IEG
Independent Evaluation Group

THE WORLD BANK

Hazards of Nature, Risks to Development

An IEG Evaluation of World Bank Assistance for Natural Disasters

INDEPENDENT EVALUATION GROUP

ENHANCING DEVELOPMENT EFFECTIVENESS THROUGH EXCELLENCE AND INDEPENDENCE IN EVALUATION

The Independent Evaluation Group (IEG) reports directly to the Bank's Board of Executive Directors. IEG assesses what works, and what does not; how a borrower plans to run and maintain a project; and the lasting contribution of the Bank to a country's overall development. The goals of evaluation are to learn from experience, to provide an objective basis for assessing the results of the Bank's work, and to provide accountability in the achievement of its objectives. It also improves Bank work by identifying and disseminating the lessons learned from experience and by framing recommendations drawn from evaluation findings.

WORLD BANK INDEPENDENT EVALUATION GROUP

IEG

Hazards of Nature, Risks to Development

An IEG Evaluation of World Bank Assistance for Natural Disasters

http://www.worldbank.org/ieg

2006
The World Bank
Washington, D.C.

1818 H Street, NW
Washington, DC 20433
Telephone 202-473-1000
Internet www.worldbank.org
E-mail feedback@worldbank.org

Manufactured in the United States of America

The findings, interpretations, and conclusions expressed here are those of the author(s) and do not necessarily reflect the views of the Board of Executive Directors of the World Bank or the governments they represent.

The World Bank cannot guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in the work do not imply on the part of the World Bank any judgment of the legal status of any territory or the endorsement or acceptance of such boundaries.

Photo credit: Banda Aceh, Northern Sumatra, Indonesia, January 2005. © Martin Adler, courtesy of Panos Pictures.

ISBN-10 0-8213-6650-5
ISBN-13: 978-0-8213-6650-9
e-ISBN 0-8213-6651-3
DOI: 10.1596/978-0-8213-6650-9

Library of Congress Cataloging-in-Publication Data has been applied for.

World Bank InfoShop
E-mail: pic@worldbank.org
Telephone: 202-458-5454
Facsimile: 202-522-1500

Independent Evaluation Group
Knowledge Programs and Evaluation Capacity Development (IEGKE)
E-mail: eline@worldbank.org
Telephone: 202-458-4497
Facsimile: 202-522-3125


Printed on Recycled Paper

Contents

Acknowledgments

This evaluation of the World Bank's experience with natural disasters was done by the Independent Evaluation Group–World Bank at the request of the Bank's Board of Executive Directors. It comes at an appropriate time. Natural disasters are affecting development in many countries, setting back hard-won development gains.

In consequence, lending for natural disasters is a growing business for the Bank. The lessons produced by this evaluation are expected to inform good practice and ensure the achievement of results in Bank activities. The evaluation is also intended for use in an ongoing revision of the Bank's policy statement on emergency assistance.

The evaluation was conducted under the leadership of Ronald S. Parker, and this report was written by Ronald Parker and William Hurlbut, with inputs from Anna Amato, Mark Emmert, Silke Heuser, and Kristin Little. Helen Phillip provided administrative support. Caroline McEuen edited the manuscript for publication. Peer reviewer Alexandra Ortiz provided valuable comments on earlier drafts of the report.

The authors gratefully acknowledge the members of the Advisory Committee—Mary Anderson, Ian Davis, Prema Gopalan, and Franklin McDonald—for their early guidance and their patient and detailed review of drafts of this report. We also gratefully acknowledge the financial support provided by our partner, the Swiss Agency for Development and Cooperation (SDC), which made possible a considerable amount of the background research upon which this evaluation is based. We also thank Margaret Arnold, Alcira Kreimer, and Zoe Trohanis of the Hazard Management Unit, and Bank task manager Francis Ghesquiere. The study conducted several field missions. The authors thank Yýldýz Aydin, Murat Sungur Bursa, Dawn French, Ali Ihsan, Cheryl Mathurin, Francisco Rivas, S.A.M. Rafiquzzaman, Kuljit S. Sidhu, and Krishna S. Vatsa for their support and valuable insights during these missions.

A database of project information created for this evaluation brought together for the first time all the available information on every Bank project that had disaster-related activities. This database will be turned over to the Hazard Risk Management Team of the Urban Unit.

Director-General, Evaluation: *Vinod Thomas*
Director, Independent Evaluation Group, World Bank: *Ajay Chhibber*
Manager, Sector, Thematic, and Global Evaluation: *Alain Barbu*
Task Manager: *Ronald S. Parker*

Foreword

Natural disasters occur throughout the world, but their economic and social impacts have been increasing and are generally much greater in developing countries than in developed ones. Disasters can wipe out development gains and eclipse years of development investment.

In Mozambique, Bank lending financed the construction of 487 schools over a 20-year period, but just one recent disaster, the floods of 2000, damaged or destroyed about 500 primary schools as well as 7 secondary schools. The Kashmir earthquake of October 2005 caused an estimated $5 billion in damage in Pakistan, roughly equivalent to the total official development assistance for the preceding 3 years, and equivalent to the amount the World Bank had lent to the country over the preceding 10 years.

Until recently, disasters were treated as one-time, random events by governments and the agencies that helped them respond. But we know from experience that disasters strike with regular periodicity—and repeatedly in some parts of the world. The potential for disaster is foreseeable to the extent that it is possible to predict generally where an event is likely to occur at some time in the near future (but not precisely when or its magnitude). Hence, low-lying coastal areas on the Bay of Bengal will experience more flooding, and small island states in the Caribbean and countries along the Gulf of Mexico will be repeatedly hit by hurricanes.

The Bank and much of the development community must take into account in their strategies how frequently disasters occur, and how often they strike the same countries. The Bank's lending shows that disasters follow a clear pattern: Ten borrowers accounted for 208 of the 528 disaster-related projects (39 percent) in the portfolio over the 1984–2005 period. Bank lending commitments also are concentrated—7.5 percent of projects received 32 percent of the financing.

Disaster is still sometimes treated as an interruption in development rather than as a risk to development in the approaches of both the country and the Bank. Of current assistance strategies for countries that have received Bank support in natural disasters, 44 percent did not mention them. Even in the 40 countries that have had 4 or more disaster projects, one-third of the strategies did not mention disaster. And, for the subset of countries that had an extensive history with disasters (more than 8), about a third did not mention disasters at all. Project loan documents rarely consider natural events as a risk, even in highly vulnerable countries, although 176 projects were adversely affected

by disaster during implementation. We need to find ways to integrate these risks more centrally into development assistance to improve effectiveness.

It should be recognized that the Bank has demonstrated considerable flexibility in its approach to natural disasters and has learned to manage large and small responses well. Bank staff have often been innovative and have demonstrated the capacity to manage massive reconstruction on many levels: more than 60 different kinds of activities have been undertaken in disaster-related projects, ranging from rubble clearance to construction of transport infrastructure systems.

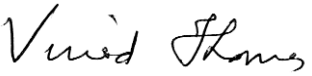
The Bank has also demonstrated its ability to work with donors in a shared response and has adapted policies and procedures to ensure that assistance can be delivered expeditiously. Joint damage assessments have become an important mechanism for engaging with other donors and ensuring that borrower needs are met without overlaps.

Almost 80 percent of Bank-financed natural disaster projects were rated satisfactory for outcomes, compared with the Bankwide average of 72 percent for the same period. These ratings reflect particular effectiveness in rebuilding physical infrastructure and in provision of materials and equipment. In general, though, disaster responses have tended toward the reactive and tactical, when a proactive and strategic approach would have had longer-term benefits. Furthermore, attention to the poor has been especially difficult to accomplish in disaster projects.

When disaster strikes, funds are needed immediately, and are often diverted from development because no contingency funding is available. The financial cost of responding to the most recent events has stimulated interest in creating global and regional funding solutions. But even if these are eventually established and the Bank decides to be a part of such solutions, the Bank's engagement with client countries will have to ensure continued focus on avoiding the next disaster, rather than waiting for it to happen. Countries need to become more proactive rather than reactive, and Bank support to countries must do more to encourage this shift.

The funding mechanisms used by the Bank need to be rethought: balance of payment lending has been relatively quick-disbursing, but disbursement often does not take place in the post-disaster period. The Bank has increasingly used the Emergency Recovery Loan (ERL) in responding to disaster, even when other instruments may be more appropriate to achieving long-term reduction of vulnerability. Several attempts to establish insurance and contingency financing have helped focus government attention on the development issues of disasters, but too few have been completed and evaluated to judge their value. Finally, loan reallocations are used much more frequently than other types of Bank disaster responses in highly vulnerable countries, putting development goals at risk.

This report recommends several adjustments to the way the Bank currently handles natural disasters. First, it suggests revisions to policy to better guide staff and enhance flexibility of Bank responses to natural disasters. Second, it encourages increased Bank capacity to respond to disasters and to ensure that it can be mobilized quickly. Finally, it recommends that the Bank prepare a strategy or action plan for natural disaster assistance that includes an assessment of each country's level of disaster risk, and differentiation of approach on the basis of that assessment.



Vinod Thomas
Director-General
Evaluation

Avant-propos

Les catastrophes naturelles se produisent partout dans le monde, mais leurs effets économiques et sociaux se font de plus en plus sentir et sont en général beaucoup plus importants dans les pays en développement que dans les pays développés. Les catastrophes peuvent anéantir les progrès en matière de développement et éclipser des années d'investissement en faveur du développement.

Au Mozambique, les prêts de la Banque ont financé la construction de 487 établissements scolaires sur une période de 20 ans, mais une catastrophe récente, à savoir les inondations de 2000, a à elle seule endommagé ou détruit environ 500 écoles primaires ainsi que sept établissements secondaires. Au Pakistan, le tremblement de terre du Cachemire en octobre 2005 a provoqué des dégâts estimés à 5 milliards de dollars, soit à peu près l'équivalent du total de l'aide publique au développement des trois années précédentes, et l'équivalent du montant des prêts accordés à ce pays par la Banque au cours des dix années précédentes.

Jusqu'à une période récente, les catastrophes étaient traitées comme des événements isolés et aléatoires par les gouvernements et les organismes qui les aidaient à y faire face. L'expérience nous apprend toutefois que les catastrophes frappent certaines régions du monde avec une périodicité régulière, et de façon répétitive. L'éventualité d'une catastrophe est prévisible dans la mesure où il est possible de prédire, en général, à quel endroit un événement est susceptible de se produire à un certain moment dans un avenir proche (mais pas le moment ou l'ampleur précis d'un tel événement). On sait ainsi que les zones côtières à basse altitude de la Baie du Bengale subiront davantage d'inondations, et que les petits États insulaires des Caraïbes et les pays du Golfe du Mexique seront frappés à maintes reprises par des ouragans.

Dans leurs stratégies, la Banque et une grande partie de la communauté de développement doivent tenir compte de la fréquence des catastrophes et de la régularité avec laquelle elles frappent les mêmes pays. L'analyse des opérations de prêt de la Banque révèle une tendance claire dans l'avènement des catastrophes : dix emprunteurs ont bénéficié de 208 (39 %) des 528 projets liés aux catastrophes du portefeuille pendant la période 1984–2005. Les engagements de prêt de la Banque sont également concentrés — 7,5 % des projets ont bénéficié de 32 % du financement.

Dans leurs approches, le pays et la Banque continuent de traiter parfois les catastrophes comme une interruption du développement, et non comme un risque pour le développement. Parmi les stratégies d'aide actuelles en faveur des pays ayant bénéficié d'un appui de la Banque à la suite de catastrophes naturelles, 44 % ne mentionnaient pas ces dernières. Même dans le cas des 40 pays qui ont bénéficié de quatre projets ou plus liés aux catastrophes, celles-ci n'étaient pas mentionnées dans un tiers des stratégies. En outre, dans les stratégies d'environ un tiers du sous-ensemble des pays où se produisent de nombreuses catastrophes (plus de huit), ces dernières n'étaient pas du tout mentionnées. Les documents de prêt des projets considèrent rarement les événements naturels comme un risque, même dans les pays très vulnérables, bien que les catastrophes aient eu un effet défavorable sur 176 projets pendant leur exécution. Nous devons trouver des moyens de placer ces risques davantage au cœur de l'aide au développement afin d'en améliorer l'efficacité.

Force est de reconnaître que la Banque a fait montre d'une flexibilité considérable dans son approche des catastrophes naturelles et qu'elle a appris à gérer efficacement les grandes et les petites interventions. Les services de la Banque ont souvent fait preuve d'innovation et mis en évidence leur capacité de gérer des travaux massifs de reconstruction à nombre de niveaux : dans le cadre des projets liés aux catastrophes, plus de 60 différents types d'activités ont été entreprises, allant du dégagement des débris à la construction de réseaux d'infrastructures de transport.

La Banque a par ailleurs démontré son aptitude à travailler avec les bailleurs de fonds dans le cadre d'une intervention collective, et elle a adapté ses politiques et ses procédures pour assurer une prompte fourniture de l'aide. Les évaluations conjointes des dégâts sont devenues un important mécanisme permettant de collaborer avec les autres bailleurs de fonds et de veiller à ce que les besoins des emprunteurs soient satisfaits sans créer de chevauchement.

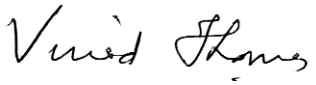
Près de 80 % des projets relatifs aux catastrophes naturelles financés par la Banque ont été jugés satisfaisants du point de vue de leurs résultats, par rapport à une moyenne de 72 % enregistrée à l'échelle de la Banque pour la même période. Ces notes témoignent de l'efficacité de la Banque dans le domaine de la reconstruction des infrastructures physiques et celui de la fourniture de matériel et d'équipements. En général, toutefois, les interventions relatives aux catastrophes ont eu tendance à être réactives et tactiques, alors qu'une approche proactive et stratégique aurait été avantageuse à plus long terme. Qui plus est, dans les projets liés aux catastrophes, il a été tout particulièrement difficile de prêter attention aux pauvres.

Lorsque la catastrophe frappe, les fonds sont immédiatement nécessaires et ils sont souvent réaffectés au détriment du développement, car il n'existe pas de financement pour imprévus. Le coût financier des interventions réalisées au titre des plus récents événements a stimulé l'intérêt envers la création de mécanismes de financement mondiaux et régionaux. Mais même si l'on finit par établir de tels mécanismes et qu'elle décide d'y participer, la Banque devra s'attacher en permanence, dans le cadre de son engagement auprès des pays clients, à éviter la prochaine catastrophe plutôt qu'à attendre que celle-ci se produise. Il convient que les pays deviennent proactifs au lieu de se contenter de réagir, et l'appui accordé par la Banque aux pays doit faire davantage pour encourager ce changement.

Les mécanismes de financement dont se sert la Banque méritent d'être repensés : les prêts à l'appui de la balance des paiements se caractérisent certes par un décaissement relativement rapide, mais souvent aucun décaissement ne s'effectue durant la période qui suit la catastrophe. Dans ses interventions en cas de catastrophe, la Banque recourt de plus en plus aux prêts d'urgence aux pays sinistrés, même lorsque d'autres instruments peuvent être mieux indiqués pour réduire la vulnérabilité à long terme. Plusieurs tentatives de mise en place de fonds d'assurance et de fonds pour imprévus ont contribué à attirer l'attention des gouvernements sur les problèmes de développement que posent les catastrophes, mais trop peu de ces fonds ont été créés et évalués pour qu'on juge de leur valeur. Enfin, dans les pays très vulnérables, la Banque recourt beaucoup plus fréquemment à la réaffectation des prêts qu'à ses

autres types d'interventions liées aux catastrophes, ce qui compromet les objectifs de développement.

Le présent rapport recommande plusieurs ajustements à la façon dont la Banque réagit actuellement face aux catastrophes naturelles. Premièrement, le rapport propose des révisions à apporter à la politique afin de mieux guider le personnel et de rendre encore plus flexibles les interventions de la Banque liées aux catastrophes naturelles. Deuxièmement, il encourage le renforcement de la capacité de la Banque de réagir face aux catastrophes et d'assurer une mobilisation rapide de ses ressources. Enfin, le rapport recommande à la Banque d'élaborer une stratégie ou un plan d'action pour l'aide en cas de catastrophe naturelle qui prévoit une évaluation du niveau de risque de catastrophe de chaque pays, et l'adoption de méthodes d'approche différentes sur la base de cette évaluation.



Vinod Thomas
Directeur général, Évaluation

Prefacio

Los desastres naturales se producen en todo el mundo, pero su impacto económico y social ha ido en aumento y suele ser mucho mayor en los países en desarrollo que en los desarrollados. Estos fenómenos pueden arrasar con el progreso logrado en materia de desarrollo y significar años de retroceso en las inversiones en desarrollo.

En Mozambique, el Banco financió la construcción de 487 escuelas en un período de 20 años, pero tan sólo un desastre ocurrido recientemente —las inundaciones del año 2000— dañó o destruyó unas 500 escuelas primarias y siete escuelas secundarias. El terremoto de Cachemira de octubre de 2005 provocó daños por unos US$5.000 millones en Pakistán, que equivalen aproximadamente al total de la asistencia oficial para el desarrollo de los tres años anteriores, y a los recursos que el Banco Mundial había prestado a ese país en los 10 años precedentes.

Hasta hace poco, los gobiernos y los organismos que los ayudaban a responder ante las emergencias producidas por los desastres consideraban que éstos eran acontecimientos únicos y al azar. Sin embargo, sabemos por experiencia que los desastres naturales se producen con cierta periodicidad, y que en algunas partes del mundo ocurren repetidamente. La posibilidad de que ocurra un desastre puede preverse en la medida en que sea posible predecir en términos generales dónde es probable que se produzca un acontecimiento en el futuro cercano (aunque no exactamente cuándo o con qué magnitud). Por lo tanto, las zonas de litoral bajo de la bahía de Bengala tendrán más inundaciones, y los pequeños Estados insulares del Caribe, así como los países del golfo de México, sufrirán repetidamente los embates de los huracanes.

El Banco y gran parte de la comunidad del desarrollo deben tener en cuenta en sus estrategias la frecuencia con que se producen los desastres y con que éstos azotan a los mismos países. El financiamiento concedido por el Banco muestra que los desastres siguen un patrón definido: de los 528 proyectos relacionados con desastres naturales (39%) que conformaban la cartera en el período de 1984-2005, 208 correspondían a 10 prestatarios. Los compromisos de préstamo del Banco también muestran una determinada concentración: el 7,5% de los proyectos recibieron el 32% del financiamiento.

En algunos casos, en los planteamientos tanto de los países como del Banco, los desastres se siguen considerando como una interrupción del proceso de desarrollo en lugar de un riesgo para dicho proceso. En el 44% de las actuales estrategias de asistencia a los países que han recibido apoyo del Banco en relación con desastres natu-

rales no se hace mención de tales fenómenos. Incluso en los 40 países en que se han realizado cuatro o más proyectos relacionados con desastres naturales, un tercio de las estrategias omitió toda mención a ellos. Asimismo, aproximadamente un tercio del subconjunto de países que tenían una vasta trayectoria de desastres (más de ocho) no hizo mención alguna a estos fenómenos. En los documentos de préstamo rara vez se considera que los fenómenos naturales constituyen un riesgo, ni siquiera en los países muy vulnerables, pese a que 176 proyectos se vieron afectados adversamente por un desastre durante su ejecución. Para aumentar la eficacia, debemos encontrar la manera de integrar mejor estos riesgos en la asistencia para el desarrollo.

Hay que reconocer que el Banco ha demostrado mucha flexibilidad en lo que respecta a los desastres naturales y ha aprendido a proporcionar respuestas adecuadas en pequeña y gran escala. El personal del Banco a menudo ha recurrido a métodos innovadores y demostrado la capacidad de hacer frente a reconstrucciones en gran escala en muchos niveles: se han emprendido más de 60 tipos diferentes de actividades en proyectos relacionados con desastres naturales, desde la remoción de escombros hasta la construcción de sistemas de infraestructura para el transporte.

El Banco también ha demostrado su capacidad para trabajar con los donantes en operaciones de respuesta conjuntas y ha adaptado sus políticas y procedimientos para asegurar que la asistencia llegue en forma expedita. Las evaluaciones conjuntas de los daños se han convertido en un mecanismo importante para entablar una relación con otros donantes y asegurar que no haya duplicación de esfuerzos en la atención de las necesidades de los prestatarios.

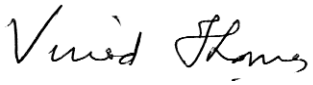
Casi el 80% de los proyectos sobre desastres naturales financiados por el Banco fueron calificados de satisfactorios en cuanto a sus efectos directos, en comparación con un promedio de 72% en igual período a nivel de todo el Banco. Estas calificaciones son indicativas de la particular eficacia del Banco en la reconstrucción de infraestructura física y el suministro de materiales y equipo. En general, sin embargo, la respuesta ante los desastres ha sido más bien reactiva y táctica, en circunstancias en que un criterio proactivo y estratégico habría producido beneficios a más largo plazo. Además, en los proyectos relacionados con desastres naturales ha sido especialmente difícil atender las necesidades de la población pobre.

Cuando se produce un desastre, la necesidad de recursos financieros es inmediata y a menudo estos fondos se desvían de otros programas de desarrollo porque no se dispone de financiamiento para situaciones imprevistas. El costo financiero que ha significado la respuesta frente a los acontecimientos más recientes ha despertado el interés en encontrar soluciones para movilizar recursos a nivel mundial y regional. Pero incluso si se llegaran a establecer estas medidas y el Banco decidiera formar parte de esas soluciones, en su participación y compromiso con los países clientes éste debería asegurarse de que se preste atención permanente a las actividades de prevención de un próximo desastre, en lugar de esperar hasta que ocurra. Los países deben ser más proactivos que reactivos y el apoyo del Banco debe alentar en mayor medida este cambio de actitud.

Es preciso replantear los mecanismos de financiamiento que emplea el Banco: los desembolsos de préstamos para financiar la balanza de pagos se han producido con relativa rapidez, pero suele suceder que no haya desembolsos durante el período posterior a un desastre. En medida creciente, el Banco ha otorgado préstamos de emergencia para recuperación en respuesta a un desastre, incluso cuando otros instrumentos podrían haber sido más adecuados para reducir la vulnerabilidad a largo plazo. Varios intentos de establecer sistemas de seguro y fondos para imprevistos han ayudado a centrar la atención de los gobiernos en los problemas de desarrollo que ocasionan los desastres, pero son muy pocos los que han llegado a término y se han podido evaluar como para determinar su utilidad. Por último, en los países muy vulnerables se recurre con mucha mayor frecuencia a la reasignación de préstamos que a otros tipos de respuesta del Banco ante situaciones de desastre, con el consiguiente riesgo de no alcanzar las metas de desarrollo.

En el presente informe se recomiendan varios ajustes a la manera en que el Banco enfrenta actualmente los desastres naturales. En primer lugar, se sugiere examinar las políticas a fin de orientar

mejor al personal y aumentar la flexibilidad de las respuestas del Banco cuando ocurren desastres naturales. En segundo lugar, se alienta al Banco a aumentar su capacidad para responder ante tales situaciones y asegurar que pueda entrar en acción sin demora. Por último, se recomienda que el Banco elabore una estrategia o plan de acción para prestar asistencia en caso de desastres naturales que incluya una determinación del nivel de riesgo de cada país de sufrir desastres naturales, y la aplicación de distintos criterios sobre la base de dicha evaluación.



Vinod Thomas
Director General, Grupo de Evaluación Independiente

Executive Summary

The impact of natural disasters on economic well-being and human suffering has increased alarmingly. In the past year alone, the earthquake and tsunami in the Indian Ocean killed an estimated 220,000 people and left 1.5 million people homeless, catastrophic flooding and mudslides in Guatemala killed hundreds of people, and a massive earthquake in Kashmir killed tens of thousands more in Pakistan and India.

The death tolls are staggering, and the costs to the human and economic development of the affected countries are huge and rising. Natural disasters are becoming more costly: in constant dollars, disaster costs between 1990 and 1999 were more than 15 times higher ($652 billion in material losses) than they were between 1950 and 1959 ($38 billion at 1998 values). The human cost is also high: over the 1984–2003 period, more than 4.1 billion people were affected by natural disasters. The number affected has grown, from 1.6 billion in the first half of that period (1984–93) to almost 2.6 billion in the second half (1994-2003), and has continued to increase.

Although disasters caused by natural events occur throughout the world, losses to disaster in developing countries are generally much greater than in developed countries in terms of percentage of gross domestic product (GDP) or government revenues. The disproportionate effect on developing countries has many explanations. Lack of development itself contributes to disaster impacts, both because the quality of construction often is low and building codes, land registration processes, and other regulatory mechanisms are lacking, as well as because numerous other development priorities displace attention from the risks presented by natural events.

Most natural disasters are *foreseeable* to the extent that it is possible to predict generally where an event is likely to occur at some time in the near future (but not precisely when or its magnitude). Small island states in the Caribbean and states along the coast of the Gulf of Mexico will undoubtedly be repeatedly hit by hurricanes; Pacific Rim states in the "ring of fire" are highly likely to be hit by earthquakes and volcanic eruptions; low-lying coastal areas on the Bay of Bengal are sure to experience more flooding; and Africa will very likely experience more drought. Therefore, it makes sense to treat the hazards of nature as risks to development, especially where they occur repeatedly.

Disasters dilute hard-won development gains. In Mozambique, for example, Bank lending financed the construction of 487

schools. But the most recent disaster alone, the floods of 2000, damaged or destroyed about 500 primary schools as well as 7 secondary schools. The damage caused can outweigh years of development assistance. The Kashmir earthquake of October 2005 caused an estimated $5 billion in damage in Pakistan, roughly equivalent to the total official development assistance for the preceding 3 years, and equivalent to the amount the World Bank had lent to the country over the preceding 10 years.

There is no private insurance against hazard risks in most developing countries. While about half of these costs of natural disasters are covered by insurance in the United States, less than 2 percent of the costs are covered in the developing world. In addition, the cost of hedging against natural hazard risks in developing countries often exceeds the cost of simply paying for damages when they arise. Further, developing countries can generally count on aid from outside sources, a well-known moral hazard in the disaster field. For poor households, natural hazards are just one of the many risks they face and are unlikely to be a high priority.

When a disaster occurs, the key concerns for the affected country are what to do, how to do it, and how to fund the necessary response. Typically, funds are needed immediately, and are often diverted from long-term development because no contingency funding is available. The financial cost of responding to the most recent events has stimulated particular interest in creating global and regional funding solutions. A proposal has been put forward for a regional funding mechanism in Latin America, and another proposal would expand an existing UN program to provide a global contingency funding mechanism.

The World Bank has been increasingly engaged in helping countries to recover from the disastrous impacts of natural events and to reduce their future vulnerability. When the World Bank responds to a natural disaster it has a wide array of lending and nonlending services from which to choose. And its response spans multiple sectors and themes, including urban, rural, environment, infrastructure, education, health, and social protection.

Its nonlending services can include convening of donor meetings, provision of assistance with post-disaster assessments, study preparation, and technical assistance. Bank lending assistance can consist of funds reallocated from existing projects, redesigns of planned projects, or development of new projects using a variety of lending instruments. In addition to its advisory and analytic services and technical support, since 1984 the Bank has financed 528 projects that addressed natural disasters, representing more than $26 billion in lending.

The Independent Evaluation Group examined the Bank's experience in disaster response over the past 20 years to extract lessons to inform good practice and ensure the achievement of results in Bank-supported activities. The evaluation is also intended to inform an ongoing revision of the Bank's policy statement on emergency assistance.

The Bank Response

The Bank has demonstrated considerable flexibility in its approach to natural disaster assistance and has learned to manage responses to events ranging from those of very large dimensions to smaller, more limited events.

Bank staff have often been innovative in their response to disaster events and have demonstrated the capacity to manage reconstruction on a massive scale. The study identified more than 60 types of activities undertaken in disaster-related projects, ranging from rubble clearance and provision of emergency shelter, to construction of flood shelters and transport infrastructure, to institutional development.

Responses to disaster have included lending and nonlending assistance, the latter including disaster needs assessments, advisory assistance, and other forms of technical assistance. Among the responses that have demonstrated the Bank's flexibility and innovation are the Honduras Social Investment Fund (1999), the Maharashtra Earthquake Project (1997), North China Earthquake Reconstruction (1993), Yemen Emergency Flood Reconstruction (1989), and the drought prevention in Niger (1988), all of which dynamically adjusted to prevailing conditions.

The Bank also has demonstrated its ability to work with donors in a shared response and has adapted policies and procedures to ensure that assistance can be delivered expeditiously.

Donor coordination was particularly strong for Hurricane Mitch in Honduras and Nicaragua (1999); for the Marmara earthquake in Turkey (2000); for drought in Sudan (1989); and for flooding in Bangladesh (1999), Mozambique (2000), and Gujarat (2002). Joint assessments have become an important mechanism for engaging with other donors and ensuring that borrower needs are met without overlaps.

Natural disaster projects financed by the Bank have had higher ratings for outcome and sustainability than the Bank's portfolio as a whole.

Almost 80 percent of the projects that had natural disaster reconstruction or mitigation as a substantial element were rated satisfactory for outcome, compared with the Bankwide average of 72 percent for the same period. These ratings reflect particular effectiveness in rebuilding physical infrastructure and provision of materials and equipment.

