Resettlement Framework) The government has endorsed the resettlement framework. As the executing agency of the project, the NRA in coordination with CLPIU will ensure the timely and adequate implementation of provisions specified in resettlement framework for each school

selection, screening, impact assessment and mitigations measures. On behalf of NRA, CLPIU will prepare screening report, and required safeguard planning documents (DDR, RP etc.) and will submit these documents to ADB for approval and clearance and will ensure that all activity comply with the applicable national and local laws and regulations, in addition to SPS 2009.

50. As the implementing agency, CLPIU with the support of DLPIUs is responsible for implementing actions and provisions specified in resettlement framework, RP including DDRs. The DSC's social safeguard expert will provide any technical and handholding support to CLPIU and DLPIU in relation to safeguard requirements. The DSC will depute a safeguard monitor in each of DLPIU for preparation and implementation of safeguard planning documents including screening and impact assessment. SMC will be responsible for identification of land and making payments to land owner and borne cost for land acquisition and management. The CLPIU will bear cost for any income restoration measure proposed for affected persons and payment for all type of consulting services and assessments required for social safeguards. The NRA and CLPIU ensures that all required budget and human resources are available in a timely manner to ensure payment of all entitlements prior to displacement of affected persons. NRA and CLPIU will ensure that all construction-based contracts are implemented in an environmentally and socially sustainable and responsible manner. Contracts shall include provisions that comply with any requirements described in resettlement framework, DDR and RP (if any). The CLPIU and DLPIUs will be responsible to ensure mitigation measures are implemented on time and reported to ADB in the project progress reports with non-compliances, if any.

51. **Environment Safeguards:** Categorization. The Project has been categorized as "B" consistent with the requirements of ADB SPS 2009, since implementation of school infrastructure is expected to improve environmental sustainability and is unlikely to have significant adverse environmental impacts. Impacts, if any, will largely be short-term, local, reversible and of low significance.

52. **EARF and EMP Implementation.** In accordance with ADB's SPS 2009, an environmental assessment and review framework (EARF) has been prepared to provide guidance for environmental screening, impact assessment, safeguard planning and implementation (for detailed implementation guideline refer to linked document No 14: EARF). The Framework has considered the environmental management plan (EMP) suggested by the initial environmental examination (IEE) prepared for the Project considering six sample schools from two project districts. The government has endorsed the EARF.

53. **Safeguard Implementation Arrangement.** NRA through the CLPIU and DLPIUs is responsible for implementing EARF and EMP provisions, and each CLPIU and DLPIU will have assigned environment focal persons (EFP). She/he will source technical support from the safeguard section of NRA, as and when necessary. A fulltime environment specialist of DSC (ES) shall support CLPIU for 30% of inputs in overall safeguards management, quality assurance and reporting; and support DLPIUs for the rest of the inputs in implementing and monitoring compliance with EMP requirements. The DSC will depute an environment monitor (EM) in each DLPIU for screening and preparation of environmental assessment document with EMP, and monitoring and reporting EMP compliance by the contractor. The School Management Committee (SMC) will be responsible for subproject level safeguards monitoring after receiving orientation from ES and EMs of the DLPIU.

54. The EMP and DDR for all subprojects shall be attached to respective bid and contract document. The contractor must include in their bid adequate budget for implementation of all EMP requirements. The EFP with support of environmental specialist (ES) and environmental monitors

in DLPIU (EM) shall monitor and report on the environmental compliance of contractors with the EMP and ensure proper implementation of the grievance redress mechanism. Key implementation activities for each stage of subproject implementation shall be as follows:

a. *Planning and Design:* As the EA of the project, the NRA in coordination with CLPIU will ensure the timely and adequate implementation of provisions specified in resettlement framework for each school selection, screening, impact assessment and mitigations measures. On behalf of NRA, CLPIU will prepare screening report, and required safeguard planning documents (DDR, RP etc.) and will submit these documents to ADB for approval and clearance and will ensure that all activity comply with the applicable national and local laws and regulations, in addition to SPS 2009.

b. *Pre-construction:* The contractor will complete the following activities no later than 30 days from the issuance of the notice to proceed; (1) submit appointment letter and resume of the contractor's environmental assurance officer in each project district (CAO) to DLPIU and CLPIU; (2) the contractor along with CAO will engage EFP, ES and EMs to a meeting to discuss in detail the EMP, seek clarification and recommend corresponding revisions, if necessary; (3) the CAO will request ES copy of monthly monitoring formats and establish deadlines for submission; (4) CAO will submit for ES and EFP approval an action plan to secure all permits and approvals needed to be secured during construction stage which may include but not limited to (i) operation of crusher, (ii) transport and storage of hazardous materials (fuel, lubricants, paints), (iii) spoil management and waste disposal sites, and (iv) temporary storage location; (5) EFP will submit for approval of ES the construction camp arrangement.

c. *Construction:* CLPIU and DLPIU with the support of the DSC shall monitor contractor's compliance to EMP, audit construction activities, and evaluate overall project safeguard performance. In case of non-conformances, the ES and EMs will support DLPIU to recommend corrective actions to be taken by the contractor.

d. Post-construction: NRA through CLPIU will certify works completed in accordance with EMP and all construction sites are satisfactorily rehabilitated and restored, or otherwise recommend withholding payments.

55. **Environmental Assessment and Monitoring Report.** The NRA shall report the environmental safeguards performance by the project by dedicating a chapter in the periodic reports (quarterly and annual). The NRA shall submit the overall environmental performance of the project through semi-annual environmental safeguards compliance monitoring report in the prescribed structure. All reports submitted shall be uploaded in the project and ADB's web site for public disclosure

56. **Grievance Redress Mechanism.** The project will utilize the existing grievance redress mechanism (GRM) to resolve grievances and complaints in a timely and satisfactory manner and enhance as needed. The GRM will hear grievances and concern raised from different stakeholders on safeguards and other project related issues. The objective of the GRM is to resolve complaints/grievances as quickly as possible and at the local level through a process of conciliation; and, if that is not possible, to provide clear and transparent procedures for appeal. There will be three tiers of grievance redress committees (GRC): (i) first level GRC will be formed at school level comprising 5 members. The GRC will be chaired by SMC chair, and DLPIU/DSC

site in charge, head teacher, representative of parent's teachers committee and one representative from surrounding community will be members of the committee. The school head teacher will work as member secretary of the committee, (ii) second-level GRC will be formed at DLPIU comprising 3 members to hear the unresolved grievances forwarded by the school level GRC. The GRC will be chaired by DLPIU project manager, and DLPIU safeguard focal person, DSC safeguard monitor. The DLPIU safeguard focal person will work as member secretary of the committee, and (iii) third-level GRC will be formed at CLPIU comprising 3 members to hear the unresolved grievances forwarded by the DLPIU level GRC. The GRC will be chaired by CLPIU project director, and CLPIU safeguard focal person, DSC safeguard expert. The CLPIU safeguard focal person will work as member secretary of the committee.

57. All grievances and concerns, particularly related to the implementation of the EMP, will be addressed by the CLPIU or DLPIU following the grievance redress mechanism provided in the IEE and EARF. Details of grievance redress procedure related with land acquisition and involuntary resettlement is provided in resettlement framework. In case the project Grievance Redress Committee is unable to achieve resolution within the prescribed time, the matter will be elevated to higher authority for final corrective actions. Each GRC will maintain a grievance registry containing following information: (i) name of the person; (ii) date complaint was received; (iii) nature of complaint; (iv) location, (v) means of communication, (vi) status of the complaint (in process, resolved, forwarded to next level). All grievances will be documented, and reports made accessible to the public upon request. The outcome of the redress shall from part of the semi-annual monitoring report to ADB.

VIII. GENDER AND SOCIAL DIMENSIONS

58. **Poverty reduction and social impact**. The project is aligned with the government's poverty reduction strategy, which also focuses on reconstruction and retrofitting of damaged public school infrastructures, improving school facilities and increasing awareness and capacity among disadvantaged groups. Through these initiatives, the project will contribute indirectly to poverty reduction and social development by ensuring specific needs and interests of poor and disadvantaged groups (e.g. adolescent girls and persons with special needs) are met and gender and social inequalities/disadvantages are reduced. The project is expected to generate some employment opportunities for local communities in construction, however it cannot be confirmed. The executing and implementing agencies will enforce compliance with the labor laws, including equal pay for work of equal value and no child labor. The contractors will be trained in core labor standards by DSC safeguard experts who also monitors compliance. The project will not have negative impact in HIV and human trafficking as the construction is focused in confined areas. DSC will supervise the contractors and the workers will be trained on HIV/AIDs and anti-trafficking.

59. **Gender**. The project is classified as Effective Gender Mainstreaming (EGM) and includes a GESI Action Plan (Table 19). The action plan includes 7 key activities and 11 indicators/targets to ensure equal project benefits to all gender, people in special needs and disadvantaged groups. The action plan focuses on school building designs in particular the provision of adequate sex segregated and special need toilets and WASH facilities in either reconstruction or retrofitting designs. WASH and disposal facilities are aimed to benefit adolescent girls and female teachers the most as there are no sex segregated toilets and adequate water supply in many schools to be covered under the project. The stairs, ramps, lights and play grounds are to be made accessible by all especially people with special needs. Disaster preparedness and school safety awareness assessment will identify different needs of girls and women including persons with special needs and be addressed in the preparedness plan. In addition to changing room and

WASH facilities, the capacity of schools in attending menstrual health and hygiene of girls will be enhanced through training on cleanliness, use of sanitary pads, and health care during menstruation in schools. A female teacher in each school will be trained to guide girls on menstrual health. A social safeguard and GESI expert will be hired under DSC to support implementation, monitoring and reporting of GESI action plan, he/she will work in coordination with the government counterpart GESI focal point and the social development expert of CLPIU. The DSC social safeguards and GESI expert will train DLPIU GESI focal points on the requirements of GESI action plan and ensure its implementation in each sub-project school, and report progress to CLPIU. The CLPIU with support from DSC expert will consolidate GESI reports submitted by DLPIUs and submit quarterly report on the GESI achievements to ADB. Project monitoring system will integrate GESI indicators and targets. The GESI activities will be financed from concessional loan (ADB's ordinary capital resources), and grant from ADB's Special Funds resources (Asian Development Fund).

Table 19: GESI Action Plan

Activities	Target	Responsibility	Time (Months)
Output 1: Heavily damaged school infrastructure reconstructed and facilities improved			
1. Construct sufficient sex-segregated toilets which are accessible by all students and teachers and improve menstruation hygiene facilities for female students/teachers	• At least 4 sex-segregated toilets[28] (2 for girls and 2 for boys) and 1 special needs toilet with adequate space and WASH facility, a changing room with a tap in girl's toilet, accessible by all students and teachers built in each target school • Installation of incinerators in 82 reconstructed schools for disposal of sanitary pads and training provided on its operation and maintenance • At least two female teacher trained on menstrual health and hygiene in each target school to provide support to adolescent girl students in need • At least 50% girl students from 6-12 grades in each target school received tailored educational sessions on menstrual health and hygiene	CLPIU, DSC CLPIU, DSC DRM consultant, DSC DRM consultant, DSC	1-36 1-36 12-36 12-36
Output 2: Unsafe schools retrofitted and disaster risk reduced			
2. Ensure safety of girl- and boy-students of different ages and abilities or disabilities from disaster exposure when retrofitting schools	• School safety instructions and standards established (e.g. playground levelling, fence, lights in proper places, stairs, ramps etc.) in each target school, taking into account the needs of girls, boys, and students with special needs	CLPIU, DSC	1-36
3. Raise awareness and build capacity of students, teachers and communities on disaster risks and preparedness	• School centered community based DRM awareness group sessions provided to communities and students from all target districts (Target: 40% women/girls)	DRM consultant, DLPIU, DSC	12-36

[28] 40:1 ratio of student and number of toilet will apply as per government guideline. The number of toilets hence will be determined based on the number of students in each school.

Activities	Target	Responsibility	Time (Months)
4. Prepare and approve DRM action plans in reconstructed and retrofitted schools	• DRM action plans of reconstructed and retrofitted schools made GESI responsive by including specific measures that address different needs of girls and boys including physically challenged.	DRM consultant, DLPIU, DSC	12-36
Output 3: Institutional capacity for disaster resilience and management strengthened			
5. Strengthen SMCs' capacity to respond to school's needs as well as needs of all students and teachers, during and post disaster	(i) GESI responsive DRM training provided to at least 2 female and 2 male SMC members from select schools in each target district. (ii) 30% ward and municipality level women representatives participated in GESI responsive DRM training	DRM consultant, DLPIU, DSC	12-36
6. Provide O&M training to SMCs for school infrastructure and gender friendly facilities	• At least 2 women SMC members from each school -both reconstructed and retrofitted- participated in O&M training.	DRM consultant, DLPIU, DSC	12-36
7. Provide training on disaster resilient construction to the local communities	• Mason training provided to local communities in project districts (target: 30% of participants are poor women).	DRM consultant, DLPIU, DSC	1-12

CLPIU = central level project implementation unit, DLPIU = district level project implementation unit, DRM = disaster risk management, DSC = design and supervision consultant, GESI = Gender Equality and Social Inclusion, O&M = operation and maintenance, SMC = school management committee, WASH = Water, Sanitation and Hygiene.

60. **Labor**. The project is expected to generate jobs and income opportunities for local communities within the construction sector. The executing and implementing agencies will enforce compliance with the labor laws, including equal pay for work of equal value and no child labor. The terms of reference for the DSC Kathmandu and district-based safeguards experts will include support to CLPIU and DLPIUs and the contractors so as to safeguard adherence to core labor standards.

61. **HIV and Anti Human Trafficking**. The project will not have negative impact in HIV and human trafficking as the construction is focused in confined areas. The Design and Supervision Consultant will supervise the contractors and the workers will be trained on HIV/AIDs and antitrafficking.

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING, AND COMMUNICATION

A. Project Design and Monitoring Framework

62. The detailed design and monitoring framework of the project is presented below

Table 20: Design and Monitoring Framework

Impacts the Project is Aligned with Disaster risk management for human resource development enhanced (Post Disaster Recovery Framework and School Sector Development Plan)[a]			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources and Reporting**	**Risks**
Project Outcome Disaster resilience of schools and communities increased and learning environment improved	**By 2023** a. Enrollment rates in 174 schools restored to pre-earthquake levels with at least 89,000 students (46,200 girls) benefiting from safe and upgraded physical educational facilities in three provinces [b, c] (2017 baseline: not applicable) b. GESI-responsive DRM action plans approved and adopted by 50 schools and communities in three provinces[d]	a–b. MOEST, EMIS database	MOEST assuming executing agency role from NRA delays project implementation.
Output 1 Heavily damaged schools reconstructed and improved	**By 2022** 1a. 163 public schools (145 secondary and 18 feeder basic) reconstructed with improved facilities for science education, segregated toilets, changing and disposal facilities for girls, and ramps for people with disabilities[c] (2017 baseline: 0) 1b. 130 schools with solar power installed and functional[e] (2017 baseline: 0)	1a–b. NRA, MOEST, CLPIU progress reports; ADB review missions	The CLPIU has insufficient staff and lack familiarity to efficiently undertake the procurement and contract management activities required to implement the project
Output 2 Unsafe schools retrofitted and disaster risk reduced	**By 2022** 2a. Customized GESI responsive retrofit design developed for schools in flat, hilly, mountainous and remote communities (2017 baseline: not applicable) 2b. 138 in-use public schools (127 targeted schools with combined reconstruction and retrofitting needs and 11 schools with retrofitting needs only) retrofitted[f] (2017 baseline: 0) 2c. GESI-responsive DRM action plans for reconstructed	2a–b. NRA, MOEST, CLPIU progress reports; ADB review missions 2c. MOEST, Municipality Program Implementation Unit,	

	and retrofitted schools prepared [2017 baseline: Not applicable]	and Municipality Education Office progress reports; ADB review missions	
Output 3 Institutional capacity for disaster resilience strengthened[g]	**By 2022** 3a. EMIS enhanced to improve school building inventory (2017 baseline: 0) 3b. Training for 336 government engineers and 336 masons training in disaster-resilient construction completed, targeting 30% women (2017 baseline: 0, 0, and not applicable) 3c. At least 350 SMC members, including one-third female members, reported knowledge and skills on operations and maintenance of schools, including gender responsive facilities and DRM (2017 baseline: not applicable) 3d. Comprehensive user manual for DRR implementation in rural communities, derived from community-driven pilot, developed and endorsed (2017 baseline: not applicable) 3e. Scalable pilot on community driven retrofitting by local government of 3 schools in selected municipalities completed (2017 baseline: not applicable).	3a. NRA, MOEST, CLPIU progress reports; ADB review missions 3b–e MOEST, Municipality Program Implementation Unit, and Municipality Education Office progress reports; ADB review missions	
Key Activities with Milestones **1. Heavily damaged schools reconstructed and improved** 1.1 Design, including structural elements, for two batches of selected schools completed (by May 2018 for the first batch and by October 2018 for the second batch). 1.2 Civil works technical bids evaluated and endorsed by ADB for the schools to be reconstructed (by September 2018 for the first batch and by January 2019 for the second batch). 1.3 Design and supervision consultancy recruitment initiated (by May 2018) and awarded (by November 2018) 1.4 Contract awarded for two batches of selected schools (by October 2018 for the first batch and by April 2019 for the second batch) 1.5 Schools turned over to MOEST, concerned municipalities, and communities (by June 2022) 1.6 Solar power implementation consultancy recruitment initiated (by June 2019) and awarded (by March 2019) 1.7 Solar power service providers recruitment initiated (by June 2019) and awarded (by December 2019)			

2. Unsafe schools retrofitted and school disaster risk reduced 2.1 Design, including structural elements, for all schools selected for retrofitting completed (by June 2019) 2.2 All school retrofitting contracts for two batches awarded (by February 2020) 2.3 DRM consultancy recruitment initiated (by January 2019) and awarded (by June 2019) 2.4 All retrofitted schools turned over to MOEST, municipalities and communities (by June 2022) 2.5 DRM community-based and education-focused action plan prepared (by March 2020) **3. Institutional capacity for disaster resilience and management strengthened** 3.1 Technical and institutional gaps identified and preliminary plan to strengthen the capacity of the implementing agency and relevant municipalities for school reconstruction, retrofitting, maintenance and for DRM developed (by December 2019) 3.2 Training of government engineers and mason completed (by June 2022) 3.3 Practical and readily scalable guidance manual completed (by June 2020) 3.4 Retrofitting pilot tests in selected remote schools completed (by March 2021) 3.5 SMCs trainings in operation and maintenance, DRM, and girls specific health issues successfully completed (by June 2021) 3.6 Consultant and contractor performance monitored quarterly according to the project Monitoring and evaluation plan. 3.7 Technical audit of civil works conducted by the National Vigilance Center to monitor reconstruction and retrofitting quality and DRM implementation (by June 2021)
Inputs ADB $148.86 million (loan) $10.00 million (grant) Clean Energy Fund under the Clean Energy Financing Partnership Facility: $5.00 million Government: $35.00 million
Assumptions for Partner Financing Not applicable

ADB = Asian Development Bank, CLPIU = Central Level Project Implementation Unit, DRM = disaster risk management, DRR = disaster risk reduction, EMIS = Education Management Information System, GESI = gender, equality and social inclusion, MOEST = Ministry of Education, Science and Technology, NRA = National Reconstruction Authority, PMU = project management unit.

