

# Safer Homes, Stronger Communities

## A Handbook for Reconstructing after Natural Disasters

Abhas K. Jha  
*with*  
Jennifer Duyne Barenstein  
Priscilla M. Phelps  
Daniel Pittet  
Stephen Sena



THE WORLD BANK

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GLOBAL FACILITY FOR DISASTER  
REDUCTION AND RECOVERY



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# The Process of Response and Reconstruction

## DISASTER EVENT

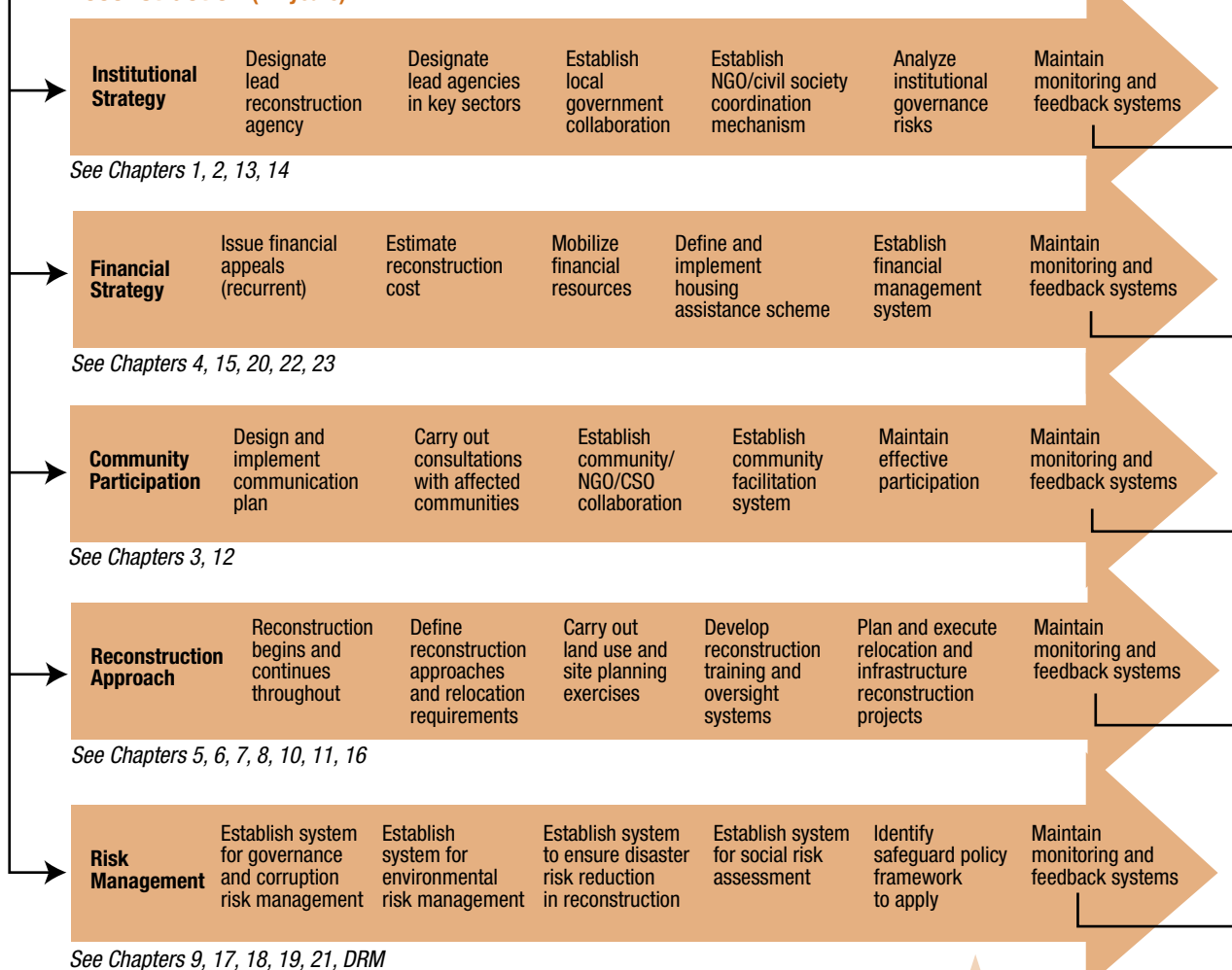
### Initial Response (2 weeks)



### Assessment and Policy Making (2 months)



### Reconstruction (2+ years)



## RECONSTRUCTION COMPLETE



# A NOTE TO THE POLICY MAKER

## Background

*Safer Homes, Stronger Communities: A Handbook for Reconstructing after Disasters* was developed to assist policy makers and project managers engaged in large-scale post-disaster reconstruction programs make decisions about how to reconstruct housing and communities after natural disasters.

As the handbook demonstrates, post-disaster reconstruction begins with a series of decisions that must be made almost immediately. Despite the urgency with which these decisions are made, they have long-term impacts, changing the lives of those affected by the disaster for years to come.

As a policy maker, you may be responsible for establishing the policy framework for the entire reconstruction process or for setting reconstruction policy in only one sector. The handbook is emphatic about the importance of establishing a policy to guide reconstruction. Effective reconstruction is set in motion only after the policy maker has evaluated his or her alternatives, conferred with stakeholders, and established the framework and the rules for reconstruction.

As international experience—and the examples in the handbook—clearly demonstrate, reconstruction policy improves both the efficiency and the effectiveness of the reconstruction process. In addition to providing advice on the content of such a policy, the handbook describes mechanisms for managing communications with stakeholders about the policy, for improving the consistency of the policy, and for monitoring the policy's implementation and outcomes. The handbook does not tell you exactly what to do, but it should greatly improve the likelihood that the reconstruction policy that is established leads to good outcomes.

## Defining the Reconstruction Policy

The handbook begins with a statement of guiding principles (shown in the adjacent box). These guiding principles encapsulate the handbook's advice and reflect some of the key concepts behind it, including participation, collaboration, sustainability, and risk reduction.

Reconstruction begins the day of the disaster. Therefore, one of the principal challenges of the policy maker is to work quickly to establish the policy basis for reconstruction, while taking time to confer with stakeholders and plan the reconstruction properly. The purpose of this Note is to summarize some of the important parameters of the policy-making exercise and to provide a conceptual framework for the reconstruction policy.

