Report Number: ICRR0023995

1. Project Data

Project ID	Project Name
P155969	Earthquake Housing Reconst Project
Country	**Practice Area(Lead)**
Nepal	Urban, Resilience and Land

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
IDA-57060,IDA-61640,IDA-65300	31-Jul-2020	694,393,886.45
Bank Approval Date	**Closing Date (Actual)**	
29-Jun-2015	30-Jun-2023	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	200,000,000.00	0.00
Revised Commitment	700,000,000.00	0.00
Actual	694,393,886.45	0.00

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

According to the Project Appraisal Document (PAD, page 7), the project development objective is: **'to restore affected houses with multi-hazard resistant core housing units in targeted areas and to enhance the government's ability to improve long-term disaster resilience'**.

The Financing Agreement's (FA, page 4) statement of objectives was slightly different, where the FA used the word ' recipient' instead of the word 'government' used by the PAD.

For this Implementation Completion and Results Report Review (ICRR), the PDOs are taken to be:

PDO1: To restore affected houses with multi-hazard resistant core housing units in targeted areas; and

PDO2: To enhance the government's ability to improve long-term disaster resilience.

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

30-Nov-2017

c. Will a split evaluation be undertaken?

No

d. Components

The project had four components:

1. Housing Reconstruction *(Appraisal cost: US$180.0 million; actual cost: US$655.18 million)*

The component aimed to finance: (a) the provision of housing grants for reconstruction of approximately 55,000 multi-hazard resilient core housing units. Eligibility was to be determined by an assessment of recovery needs and willingness to participate and adhere to project guidelines for resilient construction, quality standards and timelines; and (b) the establishment of a program of owner-driven housing reconstruction in targeted areas including: i) social, environmental, and technical support mechanisms for beneficiary households; ii) training of artisans and beneficiaries; iii) communication and outreach; iv) supervision and certification of compliance with multi-hazard resistant standards and of completion of multi-hazard resilient core housing units; v) implementation of the environmental and social management framework including identified safeguard mitigation measures; and vi) development of a grievance redress mechanism.

Activities under this component would inform operational modalities for the development of the Government's owner-driven housing reconstruction program. The beneficiary households were to be screened and identified through the Earthquake Household Damages and Characteristics (EHDC) Survey taking place in the 14 most affected districts.

2. Disaster Risk Management Systems *(Appraisal cost: US$10.0 million; actual cost: US$4.77 million)*

This component aimed to support the government in putting in place systems to provide better disaster risk reduction, preparedness, and disaster response, in line with global best practices. The component planned to finance (as needed) disaster risk management, risk assessment and financing, structural engineering, remote sensing, Geographic Information System (GIS), land use and zoning, permitting and approval of site and building plans, professional accreditation, curriculum development, building code implementation and

enforcement, studies on safety net practices in post–disaster situations, and inclusive and gendered practices in disaster mitigation planning.

Component 2 project activities were refined to align with priorities of the Disaster Risk Reduction National Strategic Plan of Action, 2018–2030, and address the constitutional mandate to decentralize DRM responsibilities and build local-level capacity.

3. Project Implementation Support *(Appraisal cost: US$5.0 million; actual cost: US$10.77 million)*

This component planned to finance the establishment and operation of the Project Management Unit (PMU), the Project Implementing Units (PIUs), and the District-Level Project Implementation Units (DL-PIUs). This was to cover support to strengthening capacity to effectively procure and manage delivery systems including damage assessment, beneficiary household identification, payment system, management information system (MIS), grievance redress, and communication/outreach. In addition, the component will also finance consultancies/service providers required for the preparation and supervision of specific activities, monitoring and evaluation.

4. Contingency Emergency Response (Appraisal cost: US$0.0 million; actual cost: US$0.0 million)

This component was designed to allow the Government of Nepal (GoN) to request the Bank to re-categorize and reallocate financing from other projects to cover emergency response and recovery costs, but it was not triggered.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost: The project cost was originally estimated at US$200.00 million. The project had two additional financings of US$300.00 million and US$200.00 million. The actual cost a closing was US$694.39 million.

Financing: At appraisal, the IDA credit amount (IDA-57060) was estimated at US$200.00 million. Additional financing of SDR 213.6 million (US$300 million) was approved in November 2017 (IDA-61640), and SDR 145 million (US$200 million) was approved in December 2019 (IDA-65300) to address financing gap in the housing reconstruction program. By the project closing on June 30th 2023, the project had disbursed US$694.39 million of total funds under the three IDA credits. The undisbursed amounts were cancelled, and all project funds were accounted for at the time of project evaluation.

Borrower's contribution: There was no Borrower's contribution estimated at appraisal. The GoN provided counterpart funding of US$39.4 million with the second Additional Financing.

Restructurings: The project had two additional financings and went through six level 2 restructurings, as described below.

First Restructuring (March 24th, 2016): This was to change one of the project's implementing agencies from the Ministry of Finance (MOF) to the National Reconstruction Authority (NRA), following NRA's establishment.