[a] Government of Nepal, NRA. 2016. *Nepal Earthquake 2015: Post Disaster Recovery Framework*, 2016–2020, Kathmandu; and Government of Nepal, Ministry of Education. 2016. *School Sector Development Plan*, 2016–2030, Kathmandu.

[b] School building reconstruction will follow the Indian Standards, Criteria for Earthquake Resistant Design for Structures (Government of India, Bureau of Indian Standards. 2002. *Indian Standard Criteria for Earthquake Resistant Design of Structures*. New Delhi).

[c] Improved facilities to include laboratories, library, information and communication technology, and backup solar power supply.

[d] DRM action plans approved by the CLPIU and ADB to include disaster risk awareness and prevention and safety drills.

[e] Of the 163 schools targeted for reconstruction, 130 will have solar power systems installed.

[f] Output 1 also targets 127 of these schools for reconstruction with improved facilities for science education, segregated toilets, changing and disposal facilities for girls, and ramps for people with disabilities.

[g] Capacity of MOEST, municipalities, SMCs, and communities strengthened.

Source: Asian Development Bank.

B. Monitoring

63. **Project performance monitoring.** Within 6 months of loan and grant effectiveness, the DSC will establish a project performance management system using the targets, indicators, assumptions, and risks in the DMF. The DSC with the support of CLPIU will also expand the DMF into a Monitoring and Evaluation (M&E) Framework taking into account the important milestones

and monitoring parameters for each target, in addition to those included in the DMF. Disaggregated baseline data for output and outcome indicators and targets set out in the DMF and M&E Framework will be gathered during detailed design stage by each DLPIU with the support of DSC, and thereafter updated and reported quarterly through the quarterly progress reports and after each ADB review mission. These quarterly reports will provide information necessary to update ADB's project performance reporting system.[29] A project steering committee lead by Secretary, NRA with members (Joint Secretaries of NRA, MOEST and MOUD; and representatives from MOF, executive officer of municipalities and project director, CLPIU) will be formed as an oversight body.

64. **Compliance monitoring.** The CLPIU and DSC will monitor and ensure project compliance with policy, legal, financial, economic, social, environmental, and other loan and grant covenants. All non-compliance issues, if any, will be reported and remedial actions monitored in quarterly progress reports. Each ADB review mission (at least twice a year) will also monitor the status of compliance with the loan assurances, raise the noncompliance issues with the government and agree on remedial actions. Status of compliance of loan and grant assurances will be included in the quarterly progress reports.

65. **Environmental monitoring.** The CLPIU and DLPIU will set up a safeguard desk with safeguard focal points as the chair and all safeguard team as the member. The Desk shall organize routine meeting at central and local levels, respectively, to review safeguard compliance performance, emerging issues, agree for corrective actions, and coordinate with technical team/contractors to implement them. The environment specialist (ES) of DSC will support in operationalizing the SD. The safeguard monitor at DLPIUs shall monitor compliance by using standard monitoring checklist prepared by ES for each individual school. Contractor's environment and safety officer shall work under the guidance of the safeguard focal points and in coordination with safeguard monitors to assure safeguard compliance and submit monthly report.

66. The DLPIU shall verify and submit safeguard monitoring report in a standard format to CLPIU and ADB. The reports shall contain summary of work progress during the reporting period, quality of safeguards compliance, recommended corrective actions, and follow-up on corrective actions agreed in the last report. The CLPIU shall compile information from monthly and quarterly reports and prepare semi-annual environment compliance monitoring report (ECMR) and submit to ADB in the prescribed format. The report shall include corrective action on non-compliances, details on consultation and information dissemination, and status of grievance redress mechanism during the reporting period. The report will be reviewed and uploaded in ADB website for public disclosure. ADB will periodically monitor the overall environmental safeguards compliance through it's project review and safeguard missions.

67. **Social safeguards monitoring.** The NRA, CLPIU, and DLPIUs will set up an internal monitoring system with a set of process, outcome and impact with baseline indicators. The DLPIUs with support from safeguards monitors of DSC will set up internal monitoring system covering aspects of social safeguards. The MIS prepared for the project monitoring will include provision for safeguards progress reporting. The DSC social safeguards and GESI expert will provide necessary input on social safeguard for designing MIS input system. The DSC safeguards monitors will fill up the progress and compliance status on social safeguards disaggregated by school into the MIS. The DLPIUs will be responsible for internal monitoring at school level and submit social safeguards performance through quarterly progress report. The quarterly progress

[29] ADB's project performance reporting system is available at http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool

report contains summary of progress as well as compliance, and an annex attached for detail status disaggregated by school.

68. The monitoring report will document progress made in subproject impact screening, land acquisition requirements, and compensation payment status. Each report shall include whether the objective and outcome of the social safeguards plan have been achieved. The report shall also include corrective actions if any non-compliances have been reported. The CLPIU with support from DSC social safeguards and GESI expert will consolidate information in progress report from quarterly progress report received from each of DLPIU and prepare a semi-annual safeguards monitoring report following prescribed template to be submitted to ADB for review and disclosure. The ADB will review the report and upload it into ADB website for public disclosure. The individual CLPIU social expert will assess the social safeguards monitoring activities through fieldwork, data verification and consultations and provide semi-annual reports to NRA and ADB. ADB will also assess the progress and compliance of social safeguards activities during review missions.

69. **Gender and social dimensions monitoring.** The GESI activities will be monitored by the CLPIU and the DLPIUs, supported by the CLPIU social expert, who will submit quarterly reports to ADB prepared with the help of the DRR consultancy. The CLPIU social expert will develop sex, caste, and ethnicity disaggregated data collection format for the indicators in GESI action plan and orient the DLPIUs for data collection from the field. The social expert will also work with the DRM program monitoring expert to include GESI indicators in project baseline study and M&E system. The ADB will assess the progress of these activities during review missions and mid-term review. The ADB will also assess the results in project completion mission.

C. Evaluation

70. The government and ADB will jointly review the project at least twice a year. This includes (i) the performance of the CLPIU, DLPIUs, DSC, DRM, and consultants and contractors; (ii) physical progress of subprojects and effective safeguards compliance, (iii) progress of the GESI Action Plan; (iv) progress of DRM and solar power installation programs; and (v) compliance with loan/grant assurances. In addition to the regular loan and grant reviews, the government and ADB will undertake a midterm review in the second year of project implementation to identify problems and constraints encountered and suggest measures to address them. Within 6 months of physical completion of the project, NRA will submit a project completion report to ADB.[30]

D. Reporting

71. The CLPIU will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions, (c) updated procurement plan, and (d) updated implementation plan for the next 12 months; and (iii) a project completion report within 6 months of physical completion of the project. To ensure that projects will continue to be both viable and sustainable, project accounts and the executing agency audited financial statement together with the associated auditor's report, should be adequately reviewed.

[30] Project completion report format is available at: http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar

E. Stakeholder Communication Strategy

72. The project intends to identify key stakeholders and beneficiaries, prepare a communication plan, and communicate the progress of project activities to foster transparency. The CLPIU will update its website within 2 months from the loan and grant effectiveness and disclose all key project-related information, including the scope, cost, and financial and institutional arrangements of the project, project safeguards reports such as IEE and RPs, and information on project progress in procurement, contract award and disbursement. The website will include information on project procurement, including the list of participating bidders, name of each winning bidder, basic details on bidding procedures adopted, the value of each contract awarded, and the list and value of works, goods and services procured and the intended utilization of loan and/or grant proceeds under each contract.

73. The website will also include contact details of the counterpart staff in Nepali and English languages, and will link to ADB's Integrity Unit website at http://www.adb.org/Integrity/complaint.asp for reporting to ADB any grievances or allegations of corrupt practices arising out of the project and/or project activities. The government will cause NRA and CLPIU to ensure that all project staff are fully aware of ADB's procedures, including, but not limited to, procedures for implementation, procurement, use of consultants, disbursements, reporting, monitoring, and prevention of fraud and corruption.

X. ANTICORRUPTION POLICY

74. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project.[31] All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all Project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the Project.[32]

75. To support these efforts, relevant provisions are included in the loan agreement and bidding documents for the Project. Project-specific measures to enhance governance and prevent corruption, include (i) orient CLPIU and DLPIUs; contractors; and consultants on ADB's anticorruption policy; (ii) strict enforcement of contractual provisions; (iii) bidding documents to prohibit informal subcontracting ; (iv) the requirement for CLPIU and DLPIUs to follow government rules and procedure for all expense and revenue items; and (v) establishing a project website at CLPIU to provide transparency on project details including procurement.

XI. ACCOUNTABILITY MECHANISM

76. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make an effort in good faith to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still

[31] Available at: http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf.
[32] ADB's Integrity Office web site is available at: http://www.adb.org/integrity/unit.asp.

dissatisfied, should they approach the Accountability Mechanism.[33]

XII. RECORD OF CHANGES TO THE PROJECT ADMINISTRATION MANUAL

77. All revisions and/or updates to the PAM during implementation should be retained in this section to provide a chronological history to implemented arrangements in the PAM, including revision to contract awards and disbursement s-curves.

Table 21: Record of Project Administration Manual Changes

Date of Change	Nature of Change	Remarks

[33] Accountability Mechanism.http://www.adb.org/Accountability-Mechanism/default.asp.

Procurement Plan

Basic Data		
Project Name: Disaster Resilience of Schools Project		
Project Number: 51190-001	Approval Number:	
Country: NEPAL	Executing Agency: National Reconstruction Authority	
Project Procurement Classification: B	Implementing Agency: Central Level Project Implementation Unit-Education	
Procurement Risk: Substantial		
Project Financing Amount: $ 198,750,000 ADB Financing: $158,860,000 Cofinancing (ADB Administered): $5,000,000 Non-ADB Financing: $35,000,000	Project Closing Date: 30/09/2022	
Date of First Procurement Plan: 16 April 2018	Date of this Procurement Plan: 23/07/2018	
Procurement Plan Duration: 18 months	Advance contracting: Yes	eGP: No

A. Methods, Review and Procurement Plan

Except as the Asian Development Bank (ADB) may otherwise agree, the following methods shall apply to procurement of goods, works, non-consulting services, and consulting services.

Procurement of Goods, Works, and Non-consulting Services		
Method	**Applicability**	**Comments**
Open Competitive Bidding (OCB) for Works	$5,000,000	International advertising
Open Competitive Bidding (OCB) for Works	Below $5,000,000	National advertising
Open Competitive Bidding (OCB) for Goods	Less than $2,000,000	National advertising
Community Procurement	Less than $30,000	
Shopping for Goods	Less than $100,000	

Consulting Services	
Method	**Comments**
Quality and Cost Based Selection (QCBS)	Quality and Cost Ratio 80:20
Individual Consultant	

B. List of Active Procurement Packages (Contracts)

The following table lists goods, works, non-consulting services, and consulting services contracts for which the procurement activity is either ongoing or expected to commence within the procurement plan duration.

Goods, Works, and Non-consulting services							
Package Number	General Description	Estimated Value	Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
Reconstr.1 Lot 1	8 schools Okhaldunga	$6,075,736	OCB (International Advertising)	Prior	1S2E	Q2/18	Domestic Preference will be applied
Reconstr.1 Lot 2	13 schools Sindhuli	$9,500,000	OCB (International	Prior	1S2E	Q2/18	Domestic Preference

Goods, Works, and Non-consulting services							
Package Number	General Description	Estimated Value	Procurement Method	Review	Bidding Procedure	Advertisement Date	Comments
			Advertising)				will be applied
Reconstr.1 Lot 3	12 schools Ramechhap	$8,515,866	OCB (International Advertising)	Prior	1S2E	Q2/18	Domestic Preference will be applied
Reconstr.1 Lot 4	12 schools Dolakha	$6,143,775	OCB (International Advertising)	Prior	1S2E	Q2/18	Domestic Preference will be applied
Reconstr.1 Lot 5	8 schools Sindhupalchowk and 2 Kathmandu	$6,209,943	OCB (International Advertising)	Prior	1S2E	Q2/18	Domestic Preference will be applied
Reconstr. 1 Lot 6	10 schools Kavre and 2 Bhaktapur	$6,571,748	OCB (International Advertising)	Prior	1S2E	Q2/18	Domestic Preference will be applied
The lots, number of schools and costs of the second package of reconstruction works provided below are indicative							
Reconstr. 2 Lot 1	14 schools Dhading	$11,257,189	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
Reconstr. 2 Lot 2	2 schools Dolakha and 7 Sindhupalchowk	$7,236,765	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
Reconstr. 2 Lot 3	13 schools Gorkha	$10,453,104	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
Reconstr. 2 Lot 4	13 schools Kathmandu	$10,453,104	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
Reconstr. 2 Lot 5	12 schools Lalitpur	$9,649,019	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
Reconstr. 2 Lot 6	7 schools Bhaktapur and 4 Kavre	$8,844,934	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
Reconstr. 2 Lot 7	16 schools Nuwakot	$12,865,359	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
Reconstr. 2 Lot 8	6 schools Okhaldunga and 2 Sindhuli	$6,432,680	OCB (International Advertising)	Prior	1S2E	Q4/18	Domestic Preference will be applied
CLPIU Equipment	4 No 4WD vehicles	$400,000	OCB (National Advertising)	Prior	1S1E	04/18	
CLPIU Equipment	10 No computer stations and IT equipment	$40,000	Shopping	Post		04/18	
CLPIU Equipment	4 No office furniture	$16,000	Shopping	Post		04/18	
Community Procur.	Retrofitting Works Pilot	$750,000	Community Procurement	Post			

Consulting Services							
Package Number	General Description	Estimated Value	Selection Method	Review	Type of Proposal	Advertisement Date	Comments
DSC	Design and Supervision of Works	$16,382,280	QCBS	Prior	Full Technical Proposal	Q2/18	Quality Cost Ratio 80:20
Capacity Building Structural	Support to CLPIU	$144,000	ICS			Q4/18	

Consulting Services							
Package Number	General Description	Estimated Value	Selection Method	Review	Type of Proposal	Advertisement Date	Comments
Engineer							
CB Contract Mgmt/Proc Spec	Support to CLPIU	$144,000	ICS			Q4/18	
CB Legal Advisor	Support to CLPIU	$144,000	ICS			Q4/18	
CB Fin Mgmt Spec	Support to CLPIU	$144,000	ICS			Q4/18	
CB Soc. Safeguards . Expert	Support to CLPIU	$144,000	ICS			Q4/18	
Solar and IT equipment IVA	Independent Verification Agent	$20,000	ICS				

C. List of Indicative Packages (Contracts) Required under the Project

The following table lists goods, works, non-consulting services, and consulting services contracts for which the procurement activity is expected to commence beyond the procurement plan duration and over the life of the project (i.e. those expected beyond the current procurement plan duration).

