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PROJECT PERFORMANCE ASSESSMENT REPORT

WHAT WORKS

INDONESIA

Community-Based Settlement Rehabilitation and Reconstruction Project for Central and West Java and Yogyakarta Special Region

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DECEMBER 19, 2019

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Report No.: 144451

PROJECT PERFORMANCE ASSESSMENT REPORT

INDONESIA
COMMUNITY-BASED SETTLEMENT REHABILITATION AND RECONSTRUCTION PROJECT FOR CENTRAL AND WEST JAVA AND YOGYAKARTA SPECIAL REGION
(TF-90014, TF-98863, TF-98869, TF-15476)

December 19, 2019

Financial, Private Sector, and Sustainable Development

Independent Evaluation Group

Currency Equivalents (as of January 1 each year)

Currency unit = Indonesian rupiah (Rp)

2007	$1.00	Rp 9,033	2012	$1.00	Rp 9,068
2008	$1.00	Rp 9,417	2013	$1.00	Rp 9,638
2009	$1.00	Rp 11,100	2014	$1.00	Rp 12,170
2010	$1.00	Rp 9,425	2015	$1.00	Rp 12,385
2011	$1.00	Rp 9,010			

Abbreviations

CAS	Country Assistance Strategy
CDD	community-driven development
CSP	community settlement plan
CSRRP	Community-Based Settlement Rehabilitation and Reconstruction Project
DMC	district management consultant
ICR	Implementation Completion and Results Report
IEG	Independent Evaluation Group
JRF	Java Reconstruction Fund
KDP	Kecamatan Development Project
KP	Kelompok Permukiman
MPW	Ministry of Public Works
O&M	operations and maintenance
PAD	project appraisal document
PDO	project development objective
PPAR	Project Performance Assessment Report
RETF	recipient-executed trust fund
UPP	Urban Poverty Project

All dollar amounts are U.S. dollars unless otherwise indicated.

Fiscal Year

Government: January 1–December 31

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This report was prepared by Richard J. Tobin who assessed the project in June 2019, under the supervision of Stephen Hutton. Endah Raharjo and May Hendarmini provided technical support and local knowledge in Indonesia. The report was peer reviewed by Kamran Akbar and panel reviewed by Vibecke Dixon. Vibhuti Khanna provided administrative support.

Principal Ratings

Indicator	ICR	ICR Review	PPAR
Outcome	Satisfactory	Moderately satisfactory	Moderately satisfactory
Risk to Development Outcome	Moderate	Moderate	Modest
Bank Performance	Satisfactory	Satisfactory	Moderately satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

Note: The Implementation Completion and Results Report (ICR) is a self-evaluation by the responsible Global Practice. The ICR Review is an intermediate Independent Evaluation Group product that seeks to independently validate the findings of the ICR. PPAR = Project Performance Assessment Report.

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IEG Mission: Improving World Bank Group development results through excellence in independent evaluation.

About This Report

The Independent Evaluation Group (IEG) assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the World Bank's self-evaluation process and to verify that the World Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEG annually assesses 20–25 percent of the World Bank's lending operations through fieldwork. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or World Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, interview World Bank staff and other donor agency staff both at headquarters and in local offices as appropriate, and apply other evaluative methods as needed.

Each PPAR is subject to technical peer review, internal IEG panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible World Bank Country Management Unit. The PPAR is also sent to the borrower for review. IEG incorporates both World Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the World Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the IEG Rating System for Public Sector Evaluations

IEG's use of multiple evaluation methods offers both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. IEG evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (additional information is available on the IEG website: http://ieg.worldbankgroup.org).

Outcome: The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current World Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, sector strategy papers, and operational policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared with alternatives. The efficiency dimension is not applied to development policy operations, which provide general budget support. *Possible ratings for outcome:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Risk to development outcome: The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for risk to development outcome:* high, significant, moderate, negligible to low, and not evaluable.

Bank performance: The extent to which services provided by the World Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan or credit closing, toward the achievement of development outcomes). The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Borrower performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for borrower performance:* highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, and highly unsatisfactory.

Preface

This Project Performance Assessment Report (PPAR) is for Indonesia's Community-Based Settlement Rehabilitation and Reconstruction Project (CSRRP, P103457). The PPAR was completed at the request of the World Bank's Social, Urban, Rural, and Resilience Global Practice, which indicated significant learning potential from the project, and is based on an Independent Evaluation Group (IEG) strategy to conduct a cluster of project assessments on disaster risk management.

The World Bank approved the project as a recipient-executed trust fund on January 5, 2007. The project became effective April 9, 2007. After several extensions, restructurings, and two additional financings, the project closed June 30, 2015. Total project costs were $87.93 million against an appraisal estimate of $60 million. Most of the additional costs were associated with the project's increased scope. Originally intended to respond to two earthquakes in 2006, the project assumed much of the responsibility for addressing resettlement and construction of housing and infrastructure after several volcanic eruptions from Mount Merapi in 2010.

This PPAR is based on the findings and conclusions of reviews of the World Bank's project documentation and other relevant documentation, expert interviews, and a field mission to Indonesia by Richard J. Tobin, Endah Raharjo (in Special Region Yogyakarta), and May Hendarmini (in Jakarta), consultants to IEG, between June 17 and 28, 2019. Appendix D contains details on the methodology applied during the mission.

IEG gratefully acknowledges the contributions of all stakeholders, including World Bank staff in Washington, DC, and Jakarta, and stakeholders in Indonesia. Following standard IEG procedures, copies of the draft PPAR were shared with the relevant government officials and agencies for their review and feedback, but no comments were received.

Summary

Indonesia's provinces of Central Java and the Special Region of Yogyakarta experienced a 6.3-magnitude earthquake on May 27, 2006. It killed about 5,700 people, injured as many as 60,000, and destroyed or damaged more than 350,000 homes and other infrastructure. Estimated damages exceeded $3 billion. Seven weeks later, a second earthquake of 7.7 magnitude struck the special region and the provinces of West and Central Java. This earthquake generated a tsunami affecting 250 kilometers of Java's southern coast. The combined event killed more than 500 people and displaced more than 200,000.

The government of Indonesia committed approximately $600 million to fund the reconstruction and rehabilitation of approximately 255,000 homes in the earthquake-affected areas. Several development partners also contributed funds for a significantly smaller reconstruction initiative. At the government's request, the World Bank used these additional contributions to create a recipient-executed Java Reconstruction Fund (JRF). The World Bank used the JRF's resources to create the Community-Based Settlement Rehabilitation and Reconstruction Project (CSRRP) for Central and West Java and Yogyakarta Special Region. The CSRRP's objective was to assist in meeting the needs of eligible households for earthquake-resistant housing and community infrastructure in the affected areas. These objectives were to be achieved through a community-based approach in which beneficiaries would have a major role in decision-making about reconstruction of their homes and the construction of their communities' infrastructure.

The CSRRP became effective in early April 2007. The project's original completion date of June 2009 was extended several times, eventually to June 2015, because of additional financing and expansion of scope after eight volcanic eruptions of Mount Merapi in 2010. The eruptions damaged access to infrastructure and communities' social and economic facilities and required the relocation of thousands of households. The project's objectives were not revised with the additional financing.

The project's relevance of objectives and relevance of design are both rated **substantial**. The project's development objectives were relevant to the conditions that existed after the earthquakes in 2006 and were suitably adapted to the posteruption conditions in 2010. The project development objectives were also consistent with the government's strategies and with the World Bank's Country Assistance Strategy in effect when the project started, but they could have been more relevant had they included more explicit

attention to reducing disaster vulnerability, for example, through institutional aspects. The project's reliance on a community-driven approach was well suited to the needs of the affected communities. It promoted local ownership, benefited from reliance on Javanese cultural practices, and successfully reduced opportunities for corruption through direct, conditional cash transfers to community groups.

Achievement of the project's first objective, "to assist in meeting the needs of eligible households for earthquake-resistant housing," is rated **substantial.** Grants provided to villagers covered the costs of constructing "core" or incremental houses (frame, foundation, and roof but no walls) of up to 36 square meters (approximately 387 square feet) that would be earthquake resistant. The CSRRP was successful in reconstructing 15,153 houses that the earthquake had destroyed or severely damaged in May 2006. Another 2,516 houses were constructed in new locations after the volcanic eruptions. People occupying these houses were voluntarily relocated with the understanding that they could not reoccupy their former dwellings but could continue to use the agricultural land they owned in the volcano's highest-risk zones. The World Bank claimed the CSRRP was "one of the fastest housing reconstruction programs in the world." Despite this success, many homeowners have potentially compromised their homes' structural integrity and resilience to disasters through unregulated and unapproved enlargement, sometimes by adding a second floor.

Achievement of the project's second objective, "to assist in meeting the needs for community infrastructure in the affected areas," is rated **modest.** Support from the CSRRP led to the completion of 265 community settlement plans (CSPs) that identified proposed infrastructure projects and that were intended to "incorporate hazard risk management strategies, such as emergency preparedness planning, local hazard mapping, and awareness-raising." CSPs were to be developed before the initiation of housing reconstruction. This occurred in a few instances, but most CSPs were completed after the reconstruction of earthquake-affected homes had finished. Implementation of the CSPs led to the financing of 378 kilometers of village roads, 367 kilometers of drains and irrigation canals, 6,574 water supply systems, 1,162 communal toilets, more than 490 evacuation facilities, and signage in 310 villages.

The project was less effective in developing communities' capacity for emergency preparedness and district governments' capacity to integrate CSPs into higher-level development plans. Other than indicating that the CSPs had been developed, the project did not include any measurable indicators of outcomes related to the CSPs' enhancement of disaster risk reduction or increasing communities' capacity for

emergency preparedness. Neither the institutions included in the capacity building efforts nor the outcomes of these efforts are clear; they are not included in the World Bank's semiannual progress reports, aide-mémoire, or the Implementation Completion and Results Report.

The World Bank declared that dissemination of the CSPs to stakeholders and to local and provincial governments would be critical, but the plans were not widely distributed. Moreover, the Indonesian government had anticipated that the CSPs would be "living documents" that would evolve over time, but this did not occur. The plans are now largely irrelevant.

The project's efficiency is rated **modest.** The World Bank's project appraisal document (PAD) did not include an economic or financial analysis of the project's projected economic rate of return. Likewise, the World Bank's end-of-project assessment did not provide an ex post calculation of the rate of return or provide a comparison of actual unit costs with similar projects. The World Bank underestimated the unit cost of the in situ reconstruction of homes after the earthquakes. The cost of the project's management was far higher than anticipated, even when considering the project's expanded scope due to the eruptions. Had there been no volcanic eruptions, the project would have closed in June 2011, two years later than initially projected and three years after completion of all the housing reconstruction.

The project's overall outcome is rated **moderately satisfactory.** The project's development objectives were relevant to the prevailing conditions after the earthquakes in 2006 and suitably adapted to the posteruption conditions in 2010. The CSRRP was also consistent with the government's strategies at appraisal and with the World Bank's Country Assistance Strategy when the project started. The project's reliance on a community-driven approach was well suited for both situations. Thousands of earthquake-resistant homes were constructed, many subvillages were successfully relocated after the volcanic eruptions, and community infrastructure was rehabilitated or enhanced in many subvillages. The CSRRP was less successful in enhancing longer-term attention to disaster risk reduction, ensuring the longer-term utility of the CSPs, and in measuring or addressing efficiency.

The project's risk to development outcomes is rated **modest.** The community infrastructure the project funded is likely to continue in use for many years. This prospect is enhanced by communities' commitment to maintain the infrastructure. The project provided training on the operation and maintenance of the infrastructure and assisted in the creation of community groups responsible for the maintenance. Although

the project funded earthquake-resistant homes, this resistance is potentially in jeopardy because of the large number of houses that have been enlarged without building permits or suitable inspections, especially those on or near Mount Merapi. These houses are on the volcano's slopes and thus remain at risk because of their proximity to the ashes, noxious gasses, and lava flows associated with eruptions. Had these subvillages been in place during the eruptions in 2010, all their residents would have been evacuated and their homes placed at risk because of the eruptions.