First Additional Financing (AF1) (November 2017): An amount of US$300 million was approved to address the financing gap in GoN's housing reconstruction program. The total number of eligible beneficiaries increased from a preliminary estimate of 500,000 in 2015 to more than 650,000, and housing grants provided by GoN were revised upward to NPR 300,000 (approximately US$3,000) from the earlier NPR 200,000 (approximately US$2,000) due to increased construction costs. The additional credit helped finance an additional 96,000 hazard-resistant houses. The project closing date changed from July 31, 2020, to June 30, 2023. Target values were revised in the Result Framework (RF), reflecting the increased scope of work.

Second Restructuring (May 21st, 2019): This was to be aligned with the federalism structure. Based on implementation of the 2015 Constitution, local governments (LGs) became the legal entities for amendments and signing Participants Agreements (PAs). Furthermore, NRA was restructured, with Central Level Project Implementation Units brought under its control, who were responsible for the verification of project beneficiaries and endorsing the lists for release of funds. This facilitated direct transfer of grant tranches from the government's account to beneficiaries' bank accounts.

Second Additional Financing (AF2) (December 2019): An amount of US$200 million was approved in December 2019 and financed an additional 86,680 housing grant beneficiaries. The GoN also provided counterpart funding of US$39.4 million.

Third Restructuring (May 29th, 2020): It allowed the first and/or second tranches paid by GoN to the beneficiaries to be accepted as eligible expenditures for IDA reimbursement under AF2, with the second and/or third tranches eligible for reimbursement through AF1. With this restructuring, in addition to the first tranche, considered as counterpart financing, second tranche paid by GoN became eligible for reimbursement under an IDA credit.

Fourth Restructuring (August 12th, 2021): This supported additional IDA beneficiaries by converting the construction categories of 27,000 beneficiaries from retrofitting to reconstruction after grievance redress. The restructuring also supported 12,537 additional eligible beneficiaries with second and third tranches. The number of target beneficiaries were updated in the RF. The category reallocation also accommodated the cost of the structural integrity assessment (SIA) and the cost of transferring records to District Coordination Committees and local government. Since NRA's tenure was ending in December 2021, National Disaster Risk Reduction and Management Authority (NDRRMA) was added as an Implementing Agency (IA) and allocated SDR 10 million to implement Component 2.

Fifth Restructuring (February 13th, 2022): This was to provide resources to Central Level Project Implementation Unit to enable the complete inspections of the remaining 34,296 IDA beneficiaries and process IDA reimbursements. It also allocated funds to NDRRMA to support data update and manage the MIS and third-party M&E output verification and digitization.

Sixth Restructuring (June 20th, 2023): This revised the activities under Component 2 and repurposed uncommitted IDA credit funds to support additional 10,288 IDA housing beneficiaries. RF targets were updated to reflect additional project beneficiaries as well as new intermediate-level indicators were introduced to capture the results achieved by NDRRMA under Component 2.

Dates: The project was approved on June 29th, 2015, and became effective six months later, on January 28th, 2016. The Mid-Term Review was conducted three years later on August 10th, 2018. The original project closing date was July 31st, 2020. The project closing date was extended by three years, in

November 2017, during the AF1, to June 30th, 2023, to provide sufficient time to implement and fully utilize the credit funds.

3. Relevance of Objectives

Rationale

On April 25, 2015, a magnitude 7.8 ML earthquake struck central Nepal, affecting 32 districts (out of a total of 75 districts) and causing more than 8,700 deaths and 25,000 injuries. A Post Disaster Needs Assessment (PDNA) estimated the total damages and losses from the earthquake to be about US$7 billion, and reconstruction needs at about US$6.7 billion, approximately one-third of Nepal's GDP in 2014. Initial assessments indicated the earthquake destroyed 490,000 low strength masonry - stone or brick masonry with mud mortar houses occupied by the rural poor and partially damaged 265,000 houses making them temporarily uninhabitable. The government estimated total financing for housing reconstruction at about US$1.2 billion, which was financed through a combination of government's resources, loans, and grants by development partner organizations.

The project objective was highly aligned with the World Bank's strategy as defined in the Country Partnership Framework for FY 2019–2023 (CPF) for Nepal, particularly the objective 3.3 of the CPF, increased resilience to health shocks, natural disasters, and climate change. The PDO was also aligned to UNDRR's Sendai Framework for Disaster Risk Reduction (2015–2030), that calls for enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction.

The project objective was also highly relevant to the country priorities and strategies. After the promulgation of the new constitution in 2015, the government enacted a new law on Disaster Risk Reduction and Management and initiated addressing disaster risk holistically. The PDO was relevant to the National Policy for Disaster Risk Reduction Plan in 2018 and the 2017 National Disaster Risk Reduction and Management Act and the Nepal Disaster Risk Reduction and Management Regulations. The Government established the National Reconstruction Authority (NRA) in December 2015 as a temporary agency with a five-year lifetime for the post-disaster reconstruction until December 2022. The NRA prepared policies, plans, budgets, and programs with a schedule of operations for the reconstruction of earthquake-affected structures, including housing reconstruction. Furthermore, project activities under Component 2 were updated to align with priorities of the Disaster Risk Reduction National Strategic Plan of Action, 2018–2030 and built capacity for DRM at the various levels of government.