Reconstruction policy needs to be defined in five principal areas: (1) the Institutional Strategy, (2) the Financial Strategy, (3) the Community Participation Approach, (4) the Reconstruction Approach, and (5) Risk Management. The handbook's flow chart (shown after the table of contents and in miniature below) graphically represents this process. It also includes one other critical activity, common to all of these policy areas: implementation of a monitoring and feedback system. Also shown in the flow chart are the other critical activities in each of the five policy areas. The following sections summarize the key policy issues within each of the components of the reconstruction policy.

## Handbook Guiding Principles

1. A good reconstruction policy helps reactivate communities and empowers people to rebuild their housing, their lives, and their livelihoods.
2. Reconstruction begins the day of the disaster.
3. Community members should be partners in policy making and leaders of local implementation.
4. Reconstruction policy and plans should be financially realistic but ambitious with respect to disaster risk reduction.
5. Institutions matter and coordination among them improves outcomes.
6. Reconstruction is an opportunity to plan for the future and to conserve the past.
7. Relocation disrupts lives and should be minimized.
8. Civil society and the private sector are important parts of the solution.
9. Assessment and monitoring can improve reconstruction outcomes.
10. To contribute to long-term development, reconstruction must be sustainable.

The last word: every reconstruction project is unique.

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**Institutional Strategy.** People make reconstruction happen, but they will act mostly through different types of organizations. Beginning with government itself, one of the most critical early steps for the policy maker is to identify who will do what and how the numerous organizations that may be involved in reconstruction will work together. A second critical set of decisions has to do with the rules under which reconstruction will take place, that is, what are the laws, regulations, and institutional arrangements, both formal and informal, that will apply and will regulate what reconstruction agencies do. For instance, will projects be subject to existing building codes or environmental law, or will exceptions be made? How will nongovernmental organizations (NGOs) be involved, and how formal should their agreements to provide assistance to affected communities be? The institutional strategy must also evaluate the capabilities of the organizations involved and decide how their activities will be coordinated. What reconstruction responsibilities will local governments handle, for instance, and how will they report back? Whether an effective, coordinated institutional strategy is established, and is then monitored and adjusted as reconstruction proceeds, can determine the success or failure of the entire reconstruction program.

The handbook provides guidance on institutional strategy in several chapters, covering everything from how humanitarian agencies and reconstruction agencies work together (Chapter 1) to providing guidance on institutional options for organizing reconstruction (Chapter 13). In each chapter, the Key Decisions section identifies the roles and tasks that need to be assigned and proposes the appropriate agency to assign them to. Ultimately, many of these decisions need to be made by policy makers and reflected in the institutional element of reconstruction policy. (The chapters that correspond to each policy area are shown in the flow chart.)

**Financial Strategy.** Without financial resources, there will of course be no reconstruction. But a shortage of resources is not the greatest risk in managing the financial aspects of reconstruction. Greater risks are found in the lack of control of financial resources and in the lack of effectiveness of the resources that are spent. Most of the resources spent on reconstruction are not government's. Yet once they are pledged to the reconstruction effort, good post-disaster financial management requires that these commitments be taken into consideration in planning and that their expenditure be tracked. This points out once again the importance of coordination among agencies involved in reconstruction, as well as the need for systems that will permit accurate programming and tracking of expenditures, no matter the funding source.

Resources must not only be mobilized, programmed, and tracked, but some must be allocated and delivered directly to those affected by the disaster. For this population, the design and execution of the assistance strategy for housing is their principal concern and may be the sole metric by which they evaluate the policy framework, since it is the decision that will most directly affect them. Yet for the policy maker, this is, in fact, a complex set of decisions that have social, economic, and logistical implications. The assistance strategy must be tailor-made to the country and the disaster, and take into account existing social policy, as well the social equity and development objectives established for reconstruction. Lastly, preventing the misuse of resources must be a priority of policy makers, and anticorruption measures must be planned for and implemented throughout the reconstruction process.

The handbook provides guidance on mobilizing finance, tracking expenditures, and allocating and delivering resources to households, and includes measures for qualifying recipients of assistance and redressing their grievances (Chapter 15). It also suggests criteria for designing the assistance scheme (Chapter 4) and explains how financial management and procurement are handled in World Bank projects (Chapters 22 and 23). An entire chapter is dedicated to measures to mitigate corruption (Chapter 19).

**Community Participation Approach.** What is the role of affected communities in reconstruction and who decides on that role? Government cannot control what people do after a disaster, but the reconstruction policy can establish an approach to communication and interaction with affected communities that puts them in the center, capitalizing on the community members' wisdom, experience, and energy, or, alternatively, an approach that frustrates and disempowers all involved. Engagement with affected communities begins with communication, and a two-way consultative form of communication is strongly encouraged. Affected communities should have the opportunity to participate in policy making, including in the institutional and financial elements described

above. Working “as a community” in reconstruction will be a foreign concept in many places, and there can be capture of these processes and the resources that are provided. Therefore, facilitation and oversight are critical to ensuring that community-based efforts are effective, properly governed, and truly participatory.

Guidance is found throughout the handbook on putting and keeping affected communities in the driver’s seat during reconstruction, recognizing that there will be pressures to establish a more “efficient,” top-down approach and that the commitment to participatory reconstruction needs to come from the top. Chapters and case studies demonstrate different models of participation and advice on recruiting community facilitators (see in particular Chapter 12). Also provided are practical tools, such as guidelines for training (Chapter 16), participatory assessment (Chapter 2), and social auditing (Chapter 18).

**Reconstruction Approach.** If reconstruction begins the day of the disaster, what does it mean for government to define the reconstruction approach? This element of reconstruction policy addresses how physical reconstruction will be carried out at the community level, starting with the important issue of the role of affected households in the actual reconstruction. Depending on the respective roles of households and reconstruction agencies, different forms of support will be needed, whether it is finance, training, or community facilitation. One critical issue that the reconstruction policy must address is whether transitional shelter will be provided to affected households. Transitional shelter can smooth the transition from disaster to permanent housing, but it has difficult cost and logistical implications that must be analyzed.