Goods, Works, and Non-consulting services						
Package Number	General Description	Estimated Value	Procurement Method	Review	Bidding Procedure	Comments
Solar PV equipment in 130 schools	Supply, installation and commissioning of PV panels and battery back-up	$4,300,000	OCB National Advertising (Plant)	Prior	1S2E	Output Based Procurement
IT equipment in 130 schools	Supply, installation and commissioning of IT equipment	$2,466,000	OCB National Advertising (Plant)	Prior	1S2E	Output Based Procurement

Goods, Works, and Non-consulting services						
Package Number	General Description	Estimated Value	Procurement Method	Review	Bidding Procedure	Comments
The lots, number of schools and costs of the first package of retrofitting works provided below are indicative						
Retrofit.1 Lot 1	10 schools Dolakha	$1,608,170	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit.1 Lot 2	7 schools Sindhupalchok 1 Lalitpur and 3 Bhaktapur	$1,768,987	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit.1 Lot 3	13 schools Ramechhap	$2,090,621	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit.1 Lot 4	3 schools Dhading	$482,451	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit.1 Lot 5	7 schools Okhaldunga	$1,125,719	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit.1 Lot 6	10 schools Kavre	$1,608,170	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit.1 Lot 7	11 schools Sindhuli	$1,768,987	OCB (National Advertising)	Prior/Sampling	1S2E	

Goods, Works, and Non-consulting services						
Package Number	General Description	Estimated Value	Procurement Method	Review	Bidding Procedure	Comments
The lots, number of schools and costs of the second package of retrofitting works provided below are indicative						
Retrofit. 2 Lot 1	9 schools Dhading	$1,447,353	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit. 2 Lot 2	2 schools Dolakha and 3 Sindhupalchowk	$804,085	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit. 2 Lot 3	5 schools Bhaktapur and 1 Kavre	$964,902	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit. 2 Lot 4	12 schools Gorkha	$1,929,804	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit. 2 Lot 5	10 schools Kathmandu	$1,608,170	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit. 2 Lot 6	12 schools Lalitpur	$1,929,804	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit. 2 Lot 7	1 school Sindhuli and 6 Okhaldunga	$1,125,719	OCB (National Advertising)	Prior/Sampling	1S2E	
Retrofit. 2 Lot 8	11 schools Nuwakot	$1,768,987	OCB (National Advertising)	Prior/Sampling	1S2E	

Consulting Services						
Package Number	General Description	Estimated Value	Selection Method	Review	Type of Proposal	Comments
DRM	Community Disaster Risk Management Interventions	$2,260,000	QCBS	Prior	FTP	Quality Cost Ratio 80:20
Solar and IT equipment in 12 districts	Implementation and training	$670,000	QCBS	Prior	STP	Quality Cost Ratio 80:20

D. List of Awarded and Completed Contracts

The following table lists the awarded contracts and completed contracts for goods, works, non-consulting services, and consulting services.

Goods, Works, and Non-consulting services					
Package Number	General Description	Contract Value	Date of ADB Approval of Contract Award	Date of Completion	Comments

Consulting Services					
Package Number	General Description	Contract Value	Date of ADB Approval of Contract Award	Date of Completion	Comments

E. Non-ADB Financing

The following table lists goods, works, and consulting services contracts over the life of the project, financed by Non-ADB sources.

Goods, Works, and Non-consulting services				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Procurement Method	Comments

Consulting Services				
General Description	Estimated Value (cumulative)	Estimated Number of Contracts	Selection Method	Comments

F. Open Competitive Bidding with National Advertising

Open competitive bidding (OCB) with national advertising shall be in accordance with that described as "by inviting bids and a national level" as set forth in "The Public Procurement Act, 2007" (PPA) with first amendment (2016) and "The Public Procurement Regulations, 2007" (PPR) with fifth amendment (2017) and subject to the following conditions:

1. The first OCB document for both goods and works procurement shall be reviewed and approved by Asian Development Bank (ADB) prior to issue. These will be used for all OCB with national advertising procurement under the project. No other criteria other than that described in the bidding document may be used to determine the lowest evaluated responsive bidder and no form of domestic preference may be employed. A positive assessment of a bidder's qualifications to perform a contract will be a pre-requisite to an award.
2. All qualified ADB member bidders and ADB member produced goods, services and works shall be eligible. Registration and licensing shall be permitted only as a condition of contract award and not participation in bidding. No award may be withdrawn for failure to obtain tax registration; license or fulfill any similar requirement without ADB's prior concurrence. No bidder will be held ineligible based on provision 63 of the PPA without ADB prior concurrence.
3. Invitations to bid shall be advertised in at least one widely circulated national daily newspaper or freely accessible, nationally-known website allowing a minimum of twenty-eight (28) days for the preparation and submission of bids. Invitations for bids for contracts estimated at $500,000 or more for goods and $1,000,000 or more for civil works shall be advertised on ADB's website. No restriction will be placed on the sale of bidding documents.
4. The approved Standing List of a Procuring Entity prepared in accordance with the law shall only be accepted to supplement an advertised open pre-qualification exercise for the specific contract provided that those on the standing list meet the qualification criteria.
5. Bids shall be opened at a single location immediately after the deadline for submission. Multiple locations for submission and opening are not acceptable.
6. Government-owned enterprises in Nepal shall be eligible to participate only if specifically agreed by ADB.
7. Extension of bid validity of more than 4 weeks beyond the original validity shall not be allowed without the prior concurrence of ADB.
8. Cancellation of bidding and re-bidding shall not be carried out without the prior concurrence of ADB.
9. Percentage variations from rates fixed by a district rate fixation committee shall not be used for the purpose of evaluating bids.

10. If a contract is terminated because of fundamental breach of Contract by the Contractor, the amount to be recovered from the Contractor representing the employer's additional costs for completing the contract shall be provisioned as agreed with ADB.
11. In the event of a conflict between these provisions and the law, these provisions shall prevail.

Terms of Reference for Design and Supervision Consultants

1. BACKGROUND

1. A devastating earthquake struck Nepal in April 2015 causing about 8,700 deaths, 22,500 severe injuries, and physical damages in the order of $7 billion mostly in 14 of the country's 75 districts.[1] Given the scale of the disaster, which represented about 35% of the country's gross domestic product, the Government of Nepal (GON) requested and received support from a number of development partners, including the Asian Development Bank (ADB), to address the impacts of the damages. The immediate ADB's response was to finance the Earthquake Emergency Assistance Project (EEAP) to support the rebuilding of schools, roads and district-level government buildings, and to strengthen the country's resilience to future disasters. This project was approved in June 2015 and is expected to complete by June 2019.

2. An exhaustive assessment carried out by GFFR soon after the earthquake[2] indicated that 5,760 public schools of which 101 kindergartens, 3,368 primary schools, 2,270 secondary schools, and 21 other schools had been damaged to various degrees within the 14 most-affected districts.[3] Of the 2,234 heavily damaged schools, about 25% are to be reconstructed under planned and on-going projects supported by government and various development partners. So, a significant funding gap for school reconstruction remains and the ADB-funded Disaster Resilience of Schools Project (DRSP) scheduled for Board approval in August 2018 will contribute to meeting school reconstruction needs. The damages have been recorded by school building and, when aggregated, allow to determine the overall condition of a school. Based on the nature and scale of the damages a set of interventions have been identified to rebuild or repair the school, strengthen its structure to disaster-resilient standard, and add missing gender sensitive features like adequate toilet facilities, fencing, laboratories, leveled playground, etc.

3. Heavily damaged school buildings will require reconstruction works while less damaged buildings will require repairs and or retrofitting works. In both cases each building infrastructure will be upgraded to earthquake-resilient standard. However, necessary school infrastructure improvement like gender sensitive segregated toilets, general science laboratories and IT rooms, water distribution and sanitation, and those related to the school premises like playground, surface drainage, stairs and walkways, and fencing will be carried out under the reconstruction works. Reconstruction works and retrofitting works will be bid and executed separately. The former will be bid under international competitive bidding procedure and the later under national competitive bidding procedure. The DRSP project envisages launching two reconstruction batches followed by two retrofitting batches the former covering about 180 schools each and the later 150 schools each. For easy reference, the batches have been named Recon 1, Recon 2 and Retrof 1 and Retrof 2.

4. Recon 1 is scheduled to start at the onset of DRSP project implementation. The Design and Supervision Consultant (DSC) recruited under the ongoing EEAP project has prepared the design and BOQ of 67 schools for Recon 1. Similarly, EEAP DSC is preparing design and BOQ for Recon 2 schools. The DSC to be recruited under this TOR will prepare the design and

[1] Bhaktapur, Dhading, Dolakha, Gorkha, Kathmandu, Kavre, Lalitpur, Makwanpur, Nuwakot, Okhaldungha, Ramecchap, Rasuwa, Sindhuli, and Sindhupalchwok.
[2] Structural Integrity and Damaged Assessment (SIDA) of public schools.
[3] Of the 2,270 secondary schools, 900 do not exceed lower school level (grades 6 to 8), 792 provide education up to the secondary level (grades 9 and 10), and 518 offer the higher secondary education (grades 11 and 12). Some secondary schools also include the primary level (grades 1 to 5). A recent government decision categorizes two types of education: Basic Education from grades 1 to 8 and Secondary Education from grades 9 to 12.

drawings, BOQ, and bidding documents for some schools of Recon 2 if EEAP DSC unable to complete all schools design and BOQ within stipulate time or there seems budget surplus allocated for the project after evaluating bids. Further, The DSC to be recruited under this TOR will prepare the design and drawings, BOQ, and bidding documents for Retrof 1 and 2, provide assistance for bid evaluation of the Recon 2 and Retrof 1 and 2, and supervise all Recon 1 and 2 and Retrof 1 and 2 civil works.

2. INSTITUTIONAL ARRANGEMENTS

5. The CLPIU (Education) under the National Reconstruction Authority (NRA) is the implementing agency. The GON has established the Central Level Project Implementation Unit (CLPIU Education) in Kathmandu and District Level Project Implementation Units in each district (DLPIUs). The international DSC subject of this TOR will assist both CLPIU and DLPIUs. Its support will include, among others, overall project management and civil works design and supervision, environmental and social safeguards oversight.

3. OBJECTIVES OF THE ASSIGNMENT

6. CLPIU wishes to engage a firm of consultants (the “DSC”) to supervise 67 schools of the Recon 1; design some schools and supervise all schools of Recon 2; and the Retrof 1 and 2 civil works contracts, design the works and assist to prepare the bidding documents for the Recon 2, Retrof 1 and Retrof 2 contracts and undertake such other services to ensure the smooth implementation of the DRSP civil works encompassing about 300 schools (there will be some overlap of schools requiring both reconstruction and retrofitting) in the targeted 14 districts. MOE through its CLPIU and DLPIUs will be the Implementing Agency for the Project and the DSC will act as the Engineer under the DSC Contract.

4. SCOPE OF SERVICES

7. The DSC services will be provided during the planned four years of the DRSP project implementation. The principal service of DSC is to support the CLPIU and 14 DLPIUs with comprehensive technical assistance to reconstruct, retrofit, and upgrade of about 400 earthquake-damaged schools in the 14 earthquake most-affected districts of Nepal by providing technical and management assistance through technical surveys and assessment, development of architectural and structural designs, procedures and processes to rebuild affected schools, training and capacity building, procurement of civil works, construction supervision, and financial management of the project civil works. The 14 districts currently targeted under the project are Dhading, Dolakha, Gorkha, Kathmandu, Kavre, Lalitpur, Bhaktapur, Nuwakot, Okhaldungha, Ramecchap, Sindhuli, Rasuwa, Makawanpur and Sindhupalchwok. DSC shall act as the Engineer to all civil works contracts under the project for and on behalf of the Deputy Project Director (DPD) and or other CLPIU officials, as authorized by the Project Director, and discharge all responsibilities diligently and approvals of the DPD, wherever necessary.

8. International and national consultants engaged by ADB have developed type designs (including structural design) for various category of school buildings requiring full reconstruction which CLPIU has been implementing under EEAP. The type design, however, needs to be tailored to each school location after carrying out soil bearing capacity tests (SBC) of the site to assess the suitability of sites for the construction of school buildings, as and when deemed necessary. The EEAP DSC shall be responsible for designing and adjustment in the type designs of buildings pertaining to Recon 1 to suit the site conditions based on the results of SBC tests. This DSC is responsible for sites assessment and designing and adjustment in the type designs

of buildings pertaining to Recon 2. Schools buildings which are partially damaged would need major repairs, rehabilitation and structural retrofitting. DSC will carry out the assessment of the degree of their damages and design appropriate retrofitting and repairs and rehabilitation works, and supervise their implementation. In addition to tailored design for Recon, the DSC will be fully responsible for the site investigation and site-specific designs of Retrof 1 and 2, and fully responsible for the construction supervision of all the schools to be reconstructed and retrofitted under the DRSP project.

9. The scope of work of DSC shall include, but not be limited to, the following activities over a period of 48 months.

(i) Site assessment and topographical survey of schools;
(ii) Site investigations for Retrof 1 and 2 (including geo-technical investigations as and when necessary), design and cost estimate for all categories of school buildings and associated facilities;
(iii) Environmental training and capacity building of government counterparts;
(iv) Prepare detailed designs for retrofitting and repair of schools including bills of quantities, design and construction drawings, and related procurement documents;
(v) Prepare procurement plans for goods, works and services and other documentation, including draft bid documents for goods and works, and evaluation reports for the contract, contract management and monitoring of the civil works execution;
(vi) Construction supervision of schools, both reconstruction (about 180 schools) and retrofitting (about 150 schools);
(vii) Management and monitoring of complex multi-location worksites;
(viii) Reporting and monitoring of civil works progress;
(ix) Assist CLPIU in financial management of the civil works;
(x) Checking IPCs and final bills of construction contracts and forwarding the same to IA for payment;
(xi) Recommend VO, if deemed necessary; and
(xii) Coordinate and work with other individual consultants engaged by CLPIU.

10. All work carried out by the consultants shall be compatible with National Building Code of Nepal (NBC), 2060.

11. The expanded scope of work is provided in detail below.

4.1 Assessment Services

(i) Site assessment/investigation reports, Topography Survey Report including Master Plan and geo-technical investigation reports. Site assessment reports shall include the requirements and recommendations on surface drainage, electrical, civil, water, sanitation, solar and safety aspects;
(ii) Environment & Social safeguard screening report for each school site;
(iii) Wherever required/as required develop site specific Environment Management Plans (EMP) to be implemented that need to be followed by the contractor and is incorporated in the Bidding document; and
(iv) If, as a result of relocation of school site, lands need to be acquired from private owners, then all required actions and related Resettlement Plans (RPs) will be developed for the respective project site.

4.2 Design services

12. The Consultant shall review all available project proposals, reports, drawings, plans and designs prepared by CLPIU, EEAP DSC and other entities and further build on the existing drawings as required to ensure that the works undertaken using these drawings meet the operational requirements and comply with the project criteria to be eligible for financing. The same applies to the retrofitting works using the design and drawings prepared by the DSC itself.

(i) Detailed Architectural plans and drawings;
(ii) Detailed Structural drawings with design report;
(iii) Detailed Electrical drawings;
(iv) Detailed Plumbing- sanitation drawings;
(v) Detailed plans for incorporating rain water harvesting and solar lighting wherever feasible;
(vi) Detailed Technical Specifications for each sub-item of the design;
(vii) Detailed construction drawings and construction processes to be followed by the contractor;
(viii) Detailed Bills of Quantities;
(ix) Estimated cost based on the detailed Bills of Quantities;
(x) Expected Implementation Schedule including mobilization time; and
(xi) Train and capacity building of CLPIU staff on contract management and application of earthquake resistant features in designing school/public buildings.

13. Based on the available data/site investigation reports, and information pertinent to the project, the Consultant shall further assess, develop and deliver the designs for the retrofitting of about 150 schools to multi-hazard resilient standard in 14 districts.[4] Conceptual design and detailed construction drawings shall include: (i) architectural plans; (ii) sections and elevations at appropriate scales; and (iii) any visual presentation that is deemed necessary to facilitate the contractor's work during construction. Upon approval by CLPIU, the Consultant shall prepare detailed cost estimates (BOQ), at-scale floor plans, elevations and sections of all component elements, as well as a 3D presentation as may be required to describe the works. All final drawings shall be of the highest standard, complete and fully detailed.

14. The designs prepared shall conform to the norms and guidelines of the national/local construction/building regulations, building bye-laws, codes of practice in force in Nepal with particular emphasis on earthquake resistant features, fire protection, environment and safety concerns, accessibility to the people with special needs, and hygiene as per the recommendation from the project social action plan.

15. While carrying out site investigations/assessment, the Consultant shall also screen each site for potential environment and social safeguard impacts arising from the construction of the school including potential land acquisition for storage of construction material and equipment and workers quarters. Should there be any land acquisition then a detailed social impact assessment and subsequent resettlement plan shall be developed in accordance to the framework agreed with GON for the project and submitted to CLPIU for obtaining approval of ADB. For environment impacts the environmental assessment and review framework (EARF) agreed for the project shall be followed to address any adverse impacts on environment, during and post construction.

[4] Essentially earthquake and wherever relevant flood and landslide. These aspects have been incorporated in the reconstruction design as well.

16. The CLPIU with the assistance of the Consultant will follow up with the concerned authorities, legal, statutory and administrative formalities for obtaining the building permits/approvals for construction works prior to the start of the implementation.

17. The Consultant design services will be organized into one HQ team and two mobile field design teams. Each mobile team is led by a Senior Civil Engineer and composed of one Architect, one Civil Engineer, all nationals. The HQ design team is led by a Senior Civil Engineer (international) and composed of one Senior Architect (international), four Design Engineers, one Sanitation Engineer, and one Electrical Engineer all nationals. The design services will start immediately into the Consultant contract and are expected to complete in 12 months. However, one of the Design Engineers will pursue his/her assignment until the DSC contract completion. Electrical and Sanitation Engineers will pursue their assignment in intermittent basis (3 months each year) until the DSC contract completion and assist with any reconstruction or retrofitting design revision required during the supervision services.