Following the earthquake, the Bank began providing advice and support to the GoN on how to consider and design reconstruction and recovery efforts. The Bank previously demonstrated global and regional experience in post-disaster housing reconstruction and social protection - in such countries as Pakistan, India, Haiti, the Philippines, and Indonesia - and was well positioned to bring its expertise and experience to support GoN through recovery and reconstruction.

The project objective was realistic and sufficiently challenging as it included not only restoring affected houses with multi-hazard resistant core units but also enhancing the government's ability to improve long-term disaster resilience.

Based on the above, the relevance of the objective is rated High.

Rating
High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective
To restore affected houses with multi-hazard resistant core housing units in target areas.

Rationale
Theory of Change (TOC): The ICR developed a TOC showing the causal links between project activities, outputs, and outcomes. The project was designed to provide housing grants and socio-technical assistance for safe, owner driven reconstruction. The project outputs included grants to cover multi-hazard housing core units (this covered on average about one third of housing construction costs for the preferred houses); in addition, raising awareness of beneficiaries and training of engineers and artisans in disaster resilient reconstruction practices. The expected outcome was restoration of affected houses with multi-hazard core housing units. The long-term outcome was reduced vulnerability of beneficiaries to future disasters. Overall, the causal pathways from inputs to outcomes were direct, and the achievement of the outcomes could be attributed to the project's intervention. However, the project design did not support a differentiated approach to low-income households (i.e. by connecting with affordable credits, and/or providing larger grants, and/or joint house title / ownership for women), so that they could afford their share of reconstruction costs. The PDO indicators to measure this objective included the number of households with resilient core housing reconstructed under the project, and the number of citizens made aware of earthquake resilient reconstruction. The indicator on the number of households with resilient core housing reconstructed could have been differentiated using poverty parameters to better illustrate the importance of targeting in disaster response.

Outputs:

The project provided housing grants for reconstruction of multi-hazard resilient housing units in the 32 affected districts. To ensure construction of multi-hazard resistant houses, tranche disbursements were tied to three inspections, which ensured compliance with construction guidelines at plinth, roof-band, and completion stages. Additionally, periodic Third-Party Monitoring and Assessment (TPMA) was undertaken for 160,000 buildings, in line with the "Technical Inspection Guideline for Housing Reconstruction," providing an additional layer of quality assurance. Where noncompliance was observed, District Support Engineers (DSEs) advised on corrective measures based on the "Correction Exception Manual for Masonry Structures".

The project provided training to engineers, including i) Master Training of Trainers on Building Inspection (130 engineers), ii) Building Inspection Training (434 engineers), and iii) Building Inspection Training in 10 Districts

(1,720 engineers); iv) 113 Master Training of Trainers and 1,862 engineers were trained to implement the Retrofitting and Correction /Exception Manual.

Socio-technical assistance (STA) as recommended by the Environmental and Social Management Framework (ESMF) became an integral part of the owner-driven housing reconstruction approach. The STA expedited reconstruction and ensured inclusion of the most vulnerable (women, children, and disabled persons). The STA team included 755 mobile masons [149 women: 19.7percent], 246 social mobilizers [148 women: 60.2percent], and 145 engineers [23 women: 15.9 percent], exceeding the indicator target of 10 percent for “Women masons to be employed by the project in the provision of Socio-Technical Assistance.”

To ensure 100 percent of beneficiaries were aware of resilient housing, the project enrollment was coupled with the provision of information before they signed the project agreement. In addition, a communication and outreach strategy was prepared and implemented, reaching 450,000 beneficiaries in 14 districts. Toll-free helpline numbers were provided, and information was disseminated on project information via FM radios, television, and other media outlets.

Outcomes:

The project promoted owner driven resilient house reconstruction by covering the cost of a basic housing unit and payments made in tranches, tied to compliance to disaster resilient reconstruction guidelines. The project also trained engineers and artisans in disaster resilient reconstruction, to build capacity for resilient construction practices. Thus, the project achieved a massive scale of reconstruction effort.

The PDO indicator “Households with resilient core housing reconstructed under the project,” was fully achieved, with 319,621 houses reconstructed against the 309,335 revised target, of which 65,138 (20.37%) were women-headed households, exceeding the indicator target of 63,407. All reconstructed houses adhered to the project guidelines for resilient construction, quality standards, and were inspected at completion. The STA program provided technical support to more than 157,691 households and reconstructed more than 1,771 houses for the most vulnerable beneficiaries.

However, the project lacked a differentiated approach to adequately address the needs of the ultra-poor households, as noted by the ICR, the project could not sufficiently support the ultra-poor or persons with functional limitations (except for vulnerable-headed households supported by STA, who received additional grant of 50,000), who were either left with indebtedness or unable to complete reconstruction of their houses. (ICR, para. 86) While this was not reported to be a widespread issue, it was an element that could have been rectified by a more heterogenous support model.