Sustainability ratings are similarly better than average, but institutional development ratings are about the same as the average. The sustainability rating (for what is mostly infrastructure) reflects the likelihood that estimated net benefits will be maintained or exceeded over a project's intended useful life. Experience with the creation of disaster management capacity has shown that it often takes more than one project cycle to leave behind a functioning disaster institution where none existed.

But in general, disaster responses have tended toward the reactive and tactical, when a proactive and strategic approach would have had longer-term benefits.

Countries affected by disaster, as well as the donors that try to help them, including the Bank, have generally treated disasters as interruptions in development rather than as a risk that is integral to development. At the country level, few Country Assistance Strategies (CASs) and Poverty Reduction Strategies (PRSPs) mention natural disaster risks, even in countries that have experienced multiple events resulting in major disasters. At the project level, objectives have mainly provided for short-term fixes and rarely addressed the root causes of the disastrous impacts of natural hazards.

The Bank has increasingly used the Emergency Recovery Loan (ERL), the focus of its emergency lending policy, in responding to disaster, even when other instruments may be more appropriate.

The ERL offers accelerated processing and a short implementation period of three years, and therefore has desirable qualities valued by both borrower and Bank staff who respond to disasters. ERLs generally have worked well and have high outcome ratings. But accelerated project processing is not always desirable. For some projects, rushed appraisal has led to long pauses between loan approval and first disbursement, poorly designed interventions, and diminished poverty impacts.

Furthermore, by relying on a three-year lending period, the Bank may end up emphasizing activities that are expected to have short implementation times, while not attending to other activities that more fully address the needs and vulnerabilities. It often happens that activities that might contribute greatly to the recovery effort (and to the borrower's subsequent long-term development) are not included in the ERL projects because they cannot be completed in the three years allotted—and then the project runs long in any event.

The crucial activities for long-term reduction of vulnerability take longer than three years to implement and have weak borrower demand.

Only one of the 60 activities identified in Bank-supported projects—balance of payment assistance—has taken less than three years to implement, on average. The types of activities that can have the greatest impact on reducing vulnerability, such as building code development or revision, development of hazard risk management institutions, and development of insurance

and other mechanisms for laying off risk, are precisely those for which borrowers are least likely to borrow. The Bank needs to find ways to encourage such activities.

Actions taken during the first weeks and months after a disaster have a major impact on the recovery process to follow, and they need to be planned and implemented accordingly.

Choices made immediately following a disaster—regarding shelter, resettlement, debris clearance, distribution of relief, and the like—affect the later choices for longer-term solutions and vulnerability reduction and can have severe consequences for the ability of the poor to recover.

Immediate post-disaster actions also need to include the development of the capacities, knowledge, and skills that will be required for the recovery process. If studies are going to produce knowledge that is critical to fully informed project actions, they need a strong advocate, such as the Bank. Capacity building for procurement and preparation of bidding documents should happen very early. Procurement is among the project activities most frequently cited in project-level evaluations as needing improvement.

The Bank needs to be able to identify when haste is counterproductive, lest funding mechanisms rather than development needs drive its response.

The funding mechanisms themselves need to be rethought: balance of payment lending has been a relatively quick-disbursing mechanism but, on average, it is nowhere near as fast as it was supposed to be, and it has only helped in very limited circumstances. Several Bank-supported attempts to establish mechanisms to lay off risk (insurance and contingency financing) have helped focus government attention on the long-term development issues surrounding disasters, but too few have been completed and evaluated to make an informed judgment about their value. Finally, loan reallocations are used much more frequently than other types of Bank disaster responses in highly vulnerable countries.

Recovery for the poor requires particular attention, but is especially difficult to accomplish in disaster projects, and poverty impacts are generally not well documented.

When Bank projects have targeted the poor, they have often exceeded their expected impact: of 51 projects with documented impacts, 41 met or exceeded the expected impact. However, data are incomplete and documentation of the poverty impacts is thin.

Even in the difficult circumstances of a disaster response, beneficiary participation during the design and implementation stages is essential to success. The benefits of participation were demonstrated in the 1993 Argentina Flood Rehabilitation Project, which involved beneficiaries in all stages of the project. The interaction between beneficiaries and the local authorities resulted in the timely availability of construction materials and the accommodation of local customs in the architectural design of new houses. Bank staff observed that this created ownership among beneficiaries and increased maintenance.

Experience in Turkey and Chile shows that cash transfers and the provision of livelihood opportunities can be especially effective for the poor. Experience also shows that women and other vulnerable groups need special attention following disasters, especially in ensuring equitable treatment.

Reconstructed housing that is built using disaster-resistant techniques and according to the needs of occupants reduces vulnerability.

Building codes can improve the quality of the built environment, but in informal neighborhoods that typically do not comply with code requirements, safer building practices need to be disseminated in different ways. Simplicity of message is essential to the widespread adoption of disaster-resistant technologies, as has been amply demonstrated in India. Because temporary housing is sometimes occupied for long periods of time, some projects have built temporary shelter to slightly higher standards so that it could become another form of housing for the poorer once the new housing is built.

Moreover, if shelters are built using disaster-resistant construction techniques, not only are they safer for the displaced living in them, but such construction also serves as an example that people will see, that will then potentially influence their future construction choices. Simple techniques can be used to ensure resistance in owner- or craftsman-built small houses, more sophisticated techniques may be used in engineer-designed buildings such as high-rises.

Bringing Risk Management into Development Strategy

Natural hazard risks are highly concentrated, so special attention needs to be given to planning ahead for disaster and to reducing long-term vulnerability in countries at highest risk.

Ten countries account for 208 of the 528 disaster projects (39 percent) in the Bank's portfolio. Bank lending also is concentrated in commitment terms—7.5 percent of projects received 32 percent of the financing. Natural hazard risks are foreseeable for many countries, yet those risks are infrequently considered in country programs or in project financing, even in highly vulnerable countries.

When formulating country lending programs and project lending, the Bank needs to elevate the importance of natural hazards, especially for highly vulnerable countries. To do this efficiently, borrowing countries need to be categorized by vulnerability level. This report presents one way to do this, dividing borrowers into three groups according to level of vulnerability (high, medium, and low, based on the percentage of a country's GDP at risk from two or more natural hazards).

The high concentration of risk also suggests that mechanisms are needed to finance those risks or transfer them.

Even if global or regional funds are eventually established, they will likely address only the short-term liquidity needs of disaster-affected countries. The Bank needs to be seen as a part of such regional and global solutions, but it also needs to continue to provide the longer-term activities directed at vulnerability reduction.

The Bank's long-term engagement with client countries needs to ensure continued focus on permanent vulnerability reduction.

The Bank has supported several research initiatives on risk hedging and private sector involvement in reconstruction financing. Financial approaches to mitigating loss that are receiving attention include: reinsurance with catastrophe bonds, national homeowner insurance programs, disaster funds, and microfinance. Additionally, 10 Bank-funded projects are beginning to explore national insurance schemes (5 of which are ongoing and have not been evaluated).

Coordination Inside and Outside the Bank

The Bank has the human resources capacity to both respond to disasters and to address long-term country needs related to hazard risks, but mobilizing them is cumbersome.

The Bank has a cadre of committed and experienced staff, but it lacks an effective way to reliably bring that staff and relevant knowledge to its borrowers, or even to its own task teams. Since 1999 a three-person unit has assisted Bank task managers with natural and technological disasters and helped provide a more strategic and rapid response. This group is supplemented by a thematic group comprising more than 100 staff with disaster-related experience. However, donors and client countries do not know who to contact when they have routine questions about disaster and related coordination. The current arrangement has also effectively reduced the visibility of the natural disaster theme within the Bank. When a disaster strikes it can be difficult to disengage knowledgeable and experienced staff from their ongoing tasks.

Donor coordination is especially critical to disaster relief and recovery, in part because of the dynamic nature of the situation, but also because disasters typically attract the involvement of numerous donors.

Increasingly, borrowers themselves are providing the necessary donor coordination, but they continue to need assistance with coordination, especially in the early stages of relief and recovery.

Project experience shows that the development of a recovery strategy shared by all requires not only an immediate Bank presence in the disaster-affected area, but also a prolonged presence that helps ensure that all reconstruction needs are covered, that the plan is appropriately designed for the available capacity, that stakeholders' needs are met, that there is a reasonable distribution of labor, and that the needs of the poor and vulnerable are considered.

In 1989, for example, Bank negotiators in Sudan worked with other donors to ensure that their interests were met and that there were no unnecessary overlaps in coverage. By keeping the composition of the Bank's contribution flexible, the other donors were helped to make adjustments in their programs. The Bank then financed what was left.

The development community should engage with disaster-stricken borrowers earlier and stay engaged longer.

International experience on the impacts of successful and unsuccessful relief management and on the ability of key stakeholders to participate effectively in the recovery process needs to be brought clearly to governments' attention. The Bank specifically needs to be present during the emergency stage to ensure success of the reconstruction projects it finances. Low-income community groups need support until they develop the capacity to manage the infrastructure that has been placed in their care.

Recommendations

Chapter 6 of the report makes a number of specific suggestions about revisions to the Bank's policy for emergency lending—these are not repeated here in their entirety.

Prepare a Strategy or Action Plan for Natural Disaster Assistance

The Bank's natural disaster assistance would benefit from the development of a strategy or action plan and related guidance that would:

- Help staff to respond to emergencies with quick relief and well-planned reconstruction, and to do so more effectively in a much shorter period.
- Ensure that contingency funds (be it on a country, regional, or global scale) result in all borrowing countries receiving a timely and adequate financial response to major events.
- Help bring natural hazard risk management to the most vulnerable countries.

The strategy or action plan needs to identify a methodology to assess each country's level of disaster risk. It is suggested that countries be divided into high-, medium-, and low-risk groups. The action plan then needs to identify how the Bank will assist borrowers in each category to lower their vulnerabilities and to build on local capacities and leadership.

In highly vulnerable countries, the action plan needs to make provisions to give more attention to natural hazards during the appraisal of investment projects generally, and specifically in the preparation of PRSPs, CASs, and other strategic documents. Where appropriate, these documents need to go beyond a description of the risks, and identify monitorable mitigation and institutional development activities.

For the most vulnerable countries, contingency funding needs to be available, whether as part of another loan, a set-aside in the CAS lending program, or a free-standing catastrophe fund (though these may become unnecessary if regional or global funds are eventually established). Another alternative worth consideration is a special fund under the Bank President's control that can be used to fund a quick start when disaster occurs.

Countries deemed to be at medium to high risk need to include disaster-resilient design in Bank-financed projects. For all countries, disaster risks need to be considered in standard risk assessment documents.

The strategy or action plan should be submitted to the Board for discussion.

Revise Policy to Better Guide Staff and Enhance Flexibility of Bank Responses to Natural Disasters

Emergencies are of many sorts and, although there is some overlap, most differ from the

disasters created by natural events in critical ways. Bank policy needs to reflect these differences by treating conflict and epidemic diseases separately, with provisions that apply only to the relevant topic. There are two ways in which this can be done: natural disasters can either be the subject of a separate Operational Policy (as called for in the 1998 IEG evaluation of the Bank's experience with post-conflict reconstruction); or Operational Policy 8.50 could include specific provisions for natural disasters, for post-conflict situations, and for health and other emergencies, so that each topic is dealt with separately. In whatever form it takes, Bank policy needs to focus more on disaster prevention and vulnerability reduction in all natural disaster operations. Policy prohibitions on relief and the financing of recurring events need to be relaxed.

Accelerated processing and provisions for quick disbursement for ERLs have partially addressed the need for speed in launching short-term activities, though they could be fruitfully complemented by a new mechanism, such as a special central fund managed by the President's office (akin to the one in place in the Inter-American Development Bank) to fund the most urgent needs in the early days of a disaster response.

But the use of ERLs is less appropriate for longer-term activities, such as mitigation, reconstruction, and institution building, which require a longer preparation and appraisal time and need not be exempted from due diligence standards and safeguard compliance.

Similarly, attention to social issues during preparation and implementation generally requires a longer period than has been available under ERLs. Such activities are more suited to standard investment lending but have often been short-changed because of the ERL's three-year implementation time and the loss of borrower interest in a second loan following the ERL.

Increase Bank Capacity to Respond to Disasters and Ensure That It Can Be Mobilized Quickly

Whether or not there is a designated unit to deal with natural disasters and hazard risks, the Bank needs the capacity to quickly gather and disseminate international experience to borrowers in an emergency. In addition, task teams need support while conducting post-disaster assessments and designing emergency interventions tailored to the needs and capacities of each borrower.

Responding to disasters requires multisectoral expertise. Including disaster-knowledgeable people on Bank missions following major crises can be crucial. Being selective in staffing identification for missions in post-disaster settings avoids the problems of design and scale of response that can occur when people are sent who are not used to seeing destruction on a massive scale or who lack country knowledge. The Bank has very few such people, and it currently has no consistent mechanism for mobilizing them to respond to natural disasters. Pulling members of the Hazard Management Thematic Group away from their ongoing responsibilities inevitably has a negative impact on their normal activities. And there are so few knowledgeable staff that the same people tend to be called upon repeatedly.

Résumé analytique

L'incidence des catastrophes naturelles sur le bien-être économique et sur la souffrance humaine s'est accrue de manière inquiétante. Rien qu'au cours de la dernière année, le tremblement de terre et le tsunami de l'océan Indien ont fait environ 220 000 morts et laissé 1,5 million de personnes sans abri, des inondations et des coulées de boue catastrophiques ont tué des centaines de personnes au Guatemala, et un violent tremblement de terre au Cachemire a provoqué des dizaines de milliers d'autres morts au Pakistan et en Inde.

Le bilan est saisissant, et le prix payé par les pays touchés, du point de vue du développement humain et économique, est énorme et en croissance. Les catastrophes naturelles deviennent plus coûteuses : en dollars constants, les coûts liés aux catastrophes entre 1990 et 1999 (652 milliards de dollars de pertes matérielles) étaient de plus de 15 fois supérieurs à ceux de la période 1950-1959 (38 milliards de dollars en valeur de 1998). Le coût humain est également élevé : au cours de la période 1984–2003, plus de 4,1 milliards de personnes ont été touchées par des catastrophes naturelles. Le nombre des sinistrés s'est accru, passant de 1,6 milliard de personnes pendant la première moitié de cette période (1984–1993) à près de 2,6 milliards durant la deuxième moitié (1994–2003), et il continue d'augmenter.

Même si les catastrophes causées par des événements naturels se produisent partout dans le monde, les pertes occasionnées par les catastrophes sont en général beaucoup plus grandes dans les pays en développement que dans les pays développés, en termes de pourcentage du produit intérieur brut (PIB) ou des recettes publiques. Un grand nombre de facteurs expliquent cette incidence disproportionnée sur les pays en développement. L'absence de développement en elle-même contribue aux effets des catastrophes, parce que les constructions sont souvent de piètre qualité, et en raison de l'inexistence de codes de construction, de processus d'enregistrement des biens fonciers et d'autres mécanismes réglementaires, ainsi qu'à cause du fait que de nombreuses autres priorités de développement détournent l'attention des risques présentés par les évènements naturels.

La plupart des catastrophes naturelles sont *prévisibles,* dans la mesure où il est possible de prédire, en général, l'endroit où un événement est susceptible de se produire à un certain moment dans un avenir proche (mais pas le moment ou l'ampleur précis d'un tel événement). Les petits États insulaires des Caraïbes et les pays du

Golfe du Mexique seront sans nul doute frappés à maintes reprises par des ouragans ; les pays riverains du Pacifique situés dans le « cercle de feu » sont très susceptibles d'être frappés par des tremblements de terre et des éruptions volcaniques ; les zones côtières à basse altitude de la Baie du Bengale subiront assurément davantage d'inondations ; et l'Afrique connaîtra très probablement plus d'épisodes de sécheresse. Il est par conséquent raisonnable de traiter les dangers de la nature comme des risques pour le développement, surtout dans les régions où ils surviennent de façon répétitive.

Les catastrophes annihilent une bonne partie des laborieux progrès accomplis dans le domaine du développement. A titre illustratif, au Mozambique les prêts de la Banque ont financé la construction de 487 établissements scolaires ; mais une catastrophe récente, à savoir les inondations de 2000, a endommagé ou détruit à elle seule environ 500 écoles primaires ainsi que sept établissements secondaires. Les dégâts causés peuvent anéantir plusieurs années d'aide au développement. Au Pakistan, le tremblement de terre du Cachemire en octobre 2005 a provoqué des dégâts estimés à 5 milliards de dollars, soit à peu près l'équivalent du total de l'aide publique au développement des trois années précédentes, et l'équivalent du montant des prêts accordés à ce pays par la Banque au cours des dix années précédentes.

Dans la plupart des pays en développement, il n'existe pas d'assurance privée contre les risques naturels. Si environ la moitié des coûts liés aux catastrophes naturelles sont couverts par l'assurance aux États-Unis, moins de 2 % le sont dans les pays en développement. En outre, le coût de la couverture des risques inhérents aux catastrophes naturelles dans les pays en développement est souvent supérieur aux frais encourus pour réparer tout simplement les dégâts subis lorsque ces catastrophes se produisent. Par ailleurs, les pays en développement peuvent en général compter sur de l'aide provenant de sources extérieures, ce qui représente un risque moral bien connu dans le domaine des interventions en matière de catastrophe. En ce qui concerne les ménages pauvres, les catastrophes naturelles ne représentent que l'un des nombreux risques qu'ils courent, et il est peu probable qu'ils y accordent une grande priorité.

Lorsqu'une catastrophe se produit, les pays touchés se préoccupent principalement de ce qu'il faut faire, de la manière de procéder, et des moyens de financer les interventions nécessaires. En général, les fonds sont immédiatement nécessaires et ils sont souvent réaffectés au détriment du développement à long terme, car il n'existe pas de financement pour imprévus. Le coût financier des interventions réalisées dans le cadre des plus récents événements a stimulé un intérêt tout particulier envers la création de mécanismes de financement mondiaux et régionaux. Il a été tour à tour proposé d'établir un mécanisme de financement régional en Amérique latine, et d'étendre un programme existant de l'ONU afin de créer un mécanisme mondial de financement pour imprévus.

La Banque mondiale s'engage de plus en plus à aider les pays à se remettre des effets désastreux des évènements naturels et à réduire leur vulnérabilité future. Lorsque la Banque mondiale intervient à la suite d'une catastrophe naturelle, elle a le choix entre un large éventail d'activités de prêt et de services hors prêt. Son intervention porte sur plusieurs domaines et thèmes, notamment le secteur urbain, le secteur rural, l'environnement, l'infrastructure, l'éducation, la santé et la protection sociale.

Ses services hors prêt peuvent comprendre l'organisation des réunions des bailleurs de fonds, l'octroi d'aide pour évaluer les dégâts après la catastrophe, la préparation des études et l'assistance technique. Les activités de prêt de la Banque peuvent consister à redéployer les fonds de projets existants, à modifier la conception de projets prévus ou à élaborer de nouveaux projets en utilisant une variété d'instruments de prêt. Outre ses services d'analyse et de conseil et son appui technique, la Banque a, depuis 1984, financé 528 projets portant sur les catastrophes naturelles et représentant plus de 26 milliards de dollars de prêt.

Le Groupe indépendant d'évaluation a examiné l'expérience de la Banque dans le domaine des interventions liées aux catastrophes au cours des 20 dernières années, afin d'en tirer des en-

seignements pour guider les bonnes pratiques et assurer le succès des activités appuyées par la Banque. L'évaluation vise par ailleurs à guider la révision en cours de l'énoncé de politique de la Banque sur l'aide d'urgence.

L'intervention de la Banque

La Banque a fait montre d'une considérable flexibilité dans son approche de l'aide en cas de catastrophe naturelle et elle a appris à gérer les interventions relatives aux événements, des plus grands aux plus petits qui sont plus limités.

Les services de la Banque ont souvent fait preuve d'innovation dans leur réponse face aux événements liés aux catastrophes, et ils ont mis en évidence leur capacité de gérer des travaux de reconstruction à très grande échelle. L'étude a identifié plus de 60 types d'activités entreprises dans le cadre de projets liés aux catastrophes, et qui vont du dégagement des débris à la fourniture d'abris de secours, en passant par la construction d'abris contre les inondations et d'infrastructures de transport, et le développement institutionnel.

Les interventions relatives aux catastrophes ont consisté notamment en des activités de prêt et des services hors prêt, ces derniers comprenant l'évaluation des besoins liés aux catastrophes, l'aide sous forme de conseils, et d'autres formes d'assistance technique. Parmi les interventions qui ont mis en évidence la flexibilité et l'esprit novateur de la Banque, on peut citer celles ayant trait à la création du Fonds d'investissement social du Honduras (1999), à la réponse face au tremblement de terre de Maharastra (1997), à la reconstruction après le tremblement de terre du Nord de la Chine (1993), à la reconstruction d'urgence à la suite des inondations au Yémen (1989), et à la prévention de la sécheresse au Niger (1988), lesquelles ont toutes été ajustées de façon dynamique aux conditions de l'époque de leur mise en œuvre.

La Banque a par ailleurs démontré son aptitude à travailler avec les bailleurs de fonds dans le cadre d'une intervention collective, et elle a adapté ses politiques et ses procédures pour assurer une prompte fourniture de l'aide.

La coordination des bailleurs de fonds a été tout particulièrement étroite dans le cadre des interventions relatives à l'ouragan Mitch au Honduras et au Nicaragua (1999), au tremblement de terre de Marmara en Turquie (2000), à la sécheresse au Soudan (1989), ainsi qu'aux inondations au Bangladesh (1999), au Mozambique (2000) et au Gujarat (2002). Les évaluations conjointes des dégâts sont devenues un important mécanisme permettant de collaborer avec les autres bailleurs de fonds et de veiller à ce que les besoins des emprunteurs soient satisfaits sans créer de chevauchement.

Les projets liés aux catastrophes naturelles financés par la Banque ont obtenu des notes plus élevées, du point de vue des résultats et de la viabilité, que celles du portefeuille de la Banque dans l'ensemble.

Près de 80 % des projets dont un élément important avait trait à la reconstruction après les catastrophes naturelles ou à l'atténuation des risques de catastrophe naturelle ont été jugés satisfaisants en ce qui concerne les résultats, par rapport à une moyenne de 72 % enregistrée à l'échelle de la Banque pour la même période. Ces notes témoignent de l'efficacité particulière de la Banque dans le domaine de la reconstruction des infrastructures physiques, et celui de la fourniture de matériel et d'équipements.

Les notes de viabilité sont également supérieures à la moyenne, mais celles relatives au développement institutionnel sont approximativement similaires à la moyenne. La note de durabilité (des infrastructures, pour l'essentiel) indique la probabilité que les avantages estimatifs nets seront maintenus ou dépassés pendant la durée prévue de vie utile d'un projet. L'expérience du renforcement des capacités en matière de gestion des catastrophes a montré qu'il faut souvent plus d'un cycle de projet pour implanter de façon durable, là où il n'en existait pas, une institution —créée après la catastrophe — qui fonctionne.

Mais en général, les interventions liées aux catastrophes ont eu tendance à être réac-

tives et tactiques, alors qu'une approche proactive et stratégique aurait été avantageuse à plus long terme.

Les pays touchés par la catastrophe ainsi que les bailleurs de fonds qui essayent de leur venir en aide, y compris la Banque, ont en général traité les catastrophes comme une interruption du développement et non comme un risque inhérent au développement. Au niveau national, rares sont les stratégies d'aide-pays et les stratégies de réduction de la pauvreté qui mentionnent les risques liés aux catastrophes naturelles, même dans les pays ayant connu plusieurs événements qui ont entraîné de grandes catastrophes. Les projets quant à eux ont principalement visé à apporter des solutions à court terme, et ils se sont rarement attaqués aux causes profondes des impacts désastreux des catastrophes naturelles.

Dans ses interventions liées aux catastrophes, la Banque recourt de plus en plus aux prêts d'urgence aux pays sinistrés, lesquels sont au cœur de sa politique de prêt d'urgence, même lorsque d'autres instruments peuvent être mieux indiqués.

Le prêt d'urgence aux pays sinistrés offre un traitement accéléré et une courte période d'exécution de trois ans, et il comporte par conséquent d'intéressantes qualités qui sont appréciées à la fois de l'emprunteur et des services de la Banque chargés des interventions en cas de catastrophe. Les prêts d'urgence aux pays sinistrés ont en général été efficaces et ont obtenu des notes élevées en ce qui concerne les résultats. Mais l'accélération du traitement du projet n'est pas toujours souhaitable. Dans le cas de certains projets, une évaluation hâtive a mené à de longues pauses entre l'approbation du prêt et le premier décaissement, à des interventions mal conçues et à des impacts réduits sur la pauvreté.

En outre, en misant sur une période de prêt de trois ans, la Banque peut finir par mettre l'accent sur les activités qui sont censées comporter une courte période d'exécution, en négligeant d'autres activités qui satisfont plus pleinement les besoins des sinistrés et permettent de résoudre les problèmes de vulnérabilité. Il arrive souvent que les activités susceptibles de contribuer considérablement à l'effort de reconstruction (et au développement subséquent à long terme de l'emprunteur) ne soient pas couvertes dans les projets financés au moyen des prêts d'urgence aux pays sinistrés, parce qu'elles ne peuvent pas être achevées dans le délai imparti de trois ans—et le projet finit de toute façon par aller au-delà de ce délai.

Les activités cruciales visant à réduire la vulnérabilité à long terme nécessitent plus de trois ans pour leur mise en œuvre, et elles font l'objet d'une faible demande de la part des emprunteurs.

Parmi les 60 activités identifiées dans les projets financés par la Banque —au titre de l'appui à la balance des paiements — une seule a été exécutée pendant moins de trois ans, en moyenne. Les types d'activités qui peuvent avoir le plus grand impact sur la réduction de la vulnérabilité, telles que l'élaboration ou la révision du code de construction, la mise en place d'institutions de gestion des risques de catastrophe, l'établissement de l'assurance et d'autres mécanismes de déplacement de risque, sont précisément celles pour lesquelles les emprunteurs sont le moins susceptibles de contracter des prêts. La Banque doit trouver des moyens d'encourager de telles activités.

Les mesures prises pendant les premières semaines ou les premiers mois après une catastrophe ont un impact majeur sur le processus de reconstruction qui suivra, et il convient de les planifier et de les mettre en œuvre en conséquence.

Les choix opérés immédiatement après une catastrophe — et portant sur les abris, la réinstallation, le dégagement des débris, la distribution de l'aide, etc. — influent sur les choix subséquents en matière de solution à plus long terme et de réduction de la vulnérabilité, et ils peuvent avoir de graves conséquences pour l'aptitude des pauvres à se remettre des effets de la catastrophe.

Les mesures prises immédiatement après la catastrophe doivent en outre prévoir le renforcement des capacités ainsi que l'acquisition des connaissances et des compétences qui seront né-

cessaires pour le processus de reconstruction. Si des études doivent produire des connaissances qui sont critiques pour éclairer pleinement la prise de mesures liées au projet, il convient qu'elles soient préconisées par un promoteur puissant, tel que la Banque. Le renforcement des capacités de passation des marchés et d'élaboration des dossiers d'appel d'offres doit s'effectuer très tôt. Dans les évaluations réalisées au niveau du projet, la passation des marchés est l'une des activités des projets les plus fréquemment citées comme ayant besoin d'amélioration.

La Banque doit être capable d'identifier les situations où la hâte est plus néfaste que bénéfique, si elle tient à ce que son intervention soit déterminée par les besoins de développement et non par les mécanismes de financement.

Les mécanismes de financement ont eux-mêmes besoin d'être repensés : le prêt à l'appui de la balance des paiements a certes été un mécanisme de décaissement relativement rapide, mais en moyenne il est bien loin d'être aussi rapide qu'on ne s'y attendait, et il n'a été utile que dans un nombre très limité de situations. Plusieurs tentatives appuyées par la Banque pour établir des mécanismes de déplacement de risque (assurance et financement pour imprévus) ont contribué à attirer l'attention des gouvernements sur les problèmes de développement à long terme que posent les catastrophes, mais trop peu de ces mécanismes ont été créés et évalués pour qu'on se prononce de façon éclairée sur leur valeur. Enfin, dans les pays très vulnérables, la Banque recourt beaucoup plus fréquemment à la réaffectation des prêts qu'à ses autres types d'interventions liées aux catastrophes.

Il convient d'accorder une attention spéciale aux activités de reconstruction ciblant les pauvres, mais ces activités sont tout particulièrement difficiles à réaliser dans les projets relatifs aux catastrophes, et les effets de la pauvreté sont en général mal établis.

Lorsque les projets de la Banque ont ciblé les pauvres, ils ont souvent dépassé l'impact prévu : des 51 projets dont les effets sont attestés, 41 ont eu un impact comparable ou supérieur aux attentes. Toutefois, les données sont incomplètes et les preuves montrant les impacts sur la pauvreté sont minces.

Même dans les circonstances difficiles qui entourent une intervention liée aux catastrophes, la participation des bénéficiaires aux processus de conception et d'exécution est indispensable pour en assurer le succès. Les avantages de la participation ont été mis en évidence dans le cadre du Projet de reconstruction à la suite des inondations survenues en Argentine en 1993. A cette occasion, les bénéficiaires avaient été associés à toutes les étapes du projet. L'interaction entre les bénéficiaires et les autorités locales a permis d'assurer la disponibilité en temps voulu des matériaux de construction, et la prise en compte des coutumes locales dans la conception architecturale des nouvelles habitations. Les services de la Banque ont relevé que cette situation a suscité l'adhésion des bénéficiaires et amélioré l'entretien des ouvrages construits.