4.3 Procurement services

18. The retrofitting works will be organized in two batches; the procurement of the first batch will be initiated as soon as the related designs and bill of quantities will have been completed. Once the final design for retrofitting works will be approved, the Consultant shall finalize the bill of quantities and package the bids appropriately to ensure economy and efficiency in consultation with CLPIU. For each batch of retrofitting works, the Consultant will prepare the complete bid documents; provide necessary clarifications and assistance during the bid evaluation process including the preparation of draft evaluation reports, process approvals from CLPIU and ADB, and provide the necessary assistance up to the contract award stage with the help of procurement expert hired by CLPIU. The execution of the Retrof 1 works is expected to start immediately after the Recon 1 works will be completed then likewise Retrof 2 will start as soon as Recon 2 has completed. Procurement services will be handled by the Consultant HQ team in close co-ordination with individual procurement expert hired by CLPIU and CLPIU technical team.

4.4 Supervision services

19. The supervision services will start at the onset of the DSC contract with the supervision of the two batches of school reconstruction works and be followed by the supervision of two batches of retrofitting works. Owing to the planned timing of the civil works contracts, there should be no more than two batches of reconstruction and/or retrofitting works to be supervised at any given time of the Consultant assignment. The supervision services will be organized by District with guidance and support from HQ. In each of the districts listed in paragraph 7, the supervision team will be led by a Resident Engineer, 13 Site Engineers[5], one Administrative/Accountant, and one Safeguards Monitor expected to monitor environment, involuntary resettlement, and gender equity and social inclusion matters, national. DSC shall (i) supervise the works and guide the contractors as appropriate on a day to day basis to achieve quality construction, (ii) provide quick design modification wherever required during construction (design troubleshooting), (iii) resolve any construction issues quickly, and (iv) prepare the takeover certificate confirming that the works have been executed timely and in compliance with the contract specifications for the approval and issuance by the Deputy Project Director (DPD). In addition to the above, the consultant shall also carryout following tasks:

[5] This number is an average. The number of school worksites under supervision will vary over time and districts from 0 to 16.

(i) Assist CLPIU in all aspects of monitoring of the works program implementation in accordance with sound technical, administrative, financial and economic practices and in accordance with the duties and responsibilities assigned as per the contract;
(ii) Disseminate information on good construction practices to contractors, through reasonable document feedback;
(iii) Review and recommend approving the detailed work program drafted by the Contractor for each site. However, the Consultant shall provide assistance to the Contractor when needed in the development of the detailed work program. Such assistance includes the coordination with the Contractor and the finalization of this program based on the available resources;
(iv) Follow-up on site supervision visits by the different designers (architectural, structural, electrical, etc.) at intervals appropriate to the various stages of construction.
(v) Monitor, supervise and inspect the quality of the works as to ensure conformity with the Specifications, Bill of Quantities (BOQ), Drawings and design requirements. Review with the engineers at PIU, architectural drawings to ensure that space provisions and specifications are interpreted correctly so as to minimize changes during construction, and to remain in line with contract conditions;
(vi) Provide any needed design, detail, information and clarifications necessary during the implementation phase for the Contractor to be able to carry out the construction works;
(vii) Examine and recommend for approval the implementation plan proposed by the Contractor and ensure systematic and periodic feedback and the regular updating of the plan and resource allocations;
(viii) Review and assist where needed, and recommend for approval the Contractor's proposals related to materials, equipment and methods of construction and advise the Client accordingly;
(ix) Assess any design modifications that may become necessary during construction /rehabilitation, and propose technically acceptable amendments;
(x) Monitor construction methods and operations to ensure compliance with the contract documents (bill of quantities, drawings and specifications) and good practice;
(xi) Monitor reconstruction and retrofitting progress to ensure compliance with the agreed work schedules and propose measures to expedite implementation;
(xii) Ensure that the Contractor submits all necessary documents such as purchase orders, inspection certificates and progress reports, etc, for the Consultant’s approval and monitor the availability of key resources and materials orders and identify any shortcomings;
(xiii) Ensure that a daily diary of the progress of the works on site is maintained, containing weather conditions, personnel present and work accomplished, resources applied and shortfalls, deliveries, inspection, survey checks, testing, instructions issued, visits by others, and all other events of significance occurring during the day;
(xiv) Inspect materials delivered to site and prepare report. Wherever appropriate, sample of construction materials should be taken and tested for quality and workmanship. If found lacking in specification vis-à-vis the requirements under the contract, recommend actions to be taken for rectification of the same;
(xv) As appropriate, instruct the opening up of completed works to determine compliance with the requirements specified in the Contract Document;
(xvi) Maintain information relevant to progress, performance, quality, quantity, resources and cost. This information should be incorporated in the monthly report, final measurement and payment certificates;

(xvii) Prepare supervision mission reports on work carried out by the Contractor and highlight problems, obstacles, shortcomings and recommendations;
(xviii) Expedite submission of monthly and final payment certificates by the Contractor for approval by CLPIU (Education). These shall be based on measurement of completed works, and the results from inspections and testing;
(xix) Perform quality control and quality assurance activities regularly and as required;
(xx) Recommend the rejection of sub-standard work and document any material or test not in compliance with the contract documents;
(xxi) Prepare variation orders and submit them to CLPIU's approval prior to issuing them to the Contractor, as per stipulation of the construction contract. This shall include the analysis of the cost of new items of work that may arise during construction and which are not specified in the Bidding documents for approval by the CLPIU (Education);
(xxii) Anticipate potential claims and take steps to mitigate their effect. Record, appraise and advise the CLPIU (Education) on any claim/disputes relating to time or cost submitted by the Contractor;
(xxiii) Participate in weekly meetings or any other meeting set by the CLPIU (Education) or any appointed representative;
(xxiv) Advice the CLPIU on contractual issues as well as matters related to policy, programming and cost control;
(xxv) Assist in the amicable settlement of disputes or differences, which may arise during the assignment between the Client and the Contractors;
(xxvi) Monitor and supervise the proper implementation of the EMP guidelines and other environmental and safety requests;

a. Review and recommend for approval the As-Built Drawings and documents submitted by the Contractor latest before the provisional take over;
b. Participate in the take-over inspections of completed works and preparation of a deficiencies list for all outstanding or substandard items, prepare draft taking over certificate and submit the same to the DPD for approval
c. Given the often-limited construction skills displayed by contractors in previous similar assignments, DSC is expected to adopt a collaborative approach in supervising the contractor to the extent possible without compromising the Employer's rights under the contract. This may involve the provision of non-binding advice and cooperation in meeting the contractors' reasonable requests for assistance.

4.5 Operational Management

20. The design and supervision services will be guided and supported by a Consultant HQ team that will also discharge all the other services and responsibilities pertaining to procurement, financial management of the civil works and the Consultant contract, communication and coordination with CLPIU and the Client in general. The HQ team will be composed of one Chief Resident Engineer Team Leader and two Senior Monitoring Engineers Deputy Team Leader all international; one Senior Quality/Material Engineer, one Senior Cost/Quantity Engineer, one Financial Management Expert, one Social Safeguards Expert, one GESI Safeguards Expert, one Environment Safeguards Expert, one Geo-technical engineer, one Information Technology Hardware Expert, and one Management Information System Expert all nationals. All the above staff will be engaged for the entire duration of the assignment i.e. 48 months except the following experts services in intermittent basis

(i) The three safeguards experts who will put in 9 months for the first year and then 3 months each following year.

(ii) Geo-technical Engineer who will put in 6 months in the design period for the first year and then 2 months each following year.
(iii) Information Technology Hardware Expert who will put in 6 months for the first year and then 2 months each following year.

4.6. Deliverables

21. The deliverables under the assignment are detailed below**:**

4.6.1 Site assessment and Topographical survey report for reconstruction works

22. While carrying out site investigations/assessment, the consultant shall screen each site for potential environment and social safeguard impacts arising out of the construction of the school to incorporate due diligence report including potential land acquisition for construction. Should there be any land acquisition then a detailed Social Impact assessment and subsequent resettlement plan shall be developed in accordance to the framework agreed with GoN for the project and submitted to CLPIU for obtaining approval of ADB. For environment impacts the environmental assessment and review framework (EARF) agreed for the project shall be followed to address any adverse impacts on environment, during and post construction.

After detailed topographic survey of the schools, existing site plan of each schools and a master plan showing proposed facilities shall be submitted to CLPIU for discussion and approval.

4.6.2 Geo-technical Investigation Report

23. Geotechnical Investigation shall be carried out in accordance with Nepal National Building Code (NBC) 2003. Geotechnical Investigation should include load tests and/or drilling of bore holes at required depth for determining Safe Bearing Capacity (SBC) at each school location. Wherever determined SBC varies significantly from that used for type design, DSC shall adjust the type design to be location specific. Preparation of report on soil Investigation of each of the sites is required.

4.6.3 Site assessment for retrofitting works

24. It is expected that few schools will require retrofitting works only while about 300 schools will require a combination of reconstruction and retrofitting works. The reconstruction works in these 180 schools will be executed under Recon 1 and Recon 2 following designs prepared by the EEAP DSC. That means that the school site will have been assessed previously by EEAP DSC. For these schools, the existing assessment including all data from laboratory tests will be provided to the Consultant for review and possible adjustment following a site survey. The Consultant will produce a detailed review complemented by supporting geotechnical, land and environmental investigations as appropriate. For the schools requiring retrofitting works only, the Consultant will produce:

(i) Thorough site assessment/investigation reports, topographical survey, and geo-technical investigation reports. Site assessment reports shall include the requirements and recommendations on electrical, mechanical, civil, water, sanitation, solar and safety aspects;
(ii) Environment & Social safeguard screening report for each school site;
(iii) Wherever required/as required develop site specific Environment Management Plans (EMP) to be implemented that need to be followed by the contractor and is incorporated in the Bidding document;

(iv) If, as a result of relocation of a school site, land need to be acquired from private owner(s), then the required actions under the Resettlement Framework, and related Resettlement Plans (if any) will be developed for the relevant project site.

4.6.4 Design of reconstruction works

25. The consultants shall review all the available school design reports, drawings, plans and designs prepared and further build on the existing drawings as required to ensure that the works undertaken already using these drawings and those being developed/under project meets the operational requirements and complies with the project criteria to be eligible for financing.

26. Based on the available data/site investigation reports, and information pertinent to the project, the Consultant shall develop and deliver designs for selected schools incorporating multi-hazard resistant features. Develop conceptual design and detailed construction drawings which shall include: (i) architectural plans; (ii) sections and elevations at appropriate scales; (iii) and any visual presentation that is deemed necessary for the proper illustration to facilitate the contractor during construction. Upon approval by CLPIU (Education), the consultant shall prepare detailed cost estimates (BOQ), scale floor plans, elevations and sections of all component elements, as well as a graphic presentation as may be required to describe the project. The consultant shall submit a due diligence report (DDR) for each school selected for reconstruction. All final drawings shall be of the highest standard, complete and fully detailed.

4.6.5 Design of retrofitting works

27. Based on the site investigation/survey reports, the Consultant shall submit for each school the detailed structural assessment report of the existing building(s) to be retrofitted, and an argumentation of the technical solution proposed to retrofit the building(s) to least cost disaster resilience standard (essentially earthquake resilience and flood and landslide protection as required) and to the social standard specified in the Project social action plan. The above reports will be complemented by the final design drawings for each school that will include the following elements:

(i) Detailed Architectural plans and drawings;
(ii) Detailed Structural drawings;
(iii) Detailed Electrical drawings;
(iv) Detailed Plumbing- sanitation drawings;
(v) Detailed plans for incorporating rain water harvesting; if deemed feasible
(vi) Detailed Technical Specifications for each sub-item of the design;
(vii) Detailed construction drawings and construction processes to be followed by the contractor;
(viii) Safeguard impact screening of each school and due diligence report;
(ix) Environment Management Plans and Resettlement Plans (wherever applicable);
(x) Detailed Bills of Quantities;
(xi) Estimated cost based on the detailed Bills of Quantities; and
(xii) Topographic surveys and soil investigation reports, if needed.

4.6.6 Procurement

(i) Packaging of schools in appropriate lots and procurement packages;
(ii) Update Procurement Plans on a semi- annual basis;
(iii) Draft bid documents for contracting retrofitting works of schools;
(iv) Draft bid evaluation reports for all retrofitting works;

(v) Review requests for and process variation orders;
(vi) Update procurement data in the MIS developed for the program;
(vii) Submission of retrofitting procurement and reconstruction and retrofitting contract management reports on monthly basis and consolidated reports on quarterly basis; and
(viii) Draft responses and actions recommended/executed for grievances received by the CLPIU.

4.6.7 Supervision of construction Works

(i) Train Contractors and CLPIU staff on best construction practices through workshop, classroom, on-site and hands-on training;
(ii) Site visit, inspection, tests and quality assurance reports;
(iii) Submit consolidated site log on work progress on a weekly basis to the Engineers in DLPIUs;
(iv) Verification of documentation for processing of bills/invoices of contractors for the works completed;
(v) Documentation for variation orders wherever required;
(vi) Submit consolidated Monthly physical and financial Progress reports to the DPD;
(vii) Submit draft consolidated quarterly progress reports to CLPIU for onward transmission to ADB;
(viii) As built drawings verified upon completion of construction for approval and records;
(ix) Draft taking-over certificate;
(x) Draft Project Completion Report (PCR) upon completion of the assignment; and
(xi) Any other request as directed by the DPD.

5 TEAM COMPOSITION AND QUALIFICATION REQUIREMENTS FOR KEY AND NON-KEY EXPERTS

28. The DSC contract involves an estimated 318 key staff person-months (168 international and 150 national) and 6624 non-key staff person-months of consulting services for the supervision of about 180 reconstruction works and the design and supervision of about 150 retrofitting works. The consulting services will be procured using the Quality and Cost Based Selection (QCBS) (90:10). The DSC's teams will include the key and non-key experts listed in the table below.

Table 1: Key international and national experts and non-key staff inputs

No.	Descriptions	Location	No	Input months	person-month
A	**REMUNERATION**				
A1	**Key Experts International**				
1	Chief Resident Engineer (CRE) cum Team Leader	HQ	1	48	48
2	Sr Monitoring Eng. Deputy TL	HQ	2	48	96
3	Sr Design Engineer (structure)	HQ Design Team	1	12	12
4	Sr Architect	HQ Design Team	1	12	12
	Sub Total-A1		**5**		**168**

No.	Descriptions	Location	No	Input months	person-month
A2	**Key Experts National**				
1	Sr Quality/Material Engineer	HQ	1	48	48
2	Sr Cost/Quantity Engineer	HQ	1	48	48
3	Social Safeguards Expert	HQ	1	18	18
4	GESI Safeguards Expert	HQ	1	18	18
5	Environmental Safeguards Expert	HQ	1	18	18
	Sub Total-A2		**5**		**150**
	Total of Key experts (A1+A2)		**10**		**318**
A3	**Non- Key Staff-National**				
1	Geo-technical Engineer	HQ	1	12	12
2	Design Engineer (Structure)*	HQ Design Team	4	48	84
3	Electrical Engineer	HQ Design Team	1	12	12
4	Sanitation Engineer	HQ Design Team	1	12	12
5	Sr Engineer	Field Design Team	2	12	24
6	Architect	Field Design Team	2	12	24
7	Engineer	Field Design Team	2	12	24
8	Resident Engineer	District	12	48	576
9	IT Hardware	HQ	1	12	12
10	MIS Expert	HQ	1	48	48
11	AutoCad Specilist*	Design Team	4	48	84
12	Site Engineer	Spn Team	135	48	5136
13	Safeguard and GESI monitor	Spn Team	12	48	576
	Sub Total -A3		**178**		**6624**
	Total		**188**		**6942**

*one of the 4 will stay during the entire assignment.

29. The services to be provided by the DSC's experts are outlined below.

Key Experts

5.1 Chief Resident Engineer (CRE) cum Team Leader (1 HQ – international)

30. The DSC will appoint a CRE to oversee the delivery of all services provided under the consultant's contract. The scope of work of the CRE is described below.

(i) Working in close coordination with the Project Director, the CRE will lead and coordinate the work of the district Resident Engineers and the Senior Engineer responsible for the design of the retrofitting works.

(ii) Provide effective and regular project management and construction management leadership and ensure that work is executed in compliance with the civil works

contracts and to the standards, specifications and procedures of the ADB and approved environmental, social, safety and quality management plans. In collaboration with the two SMEs, the CRE will:

(iii) Review the contracts documents, bills of quantities, cost estimates, construction drawings, specifications, etc. and ensure all documents comprising the DSC Contract are sound.

(iv) Ensure all pre-contractual obligations of the civil works contractors are complied with prior to the execution of the contracts. Check that the contractors provide (and maintain) valid securities and insurance, and meet all other contractual prerequisites before work on school buildings is commenced.

(v) Arrange pre-commencement meeting with the contractors and DLPIUs through the Resident Engineers to discuss matters related to contract commencement, delegation of authorities, communications, construction programs, contractor's facilities, subcontract work, security, community-related matters and matters of relevance.

(vi) Prepare and process variation orders, evaluate claims for additional costs and extensions of time, and otherwise administer the provisions of the civil works contracts.