Based on the above, the achievement of the PDO, to restore affected houses with multi-hazard resistant core housing units in target areas, was rated Substantial with moderate shortcomings.

Rating
Substantial

OBJECTIVE 2
Objective

To enhance the government's ability to improve long-term disaster resilience.

Rationale

TOC: The ICR developed a TOC showing the causal links between project activities, outputs and outcomes. The project design comprised establishment of disaster risk management systems and the outputs of housing grants and socio-technical assistance for safe, owner driven reconstruction. The project outputs included development of data and tools for planning of risk reduction investments and post disaster reconstruction, capacity building of government for emergency response, capacity building of federal provincial and municipal governments on disaster risk management. The expected outcome was the enhancement of the country's capacity to improve long term disaster risk management. The original PDO indicator to measure this objective was insufficient, i.e. output oriented and measured only the government officials trained on DRM. However, during the last restructuring, a new outcome indicator was included: "the number of municipalities covered for assessing building vulnerability and hazard exposure of critical public facilities" to better reflect the project results under Component 2. Additional indicators could have been designed to capture project results on early warning systems as well as results of training events in terms of the extent of knowledge and skills developed utilized and practiced and the transformation experienced by government counterparts supported through the project.

Outputs:

- The following intermediate indicator targets for IRIs introduced at the last restructuring were achieved and exceeded:(a) number of public facilities surveyed and cataloged under rapid visual survey (RVS), 10,833 achieved against the 10,000 target (6,722 education, 2,486 public service and 1,625 health facilities), and (b) Geo-referenced National Building Exposure Platform accessible via government website.
- The IRI "Number of public facilities covered under Seismic Vulnerability Assessment and Detailed Project Report prepared" was achieved and provided selected municipal governments with actionable engineering solutions, specifications, designs, and cost estimates of resilience interventions for select facilities.
- The project supported procurement, installation, and operationalization of 34 multi-hazard Early Warning Systems (EWS) in 13 municipalities providing EWS service to 211,072 persons which has helped strengthen disaster risk preparedness, planning, and response. The NDRRMA trained local governments on the operation of the EWS for emergency response planning through drills conducted in collaboration with International Nongovernmental Organizations (INGOs).
- The project installed and operationalized 1,539 SAR equipment, providing emergency response coverage to 2,502,803 persons in 53 municipalities. Communication equipment was also provided and operationalized, serving 13,588,319 persons in 31 districts and Lumbini, Karnali and Sudurpaschim Provinces, which facilitated telecommunication between relevant stakeholders. Through these activities, the project exceeded the intermediate indicator targets of 24 "District Emergency Operation Centers (DEOC) and Local Emergency Operation Centers (LEOC) equipped with SAR equipment.", and 26 for "DEOCs equipped with communication equipment".
- The project provided training on resilient construction to 1,818 elected representatives and local government officials (including 23 percent women), exceeding the IRI target of 1,000 people.
- The participation of more than 334 female-elected representatives and local-level officials in DRR training exceeded the IRI target of 250 for "Out of which, women elected representatives and officials of Local Level".

- The project developed DRM curriculum and materials for training of government and DRM stakeholders.
- Improvement in the capacity (knowledge) of engineers on the National Building Code was assessed through pre-and post-training test, which revealed improvements in their knowledge. Similarly, for the GIS training, pre-test and post-test evaluation showed an increased level of knowledge among the participants about the GIS and its uses for disaster risk reduction and management.

Outcomes:

The project supported the enhancement of GoN's ability to improve long-term disaster resilience through the provision of data and tools for planning of risk reduction investments and post-disaster reconstruction; equipment and technical capabilities for emergency response; capacity building of federal, provincial, and municipal governments on DRM. At local levels, and aligned with the government's federalization agenda, the project strengthened DRM capacities of institutions in all earthquake-affected districts.

In December 2018 the project included the scale-up of the Structural Integrity and Damage Assessment (SIDA), with the aim of improving the ability of the government at the local level to improve long-term disaster resilience of social infrastructure. Thus, the completion of the rapid visual survey activities in 145 municipalities achieved the new PDO indicator "Municipalities covered for assessing building vulnerability and hazard exposure of critical public facilities. In addition to trainings provided to local governments, these analytics provided to the municipal authorities helped them to understand the vulnerability of public infrastructure and prioritize resilience efforts.

The project also supported operationalization of early warning systems in 13 municipalities. During severe rainfalls in August and October 2023, early warning services were provided to residents in three municipalities. However, it was not clear if these early warning systems were effective enough to help residents take precaution against the disaster risk.

While concrete activities on resilience building were included later into the project, and the early warning system's effectiveness was not very clear, based on the above results at project closing, the achievement of the PDO, to enhance the government's ability to improve long-term disaster resilience, was rated Substantial.