Quality at entry is rated **moderately satisfactory.** The World Bank staff in the country office benefited from its experience in Aceh province, which had suffered from an earthquake and a tsunami in late 2004. They modified the Aceh approach to accommodate the circumstances in the three provinces and prepared a comprehensive PAD in just a few months. In addition, the World Bank took advantage of the presence of two existing World Bank–funded projects to begin reconstruction before funds from the CSRRP were available. Nonetheless, several parts of the design were overambitious in what could be done about risk reduction in a postdisaster situation.

The World Bank's quality of supervision is rated **moderately satisfactory**, as is overall Bank performance. World Bank staff were conscientious in their supervision of the project, which was aided by the task team leader's full-time presence in the country office and their lead role in preparing the PAD. The World Bank's semiannual project reviews were consistently comprehensive and forthright in acknowledging issues that were slowing or impeding project implementation.

The quality of supervision was less satisfactory in other areas. The JRF was a recipient-executed trust fund, which meant that the World Bank should not have had a role in its implementation. The World Bank's frequent interventions were well intentioned, but they risked undermining the government's ownership of the CSRRP. The project's results framework was not updated after work began on the posteruption activities, and there was no related reporting of results achieved relative to targets.

The government's performance over the life of the project is rated **satisfactory.** The project became effective in early April 2007, and funds were first released the next month. The national government was highly supportive of the project and provided additional funding to it. The provincial and district governments, especially in the special region, were particularly supportive.

The performance of the implementing agency, the Ministry of Public Works, is rated **satisfactory.** It facilitated the completion of the CSRRP's preparation and was

responsible for hiring people to oversee the project's implementation. This hiring was not always timely. In other instances, the project's teams found themselves understaffed and without the requisite expertise. These problems were not always addressed in a timely manner.

Key lessons from the experience of the project include the following (see section 7 for other lessons):

A community-based approach to postdisaster reconstruction can be effective and efficient in a context in which there is prior experience and existing institutions and cultural norms that favor it. Although a community-based approach has certain appeal and can facilitate successful reconstruction after natural disasters, this success is dependent on several preconditions, including a supportive social environment within affected communities. After the earthquakes, the reconstruction benefited from fortuitous circumstances that may not be present in other postdisaster situations.

Careful attention is essential in deciding who will be assisted financially in reconstructing homes, the amount of assistance to be provided, and the perceived effects and consequences of these decisions. For the victims of the earthquakes, the CSRRP had to decide whether to allocate scarce resources based on the level of damages sustained versus occupants' ability to cover their own costs of reconstruction. Favoring some groups relative to others can raise concerns about equity and fairness during a period of high social and economic vulnerability. The decisions required are not likely to be simple or straightforward.

The disaster resilience of project-provided housing can be undermined by subsequent expansion or enlargement of the housing. This is especially likely in contexts such as in Indonesia (in which homes are typically enlarged without building permits), when there is limited enforcement of building codes, and when building materials that will sustain homes' resistance to earthquakes are unaffordable to many homeowners.

Community settlement or similar development plans may not meaningfully support disaster risk reduction unless these plans meet several essential conditions. Based on the CSRRP's experience, these plans can enhance disaster risk reduction when they are (i) perceived as valuable and comprehensible to their intended users, (ii) well-integrated into the plans of higher-level governments responsible for disaster risk reduction, and (iii) routinely updated. Balancing beneficiaries' essential and immediate needs for housing is a challenge when these plans seek to address events that may never occur.

Women's participation in community-driven development is a challenge to ensure when their interests, experiences, and perspectives are not properly considered in a project's design, for example, through a gender analysis that identifies potential opportunities and obstacles to their meaningful participation in decision-making. Although the CSRRP mandated that women have leadership roles in the project's community-led reconstruction efforts, the requirement did not guarantee that their participation would be effective or that their perspectives would be incorporated into decision-making.

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1. Project Context

1.1 The densely populated province of Central Java and the Special Region of Yogyakarta experienced a 6.3-magnitude earthquake on May 27, 2006. The earthquake killed about 5,700 people, injured as many as 60,000, and destroyed or damaged more than 350,000 homes (almost double the number of homes destroyed by the earthquake and tsunami in Aceh and Nias in 2004) and many roads, drains, irrigation canals, and water supply systems. The earthquake affected six districts in Central Java and the entire special region, especially the Bantul district south of Kota Yogyakarta (that is, the city of Yogyakarta).[1] Estimated damages exceeded $3 billion; the U.S. National Centers for Environmental Information (formerly the National Geophysical Data Center) classified the total damage from the event as extreme.[2]

1.2 On July 17 of the same year, a second earthquake of 7.7 magnitude struck the special region and the provinces of Central and West Java. This earthquake generated a tsunami affecting 250 kilometers of south Java's coast. The combined event killed more than 500 people and displaced more than 200,000. In a village in West Java located approximately 150 meters off the coast, all the buildings were destroyed; there were no walls standing, and only the floors and foundations remained (Mori et al. 2007).

1.3 The earthquakes especially affected the poor. The government estimated that as many as 20 percent of the affected areas' population, approximately 900,000 people, were poor; another 66,000 people could fall into poverty if their basic needs were not addressed quickly. In several of the affected areas, annual incomes were less than half the national average (BAPPENAS et al. 2006). Homes of the poor were often not well constructed; therefore, they suffered more serious damage, exacerbating poverty levels for those already living on the fringe.

1.4 In response to these disasters, the government of Indonesia asked the World Bank to lead an assessment of the damages. Nearly 177,500 houses had been destroyed or heavily damaged in the special region and more than 104,000 in Central Java (World Bank 2007b). Despite the extensive damage, most of the provinces' public services and infrastructure remained intact, as did many commercial services, including the banking system.

1.5 Immediately after the earthquakes, the government requested that $10 million from the existing World Bank–sponsored Urban Poverty Project (UPP) be used for reconstruction and rehabilitation. Using these funds, more than 6,400 earthquake-resistant houses in 156 villages were completed by January 2007. In addition to funds for emergency disaster relief, several development partners committed funds for reconstruction of homes and community infrastructure.[3] With these contributions and at

the government's request, the World Bank created a recipient-executed Java Reconstruction Fund (JRF). Its objective was to provide improved housing and livelihood support for people who were adversely affected by the earthquakes. The World Bank used the JRF to establish the Community-Based Settlement Rehabilitation and Reconstruction Project (CSRRP) for Central and West Java and Yogyakarta Special Region. The negotiations between the World Bank and the government for the CSRRP's creation were completed in December 2006, but the project did not become effective until early April 2007. Funds were first released on May 30, 2007. This situation was due to donors' delay in financing the JRF. In addition, there was a need to resolve a conflict between what the World Bank had proposed in the project appraisal document (PAD) to disburse funding with a Ministry of Finance regulation on the management of government accounts.[4] Implementation was originally scheduled to end in December 2008 with project closure in June 2009.

1.6 For several reasons, discussed elsewhere in this report, the project's original completion date was extended. The project was also extended because of eight eruptions of Mount Merapi in October and November 2010. The volcano, less than 20 miles north of Kota Yogyakarta, is Indonesia's most active volcano and has erupted at least 35 times in the past century (Sofhani et al. 2018). Its average return period is less than four years. The eruptions in 2010 damaged access to roads, water, sanitation, irrigation, drainage, and communities' social and economic facilities, primarily in the special region's Sleman district.

1.7 The eruptions and their consequences caused more than 140 fatalities and the evacuation of more than 345,000 people. Most of the houses and agricultural land closest to the eruptions were destroyed and covered by ashes, sand, and gravel. Economic losses were high, and households suffered because of damage to shops, livestock, agricultural land, and home industries. Some areas became uninhabitable or extremely difficult to recover. Relocation of thousands of households was necessary. Due to the eruptions and the damage they caused, the government asked the CSRRP to oversee a portion of the necessary resettlement, construction, and rehabilitation of housing and community infrastructure in 55 villages; the project was already working in 45 of these villages through the CSRRP.

2. Relevance of the Objectives and Design

Objectives

2.1 As described in the World Bank's PAD, the project development objective (PDO) was "to meet the needs of targeted households for (i) seismic-resistant housing and (ii) community infrastructure in selected disaster-affected villages in Central and West Java

and Yogyakarta." According to the grant agreement with the government, the CSRRP's objective was "to assist in meeting the needs of eligible households for earthquake-resistant housing and community infrastructure in the affected areas." The objective in the grant agreement is the benchmark used in this report.

Relevance of the Objectives

2.2 The relevance of the CSRRP's objectives is rated **substantial.** The earthquakes created a massive need for the reconstruction of thousands of homes and community infrastructure, which was consistent with the government's objectives and complemented its own large-scale reconstruction program. By providing earthquake-resistant housing and community infrastructure, the project intended to address immediate needs for housing but also to reduce disaster risks through resilient construction standards and design. The program was also consistent with the government's Master Plan: Acceleration of Indonesia's Economic Development 2011–2025, which included climate and disaster resilience as a priority program.

2.3 Although disaster risk management was not a prominent part of the World Bank's Country Assistance Strategy (CAS) for 2003–07, the strategy did include objectives to reduce the vulnerability of households to poverty through "mitigating the sources of vulnerability such as conflict and natural disasters." The CAS Progress Report in 2006 added disaster risk management as a new core pillar for the World Bank's work in Indonesia. According to the progress report, the World Bank wanted to enhance disaster risk preparedness and response by strengthening institutional capacity and by assisting in the development of a coordinated proactive risk management framework. The World Bank's Country Partnership Strategy for 2009–12 identified five thematic areas at the core of the World Bank's engagement in Indonesia, including environmental sustainability and disaster mitigation. The expected development outcome for these areas was strengthened disaster risk reduction in development planning and administration. The Country Partnership Strategy for 2013–15 retained the World Bank's emphasis on disaster risk management.

2.4 Although the project objectives were broadly consistent with World Bank CASs, they could have been more fully aligned had they included more explicit emphasis on the CAS goals of reducing disaster vulnerability and improving disaster-related institutional capacity or risk management frameworks. In practice, those goals were implicit in the actual project design: the project's support for community settlement plans (CSPs) sought to strengthen villages' institutional capacity to plan and undertake hazard mitigation investments. Reflecting these goals more clearly in the objectives might have encouraged the project and its indicators to place greater emphasis on disaster vulnerability reduction goals.

Design

2.5 The CSRRP's community-based design was central to the project's implementation and the results achieved. The approach involved the active and ongoing participation of affected households in developing responses to their situation. For the CSRRP, this participation included decision-making about how reconstruction of homes should occur and what communities could or should do to increase their resilience to future natural disasters. The approach sought to create a sense of ownership of responses and solutions among households, engaged communities in the reconstruction of their houses and planning to increase resilience to natural disasters, and placed some of the financial costs of reconstruction on the households.

2.6 The community-based approach evolved through the World Bank–financed UPP and the Kecamatan Development Project (KDP) in Indonesia. Neither of these projects involved responses to natural disasters, but their community-based approach was a model for the World Bank's rehabilitation and reconstruction project that had helped build earthquake-resistant houses and village infrastructure in Indonesia's Aceh Province after the Indian Ocean earthquake and tsunami in late 2004. Based on these experiences, the World Bank adapted the approach to implement the CSRRP, which was widely known as Rekompak.

2.7 Regarding attention to disaster risk reduction, the Ministry of Public Works (MPW), the project's executing agency, concluded that the project's design "did not fully appreciate the need for nonphysical disaster risk-reduction measures, such as awareness-raising, training, and drills."[5]

Components

2.8 Component A: Housing reconstruction support grants to support communities in the reconstruction of approximately 18,000 seismic-resistant homes in Central Java and Yogyakarta using the Rekompak approach.[6] The individual reconstruction grants were initially about $2,200, but inflation caused the real value to decrease in later years. The grants were intended to cover the costs of constructing "core" houses (frame, foundation, and roof but no external walls) of up to 36 square meters (approximately 387 square feet) that would be earthquake resistant. Homeowners could choose to have a smaller but complete house constructed for the same amount of money. In either case, the expectation was that most households would be engaged in the reconstruction by contributing their labor, finances, or both to the process.

2.9 Component B: Block grants for priority infrastructure and hazard risk-reduction investments provided a minimum of approximately $27,700 per selected urban ward or

rural village for the rehabilitation of small-scale, priority tertiary infrastructure, such as roads, bridges, and retaining walls, as well as investments necessary for reducing vulnerability to future natural disasters (World Bank 2007a). The allocation of these grants depended on a community's development of a CSP.