(vii) Prepare monthly progress reports and quarterly cash flow projections for the PD in an agreed format that readily identifies variances between planned and actual cash flows and highlights budget estimates and cash flow requirements for outstanding works.

(viii) Ensure that all project records are maintained in a safe environment with back-up copies maintained in alternative locations.

(ix) Process interim and final payment certificates and, as appropriate, certify payments.

(x) Upon satisfactory completion of a works contract, and after all contractual requirements have been met, issue completion certificates and confirm that the contractors' "as-built drawings" are a true record of the works as constructed.

(xi) Assist the contractors with the interpretation of the contract documents and advise the PD with respect to the resolution of claims, disputes, arbitration or litigation, as required.

(xii) Oversee the work of the Design Team, providing advice and instructions to ensure consistency in the way the retrofitting designs comply with the Project technical and social requirements.

(xiii) Assist the PD to prepare the Project Completion Report as required by the ADB.

Qualifications: The CRE shall hold a master's degree in civil engineering or equivalent field and possess a wide experience as project manager or team leader in the design and construction supervision of small-size public buildings. The CRE will have a preferably 20 years of experience overall and 12 years as team leader/project manager on similar building construction projects.

5.2 Senior Monitoring Engineer Deputy TL (2 HQ - international)

31. The SMEs will work closely with the CRE and the district REs. Each of them will cover the works supervision and retrofitting design in half of the districts assigned to the DSC and prepare the tasks (iii) to (xiii) described under the CRE's services. In addition to this, s/he will be responsible to supervise contract management and procurement activities of the project. They will be based in Kathmandu and frequently visit their purview districts and schools work sites.

They will also develop a comprehensive monitoring and reporting plan for the project school reconstruction and retrofitting outputs.

Qualifications: The SMEs shall hold a master's degree in civil engineering or equivalent field and possess a wide experience in the design and construction supervision of public buildings. The SMEs will have preferably 12 years of design and supervision experience overall on similar building construction projects.

5.3 Senior Design Engineer (structure) (1 HQ – international)

32. The Senior Design Engineer will be based in HQ and will make regular visit to the relevant school sites. He/she will vet all design and design modifications. The main tasks will include:

(i) Review the designs of school buildings reconstruction already prepared in consultation with the REs.
(ii) In collaboration with the field design teams, timely develop designs/proposals for adjustments in the designs if required based on the site conditions.
(iii) Plan, organize, monitor and guide the work of the field design teams responsible for conducting the surveys and investigations (general topographical surveys, general geotechnical investigations, and building structural assessments) necessary for the design of the retrofitting works. Review and, after necessary adjustments or additional work, use the surveys and investigations already prepared for the reconstruction works whenever available.
(iv) Ensure that Geotechnical investigation is carried out in accordance with Nepal National Building Code (NBC) 2060. Collect and refer to the available seismic data/ records of the area, soil bearing capacity reports of the sites, etc., for development of site specific designs.
(v) Advise and develop checklists/procedure for structural inspections and recommend remedial measures and refurbishment whenever required for retrofitting existing buildings to earthquake resistance standard.
(vi) Review and certify the structural design of the physical facilities proposed by the field design teams.
(vii) With the assistance of the Senior Architect and the design engineers and the Autocad operators, prepare construction drawings and costs thereof for each retrofitting design including modifications if any carried out later. Guide and monitor the design engineers for the preparation of construction/sectional drawings, the estimation of quantity and cost of the buildings and other physical facilities, the preparation of the BOQ, and the preparation of the bidding documents for the retrofitting works.
(viii) Present design details to technical committee/department of urban development and building construction or relevant government authorities for approving building designs.

Qualification: The applicant shall hold a Master's Degree in Structural Engineering, Earthquake Engineering, or equivalent. S/he will have preferably 10 years of professional experiences in designing of buildings including retrofitting of buildings using structure design software (e.g. SAP, ETABS, STAAD.PRO etc.).

5.4 Senior Architect (1 HQ – international)

33. The Senior Architect will be based in Kathmandu and will make regular visit to the relevant district offices and school sites. The main tasks of the Senior Architect will include:

(i) Assist the Senior Design Engineer and the design engineer with the elaboration and drawing of the retrofitting designs.
(ii) Verify that the designs of all the selected schools of the project, either already prepared (reconstruction works) or to be prepared (retrofitting works) meet the social action plan requirements, the MOE's minimum requirements for school infrastructure, and the construction norms Nepal.

Qualification: The Senior Architect shall hold a Master's Degree in Architecture. S/he will have preferably demonstrated experience of 10 years in architectural design of public buildings

5.5 Sr. Quality/Material Engineer (1 – HQ – national)

(i) Observe and provide non-binding advice to the civil works contractors on the establishment of construction camps, housing, borrow pits and quarries, stockpiles and storage for materials, equipment, etc.
(ii) In collaboration with the Resident Engineers, oversee the contractors' establishment of their materials testing laboratory.
(iii) Review the contractors' procedures for testing materials. Monitor laboratory and in-situ testing of materials and ensure they fully conform to the requirements of the civil works contract.
(iv) Inspect and review the quality and quantity of construction materials and material and equipment supply on the work sites and submit review findings and recommendations to the CRE.
(v) Review the CW2 contractor's internal quality control system and assess the contractors' construction methods.
(vi) Ensure regular and accurate testing procedures and systems are adopted to monitor the quality of the construction methods and materials adopted by the contractors. Ensure also compliance of completed works with the civil works contracts.
(vii) Maintain records of tests carried out including all calculation and check sheets.

Qualifications: The Materials/Quality Engineer shall hold a degree in civil engineering and possess a wide experience in the supervision and operation of materials testing laboratories, including checking of sampling, and conducting laboratory and field testing of materials and products needed to assure quality of works as required by the plans and specifications. The Materials/Quality Engineer will have preferably 10 years of experience overall and 5 years as materials engineer in the construction sector.

5.6 Sr. Cost/Quantity Engineer (1 – HQ – national)

(i) Assist the Chief Resident Engineer in the monitoring of satisfactory financial management of the project.
(ii) Prepare an elemental format for all construction activities and monitor the costs regularly.
(iii) In collaboration with the district REs, prepare monthly contract payment estimates and certificates for payment, including cost estimates for construction and supervision.

(iv) Maintain a permanent record of all measurements for the work quantities to be paid.
(v) Assist in preparing Bills of Quantities and make recommendations for certification of all monthly and other payments for the CRE's consideration.
(vi) Ensure procedures are adopted to maintain an efficient Project Cost Control System.
(vii) Establish realistic costs for escalation, contingency, site allowances, etc. and include these cost plans in compiling a total project cost estimate for budget purposes.
(viii) Assist CLPIU with the preparation of cash flow forecasts and Interim and Final Account valuations.
(ix) Provide timely advice to the Resident Engineers and Chief Resident Engineer on the valuations of variations, unsolicited claims, time extensions, etc. and highlight any actual or expected cost overruns. Provide guidance on measures to be adopted to avoid, reduce or manage them.
(x) Assist CLPIU for necessary procurement activities

Qualifications: The Cost/Quantity Surveyor shall hold a civil engineering degree and possess wide experience in the contract and procurement management, checking of quantities, and certifying interim payment certificates, recommend extensions of time and variation orders. S/he will have preferably 10 years overall and 5 years as Cost/Quantity Engineer in the building construction sector, preferably on projects funded by International Development Agencies.

5.7 Gender and Social Inclusion Expert (1 HQ - National)

34. The GESI expert will assist in the implementation, monitoring and reporting on Gender Equality and Social Inclusion (GESI) Action Plan of the project. The main tasks of the expert include, but are not limited to:

(i) Provide overall guidance in the implementation and monitoring of GESI Action Plan (GESI/AP); prepare implementation schedule and approach of GESI action plan.
(ii) Ensure implementation of GESI/AP activities by all sub projects under given timeframe;
(iii) Orient CLPIU and DLPIU staff, and SMCs on GESI approach of the project and activities in the GESI AP and ensure its compliance by CLPIU and DLPIU during project implementation;
(iv) Provide training and support to the DLPIU GESI focal points in GESI action plan implementation, monitoring frameworks and disaggregated data collection formats.
(v) Ensure quality of reporting by DLPIUs on GESI action plan and verify data in the field.
(vi) Liaise with DRR consultant to ensure GESI targets to meet in DRR awareness sessions to the communities and schools. Provide inputs to make DRR training GESI responsive.
(vii) Support in data consolidation provided by DLPIUs and help prepare quarterly progress report on GESI.
(viii) Participate and contribute in project review missions and present achievements and the challenges in GESIAP implementation. Take necessary steps to overcome the problems.
(ix) Ensure all targets in GESI AP and the project DMF are met during project implementation period, and support CLPIU in project PCR preparation.

(x) Coordinate and monitor STI and HIV/AIDS awareness and prevention programs, the Health and Safety Management Plans, and the Gender and Awareness Plan implemented by the Contractor.

Qualification: The expert will have a Master's Degree in social sciences, gender and development (GAD) or related fields; sound knowledge of gender inequality and social exclusion issues in school education sector and disaster preparedness and resilience; preferably 7 years of experience in promoting gender equality, women's empowerment, and social inclusion. Knowledge on GESI in disaster management and in humanitarian setting will be an added advantage. Knowledge of GON's policies, administrative systems, and procedures, in the areas of education and experience working with civil society organizations (CSOs) and development partners; strong interpersonal skills and ability to work in a multidisciplinary team; and ability to work independently and undertake frequent travel in the districts.

5.8 Social Safeguards Expert (1 HQ – national)

35. The Social Safeguards Expert at HQ will be more senior and will monitor and lead the eponymous experts in the field. The expert will guide and supervise social safeguard in the field and the relevant REs. The HQ Expert will report to the CRE and the SMEs. The duties of the Experts will collectively include:

(i) In coordination with the Environment Specialists prepare the Communications and Consultation Plan including the GRM for the various worksites.
(ii) Consult with affected persons and key stakeholders during project implementation to ensure their satisfaction with safeguards implementation
(iii) Conduct social safeguard screening and impact assessment and prepare required document for approval of subproject and monitor compliance during implementation.
(iv) Supervise, monitor and assess safeguards compliance according to the approved Resettlement Plan and recommend corrective actions where needed in collaboration with the CLPIU Safeguards officer.
(v) Coordinate safeguards requirements with the contractors to ensure measures are taken to complete the civil works in an efficient manner.
(vi) Report the implementation of the RP by preparing inputs to Quarterly Progress Reports and Semi-Annual Monitoring Reports on social safeguards;
(vii) Monitor the contractors' works and operations to avoid any safeguards issues and mitigate any unanticipated impacts.
(viii) In response to any complaints by the surrounding communities about damage caused by works, investigate sufficiently to develop an understanding of the causes of the damage and propose cost-effective remedial designs. Monitor the implementation of these designs and certify payment according to the contract rates and prices.

Qualification: The expert will have a Master's Degree in social sciences, or related fields; sound knowledge of social sagefuards issues; preferably 7 years of experience in land acquisition and involuntary resettlement. Knowledge of GON's policies, administrative systems, and procedures, in the areas of education and experience working with civil society organizations (CSOs) and development partners; strong interpersonal skills and ability to work in a multidisciplinary team; and ability to work independently and undertake travel in earthquake affected districts.

5.9 Environment Safeguards Expert (1 HQ – national)

36. The DSC will appoint one environment specialist to assist CLPIU and DLPIUs in implementing, monitoring and reporting environments safeguards compliance by contributing about 30% inputs supporting CLPIU and 70% of inputs supporting DLPIUs. The specific responsibility of the Specialist shall be, but not limited to the following:

(i) organize orientation on environmental safeguards mechanism to the staff of CLPIU and DLPIU, safeguard monitors at DLPIU, SMC, and staff of contractors. The orientation shall cover environmental categorization, EMP preparation and implementation, environmental monitoring with standard checklist; corrective actions, and reporting;
(ii) assist safeguard focal points to establish a Safeguard Desk at CLPIU and DLPIU;
(iii) support the safeguard desk of CLPIU and DLPIU in conducting meetings with agenda, recording agreed actions, share them with technical team with an understanding to implement them, and follow-up to ensure compliance;
(iv) support DLPIUs on environmental screening of each school subproject by using the rapid environmental assessment (REA) checklist;
(v) confirm environment category and prepare environmental assessment document in prescribed format (mostly expected to be due diligence report);
(vi) support CLPIU to included EMP requirements in bidding documents and civil works contract;
(vii) establish environmental safeguards mechanism in the project to monitor environmental safeguards of the subproject project works as guided by EMP;
(viii) prepare standard environmental monitoring checklist;
(ix) ensure EMPs are implemented by contractors by routinely monitoring EMP compliance through the safeguard monitors;
(x) ensure overall compliance with the government rules and regulations regarding environmental clearances;
(xi) review, monitor, and evaluate the effectiveness with which the EMPs are implemented, and recommend necessary corrective actions to be taken as necessary;
(xii) consolidate monthly environmental monitoring reports received from DLPIUs and submit semi-annual monitoring report to CLPIU and ADB;
(xiii) organize routine public consultation and awareness programs;
(xiv) address any grievances through the Grievance Redress Mechanism in a timely manner; and
(xv) ensure timely disclosure of final IEEs/DDRs/EMPs/reports.

Qualification: The environment specialist shall preferably have an educational qualification of Masters' Degree in the relevant area with preferably 7 years overall professional experience, and minimum 5 years of experience in the area of environmental safeguards plan preparation and monitoring in infrastructure development projects. The consultant shall have working experience with international development organizations.

Non-Key Experts

5.10 Geo-technical Engineer (1 – HQ – national)

(i) Visit all construction site and make visual inspection of the soil to ascertain Safe Bearing Capacity (SBC) in accordance with Nepal National Building Code (NBC) 2003 during load test (DCPT/SPT).
(ii) If deemed necessary, recommend for drilling of bore holes test

(iii) Review all geo-technical investigation reports and recommend for foundation type design.
(iv) Review geo-tech model analysis.
(v) During construction phase, visit construction sites and assist Res, design engineer wherever needed.

Qualifications: Geo-technical Engineer shall hold a Master's Degree in Geo-tech engineering and possess wide experience in the geo-tech investigation of construction sites. S/he shall have 7 years overall and 5 years as Geo-tech Engineer in the building construction sector.

5.11 Design Engineers (structure) (1*48+3*12=84 – HQ Design team– national)

37. The Design Engineers will be based in HQ and will make regular visit to the relevant school sites and closely work under the guidance of Sr. Design Engineer (structure) in the initial stage. S/he will vet all design and design modifications and prepare the tasks (i) to (ix) described under the Sr. Design Engineer (structure) and prepare retrofitting design of buildings based on the assessment report of field design team.

Qualification: The applicant shall hold a Master's Degree in Structural Engineering, Earthquake Engineering, or equivalent. S/he shall have 5 years of professional experiences in designing and retrofitting of buildings using structure design software (e.g. SAP, ETABS, STAAD.PRO etc.).

5.12 Electrical Engineer (1 HQ – national)

38. The Electrical Engineer will be based in Kathmandu and will make regular visit to the relevant district offices and school sites. The main tasks of the Electrical Engineer will be to assist the Senior Architect, Senior Design Engineer, and Design Engineers when designing the school electrical installation and verifying that such installation meet the Nepal norms for public facilities and assist REs in the implementation of electrical works in school sites.

Qualification: The Electrical Engineer shall have a Bachelor's Degree in Civil engineering or Electrical Engineering or equivalent, with 5 years of experience designing electrical installations in office and commercial buildings.

5.13 Sanitation Engineer (1 HQ – national)

39. The Sanitation Engineer will be based in Kathmandu and will make regular visit to the relevant district offices and school sites. The main tasks of the Sanitation Engineer will include:

(i) Ensuring that all the schools under the project will have adequate water and sanitation facilities;
(ii) Ensuring in coordination with the Senior Architect that the toilets meet the social action plan requirements and are properly aerated, and connected to water distribution and sanitation.
(iii) Verify that whenever possible, schools harvest and store rain and underground water and distribute it by gravitation.

Qualification: The Water and Sanitation Engineer shall have a Bachelor's Degree in Civil engineering or water supply and sanitation or equivalent, with 5 years of experience designing water supply and sanitation systems in rural areas.

5.14 Sr. Engineer (structure) (2 – Field Design Team – national)

40. The Sr. Engineers will make regular field visit to the relevant school sites for assessment of existing buildings and closely work under the guidance of Sr. Design Engineer (structure) and design engineer (structure). The main tasks will include:

(i) carry out vulnerability assessment of the buildings as per approved government vulnerability assessment guidelines;
(ii) Based on the assessment, carry out retrofit design of the buildings;
(iii) train REs, site engineers, masons on retrofitting techniques
(iv) Assist REs and site engineers to implement and supervise reconstruction/retrofitting works carried out by contractors/SMCs; and
(v) Assist Architect and REs to take building permit approval complying National Building Code and Building Bye-laws from concerned municipalities.

Qualification: The applicant shall hold a Master's Degree in Structural Engineering, Earthquake Engineering, or equivalent. S/he shall have 5 years of professional experiences in designing and retrofitting of buildings using structure design software (e.g. SAP, ETABS, STAAD.PRO etc.).