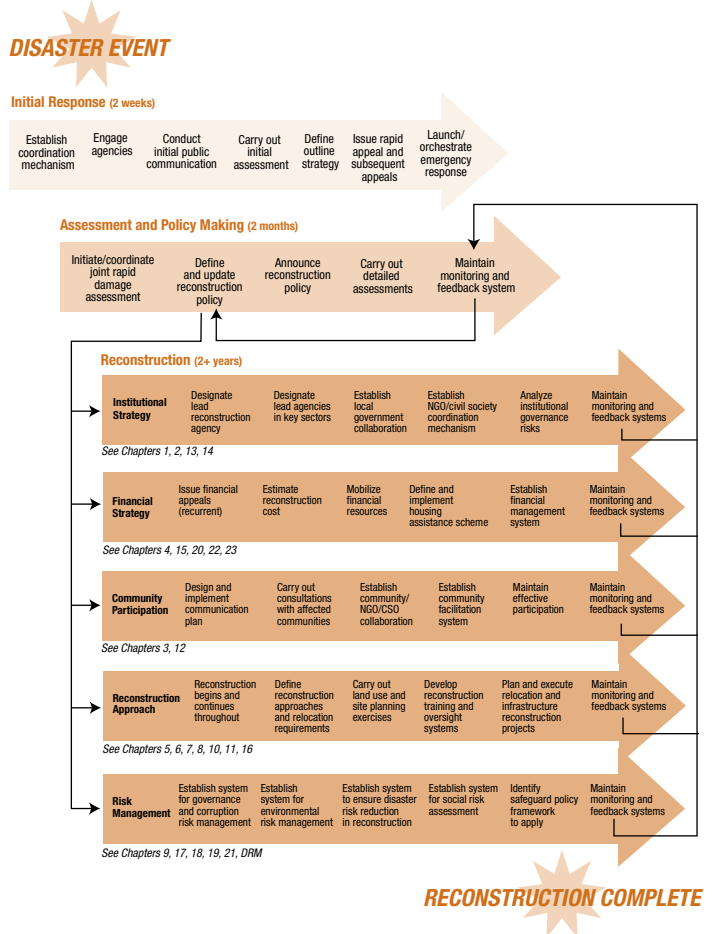
The reconstruction policy may need to create incentives to ensure the coordination of housing and infrastructure reconstruction. It will absolutely need to establish the goal of improving the safety of rebuilt housing and infrastructure, starting with defining standards to reduce the vulnerability to future hazards for all reconstructed and repaired housing and establishing the means for implementing these standards as broadly as possible. This must apply to housing built with public reconstruction funds, and should ideally extend to all rebuilt and repaired or retrofitted housing, no matter the funding source. In some cases, risk reduction will imply relocation of households or entire communities, and the policy must define the conditions for this. Again, coordination among agencies on these issues is key, so that households cannot circumvent the safety standards by seeking an alternative funding source.

Land use is almost always a difficult issue in reconstruction, and the reconstruction policy should anticipate this. The issues that may arise include, among others, (1) the need to replan land uses for housing and infrastructure, (2) the demand for tenure security, (3) the need for land for reconstruction, and (4) price escalation of land. In countries with extensive informal settlements and poor land administration and land use planning, solving these problems can hold up reconstruction. The policy should identify solutions or at least the means of reaching them.

Handbook chapters provide guidance on all policy issues related to the reconstruction approach, including the use of transitional shelter (Chapter 1), relocation (Chapter 5), land use and planning (Chapter 7), infrastructure reconstruction (Chapter 8), and housing design and technology (Chapter 10).

**Risk Management.** Finally, the reconstruction policy must ensure proper risk management in a number of areas, including (1) governance and corruption risk, (2) environmental risk, (3) disaster risk reduction, and (4) social risk. This is a disparate set of risks, but they share the common

## The Process of Response and Reconstruction



See full size version on page viii.

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characteristic that poorly managing them during reconstruction can result in unforeseen or undesirable outcomes, delays, and loss of credibility for the individuals and institutions involved. These risks can be anticipated and measures can be taken to reduce vulnerability to them. This begins with establishing a culture of risk management in reconstruction and ensuring that tools to analyze and mitigate risks are widely understood and diligently applied.

Risk reduction begins with analysis and extends to project design and implementation. Each component of the policy should incorporate monitoring, which serves as a risk reduction tool by providing early signals that project design or implementation is poor or that communities are dissatisfied with outcomes. Some of the activities mentioned as good practice in the other policy areas also serve to reduce risk, for instance, the use of two-way communication, training, or good financial tracking. The handbook provides additional tools specifically identified as tools for risk management. These include methodologies for corruption risk assessment (Chapter 19), disaster risk management (Technical References), environmental management (Chapter 9), and social risk assessment (Chapter 4).

While it might seem logical that experts in disaster management would take a risk management approach to reconstruction, this is not always the case. However, the authors strongly encourage policy makers to do so, and to incorporate this approach through the inclusion of a risk management component in the reconstruction policy.

### **How Policy Makers Can Use the Handbook**

Policy makers can use the handbook in a number of ways to help improve reconstruction outcomes.

The handbook can assist in the design of the reconstruction policy by offering a systematic approach and a comprehensive set of options. The handbook can serve as a shared frame of reference for specialists with diverse backgrounds who may be called on to assist government in proposing specific policies or in implementing reconstruction.

Policy makers can also encourage the use of the handbook by central and local government officials and officials of NGOs and civil society organizations to help them develop a common understanding of goals and the means to reach them and to improve the consistency of their interventions and, therefore, the efficiency of reconstruction. The assessment methodologies and other guidelines included in the annexes can serve as useful tools for joint action by a range of actors.

Please note that the house icon 🏠 is used throughout the handbook to alert the reader to related information elsewhere in the chapter or in another chapter.

The handbook is supported by a Web site, <http://www.housingreconstruction.org>, and a community of practice. The Web site contains additional materials related to each chapter and other relevant topics. Copies of the handbook can also be downloaded from the Web site.

The handbook will be updated periodically as comments are received from users and as the disaster reconstruction field and its best practices evolve. As you read and use the handbook, please feel free to comment on its contents at the Web site. User comments are most appreciated and will be taken into consideration to improve the next version of the handbook.

We sincerely hope that this handbook gives you the guidance you need to accomplish your goals and to provide the policy leadership in challenging post-disaster situations.

### ***The Authors***

Washington, DC  
December 2009

# A NOTE TO THE PROJECT MANAGER

## Background

*Safer Homes, Stronger Communities: A Handbook for Reconstructing after Disasters* was developed to assist project managers and policy makers engaged in large-scale post-disaster reconstruction programs make decisions about how to reconstruct housing and communities after natural disasters.

As the handbook demonstrates, post-disaster reconstruction begins with a series of decisions that must be made almost immediately. Despite their urgency, these decisions—and the manner in which they are implemented—will have long-term impacts that will change the lives of those affected by the disaster for years to come.

As a project manager or task manager, you will be responsible for implementing government policy decisions and for making many operational decisions on the ground. The handbook provides information on the options that should be considered in various aspects of reconstruction and insight into what has worked elsewhere. It does not tell you exactly what to do, but it should improve the likelihood of good outcomes from the work that is done.