2.10 Component C: Community education and quality assurance supported (i) the hiring of housing task force teams to oversee project implementation, construction standards, and quality; (ii) capacity building for project management at the community level; and (iii) community education for emergency preparedness and mitigation of future disasters.

2.11 Component D: Project implementation support, monitoring, and evaluation financed (i) a national management consultant team for the entire project; (ii) two district management consultant (DMC) teams to guide the efforts of the housing task force teams and to track implementation; (iii) a public communications program, a management information system, and a system to handle complaints; and (iv) a monitoring and evaluation framework, including an external and continuous social impact assessment during the project's implementation.

2.12 Two other factors are notable. First, the CSRRP used funds from the JRF to reconstruct homes after the earthquakes, but this reconstruction was a small part of a much larger effort. The government of Indonesia committed about $600 million to fund the reconstruction and rehabilitation of approximately 255,000 homes in the earthquake-affected areas.[7] The CSRRP's community-driven design was sufficiently appealing and relevant to the government because it used a similar community-based design in its own reconstruction initiative, but did not achieve the same quality of results (see the Achievement of the Objectives section). One consequence was that the CSRRP and the separate, but related, government-funded reconstruction program often worked simultaneously in the same villages, which are the lowest level of formal governance in Indonesia. The CSRRP provided training and guidelines as reference to the government.

2.13 Second, after Mount Merapi's eruptions, the project's two primary objectives remained relevant and unchanged. The project's original targets were not altered or adjusted even though the CSRRP added attention to livelihood activities for people who had been relocated because of the eruptions; expanded the scope of components B, C, and D; and received additional financing to address the expanded scope.

Restructuring

2.14 The CSRRP's implementation period was expected to end in December 2008 and to close six months later, but the project was extended several times. Due to the eruptions of Mount Merapi, two additional financings occurred in March 2011, and

more resources were provided in 2013. The project was last extended to June 30, 2015, to provide additional time to complete the CSRRP's activities.

2.15 Except during the restructuring that occurred in November 2009, which adjusted three PDO-level indicators, none of the subsequent restructurings led to any changes in the PDO or the project's indicators or targets. Appendix B shows the original and revised PDO-level indicators.

Implementation Arrangements

2.16 The government created a national steering committee for the rehabilitation and reconstruction of earthquake-affected areas in Central Java and Yogyakarta, but it was largely ineffective. The committee rarely met and not at all after 2007. Formal invitations to attend meetings did not appear to have been issued to the committee's intended institutional members. Some government officials that attended believed they were not representing their agencies but rather themselves (Meindertsma and Ludwig-Maarof 2009). Unlike the situation with the steering committee, the World Bank (2016, 8) found the national technical team, based in Kota Yogyakarta, to be "extremely effective." The team coordinated the efforts of the district and provincial governments and those of the key donors to the JRF.

2.17 For purposes of reconstruction after the earthquakes, the core and key implementation arrangement was at the subvillage level.[8] Based on geographic proximity, CSRRF's intended beneficiaries were placed into groups (Kelompok Permukiman [KP]) of 10 to 15 households. Each KP had three elected positions: a group leader, a secretary, and a treasurer. A woman had to fill at least one of these positions. To be eligible to be in a KP, a household had to meet four requirements. A household qualified for a reconstruction grant, *regardless of financial need*, if it

- Was within the project's geographic area and had not received assistance from any other donor for constructing or repairing a house;
- Joined other households to form a KP;
- Confirmed that its home had been destroyed by the disaster; and
- Proved that it had access to land, with priority given to those with clear land ownership.[9]

2.18 Despite the clarity of these criteria, an independent field survey found many inaccuracies in targeting beneficiaries (Kwarsa Hexagon 2010).[10] The primary problem was that approximately 1 in 12 households was receiving grants for reconstruction from more than one source.

2.19 Once a KP was formed, a bank account was established for it. The Ministry of Finance then made direct deposits to the account in tranches. Each KP initially received 30 percent of its total expected grant. Subsequent tranches of 40 and then 30 percent of the expected reconstruction grant were deposited to the group's bank account upon progress in implementing the reconstruction *of all houses in a KP* in a satisfactory manner.

2.20 This process of conditional cash transfers forced consensus and compliance among all members of a KP. If one household refused or did not reconstruct according to the agreed standards, which included seismic resistance, then the KP (and all its members) would not be eligible for a second or third tranche. Similarly, if a house had been constructed improperly, all problems with the construction had to be remedied before a subsequent tranche was provided to a KP, even if this meant that a house had to be torn down and the reconstruction restarted.

2.21 This implementation arrangement had several important and desirable features. According to respondents in several interviews and focus groups, each KP knew in advance how much money it would receive if it met the project's quality standards for reconstruction. The process allowed the rapid transfer of funds, empowered villagers to manage the housing grants, and placed responsibility for the technical quality of the reconstruction on members of each KP. The arrangement also bypassed, intentionally and completely, all intermediaries. The funds went from the Ministry of Finance to a bank and then directly to the KPs' bank accounts without first passing through the coffers of other national agencies or provincial, district, or village governments. This process reduced the risk of corruption in the transfer of the reconstruction grants from the national level to the intended beneficiaries by bypassing middle-level government. The process did not mitigate the risk of coercion and corruption within villages.

2.22 The roles and quality of the project's housing facilitators are important drivers of results, but identifying and hiring enough suitable facilitators was a recurring problem. The project provided facilitators with one week of training on seismic-resistant construction methods so that they could assist the KPs with the reconstruction of homes. An external organization did not formally certify the facilitators. The facilitators' terms of reference noted only that knowledge of local construction practices was "desirable," although they were supposed to be either engineers or architects. Facilitators also assisted in the identification of eligible beneficiaries, which was an expensive, time-consuming, and potentially contentious process, in the formation of KPs and their CSPs, and in the verification of the KPs' compliance with building standards (and thus approval of the second and third tranches of the reconstruction grants).

Relevance of the Design

2.23 The CSRRP's design is rated **substantial.** After the earthquakes and the immediate need for disaster relief, rapid reconstruction was a priority objective. The design reflected the lessons the World Bank had learned from its experience with the community-based approach in Aceh and awareness of Javanese culture, which emphasizes strong familial and communal bonds among households in subvillages. One example is the Javanese practice of *gotong royong*, in which villagers help each other in activities related to village development (Sofhani et al. 2018). In addition, the project leveraged two existing World Bank–funded projects, the UPP and KDP. The urban areas initially chosen to benefit from the CSRRP were already participating in the UPP, and the CSRRP adopted the UPP's governmental oversight systems. As an independent evaluation of the project concluded, the "project design and its impact are quite unique … the provision of a seismic-resistant housing structure rather than an entire house has increased ownership of the beneficiaries over the reconstruction process and decreased inefficiencies" (Meindertsma and Ludwig-Maarof 2009, 32).

2.24 The design engaged households, fostered their ownership of the process, and encouraged and even required their financial and labor-related contributions to the reconstruction of their homes. As the World Bank's Implementation Completion and Results Report (ICR) noted and multiple focus group discussions with beneficiaries confirmed, the CSRRP's design (i) established participatory processes for planning and managing investments in community infrastructure, (ii) institutionalized transparency and democracy from the bottom up to complement Indonesia's program of decentralization to districts, and (iii) established a system of checks and balances to encourage transparency, taking into account financial flows and flows of authority (World Bank 2016).

2.25 The CSRRP's design was well matched with the project's PDO in that it largely met the needs of eligible households for earthquake-resistant housing and contributed to improved community infrastructure.

3. Implementation

Planned versus Actual Expenditure by Component

3.1 Seven donors provided $94.1 million to the JRF, of which approximately $75 million was allocated to the CSRRP (see tables 3.1 and 3.2). A small portion of the JRF was used for post-Merapi activities, as were all the funds provided by the National Community Empowerment Program (Program Nasional Pemberdayaan Masyarakat) and the Indonesia Disaster Management Fund. In addition to the CSRRP, the JRF also

supported separate projects on livelihoods in the areas affected by the earthquakes. The International Organization for Migration and the Deutsche Gesellschaft für Internationale Zusammenarbeit implemented these projects.

Table 3.1. Sources of Funding for the CSRRP

Funding Source	Appraisal after Additional Financing *($, millions)*	Actual Expenditure *($, millions)*	Percentage of Appraisal *(percent)*
Java Reconstruction Fund	75.12	75.12	100.0
PNPM Support Facility	11.45	11.45	100.0
Indonesia Disaster Management Fund	1.40	1.36	97.0
Government of Indonesia	1.00	5.60	560.0
Total financing	88.97	93.53	105.1

Source: World Bank 2016.
Note: CSRRP = Community-Based Settlement Rehabilitation and Reconstruction Project; PNPM = Program Nasional Pemberdayaan Masyarakat (National Community Empowerment Program).

Table 3.2. Project Cost by Component ($, millions)

Component	Appraisal Estimate	Actual
A: Housing Reconstruction	42.0	37.98
B: Priority Infrastructure and Hazard Risk Reduction	11.0	30.19
C: Community Education and Quality Assurance	3.2	6.77
D: Project Implementation Support, Monitoring, and Evaluation	3.8	12.99
Total	60.0	87.93[a]

Source: World Bank 2016.
a. This figure does not include $5.6 million that the government of Indonesia provided.

3.2 Less money was spent on component A than anticipated because the government had budgeted more funds than it needed for its reconstruction efforts. The unused funds from component A were transferred to component B in December 2007.

3.3 The actual costs for component D ($12.99 million) and the government's expenditures for overhead ($5.6 million) meant that the cost of implementing the project was higher than had been projected at appraisal. The appraisal estimate was premised on a project of only two years duration, total funding of $60 million, and reconstruction of homes at their original sites. The project lasted more than eight years, and its scope was expanded significantly both before and after the volcanic eruptions. The project's original intent was to restore or enhance community infrastructure in 60 villages that

had sustained the highest level of damage from the earthquakes. The project was eventually implemented in more than 300 villages. The PAD had not anticipated the need for any relocation after the earthquakes, but it was essential after the eruptions. Creating entirely new subvillages along with their infrastructure was far more expensive administratively than reconstruction in situ, and this represented a major change to the project's scope. In addition, the CSRRP did not include any livelihood programs after the earthquakes. Such programs were provided to farmers and women after Mount Merapi's eruptions.

3.4 One issue of concern not reflected in the data in table 3.2 is that grant recipients, not the World Bank, are supposed to implement recipient-executed trust funds (RETFs). Despite this restriction, World Bank staff and consultants engaged in a number of activities that arguably constituted project execution or implementation. For example, a team of World Bank consultants was stationed in Yogyakarta for the first year of project implementation (World Bank 2016). In interviews, World Bank staff noted that the World Bank also provided intensive field implementation support and hired consultants to supervise and provide technical support at project sites, and it was actively involved in providing input to the training of consultants and facilitators. The World Bank also hired a geologist to study the risks of landslides associated with earthquakes and a social development specialist to enhance a good governance initiative. According to comments at a stakeholder workshop to evaluate the CSRRP, the World Bank's implementation of some activities led to misunderstanding of its role, which was "to support government programs instead of operating in parallel" to them.[11]

3.5 The World Bank's implementation support of RETFs is not uncommon in Indonesia, perhaps because the government often relies on direct guidance from the World Bank's country office, and there is a large volume of such funds in Indonesia. In mid-2008, for example, the country office's portfolio of trust funds was approximately $1.3 billion, with 179 active grants. RETFs represented approximately 90 percent of the portfolio, but the World Bank recognized the need to ensure the government's full ownership of trust-funded programs (World Bank 2008c).[12] Furthermore, an evaluation of the World Bank's trust funds in 2011 identified Indonesia as the only country among eight in the study where trust-funded activities were systematically incorporated into a CAS (World Bank 2011b). Previously, a CAS (now a Country Partnership Framework) guided the World Bank's efforts in assisting a country to achieve its economic and development goals.

Safeguards Compliance

3.6 The CSRRP triggered three World Bank safeguard policies: (i) environmental assessment, (ii) involuntary resettlement, and (iii) physical cultural resources. The

government's executing agency, the MPW, was responsible for the preparation of an environmental safeguard framework because the JRF was an RETF (World Bank 2015). The framework would indicate how the government would implement and ensure compliance with each of the three policies. Despite the requirement that the government prepare the environmental safeguard framework, the World Bank's country office prepared it and then provided it to the ministry, which then submitted the framework to the World Bank.