5.15 Architect (2 – Field Design Team – national)

41. The Architects will be based in Kathmandu with regular field visit to the relevant district offices and school sites. S/he will assist Sr. Architect and works under the guidance at the initial stage. The main tasks of the Architects will include:

(i) Prepare measured drawings
(ii) Visit school sites, make design consultation with local stakeholders for reconstruction requirements
(iii) prepare master plan for reconstruction of school
(iv) Assist the Design Engineer with the elaboration and drawing of the retrofitting designs.
(v) Assist Architect and REs to take building permit approval complying National Building Code and Building Bye-laws from concerned municipalities.
(vi) Assist in preparing as built drawings
(vii) Verify that the designs of all the schools of the project, either already prepared or to be prepared for reconstruction/ retrofitting works to meet the requirements, the MOE's minimum requirements for school infrastructure, and the construction norms Nepal.

Qualification: The Architect shall hold a Master's Degree in Architecture. S/he shall have demonstrated experience of 3 years in architectural design of public buildings

5.16 Engineer (2– Field Design Team – national)

42. The Engineers will be based in Kathmandu with regular field visit to the relevant district offices and school sites. S/he will assist Sr. engineer and Architect. The main tasks of the Engineers will include:

(i) Assist to prepare measured drawings
(ii) Visit school sites, make design consultation with local stakeholders for reconstruction requirements
(iii) Assist Architect and REs to take building permit approval complying National Building Code and Building Bye-laws from concerned municipalities.

(iv) Prepare Quantity and cost estimation with Bills of Quantities
(v) Verify that the designs of all the schools of the project, either already prepared or to be prepared for reconstruction/ retrofitting works to meet the requirements, the MOE's minimum requirements for school infrastructure, and the construction norms Nepal.

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Qualification: The Engineer shall have a Bachelor's Degree in Civil engineering or equivalent with minimum two year experience in design or supervision of building structure

5.17 Resident Engineer (12 – District Level - national)

43. Each RE will be based in the DSC District headquarter office and make regular visit to the school work sites. The main tasks of the RE will include:

(i) Lead the overall supervision of the reconstruction and retrofitting of schools in his district.
(ii) Manage, lead and provide guidance to the site supervision engineers in his district on construction supervision skills and reporting.
(iii) Wherever and whenever appropriate, propose design improvement in consultation with the design, sanitation and electrical engineers in HQ.
(iv) Work closely in consultation with DLPIU team.
(v) Report to the CRE and SMEs and provide them with all the relevant data required to adequately discharge the tasks (iii) to (xiii) listed in the CRE specific responsibilities.
(vi) Provide the Materials/Quality Engineer and Cost/Quantity Surveyor with the data and information related to each worksite, report any construction quality issue in due time and assist in resolving them.

Qualification: The RE shall have a Master's Degree in Civil Engineering with 5 years of experience supervising the construction of civil works, preferably buildings.

5.18 IT Hardware (1- HQ - national)

44. The IT Hardware specialist will demonstrate an experience of minimum five years of designing, installing, interconnecting, ensuring security, and undertaking regular maintenance of office computer, printing and communication hardware including voice and data communication with field offices and worksites.

Qualification: The IT Hardware shall have a Bachelor's Degree in related field, and have 3 years of experience.

5.19 MIS Expert (1- HQ - national)

45. The MIS expert will demonstrate an experience of minimum 5 years of using designing, setting up, interconnecting and maintaining data bases in a professional environment including cloud and web-based databases and GIS.

Qualification: The MIS Expert shall have a Bachelor's Degree in IT or equivalent, and have 3 years of experience related field.

5.20 Autocad Specialists (1*48+3*12=84 - HQ – national)

46. The Autocad specialist will demonstrate an experience of minimum two years of using the Autocad software for building design purposes.

5.21 Site Engineer (– District Level – national)

47. There will be one site engineer per school construction site for construction duration. The site supervisors will be carry out the day to day supervision of the school works and report to the RE, and the safeguards specialists assigned to the relevant district. They will maintain the supervision records and submit them on a weekly basis to the RE. They will report any construction quality issue and assist in resolving them proactively.

Qualification: The Site Supervisor will have a Bachelor's Degree in Civil engineering or equivalent with minimum one year experience in design or supervision of building structure or Certificate level in Civil/Architecture Engineering with minimum 5 years of experience in supervising and designing buildings or civil engineering structures.

5.22 Safeguards and GESI Monitor (12 – 1 per district – national)

48. The district level Safeguards Monitor will be more junior and will monitor the compliance of contractor works with the environment management plan. The monitors will also collect social safeguard information while the detailed designs are being finalized and prepare the due diligence reports based on information collected. The monitor will be responsible for ensuring social safeguards compliances while doing social screening, safeguard planning and implementation. The monitor will report to the RE and the HQ safeguards experts and the duration of service is full time during contract implementation.

49. The monitor will undertake the following activities under the supervision and guidance of the DSC environment specialist, social safeguard specialist and gender and social inclusion expert:

(i) conduct environmental screening of subproject by using REA checklist;
(ii) conduct social safeguard screening by using social checklists and prepare required report;
(iii) suggest environment category and prepare environmental assessment document with environment management plan (EMP) and seek comments from environment specialist;
(iv) participate in the safeguards orientation program organized by CLPIU;
(v) support DLPIUs Safeguard Desk as suggested by the safeguard focal point of CLPIU;
(vi) support safeguard focal point of DLPIUs to keep close communication with safeguard desk of CLPIU;
(vii) use standard environmental monitoring checklist and liaise with safeguard officer of contractor to ensure works are in full compliance with the EMP requirements;
(viii) support environment specialist in compliance monitoring when the specialist intermittently joins DLPIUs;
(ix) document the compliance performance and suggest corrective measures where necessary;
(x) support DLPIUs in organizing stakeholder consultation program;
(xi) support DLPIUs in recording grievances in the register, and follow-up for their timely resolution;

(xii) routinely update DLPIUs chief and DSC environment and social safeguard specialist on subproject safeguards performance;
(xiii) conduct social safeguard monitoring and submit quarterly compliance monitoring report to DLPIU, and DSC HQ social safeguard expert;
(xiv) submit monthly environmental compliance monitoring checklist with a brief report to the environment specialist and copy all communications to DLPIUs; and
(xv) comply the guidance given by CLPIU and CLPIU through the DSC environment specialist.
(xvi) Assist in GESI related activity implementation and data collection under DSC GESI expert's guidance.

Qualifications: The monitors shall preferably have Bachelor's Degree in the relevant area with at least 3 years overall professional experience, and minimum 2 years of experience in the area of environmental and social safeguards, and in social and community development works, as well as monitoring in infrastructure development projects.

6 REPORTING REQUIREMENTS AND TIME SCHEDULE FOR DELIVERABLES

50. Reports will be prepared and submitted to the CLPIU and will be in a format consistent with the ADB's project performance reporting system. The main outputs are listed below in Table 2. All reports, designs and drawings will be submitted with 3 hard copies in English with an electronic version to CLPIU (Education).

Table 2: Reports to be submitted by DSC

	Output	Due Date	Minimum Contents
1.	Inception Report	By 21 day	• Activity and input plan • Highlight any changes in TOR to be agreed • Record of meetings held • Any issues arising • Updated detailed work plan
2.	Assessment and Design reports	As required	• Planning/Surveying and design options including site Investigation information • Detailed Design of schools retrofitting with specification, drawings and completed BOQ with Qualities and costs, plus implementation, dismantling & debris management and construction methodology plan
3.	Quarterly Reports	By second week of subsequent quarter	• Concise reports highlighting progress, impediments and recommendations
4.	Bid Documents	As required	• Bid documents
5.	Monthly construction progress report	Each month during construction	• Detailing progress against program; contract variations; expenditure requirements with final report containing as-built drawings
6.	Completion Report	Within 30 days of end of Contract period.	• ADB format completion report • Overall progress achieved • As-built Drawings • Final Environmental Assessment Report • Final expenditures

In addition to this, the DSC has to submit semiannual report about environmental safeguard as per the ADB requirement. The DSC will report to the Project Director of the CLPIU. Day to day work will be carried out in liaison with the staff of the CLPIU and individual experts who are recruited by CLPIU.

7. CLIENT'S INPUT, COUNTERPART PERSONNEL AND ADDITIONAL INFORMATION

51. A certain range of arrangements and services mentioned below will be provided by the Client to the consultant for smooth implementation of the consulting services.

- **Report and Data**

Designs and reports of schools for reconstruction with due diligence report carried out by EEAP DSC will be provided. Approved type designs (including structural design) for various category of school buildings done by International and national consultants for review and possible adjustment following a site survey will also be provided.

- **Office Space**

The consultant will establish a HQ office in Kathmandu Valley renting out it in the proximity of CLPIU office. Similarly, regarding office establishment of consultant at District Level; for effective communication and coordination between DLPIU and DSC team, DSC will rent out District offices proximity to the DLPIUs office.

The cost of office renting and vehicle parking with necessary temporary partition will be born at cost from provisional sum allocated in the estimate.

- **Office Equipment, Furniture and utility**

The consultant shall quote rate for either to purchase or hire necessary office equipment. The minimum equipment is computers (Desktop-71 nos, laptop-20 nos), printers A3/A4-17 nos, color printers A3- 2 nos, smart mobile phones-150 nos, heavy duty copiers-1 no, AC-5 nos, power backup, office furniture's and furnishing for HQ office and 12 district offices to carry out the said assignment smoothly. After completing the assignment, the purchased items for office equipment, furniture etc. will be the property of the consultant.

- **4WD Vehicle**

The consultant should quote their rate for operating 4WD vehicles with necessary fuel and drivers (minimum 16 numbers) to ply over also in off road (earthen road) for design and monitoring of reconstruction/retrofitting work sites located in scattered locations. It is assumed that CRE/Team leader will use a vehicle, 2 Sr. Monitoring Engineer DTL will share one vehicle, 2 vehicles will be used for field design/monitoring construction works,12 vehicles each one for 12 REs for monitoring construction work sites.

- **Topographical survey**

The consultant should quote their rate for topographical survey using total station in 150 school sites that include surveyor, hiring survey equipment, mobility cost and plotting all complete.

- **Geo-technical Investigation**

The consultant shall carry out geo-technical investigation works in accordance with Nepal National Building Code (NBC) 2003. The cost of Geotechnical Investigation works will be born at agreed rate with client prior approval from provisional sum allocated in the estimate.

- **International air-fare and work shop/seminar/training/event cost**

The air-fare cost for international expert travelling through economy class will be reimbursed at cost. Similarly, the necessary cost for work shop/seminar/training/event etc. will be born at cost from provisional sum allocated in the estimate. Those workshops/event/training will be organized in prior approval of the client.

- **Cooperation and Counterpart Staff**

Client will appoint counterpart officials, hire individual experts for e.g. procurement and contract management expert, structure engineer, financial management expert etc. The DSC shall closely work in consultation with those officials and experts for effective implementation of the project.

Terms of Reference of Consulting Services for
Disaster Risk Management for Schools and Communities

1. BACKGROUND

1. A devastating earthquake struck Nepal in April 2015 causing about 8,700 deaths, 22,500 severe injuries, and physical damages in the order of $7 billion mostly in 14 of the country's 75 districts.[1] Given the scale of the disaster, which represented about 35% of the country's gross domestic product, the Government of Nepal (GON) requested and received support from a number of development partners, including the Asian Development Bank (ADB), to address the impacts of the damages. The immediate ADB's response was to finance the Earthquake Emergency Assistance Project (EEAP) to support the rebuilding of schools, roads and district-level government buildings, and to strengthen the country's resilience to future disasters. This project was approved in June 2015 and is expected to complete by June 2019.

2. An assessment carried out after the earthquake indicated that 5,760 public schools of which 101 kindergartens, 3,368 primary schools, 2,270 secondary schools, and 21 other schools had been damaged to various degrees within the 14 most-affected districts. Of the 2,234 heavily damaged schools, about 25% are to be reconstructed under planned and on-going projects supported by various development partners. Government efforts also include the financing of the reconstruction of additional schools. However, a significant funding gap for school reconstruction remains and the ADB-funded Disaster Resilience of Schools Project (DRSP) scheduled for Board approval in August 2018 will contribute to meeting school reconstruction needs.

3. In addition to addressing the remaining gap in terms of school reconstruction needs, the DR-PSIC project will retrofit unsafe schools and strengthen the institutional capacity for disaster risk management (DRM) of school management committees (SMCs) and communities as well as local government units.

2. INSTITUTIONAL ARRANGEMENTS

4. The National Reconstruction Authority (NRA) is the executing agency which has assigned project implementation responsibility to its Central Level Project Implementation Unit (CLPIU Education) in Kathmandu and District Level Project Implementation Units in each district (DLPIUs). Project activities related to retrofitting of unsafe schools, reducing disaster risks for reconstructed and retrofitted schools, and strengthening of DRM institutional capacity will be undertaken with involvement of students, teachers, community representatives and local government units.

3. OBJECTIVES OF THE ASSIGNMENT

5. The consulting services will support (i) developing gender and social inclusion (GESI) responsive retrofit designs for unsafe schools, (ii) preparing GESI responsive DRM action plans, (iii) training of engineers and masons in disaster resilient construction, (iv) training of school communities in operation and maintenance of schools, (v) preparing a manual for community-driven implementation of DRM action plans, (vi) preparing guidelines for scaling up of community-driven retrofitting of schools, and (vii) enhancing the Education Management Information System (EMIS) by improving the school building inventory.

[1] Bhaktapur, Dhading, Dolakha, Gorkha, Kathmandu, Kavre, Lalitpur, Makwanpur, Nuwakot, Okhaldungha, Ramechap, Rasuwa, Sindhuli, and Sindhupalchwok.

4. SCOPE OF SERVICES

6. The scope of services shall include, but not be limited to, the following activities over a period of 36 months.[2]

Develop GESI responsive retrofit designs for unsafe schools

(i) Select three unsafe schools representative for flat, hilly and mountainous and remote communities (pilot schools).
(ii) Prepare retrofit designs for the three pilot schools.
(iii) Assist School Management Committees (SMCs) in the retrofitting of the schools.
(iv) Document the process of retrofitting the pilot schools and lesson learned.

Prepare GESI responsive DRM action plans for 50 schools

(i) Carry out non-structural risk assessments by identifying elements that make the school vulnerable to earthquakes and other hazards.
(ii) Conduct participatory risk assessments of the surrounding communities; involve all relevant stakeholders.
(iii) Develop a manual for the preparation of DRM action plans.
(iv) Prepare school specific DRM action plans including actions for reducing disaster risks, including budgets for priority actions.
(v) Develop emergency preparedness and disaster response (EPDR) plans based on school and community-specific hazards and risk factors.
(vi) Develop an EPDR Drill Exercise Manual.

Train some 336 government engineers and 336 masons in disaster resilient construction

(v) Develop a training course in disaster resilient construction for engineers.
(vi) Conduct the training for engineers in selected municipalities.
(vii) Identify suitable training packages for masons by coordinating with relevant institutions.
(viii) Arrange training courses for masons from the school communities.

Train some 174 school communities in operations and maintenance of schools and DRM

(i) Develop a manual for the operation and maintenance of school facilities such as, among others, water supply, sanitation and hygiene (WASH), and gender responsive facilities.
(ii) Train teachers and SMC members in the operation and maintenance of school facilities.
(iii) Train teachers in DRM topics relevant for the local conditions and in conducting EPDR drills.
(iv) Promote the establishment of student DRM Clubs.
(v) Prepare guidelines for competition events among students around DRM topics; with teachers, organize initial competitions as demonstrations.

Prepare a manual for community-driven implementation of DRM action plans

(i) Prepare a proposal for a pilot to support the implementation of priority actions included in DRM plans.
(ii) Support the school communities selected for the pilot in the implementation of DRM priority actions.

[2] To be elaborated in more detail before RPF issuance.

(iii) Based on the experience gained through the pilot, prepare a manual for the implementation of DRM action plans.

Prepare guidelines for scaling up of community-driven retrofitting of unsafe schools

(i) Based on the lessons learned from the retrofitting of the pilot schools, develop guidelines for scaling up community-driven school retrofitting using local government funding.
(ii) Conduct workshops for local governments to introduce the concept of and guidelines for community-driven retrofitting of unsafe schools.

Enhancing EMIS by improving the school building inventory

(i) Develop DRM related indicators to be incorporated into the EMIS.
(ii) Collect school-specific DRM related data based on disaster risk assessments.
(iii) Update the EMIS incorporating the collected DRM indicators.
(iv) Train teachers on EMIS Data Management.

5. TEAM COMPOSITION AND QUALIFICATION REQUIREMENTS

7. An estimated 330 national staff person-months of services will be required to undertake the activities included in the TOR. The services will be provided through a team of key experts with support of non-key experts. The positions of key experts are listed in the table below.

Table 1: Key Expert positions and inputs

No.	Descriptions	Location	No	Input months	person-month
1	Team Leader/ Project Manager	HQ	1	30	30
2	DRM Specialist	HQ	1	30	30
3	Training Specialist	HQ	1	6	6
4	IEC Specialist	HQ	1	6	6
5	Earthquake Resistant Construction Technology Specialist	HQ	1	30	30
6	Site Engineers – School Retrofitting (3 - national – 30 months)	District	3	30	90
7	District DRM Coordinator	District	1	30	30
8	Field DRM Coordinator	District	3	30	90
9	Information Technology/ Database Specialist	HQ	1	18	18
	Totals		**13**		**330**

8. The services to be provided by the key experts are outlined below.

5.1 Team Leader/ Project Manager (1 - national - 30 months)

9. Under the guidance of the Project Director CLPIU - Education, the Team Leader will undertake the following main tasks:

(i) Establish effective communication and working arrangements with all concerned stakeholders at national, district and municipal level.
(ii) Guide, coordinate and monitor the activities of the team members to ensure that the objectives of the assignment is achieved on a timely basis.
(iii) Prepare monthly and quarterly progress reports as well as the Completion Report.