Rating
Substantial

OVERALL EFFICACY
Rationale
The project successfully reconstructed 319,621 houses exceeding the revised PDO target, and all reconstructed houses adhered to the project guidelines for resilient construction, quality standards, and were inspected at completion. However, the project could not sufficiently support the ultra-poor, or persons with functional limitations (except for vulnerable-headed households supported by the socio-technical assistance).

Therefore, the efficacy of achieving the first objective “to restore affected houses with multi-hazard resistant core housing units in target areas” is rated Substantial with moderate shortcomings.

The project supported enhancement of the government’s ability to improve long-term disaster resilience through the provision of data and tools for planning of risk reduction investments and post-disaster reconstruction; equipment and technical capabilities for emergency response; capacity building of federal, provincial, and municipal governments on DRM. The project also scaled up structural integrity and damage assessment, with the aim of improving the ability of the government at the local level to improve long-term disaster resilience of social infrastructure. The project showed the utilization of early warning systems that were supported under the project. Thus, the efficacy of achieving the second objective “to enhance the government's ability to improve long-term disaster resilience”, is rated Substantial.

Overall, the project’s efficacy is rated Substantial.

Overall Efficacy Rating

Substantial

5. Efficiency

Economic Efficiency: The project conducted ex-ante and ex-post economic analysis using the component 1 activities, which are 97 percent of project costs. The main benefit used was the shadow annualized rental income from the newly reconstructed 316,621 multi-hazard resilient housing units (estimated at $750 per year), which are more valuable than the old houses due to the use of improved construction methods. The economic life of the units was estimated at 20 years and the O&M costs were estimated at one percent of the investment cost. The analysis did not consider the monetary value of social, indirect benefits and the value of human lives, which inferred that the benefits are understated. The ex-post internal rate of return (IRR) was 30.4 percent (on average using the original and the two additional financing credits), and the net present value was US$929.3 million (using 10 percent discount rate). The higher ex-post rates were due to more houses being built because of splitting beneficiaries into different categories and providing different grant amounts into each category.

Operational/Administrative Efficiency: The project duration got extended for three years to provide sufficient time to implement the additional financings. The implementation of component 1 was within the implementation period, the ICR noted that the construction duration was well within the range from previous reconstruction programs that varied from 4-7 years in Indonesia and Japan. The duration between beneficiary enrollment and inspection and tranche release varied from 1.97 to 4.55 months among the three credits, which may be ascribed to longer than anticipated construction durations, multiple field inspections and verification layers, and COVID-19. (ICR, parag. 50). Regarding component 2, the efficiency improved over time as the activities were refined; the project initially struggled to define how to enhance the government’s ability for long-term resilience; in December 2018, concrete activities could be defined, including the structural integrity and damage assessment for social infrastructure.

Based on the substantial economic and operational efficiency, the efficiency of the project is rated substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	21.20	92.50 ☐ Not Applicable
ICR Estimate	✓	30.40	97.00 ☐ Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The project was prepared after the devastating 2015 earthquake that struck central Nepal to help restore the affected houses and help improve the government's ability on long-term disaster resilience. The project objective was highly aligned with the World Bank and country strategies and context; thus, the relevance of objective is rated High. The project successfully financed reconstruction of 319,621 houses that adhered to the guidelines for resilient construction, quality standards, and exceeding the revised PDO target, noting that there was a lack of a differentiated approach to address the needs of the ultra-poor and vulnerable. Therefore, the efficacy of achieving the first objective "to restore affected houses with multi-hazard resistant core housing units in target areas" is rated Substantial with moderate shortcomings. The project supported enhancement of the government's ability to improve long-term disaster resilience through the provision of data and tools for planning of risk reduction investments and post-disaster reconstruction; equipment and technical capabilities for emergency response; capacity building of federal, provincial, and municipal governments on DRM. Thus, the efficacy of achieving the second objective "to enhance the government's ability to improve long-term disaster resilience", is rated Substantial. The project's efficiency is rated Substantial, due to substantial economic rates of return and operational efficiency. Overall, the project's outcome is rated Satisfactory.

a. Outcome Rating

Satisfactory

7. Risk to Development Outcome

The ICR noted that systems to institutionalize resilient construction in local communities are still emerging, which could pose a risk to the sustainability of project outcomes for resilient construction (ICR, parag.85). The project promoted resilient building by providing housing grants that required compliance with resilient measures, enforced through inspections. The ICR reported that so far, community awareness and skilled labor have maintained the standards, and community leaders have encouraged safe construction practices,

in some areas even without eBPS. However, in the long-term electronic building permit system (eBPS) that is being piloted is seen as crucial, especially in rural areas.

There is also a financial risk to the project development outcomes. The financial burden of reconstruction on households was high, with costs averaging NPR 907,647, which is three times the grant amount of NPR 300,000. Many households expanded their homes beyond the core unit provided by the grant, or house construction costs increased over time, leading to increased financial requirements and indebtedness. Despite job creation and livelihood support, many households had to take loans or sell assets, and the project could not fully support the ultra-poor or those with functional limitations (ICR, parag. 86).