Il ressort de l'expérience de la Turquie et du Chili que les transferts d'espèces et la fourniture de moyens de subsistance peuvent se révéler tout particulièrement efficaces pour les pauvres. L'expérience montre par ailleurs qu'il convient d'accorder une attention spéciale aux femmes et aux autres groupes vulnérables, en veillant surtout à l'équité du traitement des sinistrés.

Les logements reconstruits de façon à résister aux inondations et à répondre aux besoins des occupants réduisent la vulnérabilité.

Les codes de construction peuvent améliorer la qualité de l'environnement bâti, mais dans les quartiers à habitat spontané où en général les exigences relatives aux immeubles ne sont pas satisfaites, il importe de propager selon divers moyens des pratiques de construction plus sûres. La simplicité du message est indispensable pour l'adoption à grande échelle de technologies qui permettent de construire des ouvrages résistant aux catastrophes, comme il l'a été amplement démontré en Inde. Étant donné que les logements provisoires sont parfois occupés pendant de longues périodes, certains projets ont

bâti des abris temporaires selon des normes légèrement plus élevées, afin qu'ils puissent au besoin devenir une autre forme d'habitation pour les pauvres, une fois les nouveaux logements construits.

En outre, si les abris sont construits de façon à résister aux catastrophes, ils seront plus sûrs pour les personnes déplacées qui y vivront, tout comme ils serviront d'exemple que les populations pourront voir et qui pourrait influer sur leurs futurs choix en matière de construction. Des techniques simples peuvent être utilisées pour assurer la résistance de petits logements bâtis par les propriétaires ou des ouvriers qualifiés, et on peut recourir à des techniques plus complexes dans le cas des immeubles conçus par des ingénieurs, tels que les tours d'habitation.

Intégrer la gestion des risques à la stratégie de développement

Les risques naturels sont très concentrés, aussi convient-il de s'attacher tout particulièrement à prendre les dispositions nécessaires avant que ne se produise la catastrophe et à réduire la vulnérabilité à long terme des pays à risque élevé.

Dix pays bénéficient de 208 (39 %) des 528 projets du portefeuille de la Banque. Les opérations de prêt de la Banque sont également concentrées du point de vue des engagements —7,5 % des projets ont reçu 32 % du financement. Les risques naturels sont prévisibles dans nombre de pays, et pourtant ces risques sont peu souvent pris en compte dans les programmes nationaux ou dans le financement des projets, même dans les pays très vulnérables.

Lors de l'élaboration des programmes de prêt aux pays et des opérations de prêt en faveur des projets, la Banque doit amplifier l'importance accordée aux risques naturels, surtout dans le cas des pays très vulnérables. Pour y parvenir de façon efficace, il convient de classer les pays emprunteurs par niveau de vulnérabilité. Le présent rapport propose un moyen de le faire, qui consiste à diviser les emprunteurs en trois groupes selon le niveau de vulnérabilité de chacun (élevé, moyen et faible, en fonction du pourcentage du PIB du pays qui est exposé à deux ou plusieurs risques naturels).

La forte concentration des risques donne par ailleurs à penser qu'il est nécessaire de trouver des mécanismes pour financer ces risques ou pour les transférer.

Même si l'on finit par réunir des fonds mondiaux ou régionaux, ils ne serviront probablement qu'à satisfaire les besoins en matière de liquidité à court terme des pays touchés par les catastrophes. Si la Banque doit montrer qu'elle contribue à de telles solutions régionales et mondiales, il importe également qu'elle continue de réaliser des activités à plus long terme visant à réduire la vulnérabilité.

Dans le cadre de son engagement à long terme auprès des pays clients, la Banque doit veiller à ce qu'une attention soutenue soit accordée à la réduction permanente de la vulnérabilité.

La Banque a appuyé plusieurs initiatives de recherche sur la couverture des risques et la participation du secteur privé au financement de la reconstruction. Les approches financières de la mitigation des pertes qui suscitent de l'intérêt sont notamment : le déplacement de risque au moyen des obligations catastrophes, les programmes nationaux d'assurance des propriétaires, les fonds de secours et le microfinancement. En outre, dix projets financés par la Banque (dont cinq sont en cours et n'ont pas été évalués) commencent à étudier les régimes d'assurance nationaux.

Coordination au sein et à l'extérieur de la Banque

La Banque possède la capacité en ressources humaines nécessaires pour intervenir en cas de catastrophe et pour satisfaire les besoins — liés aux risques naturels — à long terme des pays, mais la mobilisation de ces ressources est difficile.

La Banque a un corps de cadres dévoués et expérimentés, mais elle manque de moyens efficaces de mettre de manière fiable ce personnel et le savoir pertinent au service de ses emprunteurs ou même de ses propres équipes de projet. Depuis 1999, une unité composée de trois personnes aide les chefs de projet de la Banque à gérer les catastrophes naturelles et technolo-

giques, et elle aide à réaliser des interventions plus stratégiques et plus rapides. À cette unité s'ajoute un groupe thématique comprenant plus de 100 employés qui possèdent une expérience dans le domaine des catastrophes. Cependant, les bailleurs de fonds et les pays clients ignorent à qui adresser leurs questions courantes au sujet des catastrophes et de la coordination y afférente. Le système actuel a en outre réduit effectivement la visibilité du thème des catastrophes naturelles au sein de la Banque. Lorsqu'une catastrophe se produit, il peut s'avérer difficile de faire en sorte que les employés compétents et expérimentés abandonnent leurs tâches du moment pour s'occuper de l'intervention.

La coordination des bailleurs de fonds est tout particulièrement cruciale pour le secours en cas de catastrophe et la reconstruction, en raison en partie de la nature dynamique de cette situation, mais aussi parce que les catastrophes donnent en général lieu à l'intervention d'un grand nombre de bailleurs de fonds.

De plus en plus, les emprunteurs eux-mêmes assurent la nécessaire coordination des bailleurs de fonds, mais ils n'en continuent pas moins d'avoir besoin d'aide en matière de coordination, surtout au début des opérations de secours et de la reconstruction.

L'expérience acquise dans les projets montre que l'élaboration d'une stratégie de reconstruction à adopter par tous exige non seulement que la Banque soit immédiatement présente dans la zone sinistrée, mais aussi qu'elle y reste pendant une longue période afin de s'assurer que tous les besoins en matière de reconstruction sont couverts, que le plan est conçu de façon appropriée pour la capacité disponible, que les besoins des parties prenantes sont satisfaits, que la répartition de la main-d'œuvre est raisonnable et que les besoins des pauvres et des groupes vulnérables sont pris en considération.

En 1989, par exemple, les négociateurs de la Banque au Soudan ont travaillé avec les bailleurs de fonds pour veiller à ce que leurs besoins soient satisfaits et qu'il n'y ait pas d'inutiles chevauchements dans la couverture. En maintenant flexible le contenu de sa contribution, la Banque a aidé les autres bailleurs de fonds à opérer des ajustements au niveau de leurs programmes. La Banque a ensuite financé la partie non couverte des interventions.

La communauté du développement doit commencer à travailler plus tôt avec les emprunteurs sinistrés, et maintenir cette collaboration pendant plus longtemps.

Il convient clairement d'attirer l'attention des gouvernements sur l'expérience internationale relative aux incidences de la gestion efficace et inefficace du secours et à l'aptitude des principales parties prenantes à participer efficacement au processus de reconstruction. Plus précisément, la Banque doit être présente pendant la phase d'urgence pour assurer le succès des projets de reconstruction qu'elle finance. Les groupes de proximité à faible revenu ont besoin d'aide jusqu'à ce que soit renforcée leur capacité de gérer l'infrastructure qui a été confiée à leurs soins.

Recommandations

Le chapitre 6 du rapport formule un nombre de propositions précises par rapport aux révisions à apporter à la politique de prêt d'urgence de la Banque. Ces recommandations ne sont pas reprises en intégralité ici.

Élaborer une stratégie ou un plan d'action pour l'aide en cas de catastrophe naturelle.

L'aide en cas de catastrophe naturelle de la Banque bénéficierait de l'élaboration d'une stratégie ou d'un plan d'action, ainsi que de directives connexes, qui permettraient :

- au personnel d'intervenir en situation d'urgence en fournissant un secours rapide et en mettant en œuvre une opération de reconstruction bien planifiée, et ce de façon plus efficace et en un temps beaucoup plus court ;
- de veiller à ce que la création de fonds pour imprévus (à l'échelle nationale, régionale ou mondiale) ait pour effet que tous les pays emprunteurs confrontés à des événements majeurs bénéficient d'une intervention financière suffisante et à temps.
- d'initier les pays les plus vulnérables à la gestion des risques naturels.

La stratégie ou le plan d'action doit définir une méthodologie pour évaluer le niveau de risque de catastrophe de chaque pays. Il est proposé que les pays soient divisés en groupes à risque élevé, moyen et faible. Le plan d'action doit ensuite indiquer la manière dont la Banque aidera les emprunteurs de chaque catégorie à réduire leur vulnérabilité et à faire fond sur les capacités et la volonté politique locales.

Dans les pays très vulnérables, le plan d'action doit prévoir des mesures permettant de prêter davantage attention aux risques naturels pendant l'évaluation des projets d'investissement en général, et lors de l'élaboration des Documents de stratégie pour la réduction de la pauvreté, des Stratégies d'aide-pays (CAS) et d'autres documents stratégiques en particulier. Le cas échéant, ces documents doivent, au-delà de la description des risques, indiquer des activités contrôlables de réduction de la vulnérabilité et de développement institutionnel.

En ce qui concerne les pays les plus vulnérables, le financement pour imprévus doit être disponible, qu'il fasse partie d'un prêt ou qu'il revête la forme d'un fonds mis de côté dans un programme de prêt de la CAS, voire d'un fonds autonome de catastrophe (même si ces fonds peuvent devenir inutiles si l'on établit en fin de compte des fonds régionaux ou mondiaux). Une autre solution digne d'intérêt est la création d'un fonds spécial placé sous le contrôle du président et pouvant servir à financer un lancement rapide des opérations de secours lorsqu'une catastrophe se produit.

Les pays dont le niveau de risque est moyen ou élevé doivent prévoir, dans les projets financés par la Banque, la conception d'ouvrages résistant aux catastrophes. Pour tous les pays, il convient de tenir compte des risques de catastrophe dans les documents classiques d'évaluation des risques.

La stratégie ou le plan d'action doit être soumis au Conseil pour examen.

Revoir la politique pour mieux guider le personnel et rendre plus flexibles les interventions de la Banque liées aux catastrophes naturelles.

Il existe un grand nombre de types de situations d'urgence, et malgré quelques chevauchements, la plupart d'entre elles diffèrent de façon fondamentale des catastrophes causées par des événements naturels. La politique de la Banque doit tenir compte de ces différences en traitant différemment les conflits et les épidémies, au moyen de dispositions qui ne s'appliquent qu'à chaque cas pertinent. Pour ce faire, il est possible de procéder de deux manières : les catastrophes naturelles peuvent faire l'objet d'une politique opérationnelle distincte (tel que l'a recommandé le Groupe indépendant d'évaluation en 1998 dans son évaluation de l'expérience de la Banque en matière de reconstruction à la suite d'un conflit) ; ou alors, l'politique opérationnelle 8.50 pourrait prévoir des clauses précises pour les catastrophes naturelles, pour les situations suivant un conflit, ainsi que pour la santé et d'autres cas d'urgence, afin que chaque sujet soit traité séparément. Quelle que soit la forme qu'elle prend, la politique de la Banque doit se concentrer davantage sur la prévention des catastrophes et la réduction de la vulnérabilité dans toutes les opérations portant sur les catastrophes naturelles. Il convient d'alléger les restrictions auxquelles la politique assujettit l'aide et le financement en faveur des événements périodiques.

L'accélération du traitement des prêts d'urgence aux pays sinistrés et de la prise de dispositions pour leur décaissement rapide a satisfait en partie le besoin de célérité dans le lancement des activités à court terme, même si ces mesures pourraient être avantageusement complétées par un nouveau mécanisme, tel qu'un fonds central spécial géré par le cabinet du président (et similaire à celui qui est en place à la Banque interaméricaine de développement) pour financer les besoins les plus urgents pendant les premiers jours d'une intervention en cas de catastrophe.

Le recours aux prêts d'urgence aux pays sinistrés est toutefois moins indiqué dans le cas des activités à plus long terme tels que la réduction de la vulnérabilité, la reconstruction, et le renforcement des institutions, qui nécessitent un plus long délai de préparation et d'évaluation et n'ont pas besoin d'être soustraites aux normes de diligence raisonnable et aux mesures de sauvegarde.

De même, pour qu'une attention soit accordée aux problèmes sociaux lors de la préparation

et de l'exécution, il faut en général un délai plus long qu'on ne peut ménager dans le cadre des prêts d'urgence aux pays sinistrés. De telles activités conviennent mieux aux opérations classiques d'investissement, mais elles y ont souvent perdu au change en raison du délai d'exécution de trois ans des prêts d'urgence aux pays sinistrés, et de la perte de l'intérêt de l'emprunteur pour un deuxième prêt après l'obtention du prêt d'urgence aux pays sinistrés.

Renforcer la capacité de la Banque d'intervenir en cas de catastrophe et d'assurer une mobilisation rapide de ses ressources. Qu'il existe ou non une unité désignée pour s'occuper des catastrophes et des risques naturels, il est nécessaire qu'en situation d'urgence, la Banque ait la capacité de réunir rapidement les expériences internationales et de les diffuser auprès des emprunteurs. En outre, les équipes de projet doivent être appuyées lors de l'évaluation des dégâts après la catastrophe et de la conception d'interventions d'urgence adaptées aux besoins et aux capacités de chaque emprunteur.

L'intervention en cas de catastrophe exige une expertise multisectorielle. Il peut s'avérer crucial de faire en sorte que des personnes expérimentées en matière de catastrophe participent aux missions organisées par la Banque à la suite des crises majeures. En désignant sur une base sélective les cadres devant participer aux missions dans les régions sinistrées, on évite les problèmes liés à la conception et à l'ampleur de l'intervention qui peuvent survenir lorsque les membres de la mission n'ont pas l'habitude de voir des destructions à une vaste échelle ou qu'ils ne possèdent pas de connaissances sur le pays. Peu de cadres ayant le profil idéal sont en service à la Banque, et à l'heure actuelle cette dernière ne dispose d'aucun mécanisme cohérent pour les mobiliser en vue d'une intervention en cas de catastrophe naturelle. Le fait d'éloigner de leurs responsabilités courantes les membres du Groupe thématique sur la gestion des risques a inévitablement une incidence négative sur leurs activités normales. En outre, le nombre d'employés expérimentés est si petit qu'on tend à solliciter les mêmes personnes à maintes reprises.

Resumen

El impacto de los desastres naturales en el bienestar económico y en el sufrimiento de las personas ha aumentado en forma alarmante. Tan sólo el año pasado, el terremoto y *tsunami* del océano Índico causó la muerte de unas 220.000 personas y dejó sin hogar a un millón y medio de habitantes; las catastróficas inundaciones y aludes de lodo en Guatemala mataron a centenares de personas, y un devastador terremoto en Cachemira causó la muerte de decenas de miles de personas más en Pakistán e India.

Las cifras de muertos son asombrosas y los costos en términos de desarrollo humano y económico de los países afectados son enormes y siguen aumentando. Los desastres naturales resultan cada vez más onerosos: en dólares constantes, el costo de los desastres naturales entre 1990 y 1999 fue 15 veces más elevado (US$652.000 millones en pérdidas materiales) que entre 1950 y 1959 (US$38.000 millones en valores de 1998). El costo en términos humanos también es elevado: en el período comprendido entre 1984 y 2003, más de 4.100 millones de personas se vieron afectadas por desastres naturales. Esta cifra ha aumentado de 1.600 millones en la primera mitad de dicho período (1984-93) a casi 2.600 millones en la segunda mitad (1994-2003), y continúa subiendo.

En todo el mundo se producen desastres provocados por fenómenos naturales, pero las pérdidas en términos del porcentaje del producto interno bruto (PIB) o de ingresos públicos suelen ser mucho mayores en los países en desarrollo que en los desarrollados. Esta desproporción en los países en desarrollo tiene muchas explicaciones. La falta de desarrollo por sí misma agrava el impacto de estos desastres, debido tanto a la mala calidad de las construcciones como a la ausencia de códigos de construcción, procedimientos para el registro de tierras y otros mecanismos de regulación, y a que existen muchas otras prioridades de desarrollo que desvían la atención de los riesgos que plantean los fenómenos naturales.

La mayoría de los desastres naturales son *previsibles* en la medida en que sea posible predecir en términos generales dónde es probable que se produzca un acontecimiento en el futuro cercano (aunque no exactamente cuándo o con qué magnitud). Indudablemente, los pequeños Estados insulares del Caribe y los países a lo largo de la costa del Golfo de México se verán azotados repetidamente por los huracanes; los Estados de la cuenca del Pacífico situados en el denominado "círculo de fuego" tienen altas probabilidades de sufrir terremotos y erupciones volcánicas; con

seguridad, las zonas de litoral bajo de la Bahía de Bengala tendrán más inundaciones, y es muy probable que en África se produzcan más sequías. Por lo tanto, es razonable considerar que los peligros de la naturaleza constituyen un riesgo para el desarrollo, especialmente en los lugares donde éstos se repiten una y otra vez.

Los desastres echan por tierra los progresos en materia de desarrollo logrados con tanto esfuerzo. En Mozambique, por ejemplo, el Banco financió la construcción de 487 escuelas, pero el último desastre —las inundaciones del año 2000— bastó para dañar o destruir unas 500 escuelas primarias y siete escuelas secundarias. Los daños provocados pueden contrarrestar con creces lo logrado en años de asistencia para el desarrollo. El terremoto de Cachemira de octubre de 2005 causó daños por unos US$5.000 millones en Pakistán, que equivalen aproximadamente al total de la asistencia oficial para el desarrollo de los tres años anteriores, y a los recursos que el Banco Mundial había prestado a ese país en los 10 años precedentes.

En la mayoría de los países en desarrollo no existen seguros privados contra este tipo de riesgo. En los Estados Unidos, aproximadamente la mitad de los costos relacionados con los desastres naturales están cubiertos por el seguro, pero en el mundo en desarrollo esa proporción no alcanza al 2%. Además, el costo de la cobertura contra dichos riesgos en los países en desarrollo a menudo es superior al costo que significaría reparar los daños producidos. Por otra parte, normalmente esos países pueden contar con que recibirán ayuda externa, un conocido riesgo moral en el ámbito de los desastres. En el caso de las familias pobres, los riesgos naturales son sólo uno de los numerosos tipos de riesgos a los que se exponen y es poco probable que revistan alta prioridad.

Cuando se produce un desastre, la principal preocupación del país afectado es qué hacer, cómo hacerlo y cómo financiar las medidas de respuesta apropiadas. La necesidad de recursos financieros suele ser inmediata y a menudo estos fondos se desvían de programas de desarrollo a largo plazo porque no se dispone de financiamiento para situaciones imprevistas. El costo financiero que ha significado la respuesta ante los acontecimientos más recientes ha despertado especial interés en encontrar soluciones para movilizar recursos a nivel mundial y regional. Se ha presentado una propuesta para establecer un mecanismo de financiamiento a nivel regional en América Latina; también se ha propuesto ampliar un programa de las Naciones Unidas ya existente con el fin de crear un mecanismo de financiamiento para situaciones imprevistas de alcance mundial.

En medida creciente, el Banco Mundial ayuda a los países a recuperarse de los efectos desastrosos de los fenómenos naturales y a reducir su nivel vulnerabilidad en el futuro. Cuando responde a un desastre natural, el Banco Mundial recurre a una amplia gama de servicios financieros y no financieros. Además, su respuesta abarca diversos sectores y temas, entre ellos, urbanismo, zonas rurales, medio ambiente, infraestructura, educación, salud y protección social.

Los servicios no financieros pueden incluir la convocatoria de reuniones de donantes, el suministro de asistencia para las evaluaciones que se llevan a cabo en cuanto se produce un desastre, la preparación de estudios, y asistencia técnica. La asistencia financiera del Banco puede consistir en la reasignación de fondos de proyectos en curso, la modificación del diseño de proyectos que se planea llevar a cabo, o la formulación de nuevos proyectos mediante el uso de diversos instrumentos de financiamiento. Además de los servicios analíticos y de asesoría, y del apoyo técnico, desde 1984 el Banco ha financiado 528 proyectos relacionados con desastres naturales, que representan préstamos por más de US$26.000 millones.

El Grupo de Evaluación Independiente examinó la experiencia del Banco relativa a sus respuestas en casos de desastres en los últimos 20 años con el objeto de extraer lecciones que permitan formular prácticas recomendadas y asegurar que las actividades apoyadas por el Banco consigan los resultados previstos. La evaluación también tiene por objeto servir de base para la revisión que está llevando a cabo el Banco de su declaración de política sobre asistencia en casos de emergencia.

La respuesta del Banco

El Banco ha demostrado mucha flexibilidad en su planteamiento con respecto a la asistencia en caso de desastres naturales y ha aprendido a proporcionar respuestas adecuadas ante acontecimientos de enormes

dimensiones y otros de menor gravedad o de alcance limitado.

En muchos casos el personal del Banco ha recurrido a respuestas innovadoras ante situaciones de desastre y demostrado la capacidad de hacer frente a reconstrucciones en gran escala. En el estudio se identificaron más de 60 tipos de actividades en el marco de proyectos relacionados con desastres naturales, tales como remoción de escombros, suministro de refugio de emergencia, construcción de refugios para protegerse de las inundaciones, infraestructura de transporte y desarrollo institucional.

Las medidas de respuesta han comprendido asistencia financiera y no financiera; esta última ha consistido en asistencia técnica en forma de evaluaciones de las necesidades provocadas por los desastres, asesoría, etc. Como ejemplo de las respuestas que han demostrado la flexibilidad y capacidad de innovación del Banco cabe señalar el Fondo de Inversión Social de Honduras (1999), la asistencia tras el terremoto de Maharashtra (1997), la reconstrucción tras el terremoto en el norte de China (1993), la reconstrucción de emergencia tras las inundaciones en Yemen (1989), y las actividades para la prevención de sequías en Níger (1988). En todos estos casos se hicieron en forma dinámica los ajustes necesarios teniendo en cuenta las condiciones imperantes.

El Banco también ha demostrado capacidad para responder conjuntamente con los donantes y ha adaptado sus políticas y procedimientos para asegurar que la asistencia llegue en forma expedita.

La coordinación de los donantes fue particularmente estrecha tras el huracán Mitch que azotó Honduras y Nicaragua (1999), el terremoto de Marmara, en Turquía (2000), la sequía en Sudán (1989) y las inundaciones en Bangladesh (1999), Mozambique (2000) y Gujarat (2002). Las evaluaciones conjuntas se han convertido en un mecanismo importante para trabajar con otros donantes y asegurar que no se produzca duplicación de esfuerzos para atender a las necesidades de los prestatarios.

En comparación con la totalidad de la cartera, los proyectos financiados por el Banco relacionados con desastres naturales han recibido mejores calificaciones en lo que respecta a los efectos directos y la sostenibilidad.

Casi el 80% de los proyectos que tenían un componente importante de mitigación o reconstrucción tras un desastre natural fueron calificados de satisfactorios en cuanto a sus efectos directos, en comparación con un promedio de 72% en igual período a nivel de todo el Banco. Estas calificaciones son indicativas de la particular eficacia del Banco en la reconstrucción de infraestructura física y el suministro de materiales y equipo.

Las calificaciones con respecto a la sostenibilidad también son superiores al promedio, pero las correspondientes al desarrollo institucional son aproximadamente iguales a este último. La calificación de la sostenibilidad (principalmente infraestructura) indica la probabilidad de que a lo largo de la vida útil prevista del proyecto se mantengan o superen los beneficios netos estimados. La experiencia acerca de la creación de capacidad de gestión en casos de desastre ha mostrado que a menudo se requiere más de un ciclo completo de proyectos para establecer por primera vez una institución encargada de responder en tales situaciones que funcione debidamente.

En general, sin embargo, la respuesta en casos de desastre ha sido más bien reactiva y táctica, en circunstancias en que un criterio proactivo y estratégico podría haber producido beneficios a más largo plazo.

Por lo general, los países afectados por desastres, así como los donantes que tratan de brindarles ayuda, incluido el Banco, han considerado los desastres como una interrupción del proceso de desarrollo, y no como un riesgo que forma parte integral de dicho proceso. En el plano nacional, son contadas las estrategias de asistencia a los países y las estrategias de lucha contra la pobreza en las que se mencionan los riesgos que plantean los desastres naturales, incluso en países donde se han producido varios acontecimientos que han dado por resultado grandes desastres. Al nivel de los proyectos, en los objetivos señalados se han dispuesto principalmente medidas de corto plazo y rara vez se han abordado

las causas básicas de los desastrosos efectos de los riesgos naturales.

En medida creciente, el Banco ha otorgado préstamos de emergencia para recuperación —el elemento central de su política de financiamiento para situaciones de emergencia— para brindar asistencia en casos de desastre, incluso cuando otros instrumentos podrían haber sido más adecuados.

Estos préstamos se tramitan en forma acelerada y el período de implementación es de apenas tres años; por lo tanto, sus características tienen muy buena acogida por parte de los prestatarios y el personal del Banco que responde ante tales situaciones. En términos generales, los préstamos de emergencia para recuperación han dado buen resultado y gozan de altas calificaciones en lo que respecta a sus efectos directos. Sin embargo, la tramitación acelerada de un proyecto no siempre es lo más conveniente. En algunos proyectos, la apresurada evaluación inicial ha dado lugar a largas pausas entre la aprobación del préstamo y el primer desembolso, el diseño inadecuado de las intervenciones y un menor impacto en la reducción de la pobreza.

Además, con un período de financiamiento de tres años, el Banco puede acabar poniendo énfasis en actividades que suelen tener breves períodos de ejecución, dejando de lado otras que aborden más plenamente las necesidades y vulnerabilidades del prestatario. A menudo, en los proyectos financiados con préstamos de emergencia para recuperación no se incluyen actividades que podrían contribuir considerablemente a los esfuerzos de recuperación (y, posteriormente, al proceso de desarrollo a largo plazo del prestatario) porque éstas no se pueden terminar en los tres años establecidos, con la consiguiente prolongación del proyecto.

Para llevar a cabo las actividades fundamentales que permiten reducir la vulnerabilidad a largo plazo se requieren más de tres años y la demanda de tales actividades por los prestatarios es escasa.

Solamente una de las 60 actividades identificadas en proyectos financiados por el Banco —a saber, la asistencia para financiar la balanza de pagos— ha requerido, en promedio, menos de tres años. Los tipos de actividades que pueden producir el mayor impacto en reducir la vulnerabilidad, como la elaboración o revisión de los códigos de construcción, y el establecimiento de instituciones responsables de la gestión de riesgos, así como de mecanismos de seguro y de otro tipo para mitigar los riesgos, son precisamente aquellos para los cuales los prestatarios tienen menos probabilidades de solicitar financiamiento. El Banco debe encontrar maneras de promover ese tipo de actividades.

Las medidas adoptadas durante las primeras semanas y meses después de ocurrido un desastre producen en un gran impacto en el ulterior proceso de recuperación, y deben planificarse y llevarse a cabo en debida forma.

Las decisiones que se adoptan inmediatamente después de un desastre —refugio de personas, reasentamiento, remoción de escombros, distribución de ayuda, etc.— influyen en las decisiones que se adoptan posteriormente para encontrar soluciones a más largo plazo y reducir el nivel de vulnerabilidad, y pueden tener graves consecuencias en la capacidad de recuperación de las personas pobres.

En las medidas inmediatas luego de producido un desastre también se debe incluir el desarrollo de las capacidades, los conocimientos y las destrezas que serán necesarias durante el proceso de recuperación. Para que los estudios generen los conocimientos fundamentales que permitan adoptar medidas con pleno conocimiento de causa en el marco de los proyectos, hace falta un buen promotor, como el Banco. El fortalecimiento de la capacidad en materia de adquisiciones y preparación de los documentos de licitación debe ser una de las primeras medidas. La mejora de los procesos de adquisiciones se cuenta entre las actividades que se mencionan con mayor frecuencia en las evaluaciones a nivel de los proyectos.

El Banco debe ser capaz de determinar en qué casos puede ser contraproducente apresurarse en las decisiones, para que no sean los mecanismos de financiamiento sino las necesidades de desarrollo las que impulsen su respuesta.

Es necesario replantearse los mecanismos de financiamiento; los préstamos para financiar la balanza de pagos han sido un mecanismo de desembolso relativamente rápido, pero, en general, no son ni cercanamente tan rápidos como deberían serlo, y sólo han sido de ayuda en circunstancias muy limitadas. Varios intentos apoyados por el Banco encaminados a establecer mecanismos para mitigar el riesgo (seguros y financiamiento para imprevistos) han ayudado a centrar la atención de los gobiernos en los problemas de desarrollo a largo plazo que plantean los desastres, pero son muy pocos los que han llegado a término y se han podido evaluar como para emitir un juicio informado sobre su utilidad. Por último, en los países muy vulnerables se recurre con mucha mayor frecuencia a la reasignación de préstamos que a otros tipos de respuesta del Banco ante situaciones de desastre.