Qualifications – The Team Leader shall hold a Master's degree in civil engineering or another relevant discipline with 10 years of experience in project management and 5 years in DRM related projects/ programs financed by international organizations.

5.2 DRM Specialist (1 - national - 30 months)

10. The DRM Specialist will undertake the following main tasks:

(i) Undertake risk profiling, multiple-disaster hazard vulnerability exposure assessments at school and community level.
(ii) Develop a manual for preparing DRM action plans.
(iii) Support the Training Specialist in developing training programs
(iv) Organize, facilitate and act as resource person for DRM trainings and workshops as well as emergency response drills at schools and in communities.

Qualifications – The DRM Specialist shall hold a Master's degree in civil engineering or another relevant discipline with 10 years of experience in DRM related projects/ programs; experience in school and community-based DRM activities will be an advantage.

5.3 Training Specialist (1 - national – 6 months)

11. The Training Specialist will undertake the following main tasks:

(i) Design the DRM training programs for schools and communities.
(ii) Prepare training manuals and materials.
(iii) Together with the DRM Specialist, pilot-test the training programs.

Qualifications – The Training Specialist shall hold a Bachelor's degree in Arts or alternative relevant discipline with 10 years in designing and facilitating trainings of which 5 years related to DRR trainings for schools and/or communities.

5.4 Information, Education and Communication (IEC) Specialist (1 - national – 6 months)

12. The IEC Specialist will undertake the following main tasks:

(i) Develop the strategy and approach for awareness raising of DRM among stake holders
(ii) Develop the contents of the awareness campaign and training material.
(iii) Assist in the conduct of the initial trainings.

Qualifications – The IEC Specialist shall hold a Bachelor's degree in information management, mass communication, or other relevant fields with 10 years experience of which 5 years related to community-based DRM activities; experience in infographics and other graphic design related computer programs is essential.

5.5 Earthquake Resistant Construction Technology Specialist (1 - national – 30 months)

13. The Earthquake Resistant (ER) Construction Technology Specialist will undertake the following main tasks:

(i) Support the DRM Specialist in developing risk and vulnerability profiles.

(ii) Prepare criteria for the selection of three model schools for retrofitting by the community.
(iii) Prepare retrofitting design options.
(iv) Prepare final designs, bills of quantities and technical specifications for the retrofitting works three model schools.
(v) Supervise the Site Engineers involved in the retrofitting of the model schools.
(vi) Draw lessons from the retrofitting process and prepare guidelines for the upscaling of community-driven school retrofitting.
(vii) Conduct workshops for local governments to introduce the concept and guidelines for community-driven school retrofitting.
(viii) Collect key information on existing training courses on ER building construction for engineering professionals, review those and modify the courses as necessary to fit the local context.
(ix) Develop a training plan and conduct training courses for local government engineers.
(x) Identify suitable training packages for masons by coordinating with relevant institutions.
(xi) Develop training plans for local masons, and support and supervise the Site Engineers in conducting the mason trainings

Qualifications – The ER Construction Technology Specialist shall hold a Bachelor's degree in structural engineering with 10 years of experience in ER design and construction; experience in community-based retrofitting of buildings will be an advantage.

5.6 Site Engineers – School Retrofitting (3 - national – 30 months)

14. The Site Engineers will undertake the following main tasks:

(i) Support the DRM Specialist in developing risk and vulnerability profiles.
(ii) Assist the ER Construction Technology Specialist structural Engineer in the preparation of the design and bill of quantities of the retrofitting works.
(iii) Identify retrofitting teams from the respective community.
(iv) Train the retrofitting team on retrofitting design and construction.
(v) Provide oversight and technical assistance to the community.
(vi) Document the retrofitting process.

Qualifications – The Site Engineers shall hold a Bachelor's degree in civil engineering with 5 years of experience in design, cost estimation and supervision of E-R buildings; experience in community-based retrofitting of buildings and training of masons and sub-engineers in ER building construction will be an advantage.

5.7 District DRM Coordinator (1 - national – 30 months)

15. The District DRM Coordinators will undertake the following main tasks:

(i) Guide, coordinate and supervise the Field DRM Coordinators
(ii) Coordinate the various DRM activities with schools, communities and local governments.
(iii) Plan trainings at district and school level and in the communities.
(iv) Conduct trainings at district level.
(v) Support and facilitate trainings at schools and in the communities.

Qualifications – The District DRM Coordinator shall hold a Bachelor's degree in a DRR relevant discipline with 5 years of experience in DRM related projects/ programs; experience in school and community-based DRM activities, especially in earthquake affected districts, is an advantage.

5.8 Field DRM Coordinators (3 - national – 30 months)

16. The Field DRM Coordinators will undertake the following main tasks:

(i) Assist the District DRM Coordinator in planning and implementing DRM activities in the district.
(ii) Coordinate the various DRM activities with assigned school clusters, communities and local government units (e.g. ward etc.).
(iii) Plan and organize meetings and training workshops at schools and in communities.

Qualifications – The Field DRM Coordinators shall hold a Bachelor's degree in a DRM relevant discipline with 5 years of experience in DRM related field-level activities; experience in school- and community-based DRM activities, especially in earthquake affected districts, is an advantage.

5.9 Information Technology/ Database Specialist (1 - national – 18 months)

17. The Information Technology/ Database Specialist will undertake the following main tasks:

(i) Review the EMIS and prepare a strategy for its updating.
(ii) Prepare data collection formats for the updating of the EMIS.
(iii) Following the collection of the data, ensure that the EMIS is updated.

Qualifications – The Information Technology/ Database Specialist shall hold a Master's degree in information technology or related discipline with 10 years of information technology and database management related experience; experience in management information systems is an advantage.

Terms of Reference for Solar Component

1. Independent Verification Agent (IVA), National Consultant – 18 months

Objective/Purpose of the Assignment

The Asian Development Bank (ADB) and the Government of Nepal (GON) financed project to support the Disaster Resilience of Schools Project (DRSP) in Nepal that will reconstruct and retrofit secondary and feeder/basic schools affected by the 2015 Gorkha earthquake. The financing totalling $198.86 million that includes $5.00 million grant financing from the Clean Energy Fund (CEF) under the Clean Energy Financing Partnership Facility, administered by ADB. The grant implemented under an output-based aid (OBA) modality, will also support the Ministry of Education, Science an Technology's (MOEST) most recent and comprehensive 2016-2023 School Sector Development Plan (SSDP) and in particular, its objective for disaster risk reduction (DRR) and safe schools.

The target schools have either no connection to the electricity grid or are suffering from damaged and unreliable power supply and as a result not able to fulfil their objective of providing new or complementary source of uninterrupted power for a better learning environment to the students. As such, the $5.00 million grant from CEF will help furnish about 130 affected schools with solar PV systems and provide technical assistance and support to schools and agencies through an OBA mechanism. The grant will be implemented through the Central Level Project Implementation Unit (CLPIU)- Education under the National Reconstruction Authority (NRA) and will be supported by a team of experienced solar power and OBA consultants. The solar PV power grant component will be implemented in close collaboration with the Alternative Energy Promotion Center (AEPC) of the Ministry of Energy, Water Resources and Irrigation.

The preselected schools will be provided with standard packages of solar PV power systems and computer and office equipment by Service Provider(s) selected by NRA/CLPIU through a competitive bidding process. The contract comprising site specific design, supply, installation and commissioning of the systems and their test-running for 30 days will be reimbursed to the Service Provider once the agreed outputs have been independently verified.

Scope of Work

ADB wishes to engage an Independent Verification Agent (IVA) to assist the CLPIU and ADB to reimburse the Service Provider in accordance with the delivery of the agreed outputs. The assignment helps, in particular, to (i) provide an independent verification to the CLPIU and ADB to ensure that the schools have been equipped with the specified solar power packages in accordance with the technical and performance specifications and that those systems are operational; (ii) recommend reimbursement of OBA subsidy by the CLPIU to the service provider; and (iii) verify and collect project monitoring data.

Detailed Tasks

The IVA will have the following responsibilities:

(i) **Output verification:** The IVA will carry out verification of the delivery and installation of the systems combining the methods of verification of the appropriate documentation as provided by the Service Provider. In addition, the IVA will carry out systematic or random on-the spot inspections, as deemed necessary, physically possible and efficient and as agreed with the CLPIU and ADB. Depending on the final roll-out plan and geographical considerations, it is

expected that the number of output batches (and reimbursement claims) for verification will range from 2-5 per Service Provider.

(ii) **Documentation review:** In order to validate subsidy claim submitted by the Service Provider, the IVA will verify all pre-agreed indicators as evidence of the achievement of the outputs claimed, through an exhaustive desk review of the Service Provider and executing agency records. Specifically, this review is intended to certify that (i) the schools belong to the beneficiary list; (ii) verified results claimed are consistent with the output definition; and (iii) claimed output reimbursement is consistent with agreed reimbursement unit pricing.

Documentation review may include the following:

i. **Technical documentation**: Roll-out plan, technical and performance specifications, school identification database, reconstruction and power system plans and architectural drawings, Service Provider contract, grant agreement, bid documents, and other relevant project documentation.;
ii. **Power Company documentation:** School connection and power delivery information when applicable and required

For field verification, the sampling methodology proposed by the IVA will have to be acceptable to the CLPIU and ADB. Possible sampling of beneficiaries may be done randomly (i.e. any output in the project areas), or in two stages (i.e. random selection of specific areas followed by the verification of all OBA outputs in the selected areas). Each verification batch plan will require prior clearance with CLPIU.

(iii) **Physical Verification**: Verify reality and quality of outputs claimed. The IVA will carry out on-site random physical verification in at least 20% of target schools for which payment is requested by the Service Provider. For each output, the IVA will inspect and certify that it is properly installed and functioning according to the required standards and minimum performance level, and will verify the associated delivery records of the Service Provider. In addition, the IVA will launch for follow-up and monitoring purposes a short school questionnaire among main users, including service quality, energy uses, benefits, shortcomings and gender aspects. The inspection will take place a minimum of 30 days after the school has taken the power system into use.

The detailed tasks for the on-site verification include but are not limited to the following:

i. Verification of equipment fulfilling the required technical and operational specifications
ii. Physical verification of completion and functionality of installations;
iii. Test /verification of conformity of installations, effective operation of the service (e.g. appropriate power supply), and existence of satisfactory maintenance plan;
iv. Photograph of each verified installation
v. GPS positioning of school; and
vi. Questionnaire to beneficiary school, including satisfaction on service, energy usage for cooking/non cooking purposes, number of women in the schools, effects in quality of education after connection.
vii. Carry out any other activities that may be required to effectively and efficiently implement the TA and ADB's energy access activities.

Work and Output/Reporting Requirements

The OVA will be responsible for the following output and deliverables:

Inception Report (IR): The IVA will submit an IR to the CLPIU and ADB for comments and approval within one month from start of services.

- Review and comments to roll-out plan and design documentation
- Suggested detailed description of verification process, methodology, outputs and indicators, documentation and report
- Implementation and work plan including indicative, sequence and schedule of verification process.
- Update the school database structure (including pictures, GPS coordinates, and other details); and
- Propose a sampling methodology for physical verifications, if required.

Output Verification Reports: These reports will contain a summary of baseline conditions along with a detailed description of the post-OBA situation in each district, including a detailed description of

- each new system installed,
- their conformity to technical specification and standards,
- sufficient standards followed in installation and ancillary construction
- proof of satisfactory operations for at least two (2) months (each report will be delivered to the CLPIU and ADB 15 working days after the Service Provider submits its disbursement request for the batch delivered).

The report should also specify minimum improvements required to installations in each case where the solar systems have been inadequately installed and are not operating at or above minimum performance standards. After the IVA report has been received, the CLPIU will process the official disbursement request within 10 working days for payment to Service Provider.

Final Report: After all solar PV and associated systems have been installed and taken into use, the IVA will submit a short final report containing a description of the assignment (e.g. activities developed), the database used during the project, as well as an analysis of the progress of OBA implementation, problems found during the assignment and recommendations for improvement.

Requirements and Implementation Arrangements

The IVA as an individual expert will work under the overall guidance of the ADB Project Manager and reports to the CLPIU and ADB. He/she will work closely with the CLPIU, their consultants, contractors and local authorities throughout the assignment. However, the IVA will maintain full independence and impartiality as required in relation to the output verification process.

The assignment will require inputs of 100 working days within a period of 18 months, expected to commence in early 2019. The work will require extensive travel in Nepal to the project sites.

The IVA with a minimum Bachelor's degree in engineering, energy, science or related fields should have experience in technical engineering, familiarity with installation of decentralized renewable energy and especially solar PV systems, performance and output based project implementation and contracting. The specialist should have at least 8 years in technical design, implementation and management of infrastructure clean energy and energy projects in Nepal or

similar environments with specific experience in monitoring, technical inspection and audit functions. Familiarity with ADB processes is considered an advantage.

Minimum General Experience	10	Years
Minimum Specific Experience (relevant to assignment)	8	Years
Regional/Country Experience	Required	

Deliverables	**Estimated Submission Date**	**Type**
Inception Report		Report
Output Verification Reports		Reports
Final Report		Final Report

Schedule and Places of Assignment (chronological and inclusive of travel)
Intermittent work in Kathmandu and 12 project districts over a period of 18 months, starting in early 2019, as per project roll-out plan.

2. OBA Implementation Support Team (National Consultant – 110 months)

Objective/Purpose of the Assignment

The Asian Development Bank (ADB) and the Government of Nepal (GON) financed project to support the Disaster Resilience of Schools Project (DRSP) in Nepal that will reconstruct and retrofit the secondary and feeder/basic schools affected by the 2015 Gorkha earthquake. The financing totalling $198.86 million that includes $5.00 million grant financing from the Clean Energy Fund (CEF) under the Clean Energy Financing Partnership Facility, administered by ADB. The grant implemented under an output-based aid (OBA) modality, will also support the Ministry of Education, Science and Technology's (MOEST) most recent and comprehensive 2016-2023 School Sector Development Plan (SSDP) and in particular, its objective for disaster risk reduction (DRR) and safe schools.

The target schools have either no connection to the electricity grid or are suffering from damaged and unreliable power supply and as a result not able to fulfil their objective of providing new or complementary source of uninterrupted power for a better learning environment to the students. As such, the $5.00 million grant from CEF will help furnish about 130 affected schools with solar PV systems and provide technical assistance and support to schools and agencies through an OBA mechanism. The preselected schools will be provided with standard packages of solar PV power systems and computer and office equipment by Service Provider(s) selected by Nepal Reconstruction Authority (NRA) through a competitive bidding process. The contract comprising site specific design, supply, installation and commissioning of the systems and their test-running for 30 days will be reimbursed to the Service Provider once the agreed outputs have been independently verified.

The main objectives of the ADB grant component are: (i) to undertake mapping and selection of the target schools for energy systems; (ii) to procure and install new or back-up solar PV systems to around 130 schools; (iii) to provide training and outreach programs to use and maintain solar PV systems in schools involving youth, women and communities, including entrepreneurship oriented training; and (iv) to pilot income generation activities in selected school communities involving women, youth and local entrepreneurs.

The grant will be implemented through the Central Level Project Implementation Unit (CLPIU)-Education under NRA and will be supported by a team of experienced solar power and OBA consultants. The solar PV power grant component will be implemented in close collaboration with the Alternative Energy Promotion Center (AEPC) of the Ministry of Energy, Water Resources and Irrigation.

Scope of Work

ADB wishes to engage an OBA Implementation Support Team (the Team) of national consultants specializing in solar PV system markets and installation, and community entrepreneurial mobilization in Nepal and/or similar environments. The Team will provide the CLPIU operational support in all phases of implementation of the project as well as capacity building to NRA, CLPIU, schools and local communities to enhance sustainable utilization of the power systems at participating schools.

The team will consist of:
Team Leader and Solar PV systems Expert;
Technical Expert (Procurement) Expert;
Institutional and Community Support Expert; and
Capacity Building and Training Expert.

The Team will support the NRA/CLPIU in all key aspects of the grant project. Based on the conceptual design and implementation plan already prepared by CLPIU and ADB, the consultant would perform the following key tasks:

(i) Final selection of the target schools in collaboration with CLPIU/NRA;
(ii) Finalization of baseline surveys, solar PV packages design and technical specifications;
(iii) Preparation of detailed roll-out plans in coordination with general reconstruction work undertaken;
(iv) Provision of assistance to CLPIU in preparation of the bidding documents on solar PV and ICT systems;
(v) Provision of support to CLPIU in the procurement of the solar PV and ICT systems;
(vi) Support to schools in PV systems installation and operations planning;
(vii) Support to schools in community and entrepreneur mobilization and selection;
(viii) Monitor the progress in systems installation and provision of technical side support to schools;
(ix) Provide capacity building and training to participating agencies and schools in solar PV systems and OBA process;
(x) Provide support to the schools and communities in piloting income generating activities: and
(xi) Carry out any other activities that may be required to effectively and efficiently implement the TA and ADB's energy access activities.