The handbook's flow chart (shown after the table of contents and in miniature below) graphically represents the entire reconstruction process.

## Content of the Handbook by Chapter

The handbook begins with a statement of guiding principles (shown in the adjacent box). These guiding principles encapsulate the handbook's advice and reflect some of the key concepts behind it, including participation, collaboration, sustainability, and risk reduction.

The handbook is divided into four parts. Below is an overview of some of the key concepts and guidance presented in each part.

**Part 1, Reconstruction Tasks and How to Undertake Them**, provides both policy and practical advice on critical reconstruction issues. Part 1 contains three sections that correspond to the principal stages of reconstruction: (1) assessment and policy making, (2) planning, and (3) implementation. Below are summaries of the chapters contained in each of these three sections.

### Section 1. Assessing Impact and Defining Reconstruction Policy

In *Chapter 1, Early Recovery: The Context for Housing and Community Reconstruction*, the handbook offers an overview of the institutional landscape project managers are likely to encounter in a post-disaster setting beginning with the disaster event, when humanitarian agencies are likely to be most prevalent, and of the sequence of events that are likely to unfold. It also describes the roles that affected populations and various agencies take on in the post-disaster environment. This chapter also presents the arguments in favor of and against providing transitional shelter. A number of common gaps or bottlenecks in the reconstruction process, including the funding gap, the planning gap, the implementation gap, and the participation gap, are described here. This chapter sets the tone for the rest of the handbook by arguing for a reconstruction approach that puts affected communities in the center, helping to set policy and organizing the entire reconstruction process.

## Handbook Guiding Principles

1. A good reconstruction policy helps reactivate communities and empowers people to rebuild their housing, their lives, and their livelihoods.
2. Reconstruction begins the day of the disaster.
3. Community members should be partners in policy making and leaders of local implementation.
4. Reconstruction policy and plans should be financially realistic but ambitious with respect to disaster risk reduction.
5. Institutions matter and coordination among them improves outcomes.
6. Reconstruction is an opportunity to plan for the future and to conserve the past.
7. Relocation disrupts lives and should be minimized.
8. Civil society and the private sector are important parts of the solution.
9. Assessment and monitoring can improve reconstruction outcomes.
10. To contribute to long-term development, reconstruction must be sustainable.

The last word: every reconstruction project is unique.

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**Chapter 2, *Assessing Damage and Setting Reconstruction Policy***, discusses the assessment process and explains some of the common types of assessments. It focuses on three types of assessments: (1) multisectoral assessments (such as the damage and loss assessment); (2) housing sector assessments, which can be used to diagnose the land administration and affordable housing policy and institutional framework in the country and to identify capacity issues that may arise in reconstruction; and (3) local housing assessments, including housing damage assessments. Housing damage assessments are the door-to-door assessments that are often used to allocate housing assistance. This chapter shows how assessment results are used to define reconstruction policy and discusses the political economy of the reconstruction process. An outline for a reconstruction policy is provided, as are two good examples of reconstruction policies: those used in the aftermath of (1) the 2001 earthquake in Gujarat, India; and (2) the 2004 Indian Ocean tsunami in Tamil Nadu, India. The annexes in this chapter provide detailed methodologies on how to conduct (1) a housing sector assessment and (2) a housing condition assessment. The proposed housing condition assessment methodology recommends a number of activities to also assess the overall condition of the neighborhood, including the “village transect.” This assessment should be conducted with the participation of affected communities.

**Chapter 3, *Communication in Post-Disaster Reconstruction***, provides guidelines on the development of a comprehensive post-disaster communications strategy. This chapter encourages the use of continuous, two-way communications following a disaster to constantly monitor the relevance and quality of the outcomes of the reconstruction program. The communications strategy that was implemented following the 2005 North Pakistan earthquake is used as an example throughout this chapter, and case studies are presented on various aspects of this experience, including the importance of assessing the cultural context when designing communications activities and the use of beneficiary feedback as a monitoring and evaluation tool. Two annexes are included in this chapter: (1) a methodology for conducting a communications-based assessment and (2) a table that summarizes the cultural factors that affect communication.

Project managers will find information in **Chapter 4, *Who Gets a House? The Social Dimension of Housing Reconstruction***, that will help ensure that housing assistance reaches its intended beneficiaries and has the desired social impact on the ground. This chapter presents a table of all the tenancy categories that might be assisted by a housing assistance program and includes matrices of criteria that can be used to design a housing assistance scheme. These matrices address the following questions: Who is entitled? What form of assistance are they entitled to? How much assistance should they receive? Each case study explains the logic of a different approach to providing reconstruction assistance. Annexes to this chapter cover (1) considerations for designing a social protection system for natural disasters and (2) a detailed methodology for conducting a social assessment of a disaster-affected community.

**Chapter 5, *To Relocate or Not to Relocate***, is intended to guide project managers to minimize instances of relocation and to minimize the scope and impact when relocation is absolutely necessary. Relocation is frequently used as a risk reduction strategy even when the risks are not site-specific, because a rigorous disaster risk assessment is not conducted. This chapter should be read together with the Disaster Risk Management in Reconstruction chapter in Part 4, Technical References, which explains how a disaster risk assessment should be conducted and how to compare risk reduction options. Relocation is not the same as “resettlement” as defined in the policies of many international organizations, including the World Bank, and this chapter explains the difference in these concepts, the different types of displacement, and the implications for project design, such as the ways in which assistance may be provided. At the same time, an argument is made in favor of a relocation approach that carefully identifies both social and economic impacts for households and attempts to mitigate them, as provided in resettlement policies. Numerous case studies demonstrate the impacts of well- and poorly planned relocation, and the annex provides a systematic planning procedure for a resettlement project based on the International Finance Corporation resettlement policy.

**Chapter 6, *Reconstruction Approaches***, presents a typology and a comparison of six of the most common approaches to housing reconstruction, ranging from full owner-driven (or owner-managed) to full agency-driven approaches. It explains the advantages and disadvantages of each one in particular situations and provides case studies for each of the approaches. The same tenancy

categories are considered in this chapter as in the discussion of housing assistance in Chapter 4. It is explained that different circumstances make one or another reconstruction approach preferable. For instance, an owner-driven approach is probably infeasible for a high-rise urban apartment building, even if the residents are owners of the units. One of the approaches discussed entails reconstruction in a relocated site (agency-driven reconstruction in relocated site), and therefore has most of the same disadvantages as relocation in general, as discussed in Chapter 5.