There is a need for sustained capacity at NDRRMA for long-term disaster resilience. At project closing, NDRRMA faced reduced human and financial resources, with technical consultants' contracts expiring. To address this, the ICR informed that NDRRMA budgeted funds in FY23-24 for hiring technical specialists, and the World Bank's Resilient Infrastructure MDTF will train DRM focal points to use the provided equipment and systems effectively. (ICR, parag. 97).

Lastly, the risk of unemployment for engineers, masons, and technicians trained in resilient reconstruction is another significant risk as the reconstruction activities wind down. The project addressed this by providing advanced training to 150 women masons to improve their employability post-project. However, without the widespread adoption of resilient housing construction practices, the skills and resources invested during the reconstruction phase may be lost (ICR, parag. 88).

8. Assessment of Bank Performance

a. Quality-at-Entry

In the aftermath of the 2015 earthquake and the request from the Government for World Bank support, the project was prepared by using streamlined approaches in situations of urgent need. The project design reflected the needs identified by the post disaster needs assessment that was conducted jointly by The World Bank, the United Nations Development Program and the European Union and contributed to the government’s overall housing reconstruction program. The design also drew lessons from similar Bank operations in the region (e.g., the Pakistan Earthquake Emergency Recovery Credit Project and Gujarat Emergency Earthquake Reconstruction Project) particularly the lesson on adapting approved building designs to expedite reconstruction. Thus, the project design included short term recovery needs for housing reconstruction and long-term capacity development for resilience. Although the detailed interventions under Component 2 were initially defined as training of government officials and engineers and masons on disaster resilience, during implementation, activities were refined to align with priorities of the Disaster Risk Reduction National Strategic Plan of Action, 2018–2030, and address the constitutional mandate to decentralize DRM responsibilities and build local-level capacity. The adaptive design of the project at appraisal allowed for additional financing without changing the PDO.

Overall risk rating at entry was rated “Substantial” due to high political, governance, and fiduciary risks. The main risks were, the need for direct cash transfers into beneficiaries’ bank accounts and ensure third-party audits address fiduciary risk, screening of beneficiary eligibility through the EHDC survey, and

providing additional resource and training to IA's staff to address E&S safeguard issues, build capacity, and improve procurement and financial management.

Based on the above, the quality at entry is rated Satisfactory.

Quality-at-Entry Rating
Satisfactory

b. Quality of supervision

The ICR reported that the Bank's Task Team was composed of qualified specialists to provide implementation support to the project. Missions were regular, the Bank conducted a total of 15 implementation support missions, which reviewed project progress and identified issues documented in aide memoires. In addition, the Bank team conducted monthly review meetings with the PMU to monitor progress and track agreed actions, which accelerated the resolution of issues on procurement and project management. Reviews resulted in actions to remove implementation setbacks by responding to the need of capacity building, supporting vulnerable beneficiaries, encouraging the government to undertake studies for project implementation decision-making, and adjusting to shifts in the government institutional structure by approving six restructurings. The TTL and key task members were mostly based in-country for a majority of the project implementation and worked closely with the government. The turnover rate of the key task team was low. The TTL role was handed over in 2016 and 2022 to project team members, which ensured consistent support to clients due to sustained institutional memory. The two additional financings and the adequate revision of Component 2 design to reflect changing needs was sound.

However, the project did not address the needs of the poor households adequately. The socio-technical assistance supported vulnerable-headed households, but a wider and more adequate targeting of poor households could have been included in project design during implementation.

Based on that Bank's quality of supervision is assessed as Satisfactory.

As a result of Satisfactory Quality at Entry and Quality of Supervision rating, the Overall Bank Performance is rated Satisfactory.

Quality of Supervision Rating
Satisfactory

Overall Bank Performance Rating
Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The initial M&E design was relevant to measure results, specifically to track the reconstruction progress. In addition, the number of grievances registered and addressed, and the number of artisans trained in multi-hazard resilient construction were measurable. One shortcoming of the M&E design was the result indicator did not clearly reflect component 2 outputs and outcomes, until implementation, when component activities were defined, and indicators were added at restructuring. For Component 2, additional indicators could have been designed to capture project results on early warning systems as well as results of training events in terms of the extent of knowledge and skills developed utilized and practiced. In addition, the indicator on the number of households with resilient core housing reconstructed could have been differentiated using poverty parameters.