Las actividades de recuperación dirigidas a la población pobre requieren atención especial, pero son particularmente difíciles de llevar a cabo en el marco de proyectos sobre desastres naturales, y el impacto en la pobreza no suele documentarse en debida forma.

Cuando los proyectos del Banco han estado dirigidos a los pobres, a menudo han sobrepasado el impacto previsto: 41 de los 51 proyectos cuyo impacto ha sido documentado alcanzaron o superaron el impacto previsto. Sin embargo, no se dispone de datos completos y la documentación sobre el impacto en la pobreza es escasa.

Incluso en las difíciles circunstancias en que se responde a un desastre, la participación de los beneficiarios durante las etapas de diseño y ejecución son fundamentales para obtener buenos resultados. Las ventajas de dicha participación quedaron demostradas en el proyecto de rehabilitación tras las inundaciones de Argentina, en 1993, ocasión en que los beneficiarios participaron en todas las etapas del proyecto. La interacción entre los beneficiarios y las autoridades locales hizo posible disponer oportunamente de materiales de construcción y tener en cuenta las costumbres locales en el diseño arquitectónico de las nuevas viviendas. El personal del Banco pudo observar que todo esto permitió que los beneficiarios se identificaran con el proyecto y que mejorara el mantenimiento de las obras.

La experiencia en los casos de Turquía y Chile muestra que las transferencias de efectivo y las oportunidades para ganarse la vida pueden ser especialmente eficaces para los pobres. También indica que las mujeres y los grupos vulnerables necesitan atención especial después de un desastre; concretamente, se debe asegurar que reciban un trato equitativo.

La reconstrucción de viviendas con técnicas de construcción resistentes a los desastres y conforme a las necesidades de los moradores reduce el grado de vulnerabilidad.

Cuando existen códigos de construcción se puede mejorar la calidad de las edificaciones, pero en los barrios informales en los que no se suelen cumplir dichas normas es necesario promover por distintos conductos la utilización métodos de construcción más seguros. Es fundamental que la información se divulgue en un lenguaje sencillo para lograr la adopción generalizada de técnicas de construcción resistente a los desastres, como se ha demostrado ampliamente en India. Dado que a veces las viviendas temporales se ocupan durante períodos prolongados, en el marco de algunos proyectos se han construido refugios temporales conforme a normas ligeramente más estrictas, de modo que pudieran convertirse en otra forma de vivienda para personas más pobres una vez construidas las nuevas viviendas.

Además, si los albergues se construyen con técnicas resistentes a los desastres, no sólo son más seguros para sus moradores desplazados, sino que también sirven de modelos que la gente puede apreciar, con la posibilidad de que lleguen a influir en sus decisiones de construcción en el futuro. Se pueden utilizar técnicas de construcción sencillas para asegurar la resistencia de pequeñas viviendas construidas por sus propietarios o por artesanos; en edificaciones diseñadas por profesionales, como edificios de altura, se pueden utilizar técnicas más complejas.

Integración de la gestión de riesgos en las estrategias de desarrollo

Los riesgos naturales están muy concentrados, por lo que es necesario prestar aten-

ción especial a la planificación antes de que se produzca un desastre, así como a la reducción del grado de vulnerabilidad a largo plazo en los países que corren mayor riesgo.

De los 528 proyectos relacionados con desastres naturales (39%) que conforman la cartera del Banco, 208 corresponden a 10 países. Los compromisos de préstamo del Banco también se encuentran concentrados: el 7,5% de los proyectos recibió el 32% del financiamiento. En el caso de muchos países, los riesgos naturales son previsibles, pero pocas veces se tienen en cuenta en los programas para los países o en el financiamiento de los proyectos, incluso cuando se trata de países muy vulnerables.

Al formular los programas de financiamiento para los países y el financiamiento para proyectos, el Banco debe dar mayor importancia a los riesgos naturales, especialmente en el caso de los países muy vulnerables. Para proceder de manera eficiente, los países prestatarios se deben clasificar por nivel de vulnerabilidad. En el presente informe se señala una manera de hacerlo, dividiendo los prestatarios en tres grupos según su grado de vulnerabilidad (alto, mediano y bajo, según el porcentaje del PIB del país en cuestión expuesto al riesgo en caso de que se produzcan dos o más riesgos naturales).

La alta concentración del riesgo también indica que se necesitan mecanismos para financiar o transferir dichos riesgos.

Incluso si se llegan a establecer fondos mundiales o regionales, éstos probablemente sólo atenderán las necesidades de liquidez a corto plazo de los países afectados por un desastre. El Banco debe considerarse parte de tales soluciones regionales y mundiales, pero también debe seguir participando en actividades a más largo plazo dirigidas a reducir el nivel de vulnerabilidad de los países.

En su participación a largo plazo para atender las necesidades de los países clientes, el Banco debe asegurar que se preste atención continuada a la permanente reducción de la vulnerabilidad.

El Banco ha apoyado varias iniciativas de investigación relativas a la protección contra riesgos y la participación del sector privado en el financiamiento de actividades de reconstrucción. Entre las soluciones financieras para mitigar pérdidas en que se está centrando la atención cabe mencionar las siguientes: reaseguro con bonos de catástrofe, programas nacionales de seguro para los propietarios de viviendas, fondos para situaciones de desastre y microfinanciamiento. Además, en el marco de 10 proyectos financiados por el Banco se están empezando a estudiar planes nacionales de seguro (cinco de esos planes están en marcha pero no han sido evaluados).

Coordinación dentro y fuera del Banco

El Banco cuenta con los recursos humanos necesarios para responder ante situaciones de desastre y atender las necesidades a largo plazo de los países relacionadas con los riesgos naturales, pero la movilización de dichos recursos es complicada.

El Banco tiene un cuerpo de funcionarios dedicados y con vasta experiencia, pero carece de una forma eficaz para hacer llegar de manera confiable ese personal y los conocimientos pertinentes a sus prestatarios, e incluso a sus propios equipos. Desde 1999, una unidad integrada por tres personas asiste a los jefes de proyectos del Banco en materia de desastres naturales y tecnológicos, y ayuda a entregar una respuesta más estratégica y expedita. Este grupo se complementa con un grupo temático integrado por más de 100 funcionarios con experiencia en casos de desastre. No obstante, los donantes y los países clientes no saben con quién ponerse en contacto cuando tienen preguntas de rutina sobre situaciones de desastre y las actividades de coordinación conexas. Con los mecanismos que existen actualmente, de hecho también se ha reducido la visibilidad del tema de los desastres naturales en el Banco. Cuando ocurre un desastre, puede ser difícil sacar de sus tareas habituales al personal con conocimientos y experiencia en la materia.

La coordinación de los donantes reviste especial importancia para las actividades de asistencia y recuperación tras un desastre, debido en parte al carácter dinámico de la situación, pero también porque los desastres normalmente atraen a numerosos donantes que desean participar.

En medida creciente, los propios prestatarios se ocupan de la necesaria coordinación de los donantes, pero siguen requiriendo asistencia para la coordinación, sobre todo en las primeras etapas de asistencia y recuperación.

La experiencia recogida de los proyectos muestra que para elaborar una estrategia de recuperación compartida por todos se requiere no sólo la presencia inmediata del Banco en la zona afectada por el desastre, sino también una presencia prolongada que permita asegurar que se atiendan todas las necesidades de reconstrucción, que el diseño del plan sea adecuado a la capacidad disponible, que se satisfagan las necesidades de las partes interesadas, que la distribución del trabajo sea razonable, y que se tengan en cuenta las necesidades de los grupos pobres y vulnerables.

En 1989, por ejemplo, negociadores del Banco en Sudán trabajaron con otros donantes para asegurar que se consideraran los intereses de estos últimos y que no hubiera una innecesaria duplicación de esfuerzos. Al mantener la flexibilidad en la composición de la contribución del Banco, se ayudó a los demás donantes a introducir ajustes a sus programas. Luego, el Banco financió el resto.

La comunidad del desarrollo debería trabajar con los prestatarios afectados por un desastre en una etapa más temprana y continuar participando por más tiempo.

A los gobiernos se les debería hacer presente con toda claridad la experiencia internacional sobre los impactos que produce una gestión acertada o desacertada de la asistencia y sobre la capacidad de las principales partes interesadas para participar de manera eficaz en el proceso de recuperación. Concretamente, el Banco debe estar presente durante la etapa de emergencia para asegurar el éxito de los proyectos de reconstrucción que financia. Los grupos de menores ingresos de la comunidad necesitan apoyo hasta que desarrollen la capacidad para ocuparse de la gestión de la infraestructura que se haya puesto su cuidado.

Recomendaciones

En el Capítulo 6 del informe se presentan varias sugerencias concretas con respecto a la revisión de la política del Banco relativa al financiamiento para situaciones de emergencia; dichas sugerencias no se repiten aquí en toda su extensión.

Preparar una estrategia o plan de acción para la asistencia en casos de desastres naturales

La asistencia del Banco en casos de desastres naturales podría mejorar si se elaborara una estrategia o plan de acción —con las correspondientes orientaciones— que:

- ayudaría al personal a responder ante situaciones de emergencia con asistencia expedita y actividades de reconstrucción bien planificadas, y a actuar con eficacia en un período mucho más breve;
- aseguraría que los fondos para situaciones imprevistas (ya sea a escala nacional, regional o mundial) representaran para todos los países prestatarios una respuesta financiera oportuna y adecuada ante acontecimientos graves;
- Ayudaría a gestionar los riesgos naturales en los países más vulnerables.

En la estrategia o plan de acción se debe señalar una metodología para determinar el nivel de riesgo de que ocurran desastres naturales en los distintos países. Se recomienda que los países se dividan en tres categorías: grupos de riesgo alto, mediano y bajo. Luego, se debe establecer la manera en que el Banco brindará asistencia a los prestatarios de cada una de estas categorías con el propósito de reducir su vulnerabilidad y aprovechar las capacidades y el liderazgo de cada uno de ellos.

En los países muy vulnerables, el plan de acción debe disponer que se preste más atención a los riesgos naturales durante la etapa de evaluación inicial de los proyectos de inversión en general, y específicamente durante la preparación de los documentos de estrategia de lucha contra la pobreza, las estrategias de asistencia a los países y otros documentos de esa naturaleza. Cuando corresponda, estos documentos no deberán limitarse a presentar una descripción de los riesgos, sino señalar además actividades de mitigación y desarrollo institucional susceptibles de seguimiento.

En el caso de los países más vulnerables, se debe disponer de financiamiento para situaciones

imprevistas, ya sea como parte de otro préstamo, fondos de destinación especial en el programa de financiamiento de la estrategia de asistencia a los países, o un fondo para catástrofes de carácter independiente (aunque esto podría ser innecesario si a la larga se establecieran fondos regionales o mundiales). Otra alternativa que valdría la pena considerar es la creación de un fondo especial administrado por el Presidente y que podría utilizarse para financiar el inicio inmediato de las actividades en cuanto se produzca un desastre.

El diseño de los proyectos financiados por el Banco en países que se consideren de riesgo mediano o alto deberá poder adaptarse en caso de que ocurra un desastre. En los documentos habituales de evaluación de riesgos que se preparan para todos los países se deberán considerar los riesgos de que se produzcan desastres naturales.

La estrategia o el plan de acción se deberá enviar al Directorio para su discusión.

Revisar la política del Banco para orientar mejor al personal y aumentar la flexibilidad de las respuestas de la institución ante los desastres naturales.

Las emergencias son de diversa naturaleza y, pese a que existen ciertas semejanzas, la mayoría difiere en aspectos muy importantes de los desastres provocados por fenómenos naturales. La política del Banco debe reflejar esas diferencias y considerar por separado los conflictos y las enfermedades epidémicas, con disposiciones que se apliquen únicamente al tema pertinente. Hay dos maneras de hacerlo: los desastres naturales pueden ser materia de una política operacional independiente (como se pide en la evaluación del Grupo de Evaluación Independiente de 1998 relativa a la experiencia del Banco en actividades de reconstrucción después de un conflicto), o bien la OP 8.50 podría incluir disposiciones específicas en relación con los desastres naturales, las situaciones posteriores a los conflictos, la salud y otras emergencias, de manera que cada tema se trate por separado. Cualquiera sea la forma que adopte, la política del Banco debe centrar más la atención en la prevención de desastres y la reducción de los niveles de vulnerabilidad en todas las operaciones relativas a estos fenómenos. Se deben flexibilizar las prohibiciones establecidas en la política con respecto a la asistencia y el financiamiento en el caso de acontecimientos recurrentes.

La tramitación acelerada y las disposiciones para el rápido desembolso de los préstamos de emergencia para recuperación han atendido parcialmente la necesidad de iniciar de inmediato las actividades a corto plazo, pero podrían complementarse fructíferamente con un nuevo mecanismo, como un fondo central especial administrado por la oficina del Presidente (similar al que existe en el Banco Interamericano de Desarrollo) para financiar las necesidades más urgentes durante los primeros días de respuesta después de un desastre.

No obstante, los préstamos de emergencia para recuperación son menos adecuados para actividades a más largo plazo, como las de mitigación, reconstrucción y fortalecimiento institucional, que requieren más tiempo para la preparación y la evaluación inicial, y no necesitan quedar eximidos del cumplimiento de las normas de salvaguardia y diligencia debida.

Del mismo modo, la atención de los problemas sociales durante la preparación y ejecución de las actividades suele requerir más tiempo del que se dispone en el marco de los préstamos de emergencia para recuperación. Tales actividades son más apropiadas para las operaciones habituales de financiamiento para proyectos de inversión, pero con frecuencia se han dejado de lado habida cuenta del período de implementación de tres años de los préstamos de emergencia para recuperación y debido a la pérdida de interés de los prestatarios en tomar un segundo préstamo.

Aumentar la capacidad de respuesta del Banco en casos de desastre y asegurar que ésta se pueda movilizar sin demora.

Ya sea que exista o no una unidad designada que se ocupe de los desastres naturales y los riesgos que éstos plantean, el Banco debe estar en condiciones de reunir y diseminar rápidamente su experiencia internacional a los prestatarios en caso de una emergencia. Además, los equipos de trabajo necesitan apoyo para llevar a cabo las evaluaciones que deben realizarse luego de un desastre, y para diseñar intervenciones de emergencia que se ajusten a las necesidades y capacidades de cada prestatario.

Para responder ante situaciones de desastre se requieren conocimientos y experiencia en diversos sectores. La inclusión de personas con conocimientos en materia de desastres en las misiones del Banco tras una crisis grave puede resultar fundamental. La selectividad a la hora de identificar a los funcionarios que integran las misiones en situaciones posteriores a un desastre permite evitar los problemas relacionados con el diseño y la escala de la respuesta que se pueden presentar cuando se envía a personas que no están acostumbradas a ver destrucción en gran escala o que no conocen el país. El Banco cuenta con muy pocas personas con esas características, y actualmente no tiene un mecanismo congruente para movilizar a estas personas responsables de responder ante un desastre natural. El hecho de sacar a los integrantes del Grupo temático sobre gestión de riesgos de sus responsabilidades produce inevitablemente un impacto negativo en sus actividades habituales. Además, dado que el número de funcionarios que cuentan con los conocimientos necesarios es tan reducido, se suele recurrir a las mismas personas una y otra vez.

ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AFR	Sub-Saharan Africa Region
BP	Bank Procedure
CAS	Country Assistance Strategy
CGIAR	Consultative Group for International Agriculture
DEC	Development Research Group (World Bank)
DFID	Department for International Development (U.K.)
DRI	Disaster Risk Index
DRU	Disaster Reduction Unit (UNDP)
EAP	East Asia and the Pacific Region
ECA	Europe and Central Asia Region
EERL	Emergency Earthquake Reconstruction Loan (Turkey)
ERL	Emergency Recovery Loan
GDP	Gross domestic product
HIPC	Highly Indebted Poor Countries Initiative
HMU	Hazard Management Unit
HRM	Hazard Risk Management (Team)
IBRD	International Bank for Reconstruction and Development (World Bank)
IDA	International Development Association
IDB	Inter-American Development Bank
IEG	Independent Evaluation Group
IEG-WB	Independent Evaluation Group–World Bank
LAC	Latin America and the Caribbean Region
MDGs	Millennium Development Goals
MFIs	Multilateral financial institutions
MNA	Middle East and North Africa Region
NGO	Nongovernmental organization
O&M	Operation and maintenance
OECD	Organisation for Economic Co-operation and Development
OD	Operational Directive
OP	Operational Policy
OPN	Operational Policy Note
PIR	Policy Implementation Review
PIU	Project Implementation Unit
PRSP	Poverty Reduction Strategy Paper
PTI	Poverty Targeted Intervention
SRO	Small Rural Operation
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization

GLOSSARY

Disaster	A serious disruption of the functioning of a community or a society causing widespread human, material, economic, or environmental losses that exceed the ability of the affected community or society to cope using its own resources.
Disaster risk management	The systematic process of using administrative decisions, organization, operational skills, and capacities to implement policies, strategies, and coping capacities of the society and communities to lessen the impacts of hazards.
Disaster risk reduction (disaster reduction)	The conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards.
Hazard	A potentially damaging physical event, phenomenon, or human activity that may cause loss of life or injury, property damage, social and economic disruption, or environmental degradation.
Mitigation	Structural and nonstructural measures undertaken to limit the adverse impact of natural hazards, environmental degradation, and technological hazards.
Preparedness	Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.
Prevention	Activities to provide avoidance of the adverse impact of hazards and means to minimize related environmental disasters.
Recovery	Decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk.
Relief/response	The provision of assistance or intervention during or immediately after a disaster to meet the needs of those affected. It is generally immediate and short term.
Resilience/ resilient	The capacity of a system, community, or society potentially exposed to hazards to adapt, by resisting or changing to reach and maintain an acceptable level of structure and functioning.
Risk	The probability of harmful consequences, or expected losses (deaths, injuries, property and livelihood loss, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions.

Risk assessment/ analysis	A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods, and the environment on which they depend.
Structural/ nonstructural measures	Structural measures refer to any physical construction to reduce or avoid possible impacts of hazards, which include engineering measures and construction of hazard-resistant and protective structures and infrastructure.
Vulnerability	The conditions determined by physical, social, attitudinal, economic, and environmental factors or processes that increase the susceptibility of a community to the impact of hazards.

Source: Adapted from UN International Strategy for Disaster Reduction.

Chapter 1: Evaluation Highlights

- Natural disasters are becoming increasingly destructive.
- The Bank is increasingly involved in responding to natural disasters.
- Bank policy on emergency lending has been revised three times, but without the benefit of evaluation or knowledge about Bank experience with natural disasters.
- The Bank's strategic planning for disaster has been limited.

1

Nature, Disaster, and Recovery

Disasters reflect the ways societies structure themselves and allocate their resources.[1]

On December 26, 2004, an undersea earthquake measuring 9.0 on the Richter scale hit off the coast of Sumatra. The fast-moving tsunamis it generated devastated the shores of countries from Indonesia to Somalia, killing an estimated 220,000 people and leaving 1.5 million people homeless.

Three months later, an 8.7 magnitude earthquake with roughly the same epicenter generated widespread panic at the prospect of another tsunami and killed almost 2,000 people in Indonesia. Then, in the fall of 2005, a record number of hurricanes battered the Caribbean, Mexico, and the U.S. Gulf Coast. At the same time, Central America experienced a series of natural disasters including a hurricane, flooding, and an earthquake.

Most recently, world attention focused on the powerful 7.6 magnitude earthquake that struck the region bordering Pakistan and northern India on October 8, 2005. A humanitarian disaster of enormous proportions, the earthquake devastated towns and villages throughout the region, leaving tens of thousands of dead and injured, and millions homeless. In Pakistan, the official government estimate of the death toll was 86,000. India did not escape the devastating effects of the quake, with estimates of over 1,000 deaths.

The reported number of disasters has been increasing, growing from fewer than 100 in 1975 to more than 400 in 2005. This increase has many possible explanations (box 1.1). Without doubt, though, the cost of disaster damages has been exploding: the economic costs of major disasters in constant dollars are now estimated to be 15 times higher than they were in the 1950s—$652 billion in material losses in the 1990s (IMF 2003) (figure 1.1).

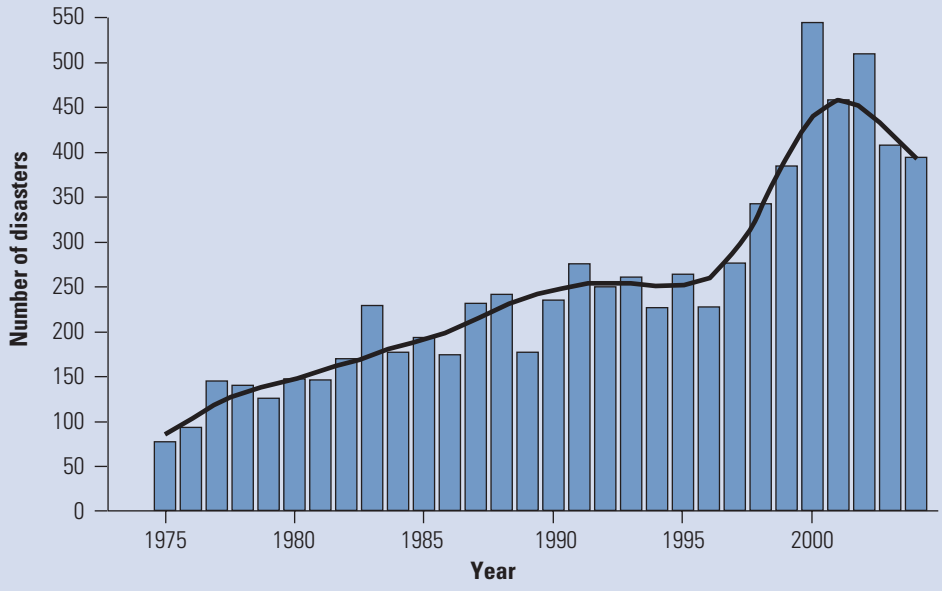
Natural disasters are becoming increasingly destructive.

The human cost is also high: over the 1984–2003 period, more than 4.1 billion people were affected by natural disasters (Guha-Sapir, Hargitt, and Hoyois 2004, p. 85). The number of people affected has also been rising, from 1.6 billion in the first half of that period (1984–93) to almost 2.6 billion in the second half (1994–2003), and has continued to increase in the current decade (Guha-Sapir, Hargitt, and Hoyois 2004, p. 85).

This growth in damage to built environments and to the societies that use them is a product of human actions. Social and economic vulnerability to natural events is rising as the world becomes more populated. The pursuit of economic opportunity brings more people into

Box 1.1: Why Do Natural Disasters Seem to Be Increasing in Number?

Several factors contribute to the apparent increase in the number of reported disasters.



Source: EM-DAT: The OFDA/CRED International Disaster Database-www.em-dat.net-Université Catholique de Louvain, Brussels.

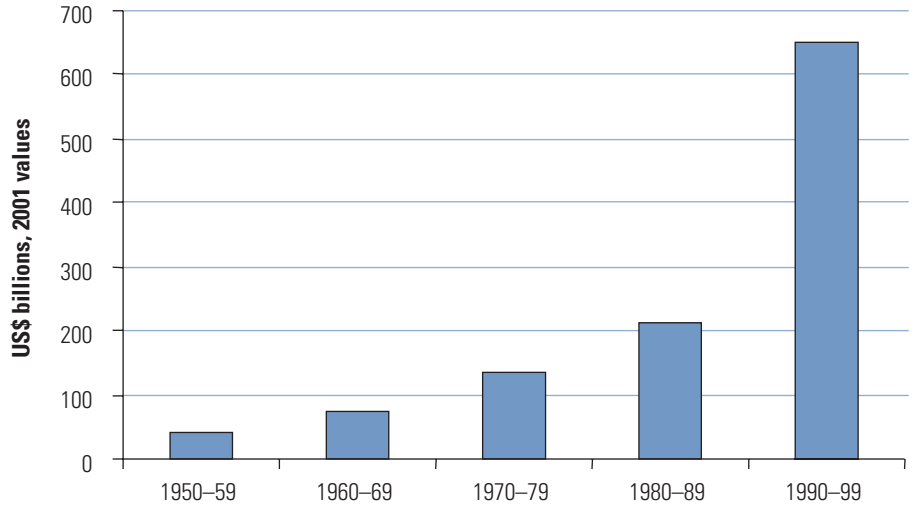
- Increases in relief and reconstruction assistance have encouraged international reporting of more disasters. This is particularly the case for smaller events, which were previously treated as a local concern (IFRC 2005).
- More specialized agencies are tracking natural events and their disastrous impacts. Many country governments have now developed specialized agencies for tracking and reporting on natural disasters. The increased accuracy of observation and reporting on the weather contributes to the increase in reported extreme weather events—a 50 percent increase each decade from the 1950s to the 1990s (Guha-Sapir, Hargitt, and Hoyois 2004).
- Sea temperatures have risen. A rise in tropical sea temperatures of up to 2 degrees Fahrenheit over the past century has contributed to an increase in weather-related disasters, some of which may be cyclical in nature (Webster and others 2005).

Human actions that contribute to the destructiveness need to be addressed.

urban settings and fragile coastal areas where the damage of earthquakes and extreme weather events is often greatest. The more vulnerable people are, the more disastrous a natural event will be. Increasing environmental degradation also contributes to the intensification of the effects of natural events.

- In **drought,** problems associated with a shortage of water are exacerbated by deforestation, soil erosion, and inappropriate land use.
- **Floods** are caused by the silting up of rivers and the loss of absorptive capacity of the soil—both legacies of poor agricultural practices that destroy groundcover and other natural environmental defenses.
- **Human actions that contribute to the destructiveness need to be addressed.**
- Destruction of forests and overgrazing to meet the needs of growing population leads to **desertification.**
- **Earthquakes** are most destructive in countries with poor building code enforcement and high seismic vulnerability of construction, and when landslide-prone, steeply sloped land loses grass and forest cover and becomes occupied by informal housing.

Figure 1.1: The Cost of Disaster Damage Is Rising



Source: IMF 2003.

Note: Data are for "great" disasters, in which the ability of the region to help itself is distinctly overtaxed, making interregional or international assistance necessary.

Developing Countries and Natural Disasters

Although disasters caused by natural events occur throughout the world, losses to disaster in developing countries are generally much higher than in developed countries in percentage of gross domestic product (GDP) or government revenues. For example, Maldives' tsunami losses amounted to 66 percent of GDP. Hurricane Mitch caused losses equal to 41 percent of GDP in Honduras.

Even when the national impact is relatively small, the local impact may be catastrophic—the 2004 tsunami is estimated to have reduced Indonesia's GDP growth by just 0.1–0.4 percent, but the province of Aceh suffered destruction of its capital stock equivalent to 97 percent of its GDP. Small island nations can lose multiples of their GDP to natural disasters: Grenada lost 200 percent of its GDP to Hurricane Ivan.

The damage caused by large disasters can also outweigh development assistance. The Kashmir earthquake of October 2005 caused an estimated $5 billion in damage in Pakistan,[2] roughly equivalent to the total official development assistance for the preceding three years, and equivalent to the amount the World Bank had lent to the country over the preceding 10 years.[3]

Impacts of natural disasters are very large in developing countries.

The impacts of natural disaster on societies also differ, depending on their level of development. In December 1999, landslides in Venezuela and storms that hit France caused similar amounts of physical damage, estimated at about $3 billion in both cases. But the human costs differed greatly: there were 50,000 deaths in Venezuela compared with 123 in France.

The disproportionate effect on developing countries has many explanations. One is simply that areas of the world that have harsh climatic conditions, are subject to extreme weather, or have unstable geology are difficult to develop, and development gains can be fragile and easily overwhelmed by the effects of natural events. Lack of development itself contributes to disaster impacts, both because the quality of construction often is low and building codes, land registration processes, and other regulatory mechanisms are lacking, as well as because numerous other development priorities displace attention from the risks that natural events present.[4]

Lack of development contributes to destructiveness.

Response, Recovery, and Reconstruction

The first days following a disaster are typically very dynamic, in part because the global and national media sharply and swiftly focus attention on the immediate needs of victims and because of the risks to health and social order. Donors and governments are compelled to act. However, their initial actions affect all future actions.

A Harvard University study of 30 disaster and relief and reconstruction efforts concluded that initial actions are never neutral—they either support longer-term development or undermine it (Anderson and Woodrow 1989). In the first months after a disaster the situation remains highly dynamic—needs can shift very quickly and missteps are common and can have serious consequences. In Bolivia, for example, initial relief efforts created additional difficulties for the recovery (box 1.2).

The actions of the first few days affect all future decisions.

Without question, attention to natural disasters is growing. In particular, the recent Asian earthquakes focused the world's attention on the magnified effects of disaster in developing countries and generated commitments of support from donor nations. Shortly after the tsunami disaster, an unprecedented outpouring of international support provided assistance to the affected populations. But donor promises during the first few weeks following a disaster are usually reduced later, or even dropped altogether, when initial estimates of need prove too high or when the sudden inflow of assistance exceeds the country's ability to manage the funds.

In any event, most of the costs of recovery ultimately are borne by the country itself. The Organisation for Economic Co-operation and Development (OECD) Development Aid Committee has reported that outside financing and donations usually offset less than 10 percent of a country's disaster losses (Linnerooth-Bayer and Amendola 2000). Hence, disasters can represent a permanent loss of development momentum.