3.7 **Environmental Assessment** (Operational Policy 4.01)**.** The PAD anticipated that the CSRRP would have moderate environmental effects with a likely need for some routine mitigation and monitoring. The project's environmental effects, according to the PAD, would be localized, short-term, and reversible and thus in Environmental Screening category B. By requiring households to bear some of the costs of reconstruction, Rekompak encouraged these households to reuse or recycle building materials from the homes that had been destroyed or damaged. Other environmental benefits included investments in improved drainage, clean water supplies, and public toilets using community septic tanks. Some respondents noted, however, that these septic tanks filled more quickly than projected and produced unpleasant odors.

3.8 The reconstructed homes and some of the community infrastructure funded by the CSRRP required lumber to support their roofs. The World Bank was concerned that demand for lumber might encourage households to harvest lumber illegally or purchase it from sources that had obtained it illegally or from conservation or protected forests rather than from areas legally open to logging. To mitigate these possibilities, the World Bank insisted that all lumber be tracked to ensure that it was obtained legally. The project was able to confirm that approximately 95 percent of the lumber used in the reconstruction was properly certified as legally obtained from the place of purchase. By contrast, the project staff was unable to confirm that the firms selling the lumber had obtained it legally and in compliance with the government's forestry policies.

3.9 **Involuntary Resettlement** (Operational Policy 4.12)**.** The PAD noted that involuntary resettlement because of the earthquakes was possible but unlikely. None occurred.

3.10 After Mount Merapi's eruptions, relocation to newly created settlements was the only viable option for at least eight subvillages in the special region's Sleman district. Despite the belief of high-level officials in the region that the project would not be able to convince entire subvillages to relocate as a single "unit," the project was able to do so in several instances. Sixteen new subvillages with 2,516 houses were successfully constructed (as were cowsheds) and provided with water, electricity, and solid waste disposal in new places farther from the volcano's highest-risk zones, but still on its

slopes. The households were *voluntarily* relocated with the understanding that they could not reoccupy their former dwellings but that they could continue to use the agricultural land they owned in the high-risk zone.

3.11 More than three years after the eruptions, approximately 600 households, including an entire subvillage, had decided not to relocate. In addition, some relocated households returned to the former homes in the highest-risk zone. The government of the special region has discouraged such relocation or encouraged relocation of those who chose not to move by cutting off their electricity in some subvillages—only to be frustrated by the ongoing willingness of public officials in Central Java to provide electricity to these households.

3.12 **Physical Cultural Resources** (Bank Operational Policy 4.11)**.** The PAD did not identify any specific concerns about cultural properties. The World Bank triggered the policy in anticipation that villages' proposed projects funded through component B might have an adverse effect on the properties. The policy became relevant when some people began to sell cultural property and when some properties were being rehabilitated inadequately (World Bank 2016).[13] In other instances, reconstructed houses were deemed architecturally inconsistent with a community's cultural heritage. In April 2010, the CSRRP received an additional grant of $5.2 million to address higher-than-expected costs for the preservation of cultural heritage. These funds were used for the rehabilitation of traditional houses and local infrastructure. Whether this effort created any additional wealth or increased property values is unclear. The CSRRP did not collect data that addressed these issues.

Financial Management and Procurement

3.2 The World Bank prepared a comprehensive anticorruption strategy and was conscientious in its implementation. Nonetheless, the project experienced recurring weaknesses with financial management for its first five years, which encompassed all the project's postearthquake activities. An early review in November 2007 rated the project's financial management as moderately unsatisfactory, with 17 issues rated either moderately satisfactory or unsatisfactory because of inconsistent compliance with the World Bank's guidelines on financial management, incomplete financial reporting, and many weaknesses at the community level and with consultants. Regarding financial management, the risk was rated substantial from 2007 through early 2012. Only in 2013 was this risk rating increased to moderate, suggesting that problems remained. This moderate risk rating remained in effect through the end of the CSRRP.

3.13 Some problems with procurement occurred throughout the project, but few were significant. Some delays in procurement occurred because the donors' commitments to

the JRF were not always provided in a timely manner. The project received an unqualified opinion from an independent auditor in all years.

4. Achievement of the Objectives

Objective 1: To Assist in Meeting the Needs of Eligible Households for Earthquake-Resistant Housing

4.1 The efficacy rating for this objective is **substantial.** The CSRRP achieved its targeted value of the reconstruction of slightly more than 15,000 earthquake-resistant homes after the earthquakes and an additional 2,516 homes after the volcanic eruptions.

Reconstruction of Damaged Homes

4.2 The CSRRP was instrumental and successful in reconstructing 15,153 earthquake-resistant houses in the special region and Central Java that had been destroyed or severely damaged by the earthquake in May 2006. The original target had been the reconstruction of 18,000 houses, but the target was reduced in 2008 to the number achieved because of the government's ability to fund more reconstruction than initially anticipated. The World Bank branded the CSRRP to be "one of the fastest housing reconstruction programs in the world" (World Bank 2008a, 2). The trust fund's first disbursement was at the end of May 2007; by July 2008, all houses had been reconstructed. Despite this success, more than 9,000 of the houses had been completed without first having received a building permit legally required before any construction can begin (World Bank 2008b).[14]

4.3 An independent review concluded that the CSRRP had introduced "unprecedented" engineering and environmental standards, had contributed to the "highly successful overall reconstruction and rehabilitation actions, and had established best practices worthy of wide international dissemination" (Meindertsma and Ludwig-Maarof 2009, 8 and 59). Similarly, the CSRRP was successful in managing the voluntary relocation of thousands of people from Mount Merapi's highest-risk zones and the subsequent construction of 2,516 earthquake-resistant houses in 16 new subvillages on the volcano's slopes after its eruptions.

4.4 Nearly all households that benefited from the CSRRP reported their satisfaction with their newly constructed homes, and participants in several focus groups confirmed their agreement, but satisfaction is not a suitable indicator of outcomes. More than 98 percent of constructed or reconstructed houses were occupied at project completion (the target was 80 percent), and approximately 95 percent of the beneficiary tenants, both men and women, were satisfied with their new homes (Kwarsa Hexagon 2008;

Meindertsma and Ludwig-Maarof 2009).[15] This result should not be surprising. The project provided better quality structures than the homes that had been destroyed and covered the cost of the core structure without cost to their occupants.

4.5 The CSRRP was successful in completing reconstruction much faster than in other postdisaster situations (Hodgkin 2016). Putting these accomplishments into perspective emphasizes the project's success with reconstruction. Although the government's much larger reconstruction efforts had also relied on a community-based approach similar to the CSRRP's, the results were not the same. The quality of the CSRRP-supported reconstruction was widely judged better. As one analysis of the government's efforts concluded, "The rush to reconstruct, combined with limited funds, little training, and a lack of enforcement of building codes, has resulted in a generally low quality of construction….The overall poor quality of construction…has almost certainly placed more people at increased risk of larger, heavier building elements collapsing upon them" (Hodgkin 2016, 2).[16] Fortunately, no subsequent large earthquakes have tested the resilience of the reconstructed households.

4.6 The CSRRP's accomplishments deserve praise but also reflection. For most households, the project provided resources to build a core structure of 36 square meters, which included a concrete floor, columns to support a roof, and a roof—but no walls. Each of these structures was designed to be earthquake-resistant and independently certified as such by experts. The World Bank reported that all core structures had been inspected and certified for earthquake-resistant design standards (World Bank 2016). This information was supposedly based on a census of these houses, but some project beneficiaries reported that only sampling had occurred in their villages. Other respondents insisted that no verification of any kind had occurred. As early as May 2007, the World Bank had found that the system to track compliance with earthquake-resistant standards was "unsystematic and haphazard" (World Bank 2007b, 4). Several months later, the World Bank noted that some facilitators were not checking each stage of the reconstruction process before certifying the newly constructed homes as earthquake resistant. The World Bank was so troubled about this situation that it informed the government's national program manager that it was seriously considering suspending further housing grants until the issue was resolved.[17]

4.7 The core incremental housing that the project provided had at least two outcomes.[18] First, the approach allowed more core structures to be constructed than would have occurred had the project funded the construction of complete houses with walls. Second, the incremental approach allowed occupants to increase the size of their homes when funding and materials became available, and many have done so. Consequently, homeowners have potentially compromised their homes' structural integrity and their resilience to earthquakes through unsupervised enlargement.

Interviews with beneficiaries indicated that the portion of homes that had been enlarged in their villages ranged from more than half to nearly all.[19] This situation created a conundrum. Once a KP received the last tranche of funding, the project no longer had any leverage to influence enlargements of the reconstructed houses. Similarly, although expansion of the core structures was predictable, the project's designs for the core structures could not have accommodated all possible vertical or horizontal expansions to ensure that the houses would retain their resistance to earthquakes.

4.8 In the interest of economy and affordability, many residents may have used substandard building materials to enlarge their homes rather than the higher quality materials necessary to meet the CSRRP's standards. These standards, one analysis claimed, required a quantity of steel and concrete that most villagers could not afford (Meindertsma and Ludwig-Maarof 2009).[20] The reconstructed homes were typically much smaller than the multifamily homes people had occupied before the disasters. As one resident commented, his newly reconstructed house was smaller than the kitchen in the home his family had occupied before the earthquake. Many residents more than doubled the size of their homes, especially in the areas affected by the earthquakes

4.9 In the houses built after the volcanic eruptions, other homeowners added a second floor (appendix C provides some examples). Most of the post-Merapi homes are row houses that share interior walls, so only vertical expansion is possible. Such expansion requires foundations and support columns to bear considerable additional weight, which the project's core structures are unlikely to accommodate. Although building permits were required in many instances, few people obtained them or have had their expanded homes inspected to ensure that they retain their resistance to earthquakes.

4.10 The reconstruction process was not free of concerns. A few respondents did not believe that the eligibility requirements were applied fairly or objectively, with the consequence that some beneficiaries supposedly had their homes reconstructed because of political connections or their status in a community. Other respondents noted a gap between need and the residents' ability to cover the costs of reconstruction. The CSRRP sought to reconstruct houses that had been destroyed or were the most severely damaged without considering a family's financial ability to rebuild without the CSRRP. According to one well-informed respondent, this meant that some relatively well-to-do homeowners had their homes rebuilt, and the CSRRP might have neglected the poorest residents whose homes had suffered less damage. The counterpoint is that objectively determining the wealth and size of families was beyond the CSRRP's scope and ability. Moreover, government policy required that the same amount of money be provided to all eligible recipients regardless of their economic status or the size of their families. In contrast to the CSRRP's selection procedures included in the PAD, the government's

concurrent reconstruction program prioritized attention to the most vulnerable, primarily widows, the elderly, families with young children, and the poor (Maly, Kondo, and Shiozaki 2012).

4.11 Some members of the KPs' leadership teams complained about the many community meetings that they were expected to attend (in some instances more than 50) and the fact they were unpaid volunteers doing nearly full-time work for their KPs.

4.12 There was contradictory evidence about how much choice intended beneficiaries had in the designs of their reconstructed or newly constructed homes. The project staff noted that beneficiaries could choose from more than 25 designs for their new homes, but respondents in several focus groups said that they had little or no choice.

Addressing the Concerns of Renters

4.13 Typical of many urban areas of Indonesia, renters are common. Although no figures are readily available on the number of renters the earthquakes affected, the first earthquake destroyed or severely damaged almost 22,000 homes in Kota Yogyakarta (Idham and Mohd 2018). Despite this destruction, the CSRRP provided grants only for the reconstruction of owner-occupied houses, not those of renters. Even if renters occupied only a small percentage of these homes, this would leave many families in need of housing. Likewise, landlords that rented out multiple homes were eligible for a grant through their KPs, but only for the core, incremental structures that were provided to the project's other beneficiaries. For many landlords, this meant that they were unlikely to have the resources to rebuild houses for their former tenants, especially because there were no grants or subsidies to do so.