The project established a comprehensive and multi-layered Management Information System (MIS) to monitor physical and financial progress and results of the project to ensure transparency and accountability among various stakeholders. The design of the MIS included the survey for beneficiary selection, digital enrollment of beneficiaries, inspection of reconstructed houses and compliance certification, and tranche releases directly to beneficiary bank accounts after verification.

b. M&E Implementation

As reported by the ICR, the quality of M&E reporting was initially adversely affected by data inconsistencies, lack of an M&E framework, and poor coordination between different agencies, nonetheless, this was significantly resolved over time and there were no issues at closure. (ICR, parag.70)

M&E data were collected, analyzed, and accessible through the MIS. The MIS was reportedly, user friendly, allowing for data visualization in several data and multimedia formats. Physical monitoring of reconstruction progress was undertaken by M&E experts and a third-party M&E firm at PMU level to verify and confirm completeness of IDA beneficiary records and compliance with IDA requirements. Also, M&E provisions were made at the CLPIU-Building for the 14 most-affected districts, where CLPIU-Building recruited M&E experts to the DLPIU-Building to oversee districts. Progress of component 2 activities were monitored via an MIS-Excel masterplan of activities and monthly progress reviews (ICR, parag. 67 and 68). During implementation of the RVS that required monitoring of three firms working in 145 municipalities to collect data on 10,833 facilities (29,977 buildings), NDRRMA hired a third-party consultant that monitored the progress of the three firms and reviewed and validated the quality of the deliverables. (ICR, parag. 71)

c. M&E Utilization

M&E was utilized to track progress, demonstrate results, and inform project management decisions. NRA submitted monthly progress reports on physical and financial progress with the World Bank. Third party monitoring assessments helped ensure IDA compliance before disbursement.

The MIS demonstrated the project's accountability characteristics by providing information that enabled the government to reconcile double payments. The District Treasury Controller Office (DTCO) cross-

verified payments, accomplishing the recovery of NPR 246,971,668.32 duplicate payments made to 4,670 beneficiaries.

While there were some weaknesses in terms of PDO indicators, the overall rating of M&E quality is rated as Substantial, based on a multi-level M&E system working at the central and local level and a robust MIS system that informed project decisions, provided accountability, transparency and efficient use of resources.

M&E Quality Rating

Substantial

10. Other Issues

a. Safeguards

Environmental and Social: The project was classified as Category "B" per the World Bank Safeguard Policy on Environmental Assessment (OP/BP 4.01). The project also triggered safeguard policies on natural habitats (OP/BP 4.04), forests (OP/BP 4.36), physical cultural resources (OP/BP 4.11), Indigenous peoples (OP/BP 4.10), and involuntary resettlement (OP/BP 4.12) to identify and mitigate potential environmental and social issues. The ICR noted that safeguard instruments, including ESMF, RPF, Environmental and Social Screening (ESS), and Environmental and Social Management Plans (ESMPs) were prepared and implemented as documented in the ESMP project completion reports and TPM reports. A Vulnerable Community Development Framework was prepared, and the STA addressed and ensured the project respected the dignity, human rights, economies, and cultures of vulnerable groups, including Indigenous Peoples and Dalit (ICR parag.73).

According to the ICR, project implementation in the initial years revealed limited E&S impacts, with most issues related to health and safety, solid waste management, increased pressure on forest resources/timber, quarry sites, and additional support for vulnerable groups. The project reportedly ensured adequate E&S staffing and mainstream E&S aspects in the implementation of Component 2 activities. (ICR, parag. 75)

A resettlement policy framework was also prepared as part of the ESMF to guide the resettlement process. The revised ESMF excluded community relocation; integrated settlement development, urban areas, and areas supported by other partner organizations, and reconstruction of heritage/cultural sites and other physical and social infrastructure and services. Site-specific ESMP were prepared, implemented, and monitored via third-party monitoring, with completion reports prepared to ensure alignment with the ESMF provisions.

Grievance Redress Mechanism (GRM): The project established a multi-tiered GRM system to redress grievances at ward, municipality, and NRA central levels. Grievances were registered orally, in writing through telephone, or SMS to the ward, rural municipality, DLPIU, and NRA. The ICR reported that GRM enabled the registration and redress of about 634,973 grievances from reconstruction programs (including 37,093 for IDA credit). All grievances were digitized in the MIS to track grievance redress. The complaint management committee addressed grievances at the local level, such as a change in ownership and updating beneficiary information upon verification, and executive committee members at the central level

reviewed issues, such as exclusion-related grievances. The 2018 GRM report necessitated the cabinet's decision to re-survey and verify the EHDC data, which, in combination with other GRM decisions, resulted in the admission of 106,645 beneficiaries into the reconstruction program from the retrofitting category. The fourth restructuring decision was informed by the GRM, demonstrating its effectiveness. (ICR, parag. 76)

b. Fiduciary Compliance

Financial Management: The ICR noted that grant disbursement to beneficiaries was a complex process because of the multi-tranche system linked to the physical progress of reconstruction, thus, disbursements were made to bank accounts of all beneficiaries. Bank for all eligible beneficiaries were activated with the first tranche payment. The 2nd and 3rd tranches were made only after inspection, digitalization, and approval of the field inspection form and photos. (ICR, parag. 78) The project experienced payment duplication and beneficiary tracking issues in the initial phase of the project in housing reconstruction tranche payments. There were also delays in payment and reconciliation of payments made by the DTCO to the beneficiaries' bank accounts. These issues were addressed during implementation, and all FM issues were resolved by NRA by closure of the project, with no ineligible expenses. Although, FM issues improved during project implementation, reconciliation took time and required additional resources. (ICR, parag. 79) The project team subsequently stated that there were no qualified opinions in audit reports.