## **Section 2. Planning Reconstruction**

The section on planning reconstruction begins with *Chapter 7, Land Use and Physical Planning*, which describes why planning of both sites and local land use is important, even in the post-disaster context. The content of a traditional land use plan is described, as are the challenges that arise in post-disaster planning, which include the lack of time, information, and capacity. This chapter explores the complex issues associated with the need for access to land and secure tenure in reconstruction and presents recommended solutions. Case studies include one that discusses the planning process Bhuj City, India, during which a number of residents were moved from the urban core to the periphery, and another that describes the innovative community-driven land adjudication process that took place in Aceh, Indonesia following the 2004 Indian Ocean tsunami. Annexes provide methodologies for planning (1) in situations where prior planning has taken place and institutions are experienced with planning methods and (2) in situations where this is not the case.

*Chapter 8, Infrastructure and Services Delivery*, explains both the short-term (lifeline) and longer-term (restoration/reconstruction) measures to restore infrastructure. It includes a chart that shows the most common types of damage from different types of infrastructure and the degree of severity of the damage. The coordination of housing and infrastructure reconstruction is difficult in a post-disaster environment, and some guidance is given on minimizing the risks of this situation. The chapter also presents an infrastructure planning methodology designed to improve the disaster resiliency of infrastructure during reconstruction or rehabilitation, and recommends that local service providers be strengthened both financially and in terms of their institutional capacity during the reconstruction process so that they are capable of maintaining the viability and the disaster resilience of rebuilt infrastructure over time. The case studies in this chapter explain various instances where infrastructure and housing reconstruction were not well coordinated and the practical solutions that were arrived at.

*Chapter 9, Environmental Planning*, alerts project managers to a range of environmental risks that may have been created by the disaster itself, or are likely to be encountered or created in the reconstruction process. It describes the types of environmental damage that are likely to result from different types of disasters and highlights common management problems, such as the handling of disaster debris and the planning of new settlements in a way to incorporate ecological considerations. A wide range of planning and analytical tools are described, including environmental risk assessment, eco- and hazard mapping, and environmental management plans, and links to resource information for these tools are provided. A summary on the risk of encountering asbestos in reconstruction and on the laws and regulations that govern its handling and transport is also included. Annexes provide instructions on (1) the development of a disaster debris management plan and (2) conducting an environmental impact assessment and preparing an environmental monitoring plan.

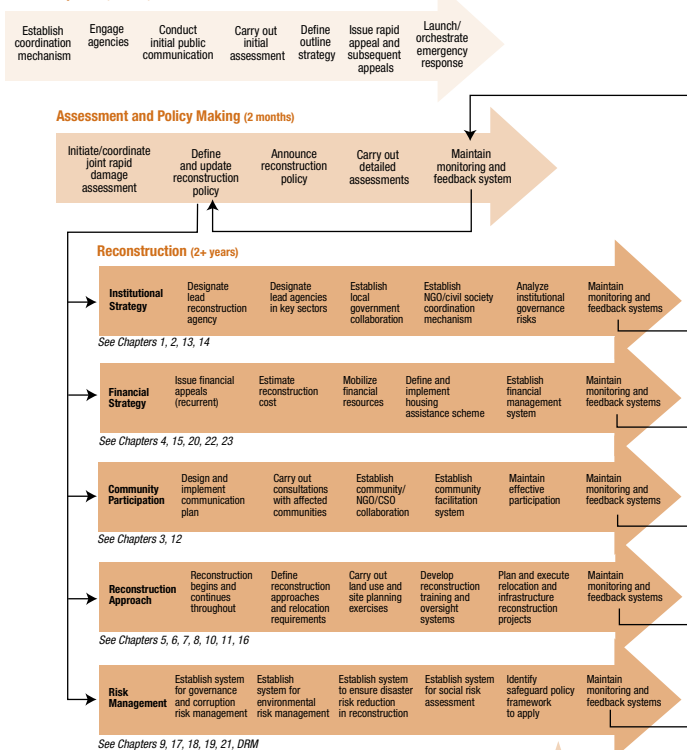
*Chapter 10, Housing Design and Construction Technology*, covers the range of critical issues associated with the design and construction of housing. Project managers will frequently need to decide, or help government decide, whether or to what extent construction methods will be upgraded in reconstruction, and this chapter is intended to provide support to those decisions. Issues covered include the choice of materials and building methods, the decision whether to repair/retrofit or rebuild, and the potential for incorporating universal design standards in reconstruction. Material is included on the use of vernacular construction methods, the controversies that surround this option, and the approaches that can be taken to improve their disaster resilience. To assist the project managers who may be deciding whether to support the use of local building methods in reconstruction, the chapter lists contact information for experts and institutions working to improve housing that uses local materials and vernacular building methods.

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## The Process of Response and Reconstruction

### DISASTER EVENT

#### Initial Response (2 weeks)



### RECONSTRUCTION COMPLETE

See full size version on page viii.

to operationalize this concept and empower communities to lead their own reconstruction effort. It includes an overview of the ways in which communities can manage the reconstruction process or otherwise participate in reconstruction, beginning with conducting participatory assessments and participating in the definition of reconstruction policy. The chapter emphasizes that communities need support to lead reconstruction, and it provides in annexes (1) a methodology for analyzing the existing organization and leadership structure of the community and the assets it has to contribute to the reconstruction process (the Community Participation Profile) and (2) a detailed description of the community facilitation process that has been used very successfully in Indonesia, beginning with the post-Indian Ocean tsunami reconstruction.

**Chapter 13, Institutional Options for Reconstruction Management**, addresses options for organizing the overall reconstruction program and explains the situations in which they are most suitable and their advantages and drawbacks. While the typology of options presented is focused on the overall reconstruction effort, the concepts (creating a new entity versus using existing agencies) are relevant to the housing sector and may be useful in organizing the institutional response, even in a single community. The chapter explains that the entity managing reconstruction needs a mandate, a reconstruction policy, and a reconstruction plan in order to be effective. This chapter also recommends that, wherever possible, a central role be given to local government in reconstruction and emphasizes the need to ensure coordination between local officials and officials managing the overall reconstruction effort. The case studies are correlated with the institutional typology to show how the various structures have worked in actual disaster situations.