4.14 There is limited information on how well the housing needs of renters were met. The PAD indicated that the project would address renters' needs, but the World Bank subsequently indicated that the government provided "support packages" for renters. A retrospective analysis of the earthquake's effects concluded that no programs by either government or nongovernment actors targeted the needs of the rental sector. In reality, the analysis concluded, "many government and nongovernment programs excluded renters and landlords with criteria requiring proof of ownership and or written consent to reconstruct on the given plot to receive assistance" (Hodgkin 2016, 26). The World Bank's own retrospective analysis did not discuss whether or how well renters' housing or other needs had been met (World Bank 2012). Likewise, the World Bank's end-of-project review (2016) of the CSRRP makes no mention of renters. Evidence from other World Bank–supported postdisaster projects reveals that the best way to respond to the needs of renters is an issue yet to be resolved.

Objective 2: To Assist in Meeting the Needs for Community Infrastructure in the Affected Areas

4.15 The second objective is rated **modest.** The CSRRP funded (i) the rehabilitation of communities' priority infrastructure and (ii) investments necessary for reducing vulnerability to future natural disasters. The plans successfully accomplished the first task but were less successful with the second.

Community Settlement Plans

4.16 Participating villages developed CSPs that identified proposed infrastructure projects, and that would "incorporate hazard risk management strategies, such as emergency preparedness planning, local hazard mapping, and awareness-raising" (World Bank 2007a, 24). CSPs were intended to include attention to these issues for all subvillages. The project hired hazard risk management experts to assist communities in developing and implementing their hazard risk-reduction investment program as part of their CSPs.

4.17 The CSRRP's efforts led to the completion of 265 CSPs and the financing of 378 kilometers of village roads, 367 kilometers of drains and irrigation canals, 6,574 water supply systems, 1,162 communal toilets, more than 490 evacuation facilities, and signage in 310 villages. Communities selected their preferred infrastructure projects and included them in their CSPs, so it was not possible for the CSRRP to establish related targets. The project also attempted to develop communities' capacity for emergency preparedness and preservation of cultural heritage as well as district governments' capacity to integrate CSPs into higher-level development plans.

4.18 The success of these efforts was mixed. On the one hand, the project trained its facilitators and workers about recommended construction practices. The World Bank (2007b, 14) deemed the training of some facilitators to be "insufficient." A few facilitators did not realize it was their responsibility to ensure quality control of the postearthquake reconstruction of homes. In addition, the results or outcomes of the training are unclear; they were not discussed in the project's semiannual Implementation Status and Results Reports, aide-mémoire, or the end-of-project ICR. On the other hand, some local governments eventually integrated CSPs into their annual planning processes, but Meindertsma and Ludwig-Maaroof's (2009, 34) assessment of the earthquake-related CSPs concluded that the CSRRP had "not made any efforts to align or synergize the CSPs with existing village plans."

4.19 At least some community infrastructure was reconstructed and rehabilitated in all but 4 of the 310 project villages. Combining results of surveys from areas affected by

the earthquakes and volcanic eruptions, 91 percent (versus a target of 80 percent) of project beneficiaries, both men and women, were satisfied with the community infrastructure, but this is not an indication of its quality or probative value to disaster risk reduction.

4.20 Other than indicating that the CSPs had been developed, the project did not include any measurable indicators of outcomes related to the CSPs' effectiveness in enhancing disaster risk reduction or increasing communities' capacity for emergency preparedness. The earthquakes and volcanic eruptions provided a fortuitous occasion to address disaster risk reduction in the affected areas. Residents and governments alike had experienced situations they did not want to encounter again. The damages that occurred reminded people of their vulnerability to future disasters, which include drought, flooding, and landslides in some areas. As the World Bank (2008a, 8) explained, the government viewed the CSPs as an "excellent opportunity" for establishing a nationwide platform for community disaster preparedness. Furthermore, the World Bank declared that village planning was "urgently needed" to guide reconstruction because of concerns about the possibility of haphazard spatial development. In short, the disasters created an opportunity to wed recovery and reconstruction with efforts to enhance disaster risk reduction. Did this marriage occur and, if so, how well? Answering these questions is a challenge. The World Bank's interest in drawing lessons from disaster risk-reduction projects provided a primary rationale for this report, so interviews during the fieldwork in Indonesia sought to understand how the CSPs were developed and the extent to which they enhanced attention to disaster risk reduction.

4.21 Completion and implementation of the CSPs were often delayed. The original expectation was that the CSPs would be developed concurrently with planning for and completion of postearthquake reconstruction. In a few instances, this occurred; in most other instances, CSPs were completed after the reconstruction of earthquake-affected homes had finished. All earthquake-related reconstruction of homes had been completed by July 2008; the first 20 CSPs were completed in May 2008. As one review noted, the "development and implementation of CSPs [after the earthquakes] encountered a number of problems. The piloting of [these] 20 CSPs was repeatedly delayed" (Meindertsma and Ludwig-Maarof 2009, 7).[21] The reason, the review concluded, was that there was no capacity on either the community side or the project side to develop the CSPs in parallel with the reconstruction efforts. Part of the explanation was that facilitators suitably trained on disaster risk reduction were in short supply, especially at the beginning of the project. Many of the project staff also lacked an understanding of disaster risk reduction (Meindertsma and Ludwig-Maarof 2009). This situation created a paradox. The norm is to plan then build (or reconstruct), but the

model applied in many villages was to rebuild first and then plan for infrastructure and possible attention to disaster risk reduction.

4.22 This build-then-plan model led to some problems. The earthquake-related reconstruction occurred at the original sites of the destroyed or damaged houses, which meant there was no need for relocation to other sites. This had obvious appeal, but suitable planning was not always evident. An independent assessment of housing reconstruction in a random sample of 116 subvillages in early 2008 found that nearly 80 percent of the project's housing units had been constructed without proper layout or consideration of proximity to other houses or potentially hazardous infrastructure because of land-tenure issues (World Bank 2008a).[22] Some reconstructed homes were built in floodplains and were subsequently flooded during monsoon seasons.

4.23 The CSPs have not seen sustained use. Among the villages visited for this review, leaders in all but one were unable to locate them; others had no idea where they were or they thought they knew where they might be. A possible explanation for this situation is the turnover among local officials and the diminished relevance of the CSPs, which are now as many as 6 to 10 years old. As one World Bank respondent also noted, the CSPs were not expected to be valid or of use for more than five years. This perspective contrasts with the government's belief that the CSPs were "living documents" that would evolve over time.[23]

4.24 The CSPs were not widely distributed, despite the World Bank's belief that dissemination of the CSPs to stakeholders and the local and provincial levels was critical (World Bank 2009). Interviewees suggested that at least five copies of each village's CSP had been printed, but few village officials had any idea who might have a copy of their CSPs other than the firm that had prepared them. The PAD noted that the project's facilitators and its two district management teams (one in Yogyakarta and one for Central and West Java) would approve CSPs for the provincial governments and the MPW. In addition, regional agencies for planning and development had to approve the CSPs. Meindertsma and Ludwig-Maarof (2009) found that local governments had acknowledged the CSPs' existence but had not approved them.

Planning for Disaster Risk Reduction

4.25 There is limited evidence that CSPs influenced district- or regional-level planning, especially for disaster risk reduction. District-level offices of public works in Bantul and Sleman (both in the special region) did not have copies of their villages' CSPs. The local agencies for planning and development in Sleman also did not have any CSPs; the planning agency in Bantul had 26 that the CSRRP had funded plus another 49 the district had funded. This office had used these CSPs to prepare a districtwide development plan, although not for any purposes related to disaster risk reduction, for

which it no longer has any responsibility. That responsibility was transferred to the provincial-level disaster management agency (Badan Penganggulangan Bencana Daerah) when it was created in the special region in 2011. The agency's mandate includes attention to all planning and management for disaster risk reduction, but the agency was unaware of the CSPs' existence, explaining, "Knowledge about mitigation belongs to the community, not the government."[24]

4.26 The project did little to strengthen the capacity of local and district governments to respond more effectively to future disasters and jeopardized sustained attention to disaster risk reduction. The World Bank (2008a) had emphasized that local governments "must be intensively involved" in reviewing CSPs to ensure consistency with their planning strategies, but this did not occur. An independent evaluation of the CSRRP concluded that the CSPs represented stand-alone documents with insufficient links to existing plans and reflected a "lack of systematic involvement" of local governments in the CSPs' design and implementation (Meindertsma and Ludwig-Maarof 2009, 7; World Bank 2016). The MPW concurred with this conclusion. As late as 2011, the World Bank found that some "common community members" did not fully understand their CSPs, and they lacked familiarity with the plans' content (World Bank 2011a, 3). As the project's ICR concluded, "The original project design paid limited attention to disaster risk management and the development of links between CSP and higher-level local government plans, partly because these were not seen as priorities in the immediate aftermath of the disasters" (World Bank 2016, 14). This was an unfortunate omission.

4.27 Several respondents in focus groups noted concerns about the quality and value of the CSPs for disaster risk reduction. Some were done well, but others were prepared hastily and may have provided either too much or too little information. Some CSPs were 200 pages or more, which was more than some villages could meaningfully digest or use. The MPW's project completion report in World Bank (2016, 48) on JRF-funded activities concluded that the CSPs "were considered to be too complicated by many communities." Meindertsma and Ludwig-Maaroof's evaluation of the JRF in 2009 observed that the CSPs represented "shopping lists" without focus, with unclear prospects for funding and doubts about the disaster risk reduction-related merits of the projects. The World Bank reached a similar conclusion, noting that the CSPs' focus on disaster risk reduction was "relatively weak" with too much emphasis on issues unrelated to disasters, such as the lack of water or sanitation (Meindertsma and Ludwig-Maarof 2009, 36; World Bank 2008b, 25).[25] The World Bank and the government share responsibility for this situation. The World Bank developed the CSP concept and required completion of the plans before villages could receive grants for housing reconstruction (World Bank 2007a).[26] In turn, the government's primary responsibility was implementing the project and hiring the facilitators.

4.28 The plans typically included multiple maps of villages, but with insufficient detail, and their language and format should have been simplified. In other instances, the maps showed rivers but not areas vulnerable to flooding. Much of the mapping of potential hazard-prone areas was informal and not technologically or geospatially sophisticated; much of the mapping was based on villages' self-surveys in collaboration with the project's facilitators. The perceived value of the CSPs also varied widely. One village used its own resources to update its original CSP. One village leader said he never wanted to see the CSP again because it would mean that another disaster had occurred. Such a perspective suggests that some CSPs were perceived as a tool for disaster response rather than for risk reduction.

Raising Awareness of the Risks of Natural Disasters

4.29 There is some evidence that people in the three provinces have increased their awareness of the risks to which they are exposed, but the CSRRP did not collect any data to measure such changes. The World Bank's midterm review (2008a, 15) did note that increased awareness about earthquake-resistant construction, maintenance, and expansion of houses was "limited." When village leaders were asked how often they conducted evacuation drills, the answers ranged from rarely to possibly once a year. When they did occur, not everyone in a village participated. The houses constructed and reconstructed through the CSRRP have two exits to facilitate evacuation during a disaster, but many of the second exits are blocked by stored materials inside homes or discarded materials outside of homes. Some villagers declined to resettle and continue to live and work in Mount Merapi's highest-risk zone. Many more continue to farm in that zone, and some have even returned after being relocated to safer locations and provided with new core structures at no cost.

4.30 The enlargement of CSRRP-subsidized homes without building permits and without any assurance that the homes are earthquake resistant suggests that the project's building standards have neither changed the culture of construction nor the demand for the kinds of homes that people want. In the words of one disaster risk-reduction expert, "Information on disaster-resistant construction techniques appears to have never been adequate or sufficiently convincing particularly in regard to critical steel and concrete construction details" (Hodgkin 2016, 27).

4.31 Changes in a property's market value due to consideration of risk are a possibility but a remote one. In rural villages, there is little transfer of ownership other than intergenerational transfers and extremely limited in-migration that would create demand for property sales. In any event, the CSRRP did not assess changes in market price changes from either a risk perspective or a distributional perspective.