Detailed Tasks

The Team will have the following responsibilities:

Team Leader and Solar PV Systems Expert (34 person-months):

(i) Overall team leadership, planning and management of the grant operation, including detailed roll-out and work plans;
(ii) Take the lead and coordinate with CLPIU in the final selection of the target schools;
(iii) Provide management and technical inputs to solar PV systems final design, technical specifications, and installation;
(iv) Manage and coordinate solar PV component procurement process in coordination with CLPIU;
(v) Manage the PV systems roll-out process;
(vi) Coordinate and liaise with NRA, CLPIU, AEPC and ADB in all aspects of grant component implementation;
(vii) Set up remote monitoring system and take the lead in progress and performance monitoring and trouble-shooting;
(viii) Coordinate and monitor the Independent Verification Agent;
(ix) Provide progress and financial reporting to CLPIU and ADB; and
(x) Carry out any other activities that may be required to effectively and efficiently implement the TA and ADB's energy access activities.

Qualifications: Advanced university degree or equivalent in engineering, science or other related fields with specialization in the field of energy and renewable energy. At least 10 years of experience in implementation of similar solar PV and renewable energy programs and projects in Nepal. Experience and ability in project management and team leadership of projects

financed by multilateral or international development banks or donors. Excellent co-ordination and team work. Fluent in English with good writing and reporting skills. Familiarity with ADB processes in an advantage.

Technical Experts (Procurement) expert (24 person-months)

(i) Assist CLPIU in final selection of target schools for solar PV systems;
(ii) Review and finalization of solar PV and ICT standard systems package design and technical specifications;
(iii) Prepare bid documentation related to the grant equipment in coordination with CLPIU;
(iv) Assist CLPIU on all aspects of the solar PV systems procurement process;
(v) Provide technical support to participating schools in detailed systems planning and installation;
(vi) Provide support to CLPIU in the systems roll-out and logistics;
(vii) Monitor school-level progress and performance and provision of technical side support;
(viii) Provide technical/procurement inputs to capacity building activities and reporting; and
(ix) Carry out any other activities that may be required to effectively and efficiently implement the TA and ADB's energy access activities.

Qualifications: Bachelor's degree in engineering and science. At least 8 years of experience in the design of renewable energy and solar PV systems in Nepal and implementation of infrastructure and energy projects. Extensive experience in public infrastructure procurement policies and processes in Nepal, familiarity with ADB procurement policies an advantage. Technical familiarity with solar PV systems.

Institutional and Community Support Expert (28 person-months)

(i) Assist CLPIU in the final selection of target schools for solar PV systems;
(ii) Design of community mobilization plan for income generation opportunities for schools, including awareness creation on solar PV power system utilization opportunities;
(iii) Draw up the framework models for outsourcing of system O&M and power capacity/premises;
(iv) Preparation of guidance material and contracting models available to schools for the attraction of entrepreneurs;
(v) Provision of institutional hands-on support to participating agencies and schools during roll-out of systems; and
(vi) Carry out any other activities that may be required to effectively and efficiently implement the TA and ADB's energy access activities.

Qualifications: Bachelor's degree in business, engineering, economics or similar fields. At least 5 years of experience in engaging in the establishment in Nepal of community based income generating activities and schemes together with the private sector involving households, schools, women's groups and similar stakeholders, and in arranging community based awareness and business promotion activities. Fluent in English with good writing and reporting skills.

Capacity Building and Training Expert (24 person-months)

(i) Identify training needs among agencies and schools in solar PV power systems and output-based implementation processes;
(ii) Prepare capacity building plan including workshops, on-the job training and tailored mentoring;
(iii) Organize sub-regional training events and prepare material specific to PV systems operation and community entrepreneurship outreach support;
(iv) Prepare guidance and reference material for schools in management, fiduciary aspects and administration of services outsourcing;
(v) Coordinate with NRA and other GON agencies on the availability of trainer's training for school staff; and
(vi) Carry out any other activities that may be required to effectively and efficiently implement the technical support and ADB's energy access activities.

Qualifications: Bachelor's degree in human resources, institutional development, or related fields. At least 5 years of experience in planning and implementing training programs in Nepal for public institutions in the fields of project implementation and management, renewable energy systems deployment and private sector development/entrepreneurship. Basic technical knowledge and familiarity with solar PV systems and results-based project approach are considered an asset. Fluent in English with good writing and reporting skills.

Work and Output/Reporting Requirements

The assignment will largely be the provision of day-to-day hands-on support services and advice to the CLPIU, agencies, local districts, schools and local communities, with specific reference to the procurement and introduction of solar PV power facilities to the schools, in introducing income generating opportunities for schools and implementation of output-based grant delivery operations.

The services will focus on three levels: (i) Government and district participating agencies and local project management; (ii) target schools and their management/staff; and (iii) local communities and entrepreneurs.

The main reporting deliverables include:

(i) **Inception Report** (2 months after start-up), covering:
a. Understanding of the assignment and comments to the TOR;
b. Recommendation for the selection of target schools against agreed criteria;
c. Review of draft technical specifications and design of standard solar power and ICT packages and recommendations for revisions, related specific minimum requirements for construction and security;
d. Review and summary recommendations for the incorporation of the solar PV component into the school reconstruction and layout plans;
e. Review and revision (if required) of solar power and ICT systems procurement plan;
f. Preparation the PV systems roll-out and implementation plan in consultation with CLPIU and ADB;
g. Definition of organization plan and capacity building needs at NRA, school and community levels;

h. Preparation of selection criteria for service providers;
i. Capacity building and training needs analysis and initial plan;
j. Detailed work plan; and
k. Other implementation issues

(ii) **Quarterly Progress Reports** (starting month 6)
(iii) **Guidance and training material in OBA processes, solar PV systems, income generation**
(iv) **Technical Reports**, as required by CLPIU and ADB (including conceptual standard solar PV system designs and drawings, technical and performance specifications, solar and ICT components for the tender documents)
(v) **Draft Final Report** (month 32)
(vi) **Final Report, including Scaling-up Program Plan** (month 34)

Requirements and Implementation Arrangements

The assignment will require services from experienced locally based consultant/consulting firm or non-governmental organization with hands-on experience in introducing PV solar power systems for public institutions or private customers in the region, preferably in Nepal. Experience in implementation of internationally financed developmental and solar power/renewable energy investments and operations in considered an advantage. The consultants need to have proven experience in establishing sustainable operational and maintenance arrangements in local communities and providing ancillary capacity building and awareness creation services.

The services require a total of 110 person-months of national expert inputs over the 34-month implementation period. The OBA Implementation Support Team will work under the auspices and offices of the NRA and CLPIU in close collaboration with the resident DRSP project team. The team will report to the National Project Director and ADB.

Deliverables	**Estimated Submission Date**	**Type**
Inception Report		Report
Quarterly Progress Reports		Reports
Guidance and training material on OBA Processes, solar PV systems, income generation		Training Materials
Technical Reports		Reports
Draft Final Report		Report
Final Report (including Scaling-up Program Plan		Final Report

Schedule and Places of Assignment (chronological and inclusive of travel)
Intermittent work in Kathmandu and other project districts over the 34-month implementation period, starting September 2018, as per project roll-out plan.

Terms of Reference for Individual Consultants

I. Financial Management Expert (National, 24 person-months)

a. Specific Tasks

- Work closely with the financial management section of the CLPIU and assist CLPIU to prepare annual program and budget of the project activities.
- Support CLPIU to make disbursement projections and get release of project funds
- Support to maintain advance Account of the CLPIU.
- Assist CLPIU to prepare project account, maintain project account and prepare financial reports as per requirement of GON and ADB.
- Review government of chart of account and prepare manual for project accounting and reporting.
- Prepare checklist for financial reporting to ensure manually prepared reports are complete accurate, including reconciliation with ADB disbursement system (LFIS/GFIS).
- Support CLPIU to develop and maintain project account and SOE procedures.
- Assist internal and external audit of project account and provide support to resolve audit issues in timely manner
- Provide trainings and on the job support to CLPIU staff.
- Support CLPIU for disbursement, reimbursement and SOE procedures.
- Working as a financial management advisor of the CLPIU, provide inputs in financial administration of the project and all necessary support to operate financial administrative functions smoothly.

b. Offices and Equipment

The government will provide (i) office accommodation and office equipment, including desks and chairs, (ii) logistical assistance for the trainings and identifying and inviting the participants; and (iii) utility costs, covering electricity and water.

c. Reporting

The consultant will submit (i) an inception report within one month from the start of the contract; (ii) a progress report every quarter, summarizing the progress (including status of financial management action plan), problems, and challenges identified and actions taken or proposed to be taken to address them as well as major achievements, and programs planned for the next quarter; (iii) a draft final report at the end of project summering all activities undertaken and results achieved.

d. Minimum Qualification

The consultant must have demonstrated experience of working with Governments or multilateral funding agencies. The basic requirements include:

- Master's degree or equivalent in public finance/accounts, management or a relevant professional qualification such as a CA, ACCA etc.
- At least 10years experience in financial management, with work undertaken in compliance with multilateral financing agencies financial management system.

- At least 5 years of relevant experience preparing and managing accounts for a multilateral funding agency such as ADB.
- Have a good understanding of public financial management and international best practices in accounting and auditing.
- Skills in communicating with authorities and other stakeholders

II. Social Safeguards and Gender Equity and Social Inclusion Specialist (National, 24 person-months)

a. Specific Tasks

The Social Safeguards and Gender Equity and Social Inclusion Specialist will assist in the implementation, monitoring and reporting on Gender Equality and Social Inclusion (GESI) Action Plan of the project and social safeguard related plans and assessment. The main tasks of the specialist include, but are not limited to:

- Provide overall guidance in the implementation and monitoring of GESI Action Plan (GESI/AP); prepare implementation schedule of GESI action plan.
- Ensure implementation of GESI/AP activities by all sub projects under given timeframe;
- Orient CLPIU and DLPIU staff, and SMCs on GESI approach of the project and activities in the GESI AP and ensure its compliance by CLPIU and DLPIU during project implementation;
- Provide training and support to the DLPIU GESI focal points in GESI action plan
- implementation, monitoring frameworks and disaggregated data collection formats.
- Ensure quality of reporting by DLPIUs on GESI action plan and verify data in the field.
- Liaise with DRR consultant to ensure GESI targets to meet in DRR awareness sessions to the communities and schools. Provide inputs to make DRR training GESI responsive.
- Support in data consolidation provided by DLPIUs and help prepare quarterly progress report on GESI.
- Participate and contribute in project review missions and present achievements and the challenges in GESIAP implementation. Take necessary steps to overcome the problems.
- Ensure all targets in GESI AP and the project DMF are met during project implementation period, and support CLPIU in project PCR preparation.
- Provide guidance to CLPIU staff and DSC social safeguard expert on safeguard screening, impact assessment, designing mitigation measures and implementation of resettlement plan (if any).
- Monitor and play a oversight role to ensure safeguard compliances during implementation;
- Liaise, coordinate and provide guidance to field GESI and safeguard field monitor;
- Ensure the safeguards assessment and reports are prepared in a quality to meet ADB standards.
- Plan, organize and conduct capacity development orientation cum training program and review workshops in close coordination with CLPIU.

b. Minimum Qualifications

The expert will have a Master's Degree in social sciences, gender and development (GAD) or related fields; sound knowledge of gender inequality and social exclusion, land acquisition and involuntary resettlement including safeguard issues and compliance monitoring in school education sector and disaster preparedness and resilience; at least 5 years of experience in promoting gender equality, women's empowerment, and social inclusion, including social safeguards. Knowledge on GESI in disaster management and in humanitarian setting will be an added advantage. Knowledge of GON's policies, administrative systems, and procedures, in the areas of education and experience working with civil society organizations (CSOs) and development partners; strong interpersonal skills and ability to work in a multidisciplinary team; and ability to work independently and undertake frequent travel in the districts.

III. Contract Management and Procurement Specialist (National, 24 person-months)

a. Specific Tasks

Scope: The Contract Management Expert will be stationed in the CLPIU Office in Kathmandu, will visit the work sites as needed, and will advise and assist in all contract management matters, and help to strengthen management teamwork, and will work closely with engineering supervisors, civil works contractors, NRA managers, and CLPIU and DLPIUs members. S/he will apply cross-functional expertise and building capacity and performance in and through the CLPIU and DLPIUs management team and will guide the CLPIU Director in ensuring that subproject operations are efficiently integrated and reported, and appropriate actions are taken.

Main Tasks: Within this overall scope, the key tasks of the Contract Management Expert will be to:

- Advise and assist CLPIU management in all contract management matters;
- Work with supervision consultants and contractors to ensure full and timely contract compliance at all times;
- Strengthen capacity of CLPIU management and staff in all contract management matters, ensuring that they have a sound understanding of required systems and good practices;
- Lead CLPIU in the contract management and administration stages including contract implementation, works supervision, monitoring and reporting, computation of payments, communications with contractors, assessing suggested contract variations;
- Work with the management in consolidating and refining current information provision to establish a project management information system; (vi) Mentor, coach and train CLPIU personnel in good practice contract management as appropriate to their needs and context; and
- ensure that all contract performance documentation is accurate and up-to-date, and easy to use in communications with supervision consultants and contractors.

b. Outputs

The Contract Management Expert is expected to achieve and demonstrate the following outputs: Contract compliance; Effective integration of contract management in CLPIU for efficient and cost effective works and services; Contracts for sub-projects properly managed

and administered through the contract life cycle ensuring full compliance with regulations and contract clauses and conditions; Capacity developed in the CLPIU and DLPIUs on contract management systems; Any areas of non-compliance in contract management are detected and reported to management.

c. Minimum Qualification

The Contract Management Expert will have a background appropriate to the tasks and output set out above, with at least 10 years successful experience as international adviser in contract management in relevant international development projects; a degree in engineering, commerce, economics, business or other related fields from a recognized university; a good understanding of contract management systems and their use in procuring and managing infrastructure maintenance and civil works contracts in developing countries including demonstrated ability to manage and monitor contracted works; excellent verbal and written communication skills; and demonstrated high level skills as trainer, coach and mentor for changed behaviour.

IV. Structural Engineer (National, 48 months)

a. Scope of the work

The scope of work of the Design Engineer include, but are not limited to:

(i) Review the new and retrofit designs of school buildings already prepared and prepared by the DSC and recommend for necessary approval;
(ii) Develop designs/proposals for adjustments and changes in the designs incorporating best practices and or incorporate changes if any required based on the site conditions;
(iii) Ensure that Geotechnical investigation is carried out in accordance with Nepal National Building Code (NBC) 2060. Collect and refer to the available seismic data/ records of the area, soil bearing capacity reports of the sites, etc., for development of site specific designs;
(iv) Prepare construction drawings and costs thereof for each design including modifications if any carried out later;
(v) Advise and develop checklists/procedure for structural inspections and recommend remedial measures and refurbishment if any required for retrofitting existing buildings;
(vi) Carry out structural design of the physical facilities as per requirements and or as requested by the CLPIU;
(vii) Guide draftsman for preparation of construction/sectional drawings;
(viii) Guide quantity surveyor for estimation of quantity and cost of the buildings and other physical facilities
(ix) Prepare and present new design and retrofit design details to technical committee for approving building designs;
(x) Prepare specification of items and guide to quantity surveyor for preparation of Bill of Quantities required for each design for each procurement package;
(xi) Carry out field visits during construction to ensure compliance of designs and construction drawings as when necessary; and
(xii) Any other relevant work as directed by the Project and Deputy Project Director and or his authorized officials, from time to time.

b. Qualification and Experience

The applicant should have a master's degree in Structural Engineering, Earthquake Engineering, Geo-technical Engineering or equivalent with minimum 10 years professional experiences in new and retrofit designing of buildings using structure design software (e.g. SAP, ETABS, STAAD.PRO etc.).

c. Outputs/Deliverables: Following are the deliverables of the consultant to the employer:

(i) Review and or modify (as required) existing design of school buildings prepared;
(ii) Design/drawings of various types of school buildings and other related facilities for schools of different capacities;
(iii) Design/drawings of residential school buildings;
(iv) Specification of items and related Bill of Quantities for each building;
(v) Monitoring reports on design compliance during construction;
(vi) Review/checklists for structural inspections for retrofitting of existing buildings;
(vii) Design and recommendation for retrofitting of partially damaged existing buildings; and
(viii) Design compliance reports and documents as required by CLPIU.

V. Legal Advisor (National, 18 months on an intermittent basis)

a. Minimum Qualification Requirements

Qualification should be Graduate in Engineering / Business / Law or equivalent and preferably postgraduate in contract management or contract law --and at least 15 years of experience including international experience in construction management, extensive work experience in FIDIC.

b. Scope of Work

(i) Assist the Employer and Team Leader in Contract administration and management of the civil works contract.
(ii) Assist in interpretation of the Contract/Agreement Clauses and their implementation especially in instances of disputes.
(iii) Interpretation of the Technical Specifications and Contract Documents.
(iv) Assist the Employer in dispute resolution activities, if necessary, during the pendency of the contract.
(v) Review and assess the communications between concerned parties and any other relevant documents regarding any key disputes.
(vi) Assess the implications and consequences if the Employer/ Engineer terminate the contract under the circumstance.
(vii) In light of the international dispute resolution and arbitration cases and experiences, prepare comparative analysis of possible outcome scenarios (i.e. termination and arbitration versus reaching an amicable agreement) including cost benefits comparison, provide recommended options to amicably settle those key disputes, along with their justifications for proceeding with such settlements.