From **Chapter 14, International, National, and Local Partnerships in Reconstruction**, project managers can gain insight into the requirements for successfully working with the variety of nongovernmental entities that are often at work in the reconstruction environment. While Chapter 2 explains the roles of agencies on a chronological basis, beginning immediately after the disaster, this chapter describes in more operational terms how these agencies can organize and coordinate their interventions. The chapter also explains how nongovernmental and civil society organizations

**Chapter 11, Cultural Heritage Conservation**, discusses the social and economic benefits for communities associated with including cultural heritage conservation in post-disaster reconstruction. The chapter explains that cultural heritage can include not only traditional historic sites, but historic housing, cultural landscapes, and aesthetic assets, such as the architectural style of housing. The chapter explains how cultural assets conservation fits into larger community reconstruction projects and discusses their social and economic value. If no planning for the treatment of cultural assets in a disaster has taken place beforehand, there are still interventions communities can carry out, and the chapter explains what some of these are. However, the text explains that the effort to salvage cultural assets can cause as much damage as the disaster itself, so expert support is likely to be needed, and extensive resource material is provided to assist communities in finding help. In reconstruction, there are also efforts that should be made, such as adopting building codes that are compatible with cultural assets and vernacular building practices and providing financial incentives to encourage the conservation of built vernacular heritage that may be in private hands but that may have public value.

### Section 3. Project Implementation

The project implementation section is of particular value to project managers, due to its practical, operational focus.

The handbook authors strongly favor a community-based approach to reconstruction. **Chapter 12, Community Organizing and Participation**, provides guidance on how



get involved in reconstruction and provides guidelines on formalizing the relationship between central or local government and these organizations to help ensure that their actions contribute to larger development goals. One technique suggested is a registration system for nongovernmental and civil society organizations to improve transparency and accountability. Another is a process for formalizing the commitments of these organizations to help affected communities. Case studies provide a sampling of the numerous approaches nongovernmental organizations (NGOs) use to support the reconstruction effort.

While the parameters on the use of financial resources will be defined by policy makers, project managers can have an enormous influence on the effective use of these resources. **Chapter 15, *Mobilizing Financial Resources and Other Reconstruction Assistance***, provides guidelines on qualifying recipients, delivering financial and other resources, and tracking their use at the project level. The chapter reviews the various forms of assistance that may be provided to affected households, including, cash, vouchers, in-kind materials, and even whole houses. It also explains normal mechanisms that households use to support reconstruction, including microfinance and migrant remittances, both of which can be interrupted after a disaster and may need support. The annexes to this chapter are intended to assist project managers with two common issues: (1) whether to import or procure and distribute construction materials and (2) how to establish a grievance redressal system. The chapter points out the importance of coordinating and monitoring reconstruction finance, whatever its source, even at the project level, where agencies can inadvertently compete or duplicate efforts, both of which create disincentives for households and reduce the effectiveness of the overall reconstruction effort.

**Chapter 16, *Training Requirements in Reconstruction***, provides instructions on developing a large-scale training program aimed at improving the quality of housing condition assessments and of reconstruction, whether the builder is a contractor, a homeowner, or a combination of the two. The approach described in this chapter incorporates the initial and detailed assessment of housing condition, the design of training materials, and the use of model buildings as a training tool. One of the most important concerns in implementing training or facilitation at the project level in a large disaster is scaling up these interventions to ensure that the reconstruction effort is not delayed. The methodology described in this chapter depends on the training of trainers, which allows the scale of the training and assessment system to grow quickly. A second important concern is quality control. This system entails using the trainers as inspectors once the initial training period is over, as a means to ensure quality control.

**Part 2, *Monitoring and Information Management***, helps project managers with advice about technology use in reconstruction, project monitoring, and involving affected communities in project oversight.

**Chapter 17, *Information and Communications Technology in Reconstruction***, describes the wide variety of technologies being used in post-disaster assessment and monitoring. The chapter explains that these technologies, and their use in the post-disaster environment, are constantly changing, but that currently they are being used to improve coordination, communications, assessment, planning, and monitoring. However, successful information and communications technology use should conform to protocols that improve the interoperability of equipment and the standardization of data. Tools that are described as useful for post-disaster communications include Web 2.0, mobile telephones, and ham radios. Detailed annexes to the chapter explain (1) considerations for procuring satellite data and (2) the organization of geographic information systems and their use in reconstruction.

Using **Chapter 18, *Monitoring and Evaluation***, project managers should be able to define the parameters of monitoring in reconstruction and decide whether and how to evaluate project impact. This chapter explains how monitoring and evaluation can be useful in reconstruction projects and the levels at which they may be conducted (household, project, program, and sector). The chapter advocates for the use of a mix of qualitative and quantitative data, including data collected in a participatory manner, and household survey data. Different agencies use different ways to organize and manage their monitoring data. The chapter contains explanations of two common systems. While impact evaluation of disaster projects is not common, a framework developed by the World Bank for the impact evaluation of slum upgrading projects is proposed as an important resource for

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those interested in evaluating post-disaster housing and community projects, as explained in the chapter's first annex. This annex also includes a table of potential monitoring indicators for housing and community projects. Annex 2 explains participatory performance monitoring, and includes a methodology for a social audit and a summary of other participatory performance monitoring methods. A case study summarizes the results of the evaluation of a reconstruction project financed by the World Bank following the 1999 earthquake in Armenia, Colombia.

There is a significant risk of corruption in reconstruction, and **Chapter 19, *Mitigating the Risk of Corruption***, contains guidance and a range of tools on mitigating this risk. It recommends emerging practices to reduce corruption, such as codes of conduct in the public sector and integrity pacts between the public sector and the private sector and NGOs. Mechanisms of social control are explained, such as systems to encourage whistleblowers and to protect their identity, explaining that these mechanisms can be used on a situational basis or as part of a more comprehensive integrity system. Extensive information is provided on the use of audits, along with an explanation of the different types of audits and the auditing standards they apply. The three annexes in this chapter provide the means to improve transparency in various aspects of post-disaster reconstruction. They are (1) instructions for developing a project governance and accountability plan, as defined by the World Bank; (2) guidelines for conducting a corruption risk assessment, which focuses on organizational financial controls; and (3) instructions for ordering a construction audit at the project level.

**Part 3, *Information on World Bank Projects and Policies***, provides an overview of how the World Bank assists governments after disasters and of the policies and procedures that apply in World Bank projects.

**Chapter 20, *World Bank Response to Crises and Emergencies***, explains Operational Policy/Bank Procedure (OP/BP) 8.00, including the forms of Bank response, the features of Bank response, and the processing steps for emergency operations.

**Chapter 21, *Safeguard Policies for World Bank Reconstruction Projects***, includes a summary of the Bank's safeguards policies and an explanation of their application in normal and emergency operations.