Although the destructive impacts of disasters are tightly connected with development, disasters are typically treated as an interruption in development rather than as risks that should be a calculated part of development. Some countries are in a near-permanent state of recovery. The countries themselves also tend to lose sight of long-term priorities related to reducing their vulnerability to disasters as immediate needs are met and media attention

Box 1.2: A Troubled Relief Compromises the Ability to Recover

Following an earthquake that devastated the urban areas of Aiquile, Totora, and Mizque on May 22, 1998, the Government of Bolivia requested an International Development Association (IDA) reallocation of $5 million from the El Niño Emergency Assistance Credit to help finance reconstruction. A Bank technical mission found that a number of troubling decisions had been made on how temporary shelter would be provided:

- Victims of the disaster had been obliged to abandon their homes and possessions and move to refugee camps under military control, where they were fed for free. This effectively destroyed the local economy and, without commerce, few could afford to pay for services.
- Victims had not been allowed to recover the recyclables from their homes (doors, windows, floor and roof tiles, kitchen and bathroom fixtures), which represented about 70 percent of their cost.
- Bulldozers knocked down damaged buildings without preserving the boundary lines between properties, paralyzing subsequent rebuilding efforts.
- Temporary settlement camps had been set up in a manner that led to social disintegration and abetted robbery and assault.

The Bank ultimately directed the requested reallocation to rural housing. The way in which the early part of the process was managed had severely compromised the recovery of the urban areas, because the Bank funds would have filled a major gap in the assistance needed to rebuild the cities, had they been directed there.

Source: Field interviews and observation in 1998 and World Bank data.

turns elsewhere. Mitigation, prevention, and disaster risk management often drop off the development agenda and may be neglected as attention returns to other pressing development priorities.

Cleaning up the damage and rebuilding structures without addressing the human actions that turn recurring natural phenomena into disasters only ensures that the inevitable next event will be as disastrous as the last. Annual flooding only regenerates agricultural soil when human settlements are not located in floodplains. Where environmental degradation turns seasonal events into disaster, environmental restoration needs to be part of the solution. In other places, increased attention to infrastructure and settlement design is all that is required to increase disaster resilience. Effective activities that address root causes of vulnerability and mitigate the potential for future damage are crucial to reducing the steady erosion of development gains that natural disasters represent.

The World Bank and Natural Disasters

The World Bank has financed reconstruction since its inception and increasingly has been engaged in helping countries recover from disasters and reduce their future vulnerability to natural hazards. Since 1984, most of the Bank's borrowers—110 countries in all—have sought emergency financial assistance related to disaster.

Since the 1970s, requests for Bank financing of post-disaster reconstruction projects, humanitarian crises, and post-conflict recovery have grown steadily. A succession of Bank policy statements has been developed to guide this work: Operational Policy Note (OPN) 10.07, *Guidelines for Bank Participation in Reconstruction Projects after Disaster* (1984); Operational Directive (OD) 8.50, *Emergency Recovery Assistance* (1989); and Operational Policy (OP) 8.50, *Emergency Recovery Assistance* (1995). Table 1.1 outlines the key provisions of the current policy (Annex A analyzes the evolution of policy over its 20-year existence). The changes in policy over time were made primarily for institutional reasons (because all Bank policies were changed from OPNs to ODs, and then into OPs).

Disasters are often treated as an interruption in development rather than as a risk to development.

The Bank's three policy statements reflect an evolution in thinking about its response to emergencies such as natural disasters. The three statements differ in how they characterize emergencies, what emergencies are covered, and in several other areas, but all make timeliness a key concern. This concern led to the creation a quick-disbursing instrument in the 1984 OPN. The Emergency Recovery Loan (ERL), as it came to be called, has become the instrument of choice in lending for natural disaster emergencies. Although policy has evolved, the changes have been made without benefit of evaluation or knowledge of Bank experience.

Most Bank borrowers have sought assistance related to natural disasters.

Although it has a policy on emergency assistance for disasters, the Bank has never had a strategy for that assistance. Therefore, strategic planning for natural disasters has been confined to country-level analyses in Country Assistance Strategies (CASs) and Poverty Reduction Strategy Papers (PRSPs).

The Bank is one of a large number of institutions that countries can call on and coordinate after a disaster. Indeed, the number of institutions that respond to disaster has been growing, making donor coordination an increasing challenge.

The roles of the various institutions are not fixed and have blurred over time, though they tend to follow traditional strengths. For instance, the Red Cross/Red Crescent Society and other international and national nongovernmental organizations, along with the military, typically participate in the immediate response. The United Nations Development Program (UNDP) focuses more on the social aspects of recovery. The World Bank typically concentrates on infrastructure and housing during the reconstruction, given its

The number of institutions responding to disaster is growing and coordination is becoming more complex.

Table 1.1: Key Provisions of Current Bank Policy Statement

Relief and consumption	The Bank does not finance relief and consumption (par. 2 and 4).
Support for damage and needs assessment	The Bank provides immediate support in assessing the emergency's impact and develops a recovery strategy (par. 3).
Implementation time	ERLs are fully implemented in two to three years (par. 6).
Procurement rules	Standard Bank Operational Policies, including those on procurement, consultants, and disbursement, apply to ERLs (par. 8).
Suitability for recurrent disasters	Regular investment projects (not ERLs) may be preferable for recurrent disasters (floods) and slow-onset disasters (droughts) (par. 5).
Design standards, prevention, and mitigation	ERLs use disaster-resilient construction standards, emergency preparedness studies, and technical assistance for prevention and mitigation. Prevention and mitigation projects carry out studies of vulnerability and risk assessment, reinforce vulnerable structures, adjust building and zoning codes, and acquire hazard-reduction technology (par. 6).
Institutional and regulatory framework	The Bank helps countries to establish an adequate institutional and regulatory framework for prevention and mitigation (par. 10).
Donor coordination	Collaboration with the UNDP and other international agencies, local nongovernmental organizations, and donors is helpful in designing the recovery assistance strategy under an ERL and in designing specific prevention and mitigation programs (par. 9).

Source: Operational Policy 8.50 – Emergency Recovery Assistance, August 1995.
Note: ERL = Emergency Recovery Loan.

comparative advantage in that area. However, the Bank also has considerable experience with disaster recovery, as well as an important role in assisting with coordination that ensures that country needs are met with as few overlaps and conflicts of priorities as possible.

A key partnership of the Bank in natural disasters is the ProVention Consortium, launched in February 2000 to reduce disaster risk in developing countries and to make disaster prevention and mitigation an integral part of development efforts. The Consortium is an international network focused on sharing knowledge and leveraging resources to reduce disaster risk. Though launched by and originally housed in the Bank, it is currently under the management of the International Federation of Red Cross and Red Crescent Societies in Geneva. This report does not evaluate the partnership, but the Independent Evaluation Group (IEG) will be evaluating it in 2006, and therefore offers no judgments on its performance in this report. The current evaluation does draw on ProVention analyses.

The Evaluation

Heightened global awareness, increased public and private generosity, growing Bank investment in disaster recovery as well as disaster prevention and risk management, and greater ability to anticipate some natural events make this an appropriate time for the World Bank to review and update its policy and upgrade practices with respect to natural disasters. This evaluation has been undertaken to inform that process.

No assessment has previously been done of the Bank's disaster-related assistance. The evaluation assesses the relevance and effectiveness of Bank activities related only to *emergencies caused by natural events*. Emergencies caused by armed conflict have been the subject of an earlier evaluation (IEG 1998), and thus are not covered by this report.

The study was conceived as a review of the implementation of Bank policy and examined the relevance and effectiveness of Bank operations, as well as their institutional development impact, to develop lessons from experience. The evaluative questions addressed are detailed in Appendix B.

Evaluative Instruments and Methods

The study examined the Bank's experience from several angles. The basic approach was to avoid sampling, and instead identify *all* Bank-financed projects with natural disaster activities. For example, in the staff survey, all task managers that worked on at least one project with disaster activities were invited to respond. When the evaluation looked at an activity (such as housing) or a disaster type (such as tropical storms), all the relevant projects were reviewed. Hence, different analyses use different numbers of projects, but all use the full universe of projects relevant to that issue. The key study instruments were as follows (see Appendix B for details and the methods used):

- **Expert knowledge** – through an extensive review of the literature and the use of an Advisory Panel
- **Bank-financed projects and activities** – through a review of the portfolio of projects and analysis of a textbase of project information
- **Staff knowledge** – through surveys and interviews
- **Detailed examination of critical issues and countries** – through issues papers and case studies (field-based and desk studies).

No previous assessment has been done of Bank assistance for natural disasters.

Chapter 2: Evaluation Highlights

- Since 1984 the Bank has financed natural disaster activities in 528 projects for $26,281 million.
- The Bank has approved 89 ERLs over the period and the instrument is increasingly used in disaster responses.
- The largest number of disaster projects were implemented in the rural sector.
- Lending is highly concentrated—10 countries accounted for 208 projects.
- Reallocations have been a large part of the Bank's response—$3,047 million from 217 projects has been reallocated over 20 years.
- Projects have been best at restoring physical assets: 115 completed projects successfully restored damaged infrastructure.

The World Bank Responds

Natural disasters directly affect the traditional beneficiaries of World Bank–financed development assistance—98 percent of the 211 million people affected by natural disasters each year from 1991 to 2000 were from developing nations (IFRC 2001).

And although a few disasters have been devastating to the better-off (such as when cities with a large number of poorly built and badly designed high-rise apartments are hit by earthquakes), unquestionably the most vulnerable to disaster are the poor, who live in dangerous zones, on marginal lands, and have precarious livelihoods.

The Bank has a major stake in ensuring that country assistance following a disaster contributes to long-term development, and that the potential future impacts of disasters are reduced or prevented. As the human and economic losses from natural disasters continue to rise, they represent a large and growing obstacle to sustainable development. Hence, the portfolio of projects supported by the Bank includes activities related to their immediate response, recovery, reconstruction (with mitigation), and prevention.

The Bank's Natural Disaster "Portfolio"

The portfolio of projects approved by the Executive Board of the World Bank (International Bank for Reconstruction and Development [IBRD] and International Development Association [IDA]) since 1984 that have had some activity involving natural disasters contains projects entirely devoted to disasters, projects with formal disaster components as part of a larger project, and projects with smaller disaster activities.[1] It consists of 528 projects hereafter referred to as "disaster projects" when discussing the full universe of activities (see Appendix B for more on how these projects and the amounts of lending were identified). A total of $26,281 million in activities have focused on natural disasters.[2] These 528 projects represent 9.4 percent of all Bank loan commitments since 1984.

Natural disaster assistance accounts for 9.4 percent of commitments since 1984.

Some projects are entirely devoted to natural disasters. These include Emergency Recovery Loans (ERLs; including IDA credits and grants), as well as projects using other instruments. Such projects represent less than a third of the 528 identified projects (table 2.1). The value of these loans and credits is $12,200 million.

The Growth of Bank Lending for Disaster

Looking at the full portfolio (all 528 projects), increasing Bank involvement over time is

Table 2.1: Natural Disaster Portfolio Composition, 1984 to 2005

	Total	Completed	Ongoing
All projects with some disaster activity	528	303	225
Emergency Reconstruction Loans	89	59	30
Disaster projects using other instruments	51	28	23
Projects with at least one full disaster component	130	85	45
Projects with an identified disaster activity below component level	258	131	127

Source: World Bank data.

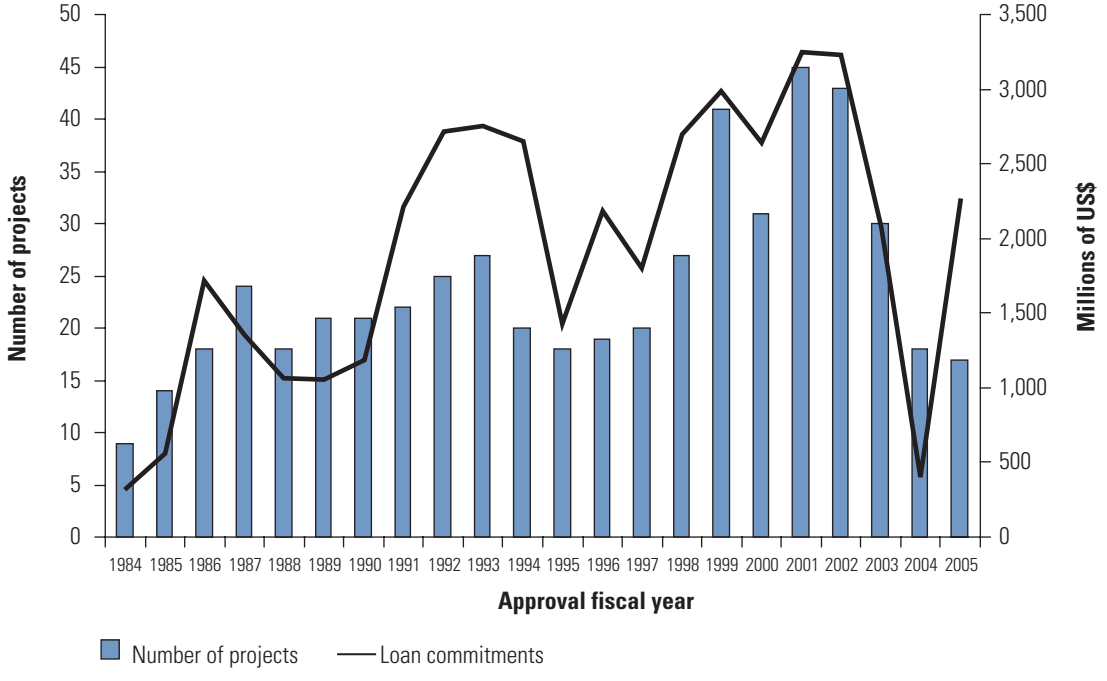
Note: Data based on project approval year.

Lending for disasters has been gradually increasing.

evident (figure 2.1). In addition, as a share of overall Bank lending, assistance related to natural disasters has been growing (see Appendix C, figure C.1). Much of this assistance is quite recent: about 43 percent of all disaster-related loans have yet to close. Lending for disasters is noticeably cyclical, with peaks about every five years. Even so, Bank lending for disaster has risen gradually over the past 20 years. If projects that are still open (those approved since fiscal 1999) reallocate according to the historical trend, the numbers in the most recent years will rise. Project reallocations are discussed later in this chapter.

Among the 528 projects, the amount of disaster-related support ranges from a few thousand dollars for fire detection towers in a forestry project to a $500 million loan for post-

Figure 2.1: The Number of Projects Related to Natural Disasters Has Been Rising, with Sharp Peaks in Lending about Every Five Years



Source: World Bank data. Reallocations are recorded by approval fiscal year as well.

earthquake reconstruction. In recent years the scale of individual operations financed by the Bank has grown. The 1999 Turkey earthquake alone led to Bank commitments of over $1.1 billion and a Bank-coordinated reconstruction program of $1.7 billion. Other relatively recent events have unleashed large responses because they have affected multiple countries (such as the Indian Ocean tsunami, Hurricane Mitch, and the El Niño phenomenon).

Lending by Disaster Type

The kind of disaster for which countries most frequently requested Bank financing was flooding. Of the 528 projects in the portfolio, 243 had a flood-related activity. Drought was the second most common disaster type, with 107, and fire was third, with 95 projects. Since drought is the only type of disaster that is entirely slow onset, about 80 percent of the portfolio is primarily focused on rapid-onset events.[3] Notably, 127 of the 528 projects responded to more than one disaster (floods and tropical storms, for instance), either because they struck together or because another disaster occurred during implementation and the project had to be modified to take the later event(s) into account.[4] Of the 140 completed and ongoing projects that were completely devoted to disaster, 21 (in 17 countries) have focused wholly on prevention activities.

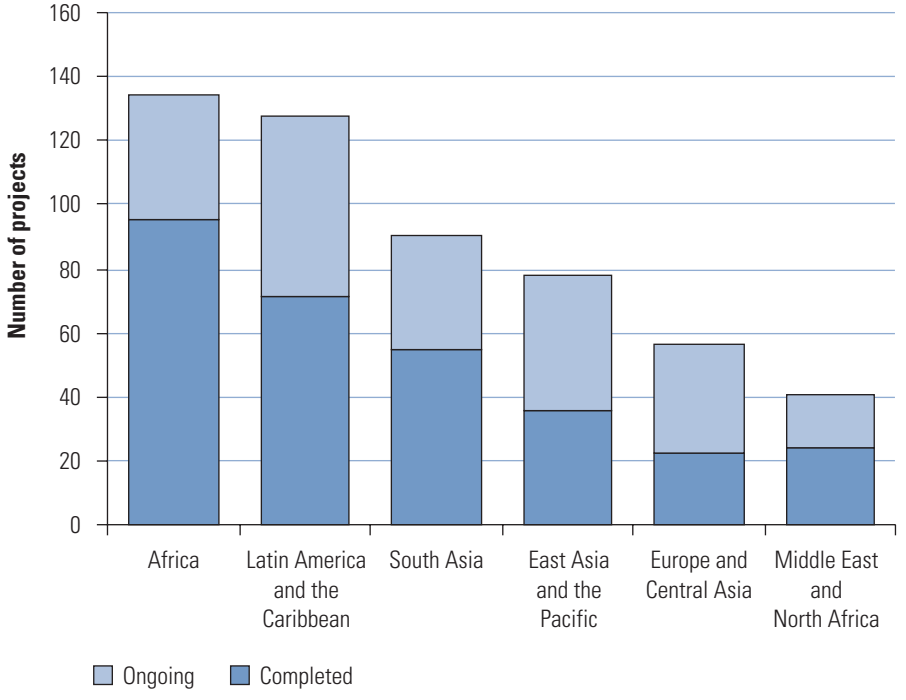
Flooding most frequently gets a Bank response, but many projects respond to multiple disasters.

The Bank has approved 89 ERLs for natural disasters since 1984.[5] Reflecting the general trend for the whole portfolio, floods dominated this group of projects, earthquakes were the second most common, and tropical storms were the third.

Lending by Region

The Sub-Saharan Africa Region had the largest number of disaster projects, 134 (figure 2.2). The Latin America and Caribbean Region was a close second with 128. The Middle East and

Figure 2.2: The Bank Has Most Often Provided Lending for Disasters in Africa and in Latin America and the Caribbean



Source: World Bank data.

North Africa Region had the smallest portion of projects. This distribution generally follows the broader trend in Bank lending. The Bank has helped the Africa Region to confront natural disasters for many years. It is the only Region where drought is the most common hazard, and it also had the largest proportion of completed projects. Recent attention has gone to the East Asia and Europe and Central Asia Regions, which have a majority share of their portfolios in ongoing projects. The evaluation also compared Regional disaster lending with overall Regional lending to identify Regions where disaster impacts were disproportionate (see Appendix C, figure C.2).

Lending by Sector

The rural sector implemented 40 percent of the natural disaster portfolio. This is not surprising, since many disasters, such as floods, droughts, and fire, and especially their mitigation and prevention activities, take place in projects involving forest management, irrigation, and disaster-resistant crops. Other sectors that have been highly involved are transport (13 percent), environment (10 percent), and urban (9 percent). Among the 528 projects were 12 multisectoral projects, accounting for 2 percent of the total.

The rural sector implements the largest share of natural disaster projects.

Analytic Work

The Bank has prepared 65 publications, working papers, articles, and reports on natural disaster topics since 1999.[6] The most frequently researched topics have been risk management and financing mechanisms. Although much research work on these topics is done collaboratively with country staff or staff in other departments with various expertise, 31 were done under the auspices of the Hazard Management Unit. As might be expected, most of these are global in scope or topically oriented. However, about a third of them (10) focused on a particular country or Region.

Regional or country offices are responsible for an additional 17 reports or publications. The East Asia Region has produced five reports on topics such as risk management in the Pacific region, with a pilot study of Vanuatu and a report on the Philippines focusing on enhancing poverty alleviation through disaster reduction. Among the Latin America and the Caribbean Region's four reports is one on the catastrophe insurance market in the Caribbean and another on "Risk and Vulnerability in Guatemala." This seems a particularly relevant report, as Guatemala is in the "top ten" list of borrower countries that are at greatest economic risk for natural disasters, and it has not borrowed from the Bank for natural disasters in 20 years. South Asia's four studies have included "Financing Rapid Onset Natural Disaster Losses in India" and "Bangladesh: Climate Change and Sustainable Development." Europe and Central Asia have done two research reports on the topic, most notably one in Turkey entitled "Poverty and Coping with Crises." One of the two done in Africa was on "Systemic Shocks and Social Protection."

In total, notwithstanding authorship, 15 countries were the subject of specific analytical work on natural disasters. All but one of the countries are considered to be of elevated economic vulnerability and/or mortality risk.

The Environment Department of the Bank has devoted resources to at least six reports on natural disasters—most on climate change. The Development Research Group (DEC) has produced five reports in the area in the past six years, including "Natural Disasters and Development" and "Can Financial Markets be Tapped to Help Poor People Cope with Weather Risks?" The Social Protection Department has done two studies that have included major sections on natural disaster risk. The Consultative Group on International Agricultural Research (CGIAR) has produced a study with the Bank on rebuilding agriculture in countries affected by natural disaster.

Concentrations in Lending Patterns

A majority of Bank member countries have turned to the Bank for emergency financial assistance (110 countries) following a natural disaster. However, lending has been highly

concentrated: 53 countries had only one or two loans with disaster activities, while the top 10 countries had 208 projects (39 percent) among them (table 2.2).

In terms of commitments as well, Bank lending has been quite concentrated: 32 percent of the $42,552 million in commitments over the 20-year period from fiscal 1985 through fiscal 2005 went to 7.5 percent of the projects. The 10 largest loans for reconstruction and/or prevention totaled $3,882 million (table 2.3).

Reallocations

After a natural disaster, when a country requests assistance, Bank country staff first examine the existing country portfolio and identify loans from which funds can be reallocated for reconstruction. Over the past 20 years, funds from 217 projects have been reallocated (see Appendix C, table C.1).

The importance of reallocation as an emergency response is highlighted by comparing it with emergency recovery lending: since 1984, the Bank has made more than $3,047 million available for natural disaster response through loan reallocations[7] and has dedicated $9,021 million toward disasters through ERLs. In a typical example, following the 2001 earthquake in Gujarat, 12 projects were restructured, providing a total of $416 million for immediate reconstruction. Funding of $10 to $130 million per project was taken from the original implementing agencies and given to another implementing agency handling reconstruction. Projects changed not only their scope, but also their components and the sectors they targeted.

Ten countries account for 39 percent of the lending and 41 projects account for about a third of the lending.

In part, reallocations appear to have been sensitive to periodic increased awareness of disaster in the Bank related to policy development. The number of reallocations each year varied from fewer than 10 in the 1980s to 17 in the 1990s (figure 2.3).

The first jump in 1984 coincided with the introduction of OPN 10.07, which encouraged reallocations, and a second jump appeared in 1990, perhaps in part because of the renewed visibility of emergencies with the introduction of OD 8.50. While in the pre-policy period (1976–83) reallocations averaged 2 each year, they averaged 11 each year from 1984 through 1999.

After 1999 disaster-related reallocations decreased, presumably

A total of $3,047 million has been reallocated from 217 projects since 1984.

Table 2.2: Concentration of Lending in the Disaster Portfolio Compared with Overall Bank Lending

Rank	Country	Number of disaster projects	Lending to projects with disaster activities (US$ millions)	Rank: all Bank projects, 1984–2005	Rank: all Bank commitments, 1984–2005
1	India	43	8,257	2	1
2	China	32	4,902	1	2
3	Bangladesh	28	2,880	8	12
4	Brazil	27	2,349	4	4
5	Honduras	15	712	45	53
6	Turkey	13	3,390	11	7
7	Yemen	13	306	14	49
8	Madagascar	13	327	17	39
9	Mexico	12	2,145	5	3
10	Vietnam	12	1,232	29	17
	TOTAL	**208**			

Source: World Bank data. Each reallocation counted as a separate project.

Table 2.3: Ten Largest Loans for Disasters

Country	Project name	Approval fiscal year	Original loan amount (US$ millions)
Turkey	Marmara Earthquake Emergency Reconstruction	2000	505
India	Emergency Tsunami Reconstruction	2005	465
India	Gujarat Emergency Earthquake Reconstruction	2002	443
Mexico	Mexico Natural Disaster Management Project	2001	404
Turkey	Istanbul Seismic Risk Mitigation	2005	400
Mexico	Earthquake Rehabilitation & Reconstruction	1986	400
Turkey	Emergency Flood Recovery	1999	369
India	Drought Assistance	1988	350
Turkey	Earthquake Rehabilitation & Reconstruction	1993	285
India	Maharashtra Emergency Earthquake Rehab. Project	1994	261
	TOTAL		**3,882**

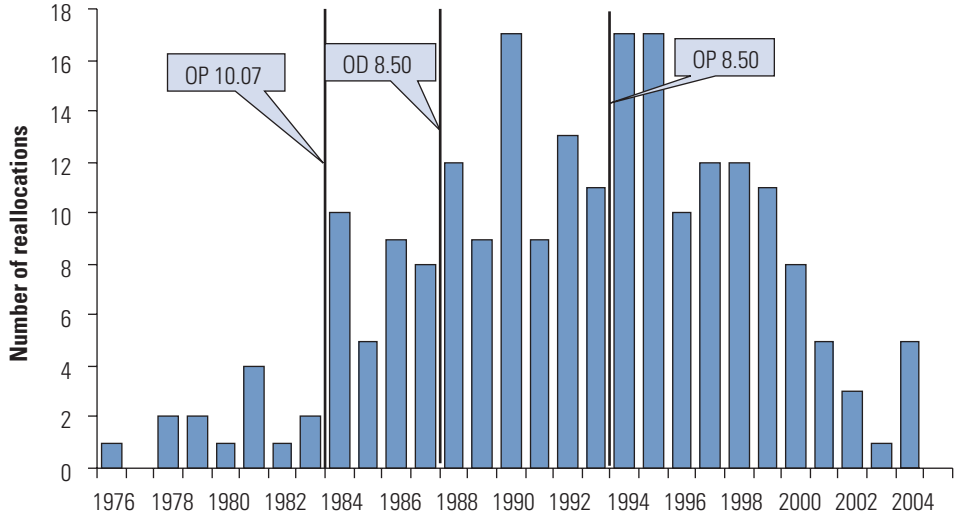
Source: World Bank data.

The level of reallocations has responded to policy changes.

because, for the most recent years, the ongoing projects are still new and reallocations tend to occur toward the end of the project life, though it may also be because ERLs have been used instead of reallocations (more than a third of the ERLs in the portfolio are ongoing; see table 2.1).

While reallocations can give borrowers flexibility to react to unforeseen needs, the Bank has been developing promising alternatives. Additional lending to existing projects is already in use, though it has not yet been applied in a disaster response. In addition, a specialized

Figure 2.3: Reallocations Peaked Following Each Policy Revision



Source: World Bank data.

Note: Based on project approval years.

form of development policy lending (the Contingent Hazard Recovery and Management Loan) is in development.

These new alternatives may further help to avoid the diversion of funds from their original purposes, as in reallocations. In 18 cases reallocations have undermined achievement of the original objectives of the project. For example, in January 1999, as a result of the earthquake in the coffee growing region, the Government of Colombia decided to use 55 percent of the Secondary Education Project (a $90 million loan) together with funds from three other projects to support reconstruction. Instead of supporting improvements in education, the proceeds went into the Reconstruction Fund for the coffee production zone. This decision was made despite the concern of the Ministry of National Education that the municipalities left out had no other possibility of accessing supplementary resources for educational improvement.

Project Performance

Bank-financed projects with at least one natural disaster reconstruction and mitigation component have had outcome and sustainability ratings that are higher than the Bankwide portfolio (figure 2.4). Almost 80 percent of the projects were rated satisfactory for outcome compared with the Bank average of 72 percent for the 1984–2004 period. A sustainability rating of likely was attained by 63 percent of the disaster portfolio, seven points better than the Bankwide average for the 1984–2004 period.

Reallocations give borrowers flexibility but can prevent achievement of planned development goals.

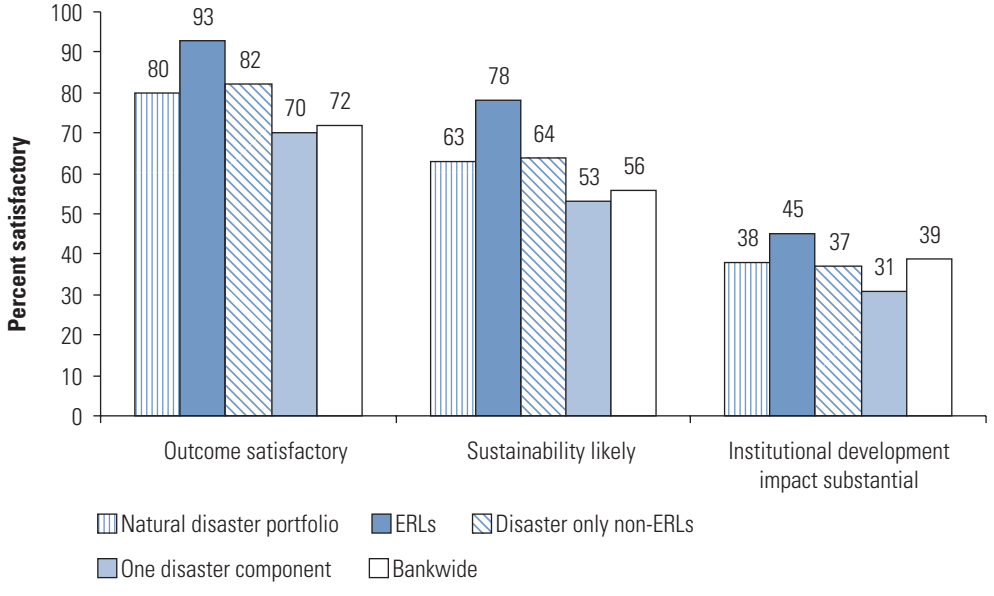
Where Bank-Financed Projects Perform Best

Disaster Type

Project outcome ratings for most disaster types were well above the Bank average, with landslide and earthquake projects rated satisfactory on outcome more frequently than other disaster types. The story is similar for sustainability. Earthquake projects were most frequently rated likely for sustainability, at a rate 21 points above the Bank average of 56 percent.