Empowerment of Women

4.32 The CSRRP sought to empower women, the poor, and other vulnerable populations. Rural Java is a patriarchal society in which women have traditionally been expected to be submissive to male authority; therefore, their participation in formal decision-making is uncommon (Tickamyer and Kusujiarti 2012).[27] In addition, women's participation in community-driven development (CDD) is a challenge. The most unfortunate consequences of a natural disaster typically fall on those who can least tolerate them. These groups are highly susceptible to losses and often experience the most difficulty during recovery. The World Bank's task team emphasized that "active participation of women [would be] a critical element" for the project's success and that effective consultation during the preparation of CSPs "should be a condition for final approval of the CSP" (World Bank 2007b, 6 and 10). The World Bank's midterm review (2008a) found limited meaningful participation by women and other vulnerable groups. The review concluded their participation in decision-making was unsatisfactory.[28] An evaluation of the CSRRP for the European Commission concluded that the quality of input from women remained both low and unsatisfactory and that their needs had not been assessed adequately (Meindertsma and Ludwig-Maarof 2009).

4.33 A separate assessment found that female-headed households were especially at risk of exclusion from decision-making because of male-only community meetings. Women in several female-led focus groups confirmed this finding, but their participation varied from one community to another. In some villages, women participated effectively and played prominent roles but only in instances in which women had such roles before the disasters. In other villages, their roles were perfunctory and relatively unimportant, which reflected the situation before the disasters. Approximately 30 percent of KP team leaders were women. When women were included in meetings, men's priorities still tended to dominate to the exclusion of women's preferences that CSPs include attention to health and education. One village leader provided a contrasting perspective. When asked how women had contributed to reconstruction in his village, he responded stereotypically: women in his village had prepared food for construction workers. A key government official with a prominent responsibility in the project made the same point, emphasizing that women did not have a big role and that their role was "traditional."

4.34 On the supply side, which the project team controlled, the level of women's participation in the CSRRP's implementation was also limited. Women infrequently served as project facilitators.

4.35 If effectively designed and implemented, CSPs have considerable appeal. Communities are largely responsible for their development, and external funds are

provided to operationalize the plans, which can include due attention to disaster risk reduction. With the CSRRP, however, the ideal was not achieved. Although far more plans were developed than originally intended, many of them were completed after the housing reconstruction and with much less attention to disaster risk reduction in areas highly prone to natural disasters with potentially catastrophic consequences. The village-level plans had little influence on district or provincial planning agencies, and they do not contribute to any current planning or preparation for possible future disasters.

5. Efficiency

5.1 This project's efficiency is rated **modest.** The PAD did not include an economic or financial analysis of the project's projected economic rate of return. This absence is not uncommon among projects that address reconstruction and efforts to ensure resilience after natural disasters (World Bank 2019). The World Bank's end-of-project assessment (2016) also did not provide an ex post calculation of the economic rate of return or provide a comparison of actual unit costs with similar projects. For these reasons, the Independent Evaluation Group's earlier assessment of the CSRRP rated efficiency as modest.

5.2 The PAD had projected the average unit cost of houses to be reconstructed after the earthquakes to be $2,333. The actual cost per unit was approximately $2,500. This amount contrasts with what appears to be an error in the ICR's discussion of efficiency (World Bank 2016).[29] In addition, the amount of the housing grants was increased to approximately $3,300 from $2,200 in December 2012 after the volcano eruptions. The lower amount funded in situ reconstruction and the reuse of some building materials. The larger amount was intended to accommodate the need for complete relocation to new, post-Merapi sites and homeowners' inability to reuse building materials that the eruptions had destroyed. According to a World Bank staff member, however, an amount lower than $3,300 might have achieved similar results. Likewise, the cost of the project's management was far higher than anticipated, even when considering the project's expanded scope due to the eruptions. Originally estimated to be $1 million, actual costs for overhead and project management was $5.6 million. Had there been no volcanic eruptions, the project would have closed two years later than initially projected and three years after completion of all housing reconstruction.

6. Ratings

Outcome

6.1 The project's outcome is rated **moderately satisfactory.** The project's development objectives were relevant to the prevailing conditions after the earthquakes in 2006 and suitably adapted to the posteruption conditions in 2010. The CSRRP was also consistent with the government's strategies at appraisal and to the World Bank's ongoing CAS when the project started. The project's reliance on a community-driven approach was especially well suited for both situations. It promoted local ownership; benefited from reliance on Javanese cultural practices, namely gotong royong, and successfully reduced opportunities for corruption through direct, conditional cash transfers to community groups. Thousands of earthquake-resistant homes were constructed, many subvillages were successfully relocated, and community infrastructure was rehabilitated or enhanced in many subvillages. The CSRRP was less successful in enhancing longer-term attention to disaster risk reduction, in ensuring the longer-term utility of the CSPs, and in calculating or addressing efficiency.

Risk to Development Outcome

6.2 The risk to the project's development outcomes is rated **modest.** The community infrastructure the project funded is likely to continue in use for many years. This prospect is enhanced by communities' commitment to maintain it. The project provided training on the operations and maintenance (O&M) of the infrastructure and assisted in the creation of community groups responsible for O&M. In turn, communities agreed to collect fees to fund the O&M, and local governments were required to make official commitments of resources for O&M for large infrastructure projects. By contrast, although the project funded earthquake-resistant homes, this resistance is potentially in jeopardy because of the large number of houses that have been enlarged without building permits or suitable inspections, especially those near Mount Merapi. These new subvillages remain on the volcano's slopes and, thus, are still at risk because of their proximity to the ashes, noxious gasses, and lava flows associated with eruptions. Had these subvillages been in place in 2010, all their residents would have been evacuated and their homes placed at risk because of the eruptions that year. In addition, the three provinces, especially the special region, are prone to earthquakes.

Bank Performance

Quality at Entry

6.3 The project's quality at entry is rated **moderately satisfactory.** The World Bank staff in the country office benefited from its experience in Aceh, modified the approach used there to accommodate the circumstances in the special region and Central Java, and prepared a comprehensive PAD in just a few months. In addition, the World Bank took advantage of the presence of two World Bank–funded projects, the UPP and the KDP, to begin reconstruction before funds from the CSRRP were available. The choice of the Rekompak approach was appropriate, as was the decision to use direct cash transfers to the KPs. After Mount Merapi's eruptions, the World Bank easily transitioned to its expanded responsibilities without having to make any major changes in its approach or processes for implementation. Nonetheless, the project was overambitious in expecting that all the earthquake-related reconstruction and development and implementation of the CSPs could be completed in two years. The project was similarly too ambitious in assuming that villagers would be willing to devote their time to the CSPs' future risk-reduction components at the same time as they were rebuilding their homes.

Quality of Supervision

6.4 The project's quality of supervision is rated **moderately satisfactory**, as is overall Bank performance. World Bank staff was conscientious in its supervision of the project. Supervision was aided by the task team leader's full-time presence in the country office (versus Washington, DC) and the team leader's role in preparing the PAD. He also served as the team leader for the entire eight-plus years of the project, which avoided losses of institutional memory. As the World Bank (2016) noted, it placed a team of consultants in Yogyakarta for the project's first year. This supervision enabled the World Bank to identify and address issues adversely affecting achievement at an early stage. The World Bank's semiannual project reviews were consistently comprehensive and forthright in acknowledging issues that were slowing or impeding implementation.

6.5 The government was satisfied with the World Bank's supervision. After Mount Merapi's eruptions, the government asked the World Bank to manage and supervise the resettlement activities, including those the government financed.

6.6 The quality of supervision was less satisfactory in other areas. The JRF was an RETF, which meant that the World Bank should not have had a role in its implementation. The World Bank's interventions were well intentioned, but the World Bank strongly discourages such interventions. They risk undermining ownership of an RETF, pose undue conflicts of interest, and can create reputational risk for the World Bank (World Bank 2015).[30] The World Bank did not update the project's results

framework after work began on the posteruption activities, and there was no related reporting of results achieved relative to targets in the World Bank's semiannual supervision reports.

Borrower Performance

6.7 The borrower's performance over the life of the project is rated **satisfactory.** The project was approved in January 2007 and became effective in early April 2007. Funds were first released on May 31, 2007. The delay was due to a regulation affecting the management of government accounts. The regulation had to be changed before funds from the trust fund could be released. Further delays occurred in early 2008 when the project had to wait for the national government's approval of a detailed project budget. Due to the delay, project facilitators were not paid for two months. Once these issues were addressed, there remained a few further concerns about the national government's performance; it was highly supportive of the project and provided additional funding to it (see the Implementation section). The provincial and district governments, especially in the special region, were particularly supportive. As noted in one review, support for the reconstruction effort from the government of the Special Region Yogyakarta "brought a high level of political and administrative unity to the response making communications and coordination across the area far smoother than may otherwise be expected" (Hodgkin 2016, 9).[31] Officials in Bantul district waived the fee for building permits.

Implementing Agency Performance

6.8 The project's implementing agency performance is rated **satisfactory.** The MPW facilitated the completion of the CSRRP's preparation and was responsible for hiring a national management consultant team to oversee the project and two DMC teams to assist in and track implementation. As part of these responsibilities, the DMCs were tasked with hiring consultants, but this hiring was not always timely. In other instances, the DMCs found themselves understaffed and without the requisite expertise. These problems were not always addressed in a timely manner. As a result, the DMCs were initially unable to meet their responsibilities, such as ensuring effective coordination with local and provincial governments, conducting systematic quality checks on reconstructed houses, or monitoring the project's progress, outputs, and compliance with the World Bank's safeguard policies. These concerns were eventually addressed and, over the longer term, did not impair project implementation.

Monitoring and Evaluation

Design

6.9 The quality of monitoring and evaluation is rated **substantial.** The CSRRP's results framework included eight PDO-level indicators, six of which addressed the project's first objective, and two addressed the second objective (see appendix B). There were six indicators for intermediate outcomes, but several of them represented supply-side outputs, such as the percentage of housing grants disbursed. None of the indicators addressed targets or objectives that would allow an assessment of the CSPs' contributions to disaster risk reduction. Likewise, the design was deficient in that it was not revised to accommodate any changes in targets after the volcanic eruptions.

Implementation

6.10 The project's management information system tracked progress, including 11 of 14 indicators shown in appendix B. The system was not used effectively during the project's key initial months in 2007. A separate, independent evaluation of the project was scheduled for late 2007, but the performance of the contractor was judged unsatisfactory. The agreed sample size for a survey had been 1,000, but the contractor had completed only 116, with what the World Bank considered a flawed questionnaire and poor analysis (World Bank 2008a). The evaluation contractor eventually completed two reports with a satisfactory sample size (Kwarsa Hexagon 2008, 2010). The World Bank completed a midterm review in March 2008 and rated overall performance as satisfactory and as achieving most performance indicators. The MPW conducted its own evaluation of the project in 2009. No comprehensive evaluation of the CSRRP subsequently occurred, although the project continued for another six years. Therefore, other than knowledge of the outputs produced, the effectiveness and efficiency of the project's posteruption activities remain uncertain.

Use

6.11 The project's website included information on the project's status and verification of data for transparency and accountability. According to the ICR, the monitoring and evaluation results helped identify and address important implementation issues, such as coordination with the CSPs, maintenance of community infrastructure, cultural heritage preservation, and demands for community infrastructure (World Bank 2016). From the government's perspective, by contrast, the project's monitoring and evaluation was used as a means of supervision and inspection rather than as a feedback and adjustment system that allowed participants to learn from their experiences (World Bank 2016). After the project shifted its attention to the

posteruption activities, no indicators or targets reported in the World Bank's semiannual status reports were added or adjusted, which meant that what constituted success was not known or defined for these activities, including its efforts to address livelihood issues.

7. Lessons

7.1 **A community-based approach to postdisaster reconstruction can be effective and efficient in a context in which there is prior experience and existing institutions and cultural norms that favor it.** Although a community-based approach has certain appeal and can facilitate successful reconstruction after natural disasters, this success is dependent on several preconditions, including a supportive social environment within affected communities. After the earthquakes, the reconstruction benefited from fortuitous circumstances that may not be present in other postdisaster situations. The World Bank learned from its prior experience with the less-effective community-based reconstruction in Aceh and had two ongoing projects, KDP and UPP, in the affected areas that also used a community-based approach and facilitators. Funds from the UPP were available for reconstruction before the JRF became effective. The first interventions after the earthquakes involved more than 150 villages that were part of the UPP, and 200 of the project's facilitators were almost immediately available to work with the CSRRP. The World Bank's team leader for UPP and a community recovery project in the earthquake- and tsunami-affected areas of Aceh and North Sumatra was also the team leader for the CSRRP. Furthermore, the Javanese cultural practice of gotong royong was compatible with the approach, and local and provincial governance, notably in the special region, was strong, effective, credible, and intact (MacRae and Hodgkin 2011).[32] The CSRRP adopted UPP's local, provincial, and national oversight systems, and the JRF's executing agency, the MPW, had also worked with the World Bank during the reconstruction in Aceh. Finally, after Mount Merapi's eruptions, most villagers were successfully relocated to land they already owned collectively. This situation solved the common problem of finding suitable areas for relocation after a disaster (Maly, Iuchi, and Nareswari 2015). This was especially meaningful because most of the relocated people were farmers who could still use the land they had farmed before the eruptions.