Procurement: According to the ICR, the project complied with procurement procedures in the Financing Agreement and Procurement Plan, and no waivers were sought. Due to the emergency nature of procurement needs, procurement activities were submitted in the plan as and when needed rather than in a planned way. Although this created difficulties for the Bank in reviewing fragmented procurement plans, it was managed satisfactorily. Procurement delays recorded during the project could be attributed to procurement decision-making and slow approvals from the NRA Secretary. After the project authorized the PIU chief for budget spending and procurement decision-making, as per the World Bank's advice, the delay issue was resolved. The project demonstrated procurement flexibilities during implementation, such as adopting GoN's recruitment process to hire more than 2,000 engineers to support housing reconstruction, increasing the threshold for direct selection/contracting methods (ICR, parag. 77).

c. Unintended impacts (Positive or Negative)

The ICR reported the project's contribution in improving the construction sector. The project triggered a major shift in housing typologies in earthquake-affected districts, from low strength masonry - stone or brick masonry with mud mortar to reinforced concrete and cement mortar. This was because of increased availability of construction material, and increased number of trained masons and engineers informed about safer construction practices (ICR, parag. 59).

d. Other

Gender: The ICR reported that the project design recognized that women were disproportionality affected by disaster and addressed gender-related issues by ensuring strong community involvement, including women, elderly, landless, youth, disabled, and Indigenous Peoples. Throughout implementation of the

project, several positive gender equity and inclusion trends were observed, steered by NRA's Gender Equity and Social Inclusion guideline, such as increased participation of women in technical jobs, social mobilization, financial access and inclusion, and skill development; ensuring a share of employment in the STA; share of women-elected officials and local government officials trained in DRM and reconstruction orientation; and joint ownership of houses. These helped the project achieve and exceed the gender-inclusion PDO indicator on "the percentage of women-headed households." In addition, the transfer of housing grants directly into beneficiary bank accounts facilitated the opening of accounts for 100 percent of participating households, including 30 percent women. The 2018 GESI audit, in five districts,30 revealed that women felt more empowered due to their involvement in housing reconstruction and interaction with government officials and Banks. (ICR, parag. 55)

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

12. Lessons

The ICR formulated several useful lessons. The most relevant ones, with IEG's modification, are as follows:

Bank-to-bank fund transfers can be useful to ensure transparency, improve financial inclusion, and access to banking services, including housing insurance. Under the project, the grant payments to beneficiaries were made through the banking system to reduce the possibility of corruption and ensure building code compliance. This decision contributed to increasing the number of bank account holders from 52 to 70 percent. A district-wide analysis showed that banking coverage among the beneficiaries increased from 0 to 100 percent in some districts. Using the banking system also helped to unlock constrains in the credit and savings market, promote payment system, bolster risk mitigation capacities, and enhance the capacity of locally based financial service providers.149,000 households were brought to the banking network, thereby exposing them to savings and credit facilities, which are crucial precursors for prosperity.

When a project works with an agency with a limited tenure, early planning is critical to ensure transition of institutional memory and capacities built by the project to permanent agencies for the country to be able to continue strengthening the related sectors. Under the project, successful housing reconstruction is attributed to the NRA, whose mandate was specific to the country's reconstruction from the 2015 earthquake. NRA's closure before completion of housing reconstruction and incomplete tasks from the 2019 NRA overwhelmed the successor agency, NDRRMA. However, the overwhelming challenge to NDRRMA strengthened their capacity and

helped them get acknowledged by other government agencies at national, district, and local levels through project implementation, facilitation, and coordination.

Adoption of an owner-driven approach, in terms of moving from building homes for people to supporting people to build safer homes by themselves not only ensures effective use of financial resources but also improves disaster resilience. Under the project, individual families used financial assistance to rebuild their houses. The grant was disbursed in tranches and with compliance to earthquake resistant building standards. The project provided technical, material, supervisory, training, and social facilitation. An owner-driven approach to reconstruction also meant using locally available materials and incorporating traditional construction methods and designs found to be culturally relevant and environment friendly, in conjunction with special disaster-resisting features recommended by the relevant technical codes/guidelines, which improved disaster resilience.

Projects that include housing reconstruction for low-income households could benefit from considering the affordability of these investments for such households. In this project, the housing reconstruction grant provided about a third of the construction cost, and the participation by low-income households in the project led to their increased exposure to higher indebtedness, and some persons were reported to have resorted to selling assets to participate in the program. It is important to consider in project design that low-income households could afford their share of reconstruction costs.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is concise, candid and provides a detailed overview of the project. The report is internally consistent with logical linking and integration of various sections of the report. The report follows and adequately responds to the Bank guidance both with regards to ratings and the performance narrative, which is sufficiently evaluative. Lessons are comprehensive and based on experiences of the project. However, the ICR does not adequately discuss the lack of focus in the results framework on poverty aspects in the project areas. Overall, the quality of the ICR is rated Substantial.

a. Quality of ICR Rating
Substantial