Disaster projects perform better than average on outcome and sustainability, and about average on institutional development.

Figure 2.4: Natural Disaster Portfolio Ratings: Projects Approved and Completed, 1984–2005



Source: IEG data.

Institutional development impact performance was closer to the Bank average. Only drought and tsunami projects were rated above the average. One reason why drought projects received higher ratings than other disaster types was that such slow-onset disasters provided a bit more time to get the institutional framework right. These projects tended to take longer to implement as well, averaging almost seven years from approval to completion (see also Chapter 4), so there was more time for institutional capacity development (see Appendix C, figures C.6–C.8).

Emergency Recovery Loans

ERLs (described in box 2.1) were rated substantially higher than either the disaster portfolio or the overall Bank portfolio (figure 2.4). Only 4 of 59 completed ERLs were rated unsatisfactory on outcome, accounting for a 93 percent satisfactory outcome rate.

Comprehensive Multisector Projects and Other Subsets

Although only 12 in number, multisector projects were the best performers, followed by another subset of 9 social sector projects (including health projects). Of the larger subsets, the urban sector performed best, although the rural and transportation sectors, which contain the bulk of the portfolio, still performed well above the Bank average (see Appendix C, figure C.9).

Regions

There was a 22 percentage point difference between the best-performing Region (Middle East and North Africa), which was also the smallest portfolio, and the worst (Africa), which was the largest. Out of 13 completed projects in the Middle East and North Africa Region, only one was rated unsatisfactory on outcome. All but the Africa Region performed above the Bank average (see Appendix C, figure C.10).

Box 2.1: What Are Emergency Recovery Loans?

An Emergency Recovery Loan (ERL) is a three-year lending instrument. It has several advantages over other Bank lending instruments: it allows for expedited processing from project initiation through Board approval, quick disbursement through a positive list of imports, and delay in meeting some safeguard and fiduciary requirements. It requires an ad-hoc advisory committee headed by the country director. The ERL also limits the use of conditionality.

Outputs and Outcomes of Projects

The Bank's capabilities in assisting countries with their response to natural disasters are apparent in the results of its projects. Not surprisingly, Bank-financed projects were best at restoring physical assets. In 115 completed projects, damaged infrastructure was successfully restored; in 28 projects, infrastructure reconstruction was not fully completed or not entirely successful (Appendix C, table C.2).

In addition, 86 projects had successful mitigation activities, while such activities were unsuccessful in 32 projects. Despite this ability to reconstruct infrastructure and provide some additional security to the population, 73 projects still recorded that a subsequent disaster lessened the project's impact (an additional 55 projects were not disaster responses but were also affected by disaster during implementation).

Based on limited experience with prevention activities, the Bank may not yet have learned enough about what activities are effective. Of the 21 projects wholly devoted to prevention, 8 have been completed and evaluated, with about 63 percent rated satisfactory. Of the eight, three were rated unsatisfactory on outcome and one was rated highly unsatisfactory. This is a very small sample from which to make judgments, but it seems to indicate an area that may require more Bank research.

Some of the negative results indicate the difficulty of addressing social issues in disaster projects (discussed in Chapter 5). Thirty-five projects successfully restored economic assets, and nine successfully restored social assets. However, in six projects, stakeholders and vulnerable groups were neglected, and target groups were missed in two projects.

Lessons Learned

The lessons from project-level evaluations of 303 completed disaster projects exhibit some

persistent themes—the top 12 are listed in table 2.4. Because certain lessons keep coming up, it suggests that they are not being learned (IEG 2005c).

Hazard Management in the Bank

The growth in disaster-related lending in the late 1990s prompted the creation of a separate Bank unit to guide staff. Between fiscal years 1999 and 2005 the Disaster Management Facility, later the Hazard Management Unit (HMU), assisted Bank task managers with natural and technological disasters and helped provide a more strategic and rapid response. The status of this unit changed in 2005, as detailed below.

Bank management has recently adopted a distributed, decentralized approach to hazard risk management in the institution rather than retaining a specialized central unit. The current Hazard Risk Management Team of the Urban Unit serves as the anchor for the Hazard Risk Management Thematic Group, which consists of more than 100 Bank staff in the various organizational units with a particular interest in hazard risk management.[8] Other international organizations have found it useful to centralize the hazard risk management function (see box 2.2 and Appendix C, table C.3).

Projects performed best when they restored physical assets.

This arrangement handles emergencies unevenly, however. When a disaster strikes, the country teams that are the Bank's interface with the borrowers are unlikely to have the expertise needed and must call on others, either in the Hazard Risk Management Team or the Hazard Management Thematic Group, for technical assistance. The quality of the result is partly a function of who is around to answer the calls.

With the recent change, an important reserve capacity has been lost. Soon after it was founded, what was then the Disaster Management Facility became the secretariat for the ProVention program—making the team far more visible internationally. But when that program left the Bank, the team lost staff that could help in emergencies. Three people are too few to spread across the natural disasters that occur every year,

The lessons from disaster projects do not seem to have been learned—the same ones are recorded repeatedly.

Table 2.4: A Dozen Lessons Learned from Natural Disaster Projects

Category	Times in database
Disaster management, preparedness, and mitigation need to be addressed	49
Simple and flexible procurement is fundamental to expeditious implementation	40
Lessons regarding Project Coordination Units (PCU) and/or working with existing agencies (pros and cons)	31
Maintenance is critical for sustainability	25
Simple project design is more important when activities to be implemented are urgent	25
Community participation produces several identifiable benefits	25
Trade-off between careful project preparation and quick action	21
Emergency projects need experienced staff during project preparation	19
Assure borrower ownership by involving the highest levels of government	17
Donor coordination: cofinancing is preferable to parallel financing	16
Reconstruction often requires careful assessments and long-term efforts that extend beyond the three-year implementation period for emergency operations	12
Studies need to be prepared before project approval	12

Source: IEG project database.

Box 2.2: Other Organizations Have Institutional Structures for Disaster Risk Management

The Asian Development Bank (ADB), the U.K. Department for International Development (DFID), Inter-American Development Bank (IDB), and UNDP have specialized units and/or decentralized disaster specialists that deal with disaster prevention, mitigation, and management.

For instance, UNDP's Disaster Reduction Unit (DRU) helps country offices set up and provide more effective responses for natural disaster reduction. The DRU is made up of 8 Geneva-based professionals, 4 Regional Disaster Reduction Advisors (located in Bangkok, Nairobi, New Delhi, and Panama), and 20–24 National Disaster Reduction Advisors in highly disaster-prone countries. These senior officials act as permanent government counterparts, identify disaster risk management opportunities, and assist with relevant initiatives and oversee linkages with UNDP programs.

Similarly, the IDB has 36 disaster risk management focal points—26 individuals in the country offices, and 10 in key departments in headquarters.

The Bank has adopted a less-centralized approach to hazard risk management than other international organizations.

and they are too few to be both the face of the Bank to the donor community and to serve the needs of countries affected by disaster, while also ensuring attention to long-term reduction of hazard risks in client countries and lending programs.

Overall, the perceptions of the HMU were positive among staff surveyed about the unit's relevance and effectiveness.[9] Eight respondents (22 percent) stated that they had used the HMU in their projects (see Appendix D for details of the survey results). This number reflects the period under study: only 6 of the 20 years reviewed overlapped with the period in which the unit was in existence. Among the respondents who had used the HMU, the most helpful assistance was seen as providing advice (7 respondents), providing project documentation or institutional memory (4 respondents), and maintaining a consultant database (2 respondents).

The task managers that used the HMU cited additional services the HMU could provide, including seed funds for supervision and increased staff availability for missions. Task managers were also asked to provide suggestions of how the services provided by the unit could be improved. Their requests were for more assistance in designing prevention policies, more training, the organization of a more active thematic group, the promotion of adjustments to the Bank's ERL guidelines, the inclusion of mitigation as a safeguard and the mainstreaming of mitigation in regular lending activities, and the promotion of the Bank's operational experience in conferences around the world.

Chapter 3: Evaluation Highlights

- Natural disasters are more predictable than commonly believed.
- Reallocations are concentrated in highly vulnerable countries.
- Disasters are rarely considered in PRSPs and CASs, even for highly vulnerable countries.
- Categorizing borrowing countries according to their vulnerability would help in formulating country lending programs, especially in highly vulnerable countries.

3

Disasters and Bank Strategy

Vulnerability to disasters is "largely dependent on development practices that do not take into account susceptibility to natural hazards."[1]

Data available to the Bank on natural disasters have historically been vague and fragmented, constrained by a shortage of reliable sources in some countries, a relatively short history of data collection, and inconsistent methodologies.

Reports typically presented a static view of disasters, focusing on the number of people killed and affected and on estimated disaster damage. Disaster was rarely considered an ongoing development challenge. The lack of information, together with the perception that disasters are random and unpredictable, limited the Bank's strategic planning for them. Hence, the Bank had no overall strategy for disasters. But if disasters are predictable, then planning for them should be a normal part of development work.

Predictability of Disasters

The preceding chapter showed that some Bank borrowers frequently confront disasters brought on by natural events. Two recently completed studies on natural disaster risks confirm this pattern and dispel much of the uncertainty and unpredictability surrounding such events. An understanding of the main messages of these reports can broaden and deepen the understanding of the Bank and borrowers, and together with the results of this review, culminate in a significant shift in strategic thinking regarding recurrent natural disasters.

The exposure, risk, and vulnerability of countries to natural disasters are known.

In February 2004, the United Nations Development Program (UNDP) report *Reducing Disaster Risk: A Challenge for Development* described the global trends in exposure, risk, and vulnerability to natural disasters. From an international development perspective, the report was significant for two reasons. First, it featured a disaster risk index (DRI), which measured and compared physical exposure levels to four natural hazard types,[2] vulnerability, and risk among some 200 countries. Second, the report identified signs of vulnerability associated with development activities under way that could lead to higher disaster risk.[3] The statistical approach of the report allowed the UNDP to draw comparisons between a particular country's vulnerabilities and the different natural hazards.

Natural Disaster Hotspots: A Global Risk Analysis (World Bank 2005) identified countries prone to experiencing a high frequency of natural disasters according to single or multiple disaster variables. The

Disasters frequently recur in the same countries.

ProVention study on which it was based presented a set of data on the risks of mortality and economic losses associated with six major natural disaster types[4] and determined the prevalence of natural disasters using a common geospatial unit of reference in all countries. In addition, the report ranked countries in terms of highest risk potential in order to influence risk mitigation investments and to better inform the Bank on how to manage its future emergency lending. The remainder of this chapter incorporates the analysis detailed in the *Natural Disaster Hotspots* report.

Both studies identify areas likely to be affected by severe events and then determine where disastrous impacts are likely to occur because of the risks attached to the density of human occupation. At some point in any analysis of vulnerability, the event needs to be uncoupled from human actions, at least until risks are understood as distinct from being inherent in the event itself. Such thinking should be the foundation for any strategic approach to disaster assistance.

Planning Implications for the World Bank

A significant number of the Bank's disaster loans and credits can be characterized as ad hoc responses to what all involved parties considered unforeseeable acts of nature. Yet it is only necessary to look at which countries have borrowed the most for disasters in the past (table 2.2) to know with considerable certainty which ones will borrow the most in the future.

Most natural disasters are *foreseeable* to the extent that it is possible to predict generally where an event is likely to occur at some time in the near future (but not precisely when or its magnitude). It is also possible to know the fragility of the built environment and the likelihood that the siting of a given human settlement will expose it to potentially destructive natural events. Therefore, disasters should be anticipated as more predicable events, with human and financial risks calculated in advance, and Bank policy and practices need to provide a supportive framework for such an approach.[5]

Reallocations are highly concentrated in the most vulnerable countries.

In terms of strategic thinking and policy formulation, the Bank can go beyond acknowledging the general existence of natural disasters and identify with relative precision the geographic "hotspots"—the countries most vulnerable to natural disasters—anticipate the foreseeable human and economic risks, and then encourage borrowing targeted at reducing risks, in line with these calculations, ahead of the disaster event.

Based on the list of hotspot countries in *Natural Disaster Hotspots*, 50 of the Bank's borrowers are at relatively high risk from two or more hazards; 47 of these actually borrowed during the period analyzed. Though these countries received 46 percent of all Bank lending projects, they accounted for 56 percent of the natural disaster projects and 62 percent of the reallocated project loans.

The countries that experience extreme events with the greatest frequency, therefore, also experience the most interruptions to non-disaster lending, which can increase the impact of disaster and impede their overall development (box 3.1). Because many reallocations occur in these countries, it also suggests that neither the Bank nor its borrowers are planning sufficiently for potential disasters in the places they are most likely to occur. This is borne out by analysis of disaster planning in the two main strategy documents used by the Bank and its borrowers: Country Assistance Strategies (CASs) and Poverty Reduction Strategy Papers (PRSPs).

Disaster Planning in Poverty Reduction Strategies

The PRSP is a product of borrowing country governments that is intended to improve the poverty impact of external partner lending and the effectiveness of technical advice. Given the effect major and recurrent disasters can have on the life of the poor, disaster mitigation and prevention might be expected to be featured in these documents, especially in highly vulnerable countries.

Instead, of the 59 PRSPs[6] prepared to date, only 9 have incorporated aspects of hazard risk management.[7] Of those 9, only 3—Honduras, Nicaragua, and Vietnam—are highly vulnerable

Box 3.1: Disaster Damage Undermines Development Progress

Two examples illustrate the enormous brake that disasters place on economic development and how easily hard-won gains can be lost.

The World Bank has been helping Honduras to build its highway system since 1955, when it was estimated that it had 2,500 kilometers of roads. In the course of seven transportation projects (totaling $120 million in commitments) between 1958 and the mid-1990s, the Bank financed construction of 1,270 kilometers of highways and feeder roads. By the time Hurricane Mitch hit in 1998, there were approximately 10,000 kilometers of roads in the country. The hurricane destroyed 6,000 kilometers of the better roads—almost five times what the Bank had helped to build. In addition, more than 163 bridges were damaged or destroyed. Estimates of the damage to roads from the hurricane were on the order of $454 million.

Disasters have also taken a development toll in Mozambique. Bank lending financed the construction of 487 schools. Just the most recent disaster, the floods of 2000, damaged or destroyed about 500 primary schools as well as 7 secondary schools.

countries (see Appendix E, table E.2a). This suggests that not only is hazard risk management rarely addressed in PRSPs, but that the PRSPs that do address it tend not to be in countries with a relatively high economic risk from multiple hazards.

Disaster Planning in Country Assistance Strategies

Since the CAS is a planning document, evidence that the country and Bank have given some thought to disaster prevention might also be expected in that strategy. Often, however, natural disasters get no attention in the CASs. Of current CASs for countries that have already received Bank support for work related to natural disasters, 44 percent did not mention natural disasters (table 3.1). Even in the 40 countries that have had 4 or more disaster projects, one-third of the CASs did not mention disaster. And, for the subset of countries that had an extensive history with disasters (more than 8), about a third did not mention disasters at all. Moreover, CASs for countries that are prone to repeated disasters of the same type do not include those disasters in their planning (box 3.2) (IEG 2005d).

Few countries anticipate disasters in their PRSPs.

All CAS documents contain a one-page matrix titled "CAS Summary of Development Priorities" that lists country and Bank priorities. Priorities are rated as high, moderate, or low, and the main issues are identified. The CASs for three countries—Bangladesh, India, and Mozambique—flag natural disasters in the Development Priorities Matrix. For these three countries, both the Bank and the country rated it as a high priority. In addition, the Turkey CAS includes natural disasters among its major issues, though it does not flag it separately in the priorities matrix.

Few CASs consider the possibility of disruptions from natural disasters.

Table 3.1: Many CASs That Should Discuss Natural Disasters Do Not

Number of disaster projects in a country	Number of countries with this count	Number of their CASs with no discussion of disasters	Percent
More than 8 disaster projects	16	5	31
4 to 7 disaster projects	24	8	33
2 to 3 disaster projects	33	15	45
1 disaster project	24	15	62
Total	**97**	**43**	**44**

Source: IEG data.

Box 3.2: To What Extent Do CASs Develop Disaster-Specific Strategies Appropriate to Prevailing Hazards?

Of the 43 countries that have received Bank financing for flooding, only 4 CASs mentioned either the development of an early warning system or land use planning. Only three mentioned development of a disaster-appropriate legal framework.

Of the 13 countries with earthquake projects, only 3 CASs mentioned seismic strengthening of critical facilities such as hospitals, schools, and the like. In El Salvador, for example, seismic-resistant design and the reconstruction of 594 destroyed or severely damaged schools was envisaged in the CAS.

Of the 27 countries affected by drought, 8 of the CASs mentioned food security or removing drought-related impediments to growth in agriculture. Strengthening the safety net was discussed in seven. Targeting of interventions for orphans and vulnerable persons was addressed in four CASs, and one CAS mentioned creation of off-farm income opportunities.

Source: IEG data.

Borrowers can and should be classified by their disaster vulnerability.

Bank support for disaster work clearly reflects the importance of including this topic in strategy documents. IEG research also found that including disaster in the CAS affected its inclusion in projects prepared under the CAS. The average number of Bank-supported projects for highly vulnerable countries that mention disaster in their CAS is 7.9. In contrast, the average number for the highly vulnerable countries that do not mention disasters in their CASs is only 2.4. Not taking disaster into account in the CAS has an opportunity cost in that it may lead to significant under-investment in risk management and prevention.

Specific, differentiated plans of action can be developed within projects for the more vulnerable groups and regions.

Categorizing Borrowers According to Disaster Risk—An Illustrative Approach

When formulating country lending programs, the Bank needs to elevate the importance of disasters, especially for highly vulnerable countries. To do this efficiently, borrowing countries would have to be divided into categories according to their disaster risk levels.[8]

Using the list of hotspot countries in the *Natural Disaster Hotspots* study as a starting point, 35 countries have a high vulnerability, because 50 percent or more of their GDP is classed as being at risk from natural disasters in the report. Fifteen countries have a medium vulnerability to natural disasters because natural disasters could place between 30 and 50 percent of their GDP at risk. The remaining borrowing countries have been classed as having a low vulnerability level, because natural disasters are a relatively small risk.

Based on a working hypothesis of a country's level of vulnerability—and subsequent events can and will change understanding and improve the accuracy of any categorization scheme—the Bank needs to develop and adopt specific plans of action. For example, countries of all vulnerability levels would consider disaster risks systematically along with their consideration of macroeconomic and other threats in the risks identification section of relevant Bank documents.

For countries with medium and high vulnerability levels, both disaster-related and regular lending for infrastructure, technical assistance,

Table 3.2: Natural Disaster Risk Can Be Mainstreamed in the Bank's Lending

Vulnerability level	Disaster-contingent line of credit in CAS lending program	Bank loans to incorporate disaster-resilient designs and/or environmental restoration	Bank documents to consider disaster risks
High (>50% of GDP)	X	X	X
Medium (30–50% of GDP)		X	X
Low (<30% of GDP)			X

and institutional development would include disaster preparedness and mitigation. Projects financed by the Bank would incorporate disaster-resilient design considerations into infrastructure and housing activities, in the regions of each country most at risk, and nationwide when appropriate.

For highly vulnerable countries, the Bank would emphasize disaster preparedness and mitigation in each country's CAS and set aside a certain portion of the CAS lending program for a disaster contingency. If the designated amount was not used for emergency-related activities during a particular CAS period, it would be rolled over into the new CAS lending program, rather than disappearing.

Chapter 4: Evaluation Highlights

- The Bank has responded flexibly with a wide variety of activities.
- Without advance preparation, doing things in order of priority can be difficult.
- When activities are done and how long they take to complete are at least as important as what activities are done.
- A quick reaction may not lead to the most relevant response.
- Many important activities require long implementation times.
- Most activities financed by the Bank take more than three years to complete.
- Of 59 completed ERLs, only 10 have had follow-on projects.
- Existing lending mechanisms do not significantly accelerate project processing and usually do not expedite the disbursement of funds.
- More recent projects are, on average, slower than those of a few years ago.
- Three-quarters of disaster assessments have led to an ERL.

4 Relevance of Bank Assistance

Where does the World Bank fit in the scheme of things as borrowers respond to natural disasters and prepare for recovery and reconstruction? The external Web site states its role succinctly: "The World Bank is the largest funder of disaster recovery and reconstruction in the world."[1]

What this means for borrowers facing a severe crisis is that if the Bank does not finance the solutions to the bigger reconstruction problems, they will often be addressed only piecemeal, if at all. Not returning to full functionality has a multitude of small impacts, and it has been argued that much of the longer-term GDP cost of disaster is the result of incomplete reconstruction (Linnerooth-Bayer and Mechler 2005).

When the Bank responds to a disaster, it often uses several of its funding mechanisms. For example, in Honduras, following Hurricane Mitch, the Bank's primary response was balance of payment support through an Emergency Recovery Credit. This was supplemented by reallocations from seven existing projects and redirection of a social fund to assist in the recovery and reconstruction. A follow-on loan is being implemented to reduce vulnerability through strengthening municipal institutions for disaster management. The Bank has responded to other disasters—the Turkey earthquake, flooding in Bangladesh—with a similar mix of financing.

Flexibility and innovation are essential to success with a natural disaster response. Among the Bank-financed responses that have demonstrated such flexibility and innovation are the Maharashtra Earthquake Project (1997), which attempted to address the needs of the very poor and nomadic; North China Earthquake Reconstruction (1993), which integrated cultural heritage in the response; Yemen Emergency Flood Reconstruction (1989), which had particularly effective donor coordination; drought prevention in Niger (1988), which made highly efficient use of limited resources; and the Honduras Social Investment Fund (1999).

Defining Relevance of Disaster Assistance

The relevance of the actions taken following a natural disaster depends on the extent to which they are timely, appropriate to country needs, and reduce vulnerability. However, the needs of the country and of those affected by disaster change dramatically day by day and month by month following a disaster. This makes it difficult to remain relevant without

building a measure of flexibility into planned actions.

In the dynamic circumstances following a natural disaster it can be difficult to do activities in order of priority. Several government officials interviewed during field visits made the point that readiness to implement too often outweighed the priority of the activity. This meant that some immediately relevant critical activities that required a plan (such as rehabilitation of public markets or housing for the poor) were put off until one could be prepared, while other activities not requiring a plan (such as repaving urban streets) were started sooner than necessary, diverting attention from the more critical activities. With a longer-term view of disaster risks, countries might recognize that getting the priorities right would require a level of advance planning by government ministries, as well as through institutions specifically focused on disaster risk management.

Over the past 20 years, Bank financing has supported 60 distinct types of activities in response to disasters, exhibiting a high level of innovation and flexibility. Projects contained anywhere from one activity type to 22, but generally projects have been designed to provide solutions specific to the unique situation presented by each event, taking into account geographic, cultural, and social factors, as well as hazard risks (see Appendix F, figure F.1). Table 4.1, which lists the 10 most frequent activities, shows that many projects have pursued activities related to reduction of vulnerability (such as those related to disaster management and to public awareness).

The Bank has responded flexibly with a wide variety of activities.

Table 4.1: The 10 Most Frequently Pursued Activities

Activity	Number of projects
Provision of supplies and equipment	88
Rehabilitation of road infrastructure	77
Rehabilitation of flood control infrastructure	53
Studies and research on disaster management	43
Institutional development for disaster management	43
Fire prevention activities	43
Early warning and public awareness campaigns	39
(Re)Development of education facilities	38
Planning for disaster management	37
Rehabilitation of irrigation and drainage	37

Source: IEG data.

Timeliness is also extremely important—when an activity is done and how long it takes to complete are at least as important as what activities are undertaken. In the case of an earthquake, food is needed immediately post-disaster and not later. If it arrives later, it can actually detract from the sales of food harvested (and/or salvaged) in the interim (Jackson 1982). As droughts become increasingly serious, there is a time when the poor consume seed stocks and sell off domestic animals. Considering this, interventions that lead to speedy recovery need to begin before the next year's crops are consumed and draught animals are gone.

The same principle applies to Bank activities. For example, if balance of payment finance is to do any good, it must be disbursed quickly enough in the year following the event to cover the cost of imports needed for reconstruction, and not those unrelated to reconstruction. India, Madagascar, Mozambique, and Turkey used balance of payment lending for petroleum imports. In the following year, however, petroleum imports declined sharply, which suggests that the balance of payment loan may have led to an over-purchase of those products.[2]

The activity most frequently pursued—provision of supplies and equipment—may be of dubious relevance. Specialized equipment purchased through a loan needs to be used effectively and efficiently. Accomplishing this may require additional investment by the borrower (see box 4.1)—investment that may not be forthcoming or may lose out to other development priorities once the most pressing needs have been met.

For emergency shelter to do any good at all, it should be erected only after victims have been assisted as far as possible to provide themselves with shelter close to where their homes used to stand (or, as often happens, have permanently resettled elsewhere). Of course, relevance also

Box 4.1: Equipment Acquisition Can Be Particularly Problematic

Equipment acquisition requires careful planning to ensure its productive use. Technical assistance provided under emergency projects may persuade public officials to invest in modern equipment for early warning, improved communication, and emergency supplies and equipment for police, firefighters, and other first responders.

However, project experience has demonstrated a strong tendency for the devices to be bought but not installed. In other cases, equipment was installed or supplies warehoused, but no budget was made available for the people who were supposed to use it.

In some cases, large databases of geographic information have been established to provide information on different types of hazards, areas especially vulnerable to disasters, and available relief material, but they have not been regularly updated. In the Maharashtra Emergency Earthquake Project, data on disaster vulnerability was collected, but the government then classified it top secret, and it was not shared with the officials in charge of disaster management.

requires that they only be constructed in areas that experience severe winters, and early enough to be useful—otherwise it represents a waste of scarce resources.

The importance of timeliness is reflected in project performance. Of completed projects for which the time between approval and effectiveness was below the median (half the portfolio), 86 percent had satisfactory outcome ratings. For those above the median only 67 percent were rated satisfactory**.** Therefore, for projects experiencing difficulty in meeting effectiveness requirements, the performance was lower compared with those able to make a speedy first disbursement.

The funding mechanism used and the approach chosen depend on whether the intent is to finance an immediate response to urgent need, a medium-term response to assist recovery and reconstruction, or a long-term response for reconstruction and mitigation. As will be seen, however, this is not always the case. There is a general pattern, but there are exceptions. Each circumstance is worth considering separately.

Delivering Quick Support for the Immediate Response

Countries affected by natural disasters often request quick assistance to replace lost capital and to prevent cascading negative economic effects from growing and multiplying. To help with this, the Inter-American Development Bank has established an Emergency Reconstruction Facility that permits the commitment of up to $20 million "in the first hours after the disaster takes place."

Timeliness matters as much or more than the activities undertaken.

The World Bank has nothing similar. Instead, it has relied on reallocations to fill this expressed need. Unfortunately, the documentation for reallocations is so incomplete that it has not been possible to determine the activities and uses of reallocated funds. Based on experience, however, the Bank has sometimes been pressed into ill-considered responses during the early part of a natural disaster response (box 4.2).

Activities requiring supplemental effort by the country may remain at risk.

Reallocations are highly relevant where the relevance of the original project is reduced by disaster. Furthermore, those funds often keep their broad sector dedication. For example, funds originally intended for school improvement have been reallocated to school reconstruction after a hurricane or volcanic eruption had destroyed schools (the 1995 Honduras Basic Education Project, the 1995 Nicaragua Basic Education Project, and the 1993 Papua New Guinea Education Development Project). In other cases, projects have had slow-disbursing components that, in an emergency, can be formally reallocated to reconstruction purposes

The quickest Bank response is reallocation, but the use of reallocated funds is not transparent.

Box 4.2: A Sense of Urgency Can Lead to a Wasteful Response

Zimbabwe experienced its worst drought of the century during the 1991/92 growing season. The Bank responded with an ERL supplemented by reallocations from three ongoing loans—a total of $37 million.

The project was to be implemented by established units in several ministries. However, their capacity was insufficient to handle the extra volume of work. Procurement planning, for example, should have started at the earliest opportunity, but only began after credit effectiveness was declared.

The results were mixed. Relief goods such as foodstuffs were quickly imported, but the recovery was marred by delays in the emergency water program and underachievement of targets for agricultural recovery. Only limited institutional capacity was created to assist with future drought management, and proposed policy and organizational improvements were not carried out. In the end, more foreign exchange was made available than could be readily absorbed—$23.5 million of the IDA credit was canceled and hardly any reallocated funds were used.

Source: IEG project database.

Reallocations can be highly relevant, but reallocation is not always an option.

without regard to sector (such as Bolivia 1998, Vietnam 1995, and Mexico 1993).