7.2 Decisions about the suitability of a community-based approach after future disasters need to consider which of these factors are essential before choosing a community-based approach. The availability of a sufficient number of *experienced* facilitators and a functioning banking system fall into the latter category. However appealing the approach may be, it is not necessarily well suited for other countries or perhaps even for other parts of Indonesia.[33] After more than a decade of experience with CDD in Indonesia, including the CSRRP's completion of all earthquake-related

construction, the World Bank (2011c, 16) concluded, "There is little documentation of what specific aspects of CDD projects work or do not work well in a postdisaster context and why."

7.3 **Careful attention is essential in deciding who will be assisted financially in reconstructing homes, the amount of assistance to be provided, and the perceived effects and consequences of these decisions.** For the victims of the earthquakes, the CSRRP had to decide how to allocate scarce resources considering the level of damages sustained and occupants' ability to cover their own costs of reconstruction. After the earthquakes, project staff and villagers developed lists of homes that had been destroyed or that had suffered the most damage, but this was often a laborious and time-consuming process. The CSRRP provided equal amounts of assistance irrespective of their owners' relative wealth or ability to pay. This approach was easy to implement, although it advantaged well-to-do villagers at the expense of the poorest community members, whose homes may not have been destroyed or severely damaged but who could not afford to repair the damage that had occurred. Favoring some groups relative to others can raise concerns about equity and fairness during a period of high social and economic vulnerability. The decisions required are not likely to be simple or straightforward.

7.4 The right level of assistance was not easy to determine. Initially, $2,200 was deemed an appropriate amount. In the special region, the separate government-sponsor reconstruction program provided grants of approximately $1,650 per household. After the volcanic eruptions, the CSRRP increased the per-household amount to $3,300, but this amount was higher than any increases in the rate of inflation and possibly more generous than necessary.

7.5 The disaster resilience of housing can be undermined when projects and processes do not sufficiently consider and accommodate the likelihood of postconstruction renovation and enlargement, especially when there is lax or limited enforcement of building codes. The CSRRP was successful in providing earthquake-resistant core structures, but this did not ensure that homeowners would subsequently retain this resistance after being enlarged or expanded without building permits, without professional supervision, and without considering whether doing so would increase the homes' vulnerability to earthquakes. Such a possibility might be mitigated by changes in the design of reconstructed houses and better enforcement of permitting requirements. Unfortunately, improved postdisaster enforcement of building standards must contend with political priorities that favor the allocation of benefits rather than the imposition of unpopular restrictions. These priorities are well beyond the control or influence of most projects.

7.6 **Community settlement or similar development plans may not meaningfully support disaster risk reduction unless these plans meet what may be several essential conditions.** Based on the CSRRP's experience, these plans can enhance disaster risk reduction when they are (i) perceived as valuable and comprehensible to their intended users, (ii) well-integrated into the plans of higher-level governments responsible for disaster risk reduction, and (iii) routinely updated. Balancing beneficiaries' essential and immediate needs for housing is a challenge when these plans seek to address events that may never occur.

7.7 **Women's participation in CDD is a challenge to ensure when their interests, experiences, and perspectives are not properly considered in a project's design, such as through a gender analysis that identifies potential opportunities and obstacles to their meaningful participation in decision-making.** Although the CSRRP mandated that women have leadership roles in the project's community-led reconstruction efforts, the mandates did not guarantee that their participation would be effective or incorporate their perspectives in decision-making.

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[1] The Special Region of Yogyakarta is a provincial-level autonomous region and the only officially recognized monarchy within Indonesia. The special region is subdivided into four regencies or *kabupaten* (Bantul, Gunung Kidul, Kulon Progo, and Sleman) and Kota Yogyakarta, its capital city.

[2] For more information, see the Significant Earthquake Database, National Centers for Environmental Information (formerly the National Geophysical Data Center) at https://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.ngdc.mgg.hazards:G012153;view=iso.

[3] The donors included the European Commission (the largest donor), plus Asian Development Bank, Canada, Denmark, Finland, the Netherlands, and the United Kingdom.

[4] As the World Bank (2008a, 2) explained, the government was unable to disburse funding quickly "because of new regulations set by the Ministry of Finance regarding the management of government accounts. The new regulation prohibits the creation of master accounts by the ministry for projects, as proposed in the project." This situation delayed disbursement, but $10 million in retroactive financing had been provided in December 2006.

[5] See World Bank (2016), "Summary of results of stakeholder workshop in Jakarta," November 12, 2015, Annex 6. In fairness to the project, the Ministry of Public Works also noted that many of these activities were undertaken during implementation.

[6] Although the project appraisal document had projected that as many as 1,000 houses in West Java would be reconstructed, the Community-Based Settlements Rehabilitation and Reconstruction Project (CSRRP) did not fund any reconstruction of homes in the province. Local

governments and national agencies, including the Ministry of Marine Affairs, assumed responsibility for all housing reconstruction in West Java.

[7] In contrast to the Java Reconstruction Fund, which initially provided grants of approximately $2,200 per household for reconstruction, the government's much larger reconstruction program provided the same amount per household in Central Java but approximately $1,650 in the special region.

[8] Each village typically has multiple subvillages. For example, Bantul district has 17 subdistricts and 75 villages, including Srimartani, which has 17 subvillages. The population of Srimartani is typically stated as the sum of the populations of the 17 subvillages. Without the subvillages, Srimartani would have no inhabitants.

[9] See Jha et al. (2010) for a useful discussion of who should receive support for reconstruction of their homes after a natural disaster. The report emphasizes that each disaster requires its own criteria for determining who receives assistance.

[10] World Bank (2007b and 2008a) had also identified problems with targeting of beneficiaries. Duplication of benefits is a common occurrence. Immediately after many disasters, multiple organizations provide humanitarian assistance that is not as well coordinated as might be desired. After an earthquake in Pakistan in October 2005, for example, the World Bank worked with 68 partner humanitarian organizations in nearly 22,000 villages. These organizations could intervene for reconstruction only after reaching an understanding with the government's Poverty Alleviation Fund Project. After an earthquake in Nepal in April 2015, it took some time to streamline the recovery system and to identify who had received duplicate benefits. As of mid-2019, the government has recovered approximately $2 million from beneficiaries who received housing grants from more than one source.

[11] See World Bank (2016), "Summary of Results of Stakeholder Workshop in Jakarta," November 12, 2015, Annex 6.

[12] Concern about the role of the World Bank's country office in Indonesia in the implementation of recipient-executed trust funds (RETFs) is not limited to the CSRRP. The Independent Evaluation Group identified similar concerns about the "operational implications" of managing the RETF for the Basic Education Capacity Project in Indonesia (World Bank 2014, 6).

[13] World Bank (2012) provides an example of what the project did to preserve Java's cultural heritage.

[14] As the World Bank's country office in Jakarta explained, local governments provided approval in principle for the typical design before the reconstruction. Official applications for building permits were submitted only after the completion of reconstruction because of the large number of houses and the related paperwork. The retroactive approval process rendered moot a requirement that an application for a permit include signed permission from all owners of adjacent properties. This requirement should be put in context. Few houses in Indonesia receive building permits because of weak enforcement and limited government capacity.

[15] These results are also found in the Implementation Completion and Results Report (ICR; World Bank 2016).

[16] Hodgkin (2016) and Meindertsma and Ludwig-Maarof (2009, 33) reached the same conclusion: "The quality aspect [of the CSRRP's reconstruction efforts] only holds true for the CSRRP-reconstructed houses. The high-level quality could not be achieved on [government of Indonesia] reconstructed houses."

[17] See the letter from George Soraya, CSRRP task team leader, to Mr. Danny Sutjiono, Ministry of Public Works, October 31, 2007.

[18] Incremental housing represents a process in which homeowners improve or enlarge their homes as resources, time, or materials become available. For a discussion of some reasons for and benefits of incremental housing, see Wakely and Riley (2011).

[19] Ikaputra (2008) reported that 97 percent of houses in one village had been expanded. Ikaputra observed that most of the expansion in this village had been done in compliance with guidelines on structural frame extension. Maly, Iuchi, and Nareswari (2015) also found that a majority of new households had been expanded.

[20] Kwarsa Hexagon (2010) reported the same finding, namely that beneficiaries were not certain whether future expansion of their homes would be in accordance with the project's requirements because of price and economic considerations. See also Idham and Mohd (2018).

[21] The delays in completing community settlement plans (CSPs) led the government to extend the project's closing date so that the CSPs could be implemented (World Bank 2008a).

[22] The independent assessment also found that the reconstructed housing "had not been accompanied with appropriate facilities and [this] potentially creates environmental problems in the future, for example, floor elevation at the same level as the yard, poor management of water supply and sanitation, etc." (World Bank 2008a, 30).

[23] See World Bank (2016), "Summary of Results of Stakeholder Workshop in Jakarta," November 12, 2015, Annex 6.

[24] In the agency's defense, it was not created in the special region until 2011, so it could not have been a recipient of the CSPs from the earthquake-affected villages.

[25] Almost two years later, the World Bank noted that the CSPs remain "a very weak part of the current planning processes facilitated by the project" (World Bank 2010, 3).

[26] As noted previously, most of the CSPs were completed after the reconstruction grants had been given to Kelompok Permukimans.

[27] Tickamyer and Kusujiarti (2012) studied gender relations in one village in Sleman and another in Bantul. See also IFRC and RCS (2009).

[28] Kwarsa Hexagon (2010, 8), in the midterm review, also found low levels of participation among all beneficiaries, noting that the extent of beneficiaries' participation in decision-making was "very low."

[29] World Bank (2016) incorrectly noted that all the project's core houses had been constructed (that is, 17,769 = 15,153 after the earthquakes plus 2,519 after the volcanic eruptions) at 90 percent of the cost envisioned at appraisal ($42 million). In fact, the cost of reconstructing only the earthquake-related houses was $37.98 million. The ICR's calculations omitted (i) the $2.5 million the project received in the second additional financing in November 2010, a portion of which was intended to finance the construction of 172 new housing units after the eruptions, and (ii) the $11.5 million the CSRRP received in March 2011 from the Program Nasional Pemberdayaan Masyarakat Support Facility to provide approximately 2,500 additional housing grants for households displaced by the eruptions.

[30] The World Bank can execute activities through an RETF only in "exceptional circumstances," such as when the recipient is a new member country or inactive borrower or when civil strife has adversely affected a government's administrative capacity. When the World Bank executes activities through an RETF, it can do so only upon a specific written request from the recipient with subsequent approval from a regional vice president, Global Practice vice president, or a managing director (World Bank (2015, 2–3).

[31] The special region has a well-respected hereditary sultan who concurrently serves as the region's unelected governor, in contrast to the elected governors in all other provinces.

[32] Erin Joakim (2013) provides additional examples of factors that facilitated the success of reconstruction after the 2006 earthquake.

[33] In July and August 2018, three strong earthquakes struck the island of Lombok causing widespread structural damage to shelter and public infrastructure. A Rekompak approach was used to assist with housing reconstruction and was considered less successful than in the CSRRP's three provinces. The post-tsunami reconstruction in Aceh also relied on a community-driven development approach but has been severely criticized for its waste, ineffectiveness, and poor outcomes. As one author concluded, "Before we become sanctimonious about the superiority and promises of the community development approach, it is important to acknowledge some of the difficulties in practice and the complexity of the relief and reconstruction effort in Aceh," adding, "Some groups of survivors fared better than others. The more organized survivors, particularly men, negotiated better support than the less organized or less assertive groups" (Kenny (2007, 212). Others who have noted Yogyakarta's unique situation include MacRae and Hodgkin (2011) and Maly, Iuchi, and Nareswari (2015).