**Chapter 22, *Financial Management in World Bank Reconstruction Projects***, explains the Bank project cycle and the policies and procedures for financial management in Bank operations. The chapter also includes a summary of the financial management issues that can arise in emergency operations and means to address them, and includes a discussion of the financial management aspects of OP/BP 8.0.

**Chapter 23, *Procurement in World Bank Reconstruction Projects***, provides an overview of Bank procurement rules and a summary of how the Bank assesses country procurement capacity at the country and agency levels. The chapter also describes the procurement issues that can arise in emergency operations and proposes ways to address them.

**Part 4, *Technical References***, includes technical information that may be useful in various aspects of reconstruction. This part of the handbook includes a glossary and the following sections.

***Disaster Types and Impacts*** describes global disaster impacts and the impact of disasters on poverty and includes historical disaster data. It is included to provide a longer-term economic context for decisions and discussions within government about disaster-related risk reduction, policy, planning, and public investment.

***Disaster Risk Management in Reconstruction*** includes a framework for evaluating both short- and long-term mitigation options for housing and infrastructure and a comparative risk assessment methodology. This information is especially relevant to all chapters dealing with reconstruction planning. This chapter also provides guidance on how to organize a community-based hazard mitigation planning process and includes case studies on how disaster risk management has been used in specific disaster-related situations.

**Matrix of Disaster Project Features** is based on a matrix originally developed by the government of Pakistan to compare the policy decisions in a variety of disaster reconstruction projects between 2001 and 2005. It demonstrates the range of options governments select in these situations.

## **How Project Managers Can Use the Handbook**

Project managers can use the handbook in a number of ways to help improve reconstruction outcomes. The handbook can assist project managers who are participating in policy decisions by offering a systematic approach and a comprehensive set of options to inform policy decisions.

Project managers can also share the handbook with affected communities at the project level and use the information it contains to make more sound decisions in consultation with them.

In addition, the handbook can be provided to local government officials and officials of nongovernmental and civil society organizations. Using the options and concepts presented in the handbook as a frame of reference, it should be easier to define common goals and the means to reach them, as well as to establish better systems for coordination. In particular, the assessment methodologies and other guidelines included in the annexes can be starting points for joint action by a range of actors.

Please note that the house icon 🏠 is used throughout the handbook to alert the reader to related information elsewhere in the chapter or in another chapter.

The handbook is supported by a Web site, <http://www.housingreconstruction.org>, and a community of practice. The Web site contains additional materials related to each chapter and other relevant topics. Copies of the handbook can also be downloaded from the Web site.

The handbook will be updated periodically as comments are received from users and as the disaster reconstruction field and its best practices evolve. As you read and use the handbook, please feel free to comment on its contents at the Web site. User comments are most appreciated and will be taken into consideration to improve the next version of the handbook.

We sincerely hope that this handbook gives you the support you need to accomplish your goals and that it empowers your work as a project manager in any future post-disaster situation.

### ***The Authors***

Washington, DC  
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Gathering the current thinking on the best way to carry out post-disaster housing and community reconstruction from the experts on the subject—an itinerant group, often found in the remote corners of the world—was a challenging task. Nevertheless, many of them went out of their way to point out the pitfalls and to provide guidance and advice on the realities of post-disaster housing and community reconstruction. For their invaluable suggestions, interviews, participation in review meetings, comments, coordination, and case studies, we would like to thank:

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# ABBREVIATIONS

ADB	Asian Development Bank
ADPC	Asian Disaster Preparedness Centre
ADRS	Agency-Driven Reconstruction in-Situ
ADRRS	Agency-Driven Reconstruction in Relocated Site
ALNAP	Active Learning Network for Accountability and Performance
ATC	Applied Technology Council
AusAID	Australian Agency for International Development
BP	Bank Procedure
BRCS	British Red Cross Society
BRR	Rehabilitation and Reconstruction Agency of the Government of Indonesia
CA	Cash Approach
CADRE	Centre for Action, Development, Research and Education (India)
CAP	Communications Action Plan
CBA	Communication-Based Assessment
CBO	Community-Based Organization
CDR	Community-Driven Reconstruction
CENOE	National Emergency Operation Center (Mozambique)
CEPREDENAC	Center for Coordination for the Prevention of Natural Disasters in Central America
CL	Cluster Lead
COSO	Committee of Sponsoring Organizations of the Treadway Commission
CPAR	Country Procurement Assessment Report
CPR	Conflict Prevention and Reconstruction Unit
CPZ	Coastal Protection Zone
CRC	Citizen Report Card
CRED	Centre for Research on the Epidemiology of Disasters
CSC	Community Score Card
CSO	Civil Society Organization
CWGER	Cluster Working Group on Early Recovery
DAC	OECD Development Assistance Committee
DAD	Development Assistance Database
DaLA	Damage and Loss Assessment
DCD	OECD Development Cooperation Directorate
DFID	Department for International Development (United Kingdom)
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DTM	Digital Terrain Model
EA	Environmental Assessment
EC	European Commission
ECHA	Executive Committee for Humanitarian Affairs
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
EERI	Earthquake Engineering Research Institute
EIA	Environmental Impact Assessment
EM-DAT	Emergency Events Database
EMI	Earthquakes and Megacities Initiative
EMMA	Emergency Market Mapping and Analysis
EMP	Environmental Management Plan
EO	Earth Observation
ERC	Emergency Relief Coordinator
ERL	Emergency Recovery Loan