For some countries, however, reallocation is not an option. Small island states and small countries with fragile economic and political systems[3] often have few ongoing loans to reallocate, and even if they do, they are small relative to the assistance required. These borrowers are limited to requesting new lending from the Bank, which takes time to process and adds to their overall debt.

An alternative to reallocation in some cases has been the redirection of a social fund, which by its nature is multisectoral and intended to respond to community needs. In Honduras and Nicaragua, following Hurricane Mitch, social funds were an important part of the Bank's early response, transforming themselves overnight from centralized social investment funds into nimble rehabilitation and reconstruction agencies. Such redirections can provide critical support to the poor in affected communities, but they ultimately do little to address the problems faced by the government. More recent alternatives to reallocation show some promise for meeting immediate needs, but their value remains to be seen.

The ERL is typically used for short- to medium-term assistance.

Delivering New Projects for the Recovery

In the short to medium term, countries typically request assistance such as budget support, technical assistance for reconstruction planning, rapid reconstruction of transport infrastructure essential to international trade, and the provision of equipment and supplies. The Bank now customarily provides such support through ERLs.

Balance of Payment Support

Balance of payment support is intended to be a quick-disbursing activity that meets the most pressing financial needs of affected countries. Designed to provide quick inputs to stabilize macroeconomic conditions and facilitate recovery following a calamity, this kind of support is not very common; only 15 loans have been made for balance of payment support following natural disasters.

Despite its emphasis on the rapid disbursement of funds, balance of payment support took an average of about 7 months (214 days) to reach effectiveness and 2.4 years (860 days) to reach closing. It thus did not meet institutional intentions that it be an effective means of providing quick transfer of resources to affected countries.[4] As one task manager who implemented this type of support noted, "I am very skeptical about disaster relief/emergency projects going through the budget in most countries. In [reference to country deleted] we were supposed to finance reconstruction through the budget,

which never happened and, in the end, the emergency project had neither a positive balance of payment nor reconstruction impact."

Support for Social and Economic Recovery

Ideally, the Bank tries to separate activities that benefit from a nearly immediate start-up and those where there is a need to plan more slowly for medium-term recovery and mitigation. OP 8.50 and Bank Procedure (BP) 8.50 call for consolidating project preparation activities, expediting processing procedures, and disbursing resources rapidly. Disaster projects are allowed accelerated processing and are expected to have a short implementation period. OP 8.50 and BP 8.50 establish a timing framework for emergency recovery lending that limits the elapsed completion time to three years.

Although Bank policy for emergency lending emphasizes a quick response and compressed implementation time, experience with the earthquake, drought, and tropical storm projects suggests that a quick response does not always lead to the most relevant response. The completion time of disaster projects appears to be determined by the time needed to complete each activity, an interval that is predictable. Responding effectively to a specific disaster requires picking and choosing from the full menu of 60 activities, and not concentrating on those that can be quickly accomplished. Therefore, a quick response is necessary and possible only in cases where the required activities can be carried out in a short time.

Having a disaster policy that emphasizes time limits for the intermediate term may lead Bank staff to rush certain activities unnecessarily. For example, in the St. Lucia Watershed and Environment Management Project, pressure to start reconstruction led to inadequately analyzed designs and implementation that did not reduce vulnerability to the next storm. Specifically, silt was removed from waterways, but the denuded hillsides in the surrounding watershed were not stabilized, and the waterways quickly refilled with silt.

Another risk inherent in a policy with time limits is that projects may exclude some activities that take longer but achieve long-term development goals. The analysis of activity frequency specifically for ERLs shows that of the most commonly implemented activities, the top 10 are dominated by rehabilitation (of roads, schools, water systems, irrigation systems, health facilities, flood control infrastructure) and the purchase of equipment.

Balance of payment support has not been an effective means of providing quick transfer of resources.

Among the 10 least frequently pursued ERL activities are land and water resource management, community-based disaster prevention, fire prevention, and forest management. The degree to which rehabilitation has been allowed to overshadow prevention, the low relevance of some activities, and the absence of follow-on projects indicate that greater attention to country needs and flexibility with regard to implementation time, coupled with a more varied assortment of lending instruments, may be called for.

The time required to complete particular types of activities affects project completion time.

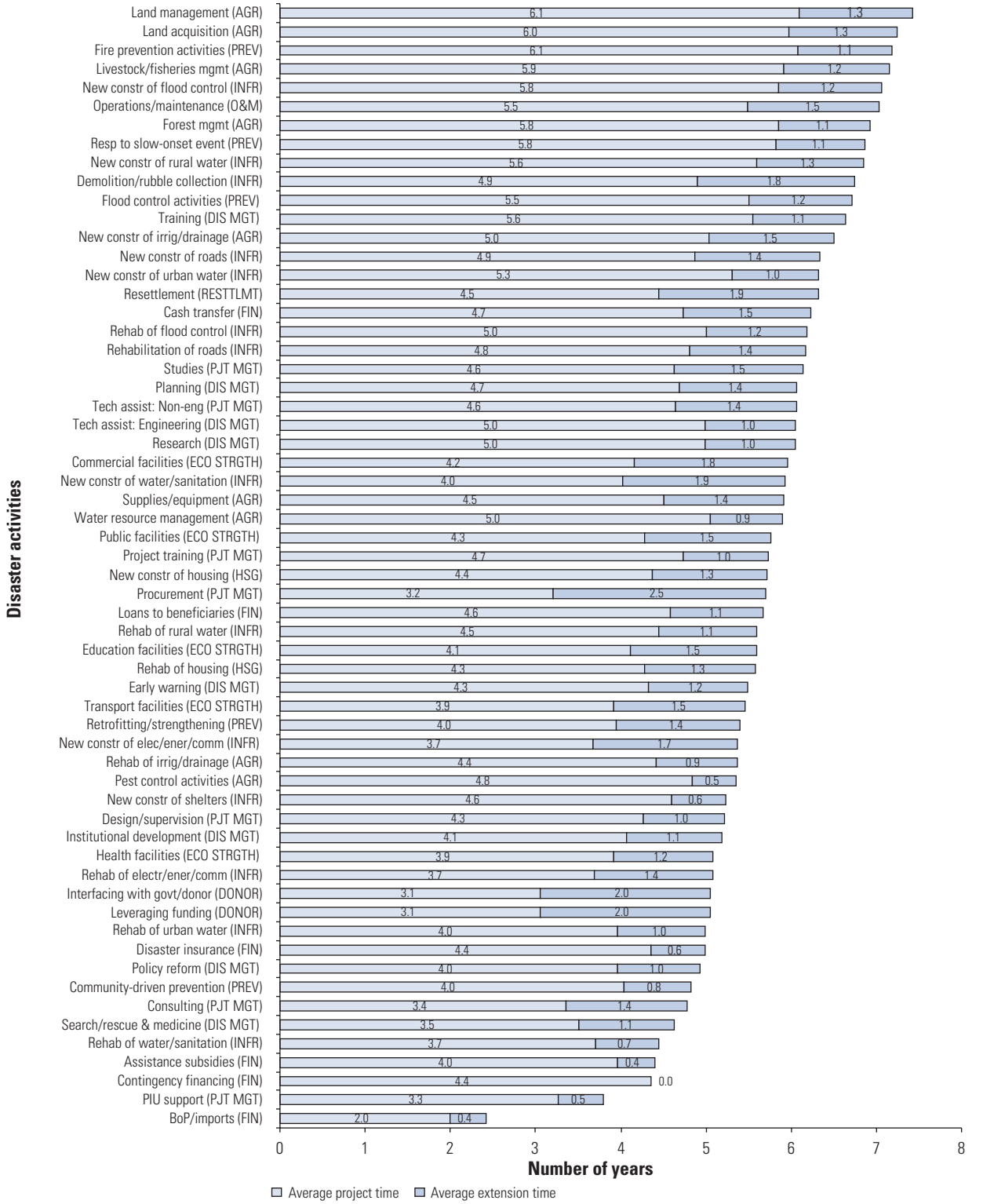
The disaster activities carried out during recovery and reconstruction exhibited significant variance in implementation time, ranging from two to seven years. Figure 4.1 shows how long projects containing each disaster activity took, on average. Only one of the activities was carried out in projects completed within three years, as stipulated for ERL projects by OP 8.50.

Almost all of the most crucial disaster response activities required more than three years, in part because they were conducted without predisaster planning. For instance, projects involving land acquisition activities took an average of 7.5 years, and for those with infrastructure activities, 6.5–7 years was the average, depending on the type of infrastructure.

In planning for projects related to natural disaster recovery, too little time was generally budgeted for implementation. This is highlighted by the revised implementation time for most disaster activities (shown in figure 4.1). For example, on average, the completion of projects with irrigation and drain-

Only one activity type has been completed in less than three years.

Figure 4.1: Average Implementation and Extension Times for Projects Containing Disaster Activities: All Disaster Projects



Source: IEG data.

Note: Each bar represents the average actual implementation time of all projects with a given activity.

age infrastructure took 1.5 years longer than planned, and demolition took 1.8 years longer. Overall, of 303 completed projects, 28 percent were completed when they were expected. The rest ranged between 18 days and five-and-a-half years late. Of ERLs, 42 percent were completed in the timeframe originally anticipated, though estimated times often exceeded the policy requirement.[5]

Reducing Vulnerability over the Longer Term

The Bank's standard lending instruments generally are well suited to efforts that reduce vulnerability through new or rehabilitated infrastructure (shelters, early warning systems, flood control works) or through developing the capacity to manage disaster risks. As figure 4.1 shows, such activities take longer than three years on average, and the time needed to implement them usually is underestimated by a year or more. Some ERLs have overreached by trying to cover such activities. Yet if such activities are left out of the ERL with the expectation that additional borrowing will follow, those activities may never be undertaken. ERLs have been followed up with normal disaster investment projects only 17 percent of the time. Of 59 completed ERL projects, only 10 have had follow-on projects that took place within three years after they closed (with activities related to either reconstruction or prevention).

Too little time is generally budgeted for implementation.

For most low-income countries that have not faced a disaster recently, reducing vulnerability to disasters is just another of their many development priorities, and for those that have experienced disasters recently, vulnerability reduction quickly falls off the development agenda as governments turn their attention elsewhere. As seen in Chapter 3, disaster risks do not make it into the CAS or PRSP as often as country exposure to such risks would seem to warrant. When a CAS does discuss natural disasters, it is likely to discuss activities related to vulnerability reduction (such as strengthening disaster management, long-term planning, early warning systems; see Appendix E, table E.1).

When vulnerability is addressed, it can take a long time, but it can have a lasting impact on poverty (box 4.3). It can also represent significant savings.

Investment lending instruments can fill disaster needs, but ERLs are rarely followed up with such lending.

Insurance that covers disaster damage is an important part of vulnerability reduction in most developed countries, but it is rare in developing countries. While about half of the costs of natural disasters are covered by insurance in the United States, less than 2 percent of the costs are covered in the developing world. The study

Box 4.3: Reducing Vulnerability May Also Reduce Poverty

The Small Rural Operations (SROs) Project in Niger adopted a development approach to reducing drought vulnerability based on transfer of responsibility to beneficiaries. By intensifying off-season crop production through widespread use of existing simple, low-cost technologies, the project generated rural income and helped mitigate food shortages.

The project took 11 years to implement (1988–98). It contributed to the financing of 88 SROs in off-season production of horticultural products and fruit trees, soil conservation, smallholder fish production, stock-raising, and animal husbandry. About 35,000 rural farmers benefited directly from these income-generating activities. A strong impact on the incomes of the farm families arose from higher cropping intensities, cultivation of higher-value crops, and diversification toward non-crop activities.

The project's impact on food security and poverty reduction has been positive in much of the project area, which has a chronic food deficit and where other donors are noticeably absent. The impact on the welfare of women beneficiaries, who dominate the project's horticultural marketing and food processing activities, has been significant.

Source: IEG project database.

Limited experience with insurance shows difficulties in implementation and sustainability.

database shows that the Bank has supported activities focused on laying off risk in 10 projects (see Appendix F, table F.3). These have included catastrophe bonds, index-based insurance, catastrophe models to facilitate coverage, work through microfinance institutions, contingency lines of credit, and the creation of a catastrophe insurance pool.

The limited experience has seen some success and encountered a number of difficulties. Perhaps the most successful of these experiments was the catastrophe insurance pool developed for Turkey following the Marmara earthquake, but the long-term success of that experiment is not yet assured (box 4.4). Among the difficulties that need to be faced is getting people to understand how insurance works and the benefits of paying into it. There also are good reasons that insurance coverage may not be available. In many developing countries, for example, the cost of hedging against risks exceeds the cost of simply paying for damages when they arise. This is an issue the Bank will need to address in future attempts to put insurance schemes in place.

The Bank averages about seven months to get a disaster project to the Board.

Does the Bank Respond Quickly?

Disaster projects are prepared and implemented under difficult working conditions. They may have to overcome shortages of critical materials, severed transportation links, and weak capacity or capacity loss due to disaster damage. Under such circumstances a quick response is difficult, but essential, to achieve. Based on analysis of the 528 projects examined, the Bank does not appear to have increased its response time by using ERLs.

The average amount of time that elapsed between an emergency event and the presentation of a loan or credit to the Bank's Board of Executive Directors (figure 4.2) was 6.7 months (201 days). When disaggregated, the difference between ERLs and disaster projects that use other instruments was small. The non-ERL

Box 4.4: Bank Helps Finance Insurance Scheme in Turkey

In order to extend liquidity to homeowners, reduce government liability, and lessen dependence on foreign donors in the event of future disasters, Turkey launched a disaster insurance scheme in September 2000. The scheme, which will cover $1 billion in damages in the event of a disaster, was launched in a timely fashion, and soon had more than tripled the level of insurance penetration for earthquake coverage compared with that previously achieved by the private insurance market.

The scheme also demonstrated its ability to pay claims quickly in a number of small- and medium-size earthquakes that have occurred since its initiation. A successful public awareness campaign, combined with an affordable average annual premium of $20, brought the scheme significant initial penetration (the average is currently $46), and the level has held steady at around 2 million policies over the past three-and-a-half years. Increased penetration is awaiting passage of the draft Earthquake Insurance Law. Meanwhile, the Bank is investigating several measures to increase the number of policyholders.

The scheme faces some difficulties in not only sustaining but increasing the numbers of insured in the country, however. Two newly enacted laws pertaining to state-owned enterprises, the Public Financing and Supervision Law and the Procurement Law for State-Owned Enterprises, may terminate the insurance program's current exemption from all state regulations applying to government-owned enterprises. (It was created as a special, non-government entity, as it does not have government employees, and the government only intervenes in the event of a disaster calling for over $1 billion in coverage.)

Whether these laws will apply to the catastrophe insurance pool is currently being clarified. The current Disaster Law #7269 (which provides easy compensation to earthquake victims), along with the lack of a strong insurance culture in Turkey, adds to the challenges faced by the scheme.

Source: Project Performance Assessment Report: Turkey (IEG 2005b).

disaster projects were found to have an average of 7 months (209 days) pass before they received Board approval. For ERLs, the preparation time averaged 6.6 months (198 days)—just 11 days less than projects that used other instruments.

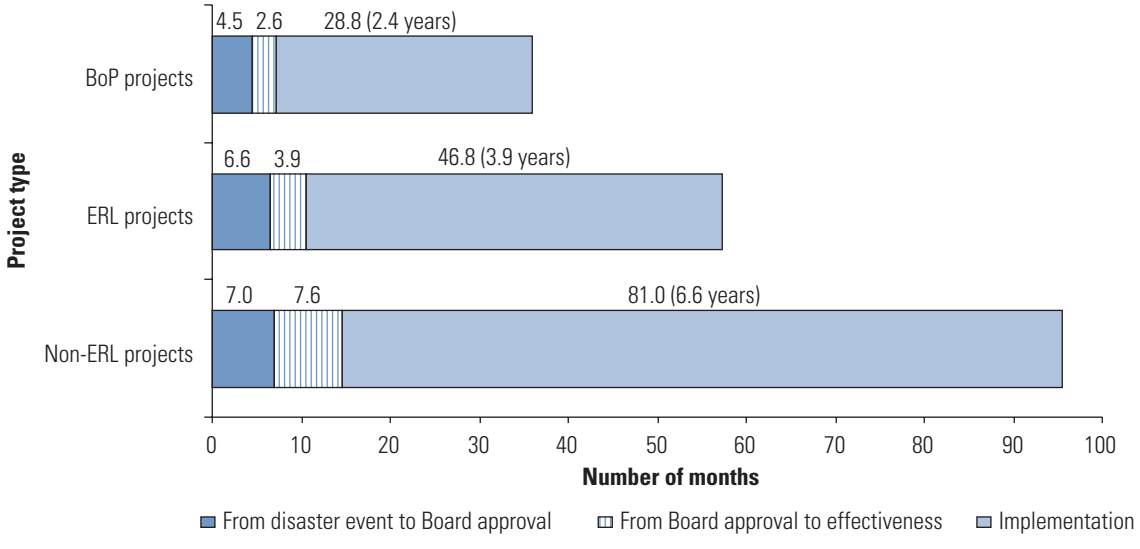
The projects in the Bank's disaster portfolio[6] required an average of seven months (208 days) to reach the effectiveness date, the first day on which a borrower is eligible to withdraw against an approved loan. Of these projects, however, only 27 percent[7] were able to reach effectiveness within four months of Board approval. If the time from event to Board approval is added to the time from approval to effectiveness, it is clear that having the current emergency lending mechanisms already in place does not significantly accelerate project processing and it does little to expedite the disbursement of disaster funds.

The ongoing projects, on average, have also taken longer to prepare and to reach effectiveness than those that have closed, though in some of the largest responses, such as those for the Indian Ocean tsunami, the Marmara and Hebei earthquakes, and Hurricane Mitch, have been very quick. As the definition of emergencies has broadened and more projects have attained emergency lending status, project preparation and effectiveness times have grown increasingly similar for ERLs and non-ERLs (figure 4.2). In other words, the more recent projects are, on average, slower than those of a few years ago. Considering that even emergency projects were prepared and reached effectiveness roughly one year after the disaster event, which was similar to non-ERL disaster projects, it appears that the Bank has usually reacted slowly to emergencies, and this trend is becoming more pronounced.

ERLs have not moved significantly faster than other lending instruments.

Disaster projects as a whole took longer to close than regular investment lending. From Board approval to the final project closing date, the average implementation time of disaster projects[8] was 6.6 years (2,396 days), with a median of 7 years (2,541 days). In contrast, the overall Bank portfolio took less time, with all projects[9] having an average implementation time of 6.1 years (2,214 days) and a median of

Figure 4.2: How Long Do Projects Take?



Source: IEG project database.

Note: The timeline includes an additional interval (project preparation) not used in the Bank's calculation of project completion time, and therefore it does not reflect the total project completion time found in program documents. BoP = balance of payment.

Disaster projects generally take longer to close than other projects, and the time required to complete them is consistently underestimated.

6.1 years (2,230 days).[10] Even for ERL projects,[11] which are designed to meet the most urgent needs of a country following a disaster, the average implementation time was 3.9 years (1,433 days).

Projected and actual implementation times indicate that the Bank consistently underestimates the time required to complete disaster-related projects. For the 303 completed projects, the implementation time was extended by an average of 1.2 years (433 days), or about 20 percent. In addition, two-thirds of all ERL projects were not at all quick—they were extended an average of 1.2 years (448 days), representing a 33 percent increase above the policy requirement of three years.

Is implementation time a function of the activities undertaken rather than the type of lending instrument chosen? The time needed to complete a disaster project has varied significantly according to the mix of the disaster activities (Appendix F, box F.1 describes the range of objectives in the projects examined). The implementation time of those activities ranged from almost 2.5 years to 7.5 years. Despite the various permutations, each area of activity corresponded to average project completion times, which showed significant variation between activity types over a five-year range.

Box 4.5: Damage Sustained Is a Function of a Community's Level of Vulnerability

"Strictly speaking, there are no such things as natural disasters, but there are natural hazards. A disaster is the result of a hazard's impact on the society. So the effects of a disaster are determined by the extent of a community's vulnerability to the hazard (or conversely, its ability, or capacity to cope with it). This vulnerability is not natural, but the result of an entire range of constantly changing physical, social, economic, cultural, political, and even psychological factors that shape people's lives and create the environments in which they live. 'Natural' disasters are nature's judgment on what humans have wrought."

Source: Asian Disaster Reduction Center (ADRC) http://www.adrc.or.jp/LWR/LWR_ abridged/definitions.pdf

Using a Long-Term View to Select Short- and Medium-Term Actions

At the project level, there has been some degree of success in reducing vulnerabilities—by building safe housing for victims, supporting proper watershed maintenance, building retaining walls, relocating people out of dangerous zones, and funding monitoring and warning systems—but the general social and economic situation of a country can exacerbate vulnerabil-

Box 4.6: Reducing Vulnerability Takes Time

The Loess Plateau Project is a best practice example of how vulnerability to flooding can be reduced by reversing severe environmental degradation. The agricultural project, focused on a highly eroded region of China, took eight years, but raised production and family income for poor farmers.

Numerous small check dams were built to intercept runoff and eliminate destructive flash floods. Severely sloping lands were planted with trees, shrubs, and grasses to stabilize the land and produce fuel, timber, and fodder. Gullies were controlled and converted into first-class crop lands. By building terraces, using contour ditches and stone barriers, the farmers were able to reduce sediment inflows to the Yellow River.

In order to achieve this kind of success the project had to be designed in close consultation with those villages with the right to cultivate the land. Measures that would work had to be identified, and the means to best communicate them to stakeholders had to be developed. Finally, the first efforts had to be successful to demonstrate to potential adopters that the improved practices could have a significant impact on poverty.

Source: IEG project database.

ity levels across the board. This sort of vulnerability will not be reduced substantially within the scope of a single ERL.

Bankwide experience has shown that while a quick response to natural disaster is important, it is equally important to identify local vulnerabilities and determine how to reduce them in ways that lead to durable solutions. While extreme events will always wreak some damage, sustainable development can limit the extent to which this occurs (box 4.5).

With increasing frequency, the Bank has helped borrowers to assess disaster damages and to develop a recovery strategy. Based on the analysis in this chapter, it might be expected that the variability in the nature of the damage encountered and the type of activities required to address long-term vulnerability would lead identification missions to identify root causes that in many cases could only be properly addressed by a careful appraisal and a standard investment loan.

Addressing root causes makes economic sense; over the course of 40 years, China has invested $3.15 billion in flood control measures, avoiding what is believed to be potential losses amounting to $12 billion (Benson 1997). Yet almost three-quarters of all the disaster assessments (23 out of 32) in which the Bank was involved led to the abbreviated preparation and more rapid response of an ERL. Such loans enable the Bank to respond more quickly to a disaster, but rarely address dangerous practices such as farming on steep hillsides without proper watershed maintenance and neighborhoods located in landslide and flood-prone areas (box 4.6). In general, sustainable and significant reduction of vulnerability cannot realistically be attained in the three years allotted to an ERL.

Vulnerability has been reduced somewhat, but local vulnerabilities may be overlooked.

Their short timeframe notwithstanding, as noted in Chapter 2, the Bank's emergency projects perform well, surpassing the outcome ratings of the overall Bank portfolio. However, if the three-year time constraint is allowed to drive implementation, projects financed with ERLs may leave too much undone. It is preferable that activities financed by the Bank contribute directly to the speedy resumption of the development process and the protection of the most vulnerable segments of society.

What the Bank can bring to the immediate response to disaster is its knowledge of international experience and a commitment to participate in the evolving donor dialogue regarding the nature of the overall program to rebuild and the scale of the Bank's likely contribution to that effort. As part of this process, the Bank can also more consistently and effectively support comprehensive damage and needs assessment activities, which set in motion processes that increase local capacities and reduce vulnerabilities, and which in turn will help to set the recovery framework (see box 4.7).

Three-quarters of disaster assessments have led to ERLs, though damage assessments can be used to identify root causes of disastrous impacts.

Box 4.7: Damage Assessments Are Useful But Have Some Shortcomings

The Bank has participated in damage assessment in 32 projects since 1984 and its involvement has increased (half of the assessments have taken place since 1998). Assessments, at least for the most recent disasters, are generally a cooperative effort of the government, the Bank, and other donors. Joint assessments facilitate donor coordination by helping to divide reconstruction tasks early on.

In current best practice, successful damage assessments are quick, detailed, focused, and updated as the situation unfolds, and not abandoned after the initial effort. They are performed by a multisector team, and they involve affected people and institutions. They can be used to:

- More effectively design reconstruction projects by facilitating efficient donor coordination and promoting a consensus decision-making process.
- Measure the impact of disasters in monetary terms, and estimate the disaster's effect on economic flows and on the capacity for reconstruction and need for international cooperation.
- Determine social and physical reconstruction needs, identifying key sectors in need of assistance, thereby targeting the response and helping the country start reconstruction expeditiously.
- Identify economic policy changes called for following a disaster.
- Reduce vulnerability.
- Solicit donor funds.

Past assessments have had several shortcomings:

- They generally have not been updated as more accurate information comes in.
- Country and social context and the differential effects of disaster on vulnerable groups have received little attention.
- They have focused on needs without considering capacities.

Surveyed Bank staff report needing guidance with damage assessment. Almost half that had not used the Hazard Management Unit stated that the kind of support they would need from such a unit would be in damage and needs assessment.

As the Bank has performed damage assessment in such a small percentage of the projects in the study database (6 percent), and each disaster context calls for a tailored solution, giving guidance for damage assessments in the Good Practice section of the policy may be preferable to mandating it in the OP.

Source: IEG project database.

Chapter 5: Evaluation Highlights

- An immediate response that ignores local power structures, social groups, and differences in vulnerability can make recovery more difficult.
- Participation by local leaders and communities can help ensure an effective recovery.
- In housing, the goal should be to help the disaster homeless, focus on the poorest, and encourage mitigation measures that will help reduce the impact of future disasters.
- When relocation is required, care is needed to ensure that those relocated have jobs and an environment that offers the potential to rebuild social cohesion.
- Disaster impacts and recovery vary, depending on social vulnerability and level of risk.
- Cash support can be vital to the recovery of the poor.
- Women's particular vulnerability can be addressed through improved data gathering, targeting, and equitable treatment.

Social Dimensions of Disaster

"Natural" disasters are nature's judgment on what humans have wrought.[1]

Natural disasters destroy more than lives and infrastructure—they violently and suddenly rip apart social interaction patterns and cohesiveness. Recovering from a disaster, then, requires more than burying the dead, caring for the injured, and rebuilding structures.

It must also ensure that social structures knit together. This is a substantial challenge, and one that is rarely addressed with great success by any of the many institutions that respond to disasters, in large part because the character of the initial response may make doing so more difficult.

Disaster responses resemble military operations in their heavy reliance on command-and-control systems that historically have been effective in making a chaotic situation more manageable. With such an approach, however, there is little room for participation. The sense of urgency when lives are at stake works against such a process, which takes time to implement. The perceived need for haste also makes it easier to take shortcuts to solving problems. Local power structures may be sidelined rather than engaged. People and institutions that might help rebuild affected communities may be left out of the relief response, often because the responding institutions have limited knowledge of the communities affected by the disaster.

An immediate response that ignores local power structures, social groups, and differences in vulnerability risks makes recovery more difficult by undercutting the very factors that helped create social cohesion in the first place. And when the pressures of the response are allowed to carry over to the later stages of rebuilding and mitigation, too little may be done to ensure that the social and livelihoods needs of the affected populations are considered. It may also leave the poor and other vulnerable groups even more disadvantaged than they were before the disaster.

IEG examined several issues with social development dimensions: poverty reduction, gender-specific impacts, shelter, and housing. Underlying all of these issues, however, is the larger concern about the inadequacy of participation in the response to natural disasters.

Participation in Natural Disaster Response

Documents for 241 of the 528 projects in the IEG database mentioned some form of participation. However, this covers a wide range of participatory activities. More notable, perhaps, is that only 50 mentioned *beneficiary* participation at the design stage, and 82 at the implementation stage.[2] A forthcoming report from

ProVention (*Natural Disasters: Lessons from the Brink*) considered Bank experience in five of the same countries[3] examined by this study and found "low levels of public participation in the planning, design, and in many cases implementation of recovery activities is a common and worrying theme across the case studies."

Project evaluations fairly consistently raise community participation as an issue of importance. Twenty-five evaluations identified lessons having to do with community participation. Ten attributed enhanced sustainability of benefits to participation, eight declared that participation is essential for overall project success, and six found that participation enhances ownership of infrastructure. While 2 evaluations made the point that communities should be involved at the earliest stage possible during project planning, 12 argued that community participation is essential at all stages of the project cycle. They advocated that communities should participate in planning, designing, implementing, managing, supervising, maintaining, and (sometimes) financing a project.

Participation occurs rarely but can enhance sustainability and ownership.

Efforts to restore livelihoods may founder because of inadequate beneficiary participation. Following the Gujarat earthquake, the borrower's priority was to provide housing for earthquake victims, and the restoration of the damaged public markets in the center of Bhuj was postponed until the completion of long-term urban planning. While urban roads were widened and dead-end streets connected, reconstruction was moving quickly outside the city center. Shopkeepers and vendors could not wait for the project to attend their needs: they moved to the periphery where new markets sprang up spontaneously. Three years after the earthquake, the city commercial center still had not recovered. Following the Maharashtra earthquake, public markets grew up spontaneously in several towns because the location and space provided had not been adequate.

When stakeholders' views are not considered, the solution they are provided often fails to solve their problems.