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Appendix A. Basic Data Sheet

Community-Based Settlement Rehabilitation and Reconstruction Project for Central and West Java and Yogyakarta Special Region, P103457

Table A.1. Key Project Data

Financing	Appraisal Estimate *($, millions)*	Actual or Current Estimate *($, millions)*	Actual as Percent of Appraisal Estimate
Total project costs	61	93.53	153.3
Grant amount	60	87.93	146.6
Cofinancing	1	5.60	560.0

Source: World Bank (2016).

Table A.2. Cumulative Estimated and Actual Disbursements

Fiscal Year	Disbursements		
	Appraisal estimate *($, millions)*	Actual *($, millions)*	Actual as percent of appraisal estimate
2007	42	15.00	
2008	55	47.27	85.9
2009	60	54.32	90.5
2010		64.10	
2011		73.32	
2012		85.07	
2013		86.62	
2014		88.07	
2015[a]		87.93	

Source: World Bank (2016) and data provided by the World Bank's country office in Jakarta.
a. In fiscal year 2015, there was a refund or cancellation of $140,000.

Table A.3. Project Dates

Event	Original	Actual
Concept review	10/23/2006	10/23/2006
Negotiations		
Approval	01/05/2007	01/05/2007
Signing		
Effectiveness	04/09/2007	04/09/2007
Closing date	06/30/2009	06/30/2015

Table A.4. Staff Time and Cost

Stage of Project Cycle	World Bank Budget Only: Staff time *(no. weeks)*	World Bank Budget Only: Cost[a] *($, thousands)*
Grant preparation		
FY07	26.61	134.6
FY08	1.10	2.9
FY12	28.71	1.0
Total	56.42	138.5
Supervision or ICR		
FY07	18	31.13
FY08	53	82.68
FY09	53	84.88
FY10	18	34.53
FY11	70	111.90
FY12	35	62.25
FY13	35	63.35
FY14	35	64.55
FY15	18	40.33
FY16	18	47.13
Total	353	622.73

Source: World Bank (2016) and data provided by the World Bank's country office in Jakarta.
Note: FY = fiscal year; ICR = Implementation Completion and Results Report.
a. Including travel and consultant costs.

Appendix B. CSRRP Indicators

Table B.1. The CSRRP Indicators and Results Achieved at Closure

PDO Indicators	Target Value	Achieved Value
At least 80 percent of the houses are occupied by project completion. Original indicator: Approximately 18,000 eligible households had their shelter reconstructed or repaired by project completion date.[a]	≥80%	98%
At least 80 percent of beneficiaries, both men and women, are satisfied with the reconstructed housing. Original indicator: Basic, small-scale infrastructure was restored in approximately 60 villages in affected areas by project completion date.[a]	≥80%	95%
At least 80 percent of beneficiaries, both men and women, are satisfied with the community infrastructure. Original indicator: 80 percent satisfaction level among beneficiaries as measured by an independent survey[a]	≥80%	91%
Remaining households in roof structures not transitioned into permanent houses	0	0
Percentage of roof structures occupied by beneficiaries	0%	0%
Number of completed houses meeting satisfactory seismic-resistant standards	17,800	17,669
Number of households living in seismic-resistant, community-built permanent housing	17,669	17,386
Percentage of target villages that have restored basic community infrastructure	85%	99%
Intermediate Outcome Indicators		
Percentage of roof structures to beneficiaries that conform to pre-agreed specifications	100%	100%
Number of trained Housing Task Force teams operational in target villages	70	100
Percentage of community surveys and group implementation plans completed	100%	100%
Percentage of grants disbursed for housing reconstruction	100%	100%
Level of awareness of beneficiaries, both men and women, of entitlements and project processes	n.a.	90%
Percentage of complaints resolved within three months	90%	90%

Source: World Bank 2016.
Note: CSRRP = Community-Based Settlement Rehabilitation and Reconstruction Project; n.a. = not applicable; PDO = project development objective.
a. This indicator was revised in November 2009 as part of the first additional financing.

Appendix C. Photographs of Enlarged Houses

Figure C.1 shows a comparison of a reconstructed house as built with one that was subsequently expanded. Both post-Merapi homes are the same size (36 square meters) and appearance at completion as the home on the left.

Figure C.1. A Enlarged House (on the Right)

Source: Independent Evaluation Group.
Note: Argomulyo, Sleman District.

Figure C.2 shows an enlarged home in Kerang Kendall subvillage. Two adjacent homes were connected and then enlarged to create a single, multifamily house. This house is approximately 264 square meters.

Figure C.2. An Enlarged Home in Kerang Kendall Subvillage

Source: Independent Evaluation Group photo.

Appendix D. Methodology

The Independent Evaluation Group selected the Community-Based Settlement Rehabilitation and Reconstruction Project (CSRRP) for a Project Performance Assessment Report (PPAR) based on a suggestion from World Bank management that there could be important lessons to learn from the project and as part of a cluster of disaster risk management project PPARs.

The PPAR is based on a review of the World Bank's project-related documents and a review of the extensive published literature on the reconstruction in Indonesia after the earthquakes and volcanic eruptions, and key informant interviews and focus groups as part of a two-week mission to Indonesia in June 2019. This mission spent most of its time in the Special Region Yogyakarta.

The mission combined interviews with World Bank staff involved in project supervision, villagers, government officials, and other experts, as well as focus group discussions with beneficiaries in villages and subvillages in which the CSRRP was implemented. Key informants were identified based on discussions with World Bank staff and consultants and a review of documentation and external literature.

Within the government of Indonesia, respondents in Jakarta included those who had played key roles in the project's management and implementation. Although the project included three provinces, interviews with key provincial- and district-level public officials were intentionally limited to the special region, which suffered more than 80 percent of the 5,700 deaths associated with the earthquake in May 2006. Among the deaths within the province, almost 90 percent occurred in the Bantul district, south of Kota Yogyakarta. Similarly, the province's Sleman district, north of Kota Yogyakarta, suffered most of the damages associated with Mount Merapi's eruptions in 2010.

Villages visited by the evaluation were selected to cover villages affected by both the earthquake and the volcanic eruptions and based on expert advice from World Bank staff and the availability of villagers to meet with the assessment team.

Within the two districts, interviews were conducted with government officials, a sample of residents, and the formal and informal leaders in villages that had been affected by one or both of the natural disasters, which were among the project's intended beneficiaries. The data collection also involved several focus group discussions in the villages. How villages selected the respondents is not known, but all had experienced the consequences of either the earthquake or the eruptions and all were familiar with the CSRRP, or at least Rekompak, the project's local name.

The evaluation included several separate, female-only focus groups because of the project's emphasis on community-based development and the World Bank's insistence that women would play a critical role in the project's success. All focus groups provided qualitative evidence to frame the evaluation.

Appendix E. List of Persons Interviewed

World Bank, Jakarta

George Soraya, Lead Management Engineer and task team leader, Community-Based Settlement Rehabilitation and Reconstruction Project (CSRRP)

Sri Probo Sudarmo, consultant, community-based development

Iwan Gunawan, Senior Natural Resources Specialist

Kumala Sari, Operations Analyst and CSRRP Implementation Completion and Results Report (ICR) co-team lead

Parwoto Tjondro Sugianto, consultant, community-based development

Government of Indonesia, Jakarta

Adjar Prayudi, former director for building and settlements, Ministry of Public Works (MPW)

Aswin Sukahar, MPW, Directorate for Settlements, former project officer for Rekompak

Danny Sutjiono, former director of program development and of water supply, Directorate General of Human Settlements, MPW, and project manager, Urban Poverty Project; formerly head of the project management unit for the CSRRP

Special Region Yogyakarta

Heny Nursilawah, Head of Subdivision of Postdisaster Rehabilitation and Reconstruction, Badan Penganggulangan Bencana Daerah

Paulis Bawole, Professor of Architecture and Design, Universitas Kristen Duta Wacana

Teuku Faisal Fathani, Professor of Geotechnical Engineering and Director, Center for Disaster Management and Technological Innovation, Universitas Gadjah Mada

Dave Hodgkin, Principal Director, Humanitarian Benchmark Consulting

Gatot Saptadi, Regional Secretary, Special Region

Bakti Setiawan, Professor and Director, Faculty of Engineering, Department of Architecture and Planning, Universitas Gadjah Mada

Wijang Wijanarko CSRRP facilitator during Mount Merapi relocation and consultant on training and physical development

Special Region Yogyakarta, Bantul District

Triyanto, Head, Economic and Infrastructure Division, Badan Perencana Pembangunan Daerah (BAPPEDA)

Priyanto, Head, Subdivision of Special Planning and Development, BAPPEDA

Panjangrejo Puntong, Staff, Economic and Infrastructure Division, BAPPEDA

Heny Endrawah, Head of Subdivision of Software, BAPPEDA

Suyanto, Staff, BAPPEDA

Fenty Yusdayati, Head, Communication and Information Office, Bantul District, and former head of BAPPEDA, Bantul District

Ari Budi Nugroho, Head, Environment Office, Bantul District

Special Region Yogyakarta, Bantul District, Sumbermulyo Village

Supriyanto, Village Head

Asih Harjanti, Secretary, Community Board of Trustees

Supriyana, Coordinator, Community Board of Trustees

Satini, member, Community Board of Trustees

Wiji Lestari, member, Community Board of Trustees

Suparjilah, member, Community Board of Trustees

Eko Guswanto, member, Community Board of Trustees

Aloysius Bayu Nuswantara, homeowner of CSRRP-reconstructed house, Bondalem subvillage

Suryanti, homeowner of reconstructed house, Bondalem subvillage

Special Region Yogyakarta, Bantul District, Sewon Village

Wahyudi Anggoro Hadi, Subvillage Head, Panggungharjo subvillage

Junaedi, Member, Community Board of Trustees

Special Region Yogyakarta, Bantul District, Wonolelo Village

Akhmat Furqon, Village Head

Munajat, Head of Economic Development

Lasiyo, member, project implementation team, Office of Public Works

Slamet Widodo, Office of Public Works

Wahyu Dwiyanto, member, village staff

Special Region Yogyakarta, Bantul District, Srimartani Village

Lilik Raharjo, Chief of Planning Department

Suratman, Chief of Social Economic Department

Special Region Yogyakarta, Sleman District

Kunto Riyadi, Head, BAPPEDA

Dona Saputo Bintang, Head of Land and Special Planning, BAPPEDA

Kelik Nurrochmawardi, Head of Housing Division, Public Works Office

Saiful Bachri, Head, Rehabilitation and Reconstruction Division, Badan Penganggulangan Bencana Daerah Sleman

Special Region Yogyakarta, Sleman District, Argomulyo Village

Dardjono, Village Head

Agung Nugroho, Head of Welfare Office

Retno Indah, Cadre of Health and Welfare

Sumarni, Cadre of Health and Welfare

Sri Yanta, Subvillage Head, Banaran subvillage

Atis Munandar, Subvillage Head, Jetis subvillage

Eru Beju Subekti, Subvillage Head, Bakalan

Special Region Yogyakarta, Sleman District, Glagaharjo Village

Teguh, Subvillage Head, Ngancar subvillage, homeowner of CSRRP-reconstructed house

Partinah, resident, Ngancar subvillage, homeowner of CSRRP-reconstructed house

Special Region Yogyakarta, Sleman District, Kerang Kendal Village

Asih, head of neighborhood and homeowner of CSRRP-constructed house

Central Java, Boyolali District, Musak Village

Heri Suprapto, Village Head

Suryantio, resident, Pagerjurang subvillage and homeowner of CSRRP-constructed house

Sihman, resident, Pagerjurang subvillage and homeowner of CSRRP-constructed house

Astuti Prihatin, resident, Pagerjurang subvillage and homeowner of CSRRP-constructed house

Rukini, resident, Pagerjurang subvillage and homeowner of CSRRP-constructed house

Juminten, resident, Pagerjurang subvillage and homeowner of CSRRP-constructed house

Sulasmi, resident, Pagerjurang subvillage and homeowner of CSRRP-constructed house

Other

Mohamed Hilmi, Senior Coordinator and Technical Specialist, Shelter, Settlements, and Disaster Risk Reduction, InterAction, Washington, DC