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ERRA	Earthquake Reconstruction and Rehabilitation Authority (Pakistan)
ESC	Emergency Shelter Cluster
ESSAF	Environmental and Social Screening and Assessment Framework
FAO	Food and Agricultural Organization
FEMA	Federal Emergency Management Agency (United States)
FHH	Female-Headed Household
FOREC	Reconstruction Fund for the Coffee Region (Colombia)
FORSUR	Fund for the Reconstruction of the South (Peru)
GAAP	Governance and Anticorruption Plan
GAC	Governance and Anticorruption
GAO	General Accountability Office (United States)
GCM	Global Circulation Model
GFDRR	Global Facility for Disaster Reduction and Recovery
GHP	Global Humanitarian Platform
GIS	Geographic Information System
GLTN	Global Land Tool Network
GPS	Global Positioning System
GSDMA	Gujarat State Disaster Management Authority (India)
GUDC	Gujarat Urban Development Company (India)
HC	Humanitarian Coordinator
HFA	Hyogo Framework for Action 2005–2015
HFHI	Habitat for Humanity International
HIC	Humanitarian Information Center
IAASB	International Auditing and Assurance Standards Board
IAEE	International Association for Earthquake Engineering
IASC	Inter-Agency Standing Committee
ICCROM	International Centre for the Study of the Preservation and Restoration of Cultural Property
ICOMOS	International Council of Monuments and Sites
ICRC	International Committee of the Red Cross
ICT	Information and Communications Technology
ICVA	International Council of Voluntary Agencies
IDA	International Development Association
IDB	Inter-American Development Bank
IDP	Internally Displaced Person
IEG	World Bank Independent Evaluation Group
IFAC	International Federation of Accountants
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFI	International Financial Institution
IFRC	International Federation of Red Cross and Red Crescent Societies
IHSN	International Household Survey Network
INEE	Inter-Agency Network for Education in Emergencies
InterAction	American Council for Voluntary International Action
IPSASB	International Public Sector Accounting Standards Board
IRP	International Recovery Platform
ISDR	International Strategy for Disaster Reduction
ISDS	Integrated Safeguard Data Sheet
ISO	International Organization for Standardization
ITU	International Telecommunications Union
LENSS	Local Estimate of Needs for Shelter and Settlement
LICUS	Low-Income Country under Stress
M&E	Monitoring and Evaluation
MANGO	Management Accounting for NGOs
MFI	Microfinance Institution
MIS	Management Information System
MOU	Memorandum of Understanding
NCPDP	National Centre for People's Action in Disaster Preparedness (Kashmir)

NCRC	NGO Coordination and Resource Center (India)
NFI	Non-Food Item
NGO	Nongovernmental Organization
NZAID	New Zealand's International Aid & Development Agency
O&M	Operation and Maintenance
ODR	Owner-Driven Reconstruction
OECD	Organisation for Economic Co-operation and Development
OFDA	Office of U.S. Foreign Disaster Assistance
OHCHR	United Nations Office of the High Commissioner for Human Rights
OP	Operational Policy
PACS	Project Anti-Corruption System
PDNA	Post-Disaster Needs Assessment
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PIU	Project Implementation Unit
PPA	Project Preparation Advance
PPAF	Pakistan Poverty Alleviation Fund
RCM	Regional Circulation Model
REA	Rapid Environment Impact Assessment
RICS	Royal Institution of Chartered Surveyors
RRC	Rapid Response Committee
SAG	Shelter Advisory Group
SDR	Safeguard Diagnostic Review
SIFFS	South Indian Federation of Fishermen Societies (India)
SPP	Simplified Procurement Plan
SRTM	Shuttle Radar Topography Mission
SSG	Shelter Support Group (India)
TEC	Tsunami Evaluation Coalition
TNSCB	Tamil Nadu Slum Clearance Board
TOR	Terms of Reference
UN OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UN	United Nations
UN-APCICT	United Nations Asian and Pacific Training Centre for Information and Communications Technology for Development
UNDAC	United Nations Disaster Assistance and Coordination System
UNDP	United Nations Development Programme
UNDPCPR	United Nations Development Programme Crisis Prevention and Recovery
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UN-HABITAT	United Nations Human Settlements Programme
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNISDR	United Nations International Strategy for Disaster Reduction
UNNATI	Organization for Development Education (India)
UNOOSA	United Nations Office for Outer Space Affairs
UPLINK	Urban Poor Linkage Indonesia
USACE	United States Army Corps of Engineers
USAID	United States Agency for International Development
USGS	United States Geological Survey
WANGO	World Association of Non-Governmental Organizations
WEDC	Water, Engineering and Development Centre
WEF	World Economic Forum
WFP	World Food Programme
WHE	World Housing Encyclopedia
WHO	World Health Organization
WHRC	World Habitat Research Centre

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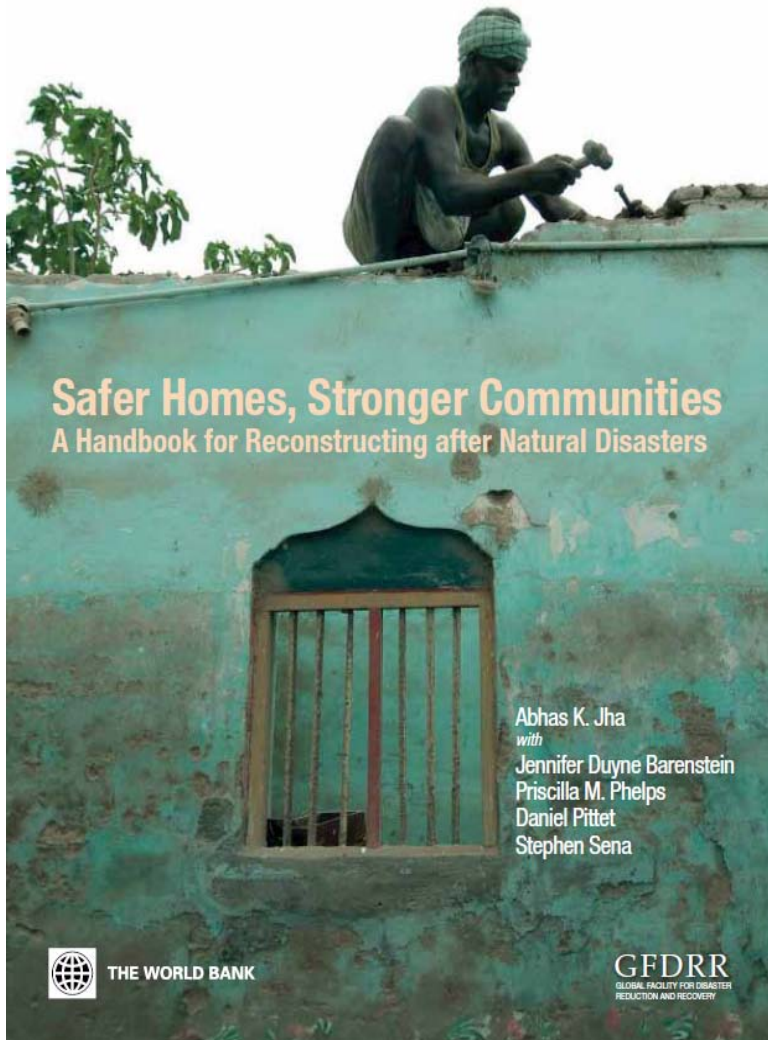


This handbook is dedicated to all those women who have had to put their households back together after a disaster, in the hope that in the future fewer women have to do the same, and that those who do feel more empowered during the entire process.

PERSPIRE, HONDURAS, 1998  
HURRICANE MITCH  
PHOTO BY CHRISTOPHER JENNINGS

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