In a number of projects, activities that were central to the restoration the local economy did not take stakeholder views into account, with unfortunate results. In Gujarat, weavers that lost their looms in the earthquake were provided with new ones, but they were not of the type traditionally used in the region. Field visits to other countries noted inappropriate responses to the needs of businesses. Commercial centers were built without clarifying rights and obligations regarding occupancy, maintenance, utility fees, and the like. Similarly, the commercial spaces provided did not take into account the activity of the entrepreneurs—tire and auto repair shops were given second-floor units, and newspaper and magazine stores were placed in interior locations with little foot traffic.

The benefits of participation were demonstrated in the 1993 Argentina Flood Rehabilitation Project. Beneficiaries were involved in all stages of the project. The interaction between beneficiaries and the local authorities resulted in the timely availability of construction materials and the accommodation of local customs in the architectural design of new houses. Staff observed that this created ownership among beneficiaries and increased maintenance.

Beneficiary participation is especially important when it comes to shelter and housing, because the nature of the place where people live has significant impact on their feeling of security, and hence on their ability to rebuild community.

Shelter and Housing

The publication "Doing More for Those Made Homeless by Natural Disasters" (Gilbert 2001) stresses that emergency efforts to help the homeless should avoid undermining good housing sector policies, and seek to incorporate best practice prescriptions of such policies whenever possible. Emergency shelter and housing reconstruction efforts should always embody the Bank's priority concern with benefiting the poor by providing priority assistance to those unable to afford it by other means. Reconstruction projects commonly

rebuild apartment buildings and commercial areas without specifying clearly who will manage and maintain them. Worse, they may leave vulnerable groups even more disadvantaged than they were before the disaster.

Several approaches to shelter have been taken in the emergency context—building emergency shelters, relocating victims to safer areas, and facilitating self-help construction of temporary shelter while simultaneously preparing to house the homeless with housing reconstruction components (see Appendix H for a more detailed analysis of housing and shelter issues). Where it has not been feasible or desirable to relocate people, the Bank has supported dedicated shelters and strengthened warning systems. For example, in Bangladesh, the Bank has funded the construction of cyclone shelters, which have provided Bangladeshis at risk with a place to go during severe storms.

Some projects that provided shelter have encountered difficulties brought about by the risk of breaking up social networks, dislocating people from their extended families and jobs. The sheer numbers of people in need of housing have been daunting in some cases. Also an issue is the difficulty beneficiaries may have keeping up with maintenance of units handed over (even if the unit was free). Reaching a balance between affordable unit size and the need that large families have for space has been a difficult issue in projects financed by the Bank.

From the Bank's perspective, the goal is to help the disaster homeless get back on their feet as quickly as possible, while focusing on the poorest, and encouraging mitigation measures to help reduce the impact of future disasters. The Bank has financed temporary housing for disaster victims and learned through that process that such shelters are sometimes occupied for long periods of time, and often become permanent.

What Works?

Preserve and secure existing social relationships when providing emergency shelter

Financing expensive temporary shelter should be avoided unless the areas involved face severe winters or weather conditions are life-threatening. People are able to provide themselves with adequate temporary shelter using materials from damaged buildings, and families that did not lose their dwellings take in friends and relatives.

Emergency shelter and housing reconstruction should reflect the Bank's priority concern with the poor.

When shelters are called for, efforts need to be made to keep families and neighborhood groupings intact. The layout of temporary shelter structures can reduce crime if care is taken during the relocation process to ensure that as many doors as possible face a common and well-lit area—thus avoiding the creation of passages and alleyways that are dark and not well observed.

Social relationships sustain people during disasters and should be considered at all stages of the response.

Build to higher standards

Temporary housing is sometimes occupied for long periods of time (as after the 1984 Armenia earthquake). For this reason, temporary shelter was built to slightly higher standards after the Marmara earthquake so that the structures could become another form of housing for the poorer once the new housing was completed. Moreover, if shelters are built using disaster-resistant construction techniques, not only are they safer for the displaced living in them, but such construction also serves as an example that people will see, that will then potentially inform their future construction choices.

Simplicity of message is essential to the adoption of disaster-resistant construction technologies. The Maharashtra Emergency Earthquake Project promoted simple earthquake-resistant features for non-engineered masonry construction based on three short rules that could be understood, adopted, and applied by the villagers. Their simplicity made wide dissemination possible and benefited a much larger population than originally targeted.

Temporary housing is rarely temporary and should be built accordingly.

Consider the social context when providing sites and services

The approach of providing beneficiaries with a "wet core" of plumbing in cooking and bathroom facilities and having them invest in building up around that start has had mixed success. This is, in part, because without a place to sleep, beneficiary families find it difficult to move to the site. In El Salvador, following the October 1986 earthquake, the sites and services aspect of the project met with poor initial acceptance and was never built. The sites and services component of the Popayan, Colombia project met with considerable success, however. The project's infrastructure components, which carefully targeted poor households, had a lasting positive impact on urban development.

Provide incentives to complete rural housing

Funding for disaster-resilient rural housing has worked on an incremental "you finish one stage and you will get money for the next" basis. Such an approach was successful in Turkey and India, for example.

Relocation

Over the past 20 years, people rendered homeless by natural disasters or living on at-risk land were relocated in 30 projects, with varying levels of success. In 20 cases, people were relocated to a safer area. In seven cases (all earthquake-related), a lack of technical expertise coupled with victims' anxieties and opportunism led to a suboptimal result, and in four cases the area that disaster victims vacated received a higher-value use once they were gone.

In almost all cases, the vulnerability of the relocated families in these projects was reduced, if for no other reason than that they moved into more disaster-resilient houses. However, in 24 cases relocation sites were quite distant from the original settlements, and commercial transport costs were therefore involved.

Vulnerability can be reduced with relocation, but this rarely takes place because too little care is taken to prevent reoccupation and to preserve social relationships.

In 7 of the 30 projects, resettled people moved back to their former location, either to go back to where their roots were, or to cash in their benefits by selling their new home and moving back to the hazardous area. In one case (Brazil 1988), new squatters settled into areas vacated by disaster victims. In some cases, project planners have designed ways to discourage people from moving back by creating parks and recreation areas in the vulnerable area (Honduras 2000), or having families sign contracts confirming that they would live in their new homes, which they built in self-help, for at least five years (Argentina 1993).

A well-known drawback to relocation is the difficulty of preserving social networks in the process. Of the 30 projects reviewed, only one successfully preserved social networks. This confirms the pattern identified by *Putting Social Development to Work for the Poor: An OED Review of World Bank Activities* (IEG 2005g). In one project examined by the natural disaster study, focus groups reported that the major reason beneficiaries had not moved to the assigned house was that they did not want to leave their original neighborhood. The Beneficiary Analysis performed by the project reports: "Beneficiaries reported a strong preference for rebuilding their own damaged houses, rather than moving to the assigned houses in new neighborhoods. Moving meant dissolving social networks that often had generations of history."

What Works?

Use urban reconstruction to enhance cultural or historic districts

After the Lijiang earthquake in China, high-rise apartment complexes were torn down and single family houses in a traditional style reconstructed. This helped Lijiang achieve UNESCO (United Nations Educational, Scientific, and Cultural Organization) designation as a World Heritage Site, which increased the city's attractiveness for tourists, creating additional employment.

Consider employment patterns when relocating

After the El Salvador earthquake, squatters were relocated from the city center to a northern

suburb some 15 kilometers away from the center, where most of them had been employed. A survey conducted by the project showed that years after the disaster, economic conditions had worsened for 6 percent of the resettled families. In India's Maharashtra Emergency Earthquake Reconstruction Project, some villages were relocated so far away that peasants gave up farming because they could not reach their fields.

Vulnerable Groups

Each type of disaster has impacts related to the nature of the event (earthquakes knock down buildings) and another set of impacts on sectors of society that are particularly vulnerable (earthquakes knock down a higher percentage of houses in informal neighborhoods where construction does not follow the building code). The uneven impacts of disaster arise from differences in income status, culture, gender, location of home, and land tenure.

Essentially, disaster impacts on people vary, depending on the levels of social vulnerability and risk.[4] The unevenness of the impacts is often highly visible because of media attention, but the recovery process is potentially more uneven, and it tends to be less visible, at least to those on the outside, because their attention has turned elsewhere. For example, in the absence of explicit determination to deal with the situation of renters made homeless by disaster, public money may end up being used to provide multiple housing replacements for the wealthy. Another common inequity occurs when the immediate cash needs of the poor are ignored in the immediate post-disaster period and they have to sell their productive assets, including their land, to the better-off.

The Bank's various approaches to pre- and post-disaster assistance have affected economic and social recovery in different ways. The following sections discuss approaches used by the Bank when dealing with the special situations of the poor and women in the complex context of post-disaster recovery.

Poverty and Disaster

Poverty alleviation measures of all kinds, if successful, can lower levels of vulnerability to disaster because of the tightly interwoven nature of the two issues. The *2000/2001 World Development Report* underscores the importance and connection of poverty levels and vulnerability to natural disasters and highlights the importance of putting poverty reduction and vulnerability reduction high on the list of development priorities.

Employment patterns can be adversely affected by relocation.

While experts note that the poorest countries and their weakest groups are the hardest hit in terms of direct and indirect losses from natural disaster (see Chapter 2 and box 5.1),[5] there is little quantitative analysis of how the poor are treated during the recovery (Freeman and others 2002), and little research on how the impact of Bank-financed reconstruction work spreads across socio-economic groups.

The impacts of disaster are uneven, and without careful planning, the recovery can exacerbate existing social and economic inequalities.

How the Bank Reaches the Poor

Project documents often mention that reconstruction activities occurred in poor neighborhoods or poor rural regions, but far less frequently do they describe specifically what was done for the poor. Nevertheless, Bank-financed natural disaster projects do help the poor to recover, and when they do, this aspect may make a project more successful.

Among the measures Bank-financed projects use to help ensure that the poor are not left out are poverty targeting and selecting activities based on their likely affect on the poor. The portfolio analysis for this study found that, among the 528 disaster projects, 147 were flagged as Program of Targeted Interventions (PTIs).[6] Of these, 44 were *completed* projects with one or more disaster-related components. Textual analysis of the project documents found that 98 completed and ongoing projects in the portfolio (regardless of whether they were flagged as PTI) had been designed to reach the

In safe settlements, poverty reduction measures further reduce vulnerability to disasters.

Box 5.1: The Poor Take the Heaviest Blow

The *2003 World Development Report* notes the pronounced difficulties the poor face when disaster strikes. "Developing countries are particularly vulnerable, because they have limited capacity to prevent and absorb…effects [of natural disasters]. People in low-income countries are four times as likely as people in high-income countries to die in a natural disaster…. Poor people and poor communities are frequently the primary victims of natural disasters, in part because they are priced out of the more disaster-proof areas and live in crowded, makeshift houses… poor families are hit particularly hard because injury, disability, and loss of life directly affect their main asset, their labor. Disasters also destroy poor households' natural, physical, and social assets, and disrupt social assistance programs."

Source: 2003 World Development Report. See also "Fighting Poverty while Supporting Recovery from Major Disasters, Synthesis Report, Learning Lessons from Recovery Efforts" (World Bank DMF and ProVention Consortium 2003, p. 1).

poor.[7] Table 5.1 summarizes the activities conducted by this larger group of projects that specifically targeted the recovery of the poor.

How Well Does It Reach Them?

A review of project documents found that 51 completed projects documented their impact on the poor. Of these, 41 had achieved or exceeded expectations (table 5.2), and only 10 documented less-than-expected improvements for the poor. As there are quite a few with no information on how well they reached the poor, the number with little or no impact on the poor is probably not complete.

Projects appear to reach the poor, but the data are incomplete.

Table 5.1: Some Projects in the Portfolio Have Been Designed to Reach the Poor

Poverty alleviation activity	Number of projects
Overall project activities occurred in poor areas (no specific activities cited)	23
Direct services to the poor (economic restoration, social activities, health and nutrition, cash assistance, micro-enterprise programs, supplies)	21
Improve food security and agricultural production	18
Housing	12
Improved drainage in poor rural areas	11
Improved transportation and access in poor areas	10
Pest control activities during large infestations	3

Source: IEG project database.

The project documents used various measures for impact. The most common were economic rates of return, number of houses constructed or repaired in poor areas, acreage returned to agricultural production in poor areas, and number of households with improved water and sewage services. Not included in this analysis were many projects that mentioned that project benefits occurred in poor areas, but gave no further details. The sustainability of improvements made for the poor was often questioned in the documents.

What Works?

Ensuring beneficiary views are heard

The performance data show that projects are more likely to succeed when beneficiary views have been incorporated in the design of the project. Beneficiaries have been involved in the project design and implementation phases through involvement of local leaders, formal social assessments, and open meetings where all are welcome. The involvement of beneficiaries in the project design and implementation plays a part in greater project success.

Cash support

During the recovery process, getting cash support to victims quickly has positively affected people's sense of safety and security. It has been a prominent first sign of the government's support in a time of acute need. Since 1984, the Bank has funded over $850 million in cash assistance (cash transfer, cash for work, and

similar programs) in the context of 11 projects, 5 of which are ongoing (see Appendix G). Approximately 94 percent of these funds have been lent since the Turkey Emergency Earthquake Reconstruction Loan (EERL) was appraised in 1999. In projects that have closed and been rated, four out of six were found to be satisfactory. Those rated unsatisfactory accounted for less than one percent of the funds allocated.

When promptly provided, cash support enabled people to survive and get local economies moving again, and was reported as highly preferable to in-kind support by beneficiaries. For example, the 1999 Turkey earthquake reconstruction project implemented a cash-transfer component that was widely considered successful, and even a model to be emulated, as four subsequent projects have already done. A beneficiary assessment for the Turkey project (the Emergency Earthquake Recovery Project) reported that 85 percent of the people receiving the allowance for rent support believed that it was necessary (Akkayan, Kirimli, and Polat 2000).

Providing livelihood opportunities

Approaches to livelihoods generation have been tried in disaster projects, giving the affected people a chance to take part in the rebuilding and maintenance while providing much-needed income sources. There are few examples of success, however. Preparation for the North China Earthquake Reconstruction Project included income-generation schemes that were introduced to help families repay loans received for reconstruction. This was of particular benefit to affected poor farmers who did not have funds to repair or rebuild their homes. Local economic activity was not only restored to pre-earthquake levels but has been growing since project completion.

Working at the finer-textured, smaller-scale level

Following a disaster, solutions that will directly benefit the poor are found at the micro level. As one disaster expert interviewed by the study team put it, governments have "thick fingers for such fine-scale work." Building major infrastructure, as the Bank tends to do after a disaster, will eventually benefit the poor indirectly, but programs that are effective in reaching the neediest people within the recovery process are located closer to the ground and are designed with stakeholder input. Historically, the Bank has had difficulty working at this level, and when new structures to deal with the problem must be set up, the process slows down. In addition, the learning curve for working at that new level is steep.

Cash support stabilizes the situation of the poor in the early recovery stage.

Civil society organizations already on the ground are more adept at targeting and working with communities, the poor in particular. Disaster assistance becomes a matter of increasing the scale of what they are already doing. The social funds supported by the Bank have such capabilities, and have been tapped for their ability to quickly respond in emergency situations (IEG 2002) (box 5.2).

Table 5.2:. Projects Often Exceeded Expected Impact on the Poor, But Data Are Incomplete

Impact on the poor	Number of projects
Exceeded expected impact on the poor	9
Achieved expected impact on the poor	32
Less than expected impact on the poor	6
Little or negative impact on the poor (when positive impact is expected)	4
No data available	14

Source: IEG project database.

Mitigate to reduce the impact of disaster

The study survey asked task managers: what is the best way to address the needs of the poor in natural disaster projects? The most frequent response was: to develop prevention and mitigation programs so that their homes did not fall down in the first place.

Solutions that benefit the poor work at the micro level, where the Bank finds it difficult to operate.

Gender and Disasters

The uneven impacts of disaster are sometimes

Box 5.2: Social Funds Can Be Part of a Rapid, Locally Based Response

Following Hurricane Mitch, the Honduran Social Fund, FHIS, dramatically expanded its operations to carry out over 2,000 small social assistance and infrastructure projects ($40 million worth). Operations during the two years following the disaster were significantly increased compared with the fund's first eight years overall. Sixty-four hundred projects ($137 million) were approved during the two years following Mitch (November 1998–October 2000), whereas 10,000 ($125 million) were executed during the first eight years of the social fund's existence (1990–98).

The Bank strongly supported FHIS's role in the reconstruction efforts by stepping up disbursements of the next credit supporting the fund ($45 million) and granting $22.5 million as a supplemental emergency credit in 1999.

Cultural factors and gender division of work patterns often make women more vulnerable to disasters than men.

starkest between the genders, to the extreme that gender and survival rates can be closely tied. Only one woman for every three men survived the December 2004 tsunami in one district in Aceh. In two other districts, females accounted for 77 and 80 percent of deaths (Oxfam 2005). Evidence that women's deaths outnumber men's also can be found after the 1991 Bangladesh cyclone (Mushtaque and others 1993), as well as the 1993 Maharashtra earthquake.[8]

Women and men have different vulnerabilities, and they cope with disasters differently. A number of factors[9] contribute to the particular vulnerability of women before, during, and after natural disasters: a lack of information about evacuation warnings and shelter options, culturally restricted mobility, and responsibilities within the family to care for the young and the elderly.

The literature stresses the importance of assessing women's vulnerabilities separately because of the potential for vulnerability differences and the relationship between these differences and a number of cultural and social factors. Increasingly, this has been happening in Bank-financed projects, especially since the introduction of OP 4.20 on gender and development (figure 5.1).

Better data can help the Bank target assistance to women.

IEG identified 71 projects[10] that consider women's needs and vulnerabilities (called "gender projects" hereafter) in the design of recovery efforts. Forty-one of these projects have been completed, providing insights into the ways women were treated during disaster reconstruction. The 30 ongoing projects provide information about *intended* activities and benefits.

What Works?

Improve data gathering

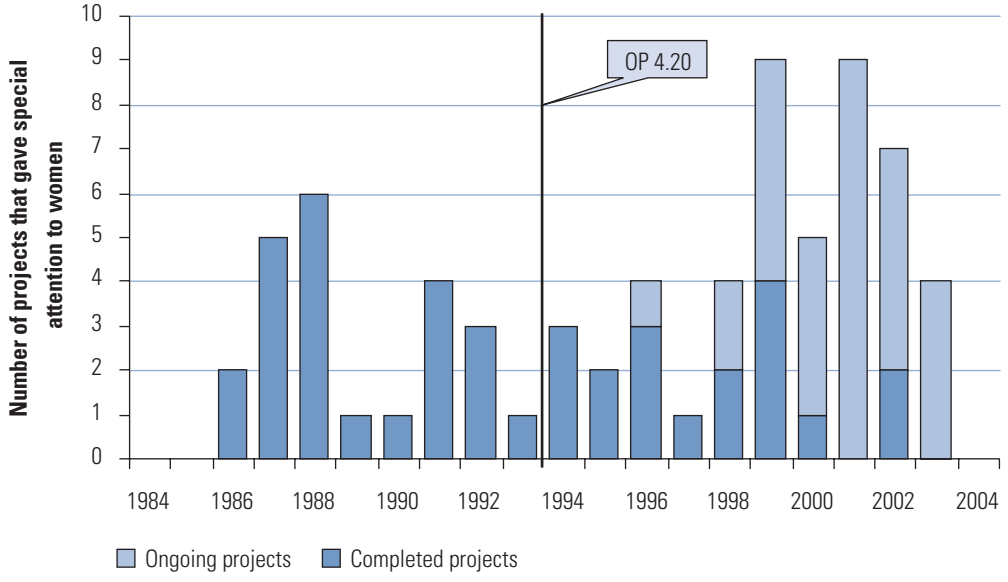
After a disaster and during the recovery, lack of data can impede equitable distribution of compensation. The damage assessment can help ensure equity by disaggregating mortality and morbidity by gender and taking into account losses suffered in the informal sector. The Bank attempted this in the 1999 Turkey Marmara Earthquake Assessment. However, even in that case, no gender disaggregated data were provided.

Target female-headed households

Gender projects stressed that single-headed households are especially vulnerable to natural disasters since caregivers are less mobile (Honduras 2000 and Nicaragua 2001). The Kenya Arid Lands II Project, a drought rehabilitation project, has linked female-headed households with poverty. Drought-related projects in Ethiopia (2002), Kenya (2003), and Zambia (2003) describe female-headed households and other disadvantaged women as the most food insecure.

The increase in poverty in the aftermath of a disaster and the increase in the numbers of female-headed households after a disaster make women more vulnerable to a subsequent

Figure 5.1: Projects Are Increasingly Addressing Women's Vulnerabilities



Source: IEG project database.

disaster. Despite women's acknowledged vulnerability to disasters, of 59 PRSPs, only those for Ghana (2003–5) and the Cambodia (2002) note women's vulnerabilities to natural disasters.

Provide support to lighten workload

Women shoulder much of the burden of care for children and the elderly and disabled, as well as such household tasks as provision of water and fuel wood. Disasters can increase the intensity of this work, and informal networks among neighbors and the extended family, an important coping mechanism for women in times of crisis, have often dissolved.

Reconstruction programs need to try to preserve social networks and find ways to lower the workload of women. Paid childcare, delivered by older women, for example, was planned in the Zambia (2003) project to recreate a form of support network and to provide paid employment for women.

Ensure equity of treatment in employment

Women are often discriminated against in food-for-work programs, services, and employment opportunities during disaster recovery. Another area in which women's contributions are often neglected is the agriculture sector. Women's agricultural labor often goes unrecognized, and they are not compensated for their loss of tools and agricultural inputs after disasters. Women's full participation and coverage took place in the 1987 Ethiopia Small-scale Irrigation and Conservation Project.

Assistance to reduce women's work burden at home can create support networks.

Ensure access to training

Training and capacity building for women following a disaster has proved more difficult than employment creation. Training programs were planned for 18 of the 71 gender projects. Although women often provide labor in the agricultural sector, they usually do not receive advice on improved practices because of cultural taboos in rural areas.

To overcome this problem, recent projects aimed to train female extension workers to reach women in rural areas. In five such projects (Yemen 1989, Cameroon 1992, Mali 2000, Tunisia 2001, and China 2002) female

Equitable treatment, in many dimensions, can help women recover.

extension workers provided advice on animal husbandry and orchard management and developed materials and methods such as mass media, drama, and farmer competitions. In the 1992 Cameroon project, research indicated that around 40 percent of the women in these nutrition groups improved their nutritional knowledge, and that 20 percent of the women actually improved their nutritional practices.

Look for opportunities to create equity in land ownership

Some projects have influenced gender relations by modifying land rights. In many developing countries, women are not allowed to own land or houses. In Tonga, after a disaster in 2002, any woman whose house was not damaged by the cyclone had to give up her home to a male relative who had lost his house.

Projects financed by the Bank have elevated the status of women in society by providing land titles in the names of both men and women, as it did in Maharashtra. Unprecedented in this region, even widows received houses in their own names, and ex-gracia payments for lost relatives were disbursed to them. The 2001 El Salvador Earthquake Reconstruction Project also stipulated that titles be put in the name of both men and women. A beneficiary survey of that project, conducted for this evaluation, found some communities where 50 percent of respondents reported that a woman was one of the legal homeowners and that, overall, 37 percent of the homes were wholly owned by women. In Argentina, following a major flood, a Bank-financed project reported positive social impacts from putting house and land titles in the wife's name.

Chapter 6: Evaluation Highlights

- Coverage of the policy has expanded, but the same guidance is not appropriate for all emergencies.
- Prohibitions on the financing of relief and consumption and on the use of ERLs for recurring events are unrealistic and unnecessary.
- With minor modification, the available forms of emergency assistance serve borrower needs and give staff necessary flexibility.
- The requirement to build to disaster-resilient standards needs reinforcement.
- Assistance with prevention and mitigation is growing, but procedural issues need to be resolved.
- Provisions for operation and maintenance in Bank-financed projects need improvement.
- When the Bank is involved, highly effective donor coordination requires a consistent Bank presence.

Bank Policy: Implementation and Implications

This chapter highlights the provisions of the Bank's Emergency Recovery Assistance Policy (OP 8.50) for which the evaluation has relevant findings.

It examines the Bank's experience related to the main provisions of the current OP (see table 1.1 and Appendix A) and answers three questions on the effectiveness of the policy and suggests provisions that would improve the next iteration:

- How does the portfolio reflect the policy's dictates and prohibitions?
- Are there discrepancies between policy and practice?
- Should the existing provisions be retained in a revised policy?

The following sections summarize the available evidence relevant to each key policy provision. First, however, we consider whether treating all emergencies equally in a single policy is advisable.

Natural Disasters in Relation to Other Emergencies

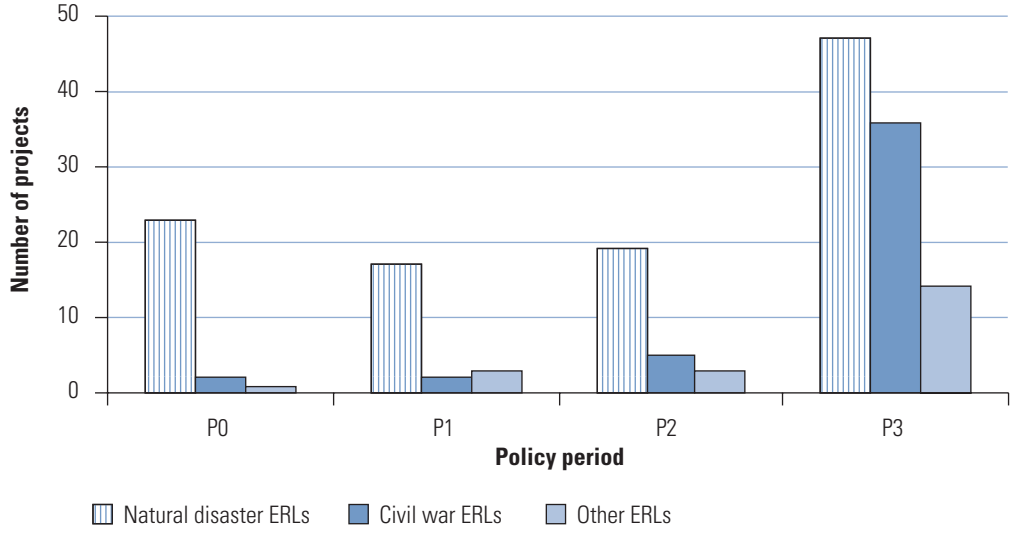
Through the years, the Bank policy on emergency recovery assistance has increasingly become a guide that covers not only recovery from *natural* disasters, but also recovery from a whole range of social, medical, and technological disasters—everything from conflict to oil spills, foot-and-mouth disease, and declines in tourism following terrorist acts. Particularly notable is that the use of ERLs has increased for all emergencies, but especially for conflict situations.

Figure 6.1 shows that before there was a policy (P0), and while the OPN and OD were in effect (P1 and P2), about 70 to 80 percent of ERLs addressed natural disasters. Since the current policy has been in effect (P3), only 48 percent are focused on natural disaster. About 38 percent of ERLs financed post-conflict projects, and 15 percent responded to "other" emergencies.

While this spread of coverage of the OP appears sensible, it is unlikely that what might work for natural disasters would apply to conflict situations, and vice versa. For example, while it is possible to set standards for the disaster resilience of public and private buildings, requiring similar resilience to bombardment and muntions creates structures with

Bank policy on emergency assistance has broad coverage, but natural disasters are a category apart from the rest.

Figure 6.1: The Use of ERLs Has Increased with Each Policy Revision



Source: IEG project database.

only military purposes and is neither feasible nor affordable. Epidemic outbreaks of communicable disease require highly specialized expertise and an ability to take action with extreme rapidity. Furthermore, they are entirely people-focused (requiring no reconstruction), and there are clearly designated places through which to channel assistance (health ministries and global programs).

A few years ago, an evaluation of the Bank's experience with post-conflict reconstruction (IEG 1998) concluded that, unlike natural disasters, civil conflicts require major efforts in dealing with institutional frameworks and macroeconomic conditions. The recommendations of the report stated, "The provision of post-conflict assistance should not be handled under OP 8.50, which should be recast to apply only to natural disasters." Bank management agreed to prepare a new OP, and in fiscal 2001, OP 2.30 on *Development Cooperation and Conflict* was approved. Although it was expected that OP 8.50 would be modified around the same time, the revision is still pending.

There are several reasons the Bank might want to tailor policy provisions specifically for natural disasters.

- **There is already a great deal of knowledge of best practice in the natural disaster field.** Knowledge required for an effective response to a natural disaster is different from that required to address the other emergencies currently covered by OP 8.50, and it is comparatively well established. For example, we know already where disasters are likely to occur (hotspots) and where human settlements are in the danger zone, and can thus prepare for likely project components (engineering designs and strategic approaches). In addition, disaster-resilient techniques for all types of infrastructure and the surrounding environment have been proven by decades of experience.
- **This knowledge is very different from the knowledge needed to respond properly to the other types of disasters or emergencies.**
- **The centrality of community input for the design, implementation, and maintenance necessary in natural disaster emergencies is very distinct** from the approach to conflict emergencies, where communities are strongly divided.
- The Bank's treatment of natural disasters also differs in that **a good start at mainstream-**

ing disaster planning has already been made—the study identified 246 projects with a disaster-related activity below the component level.

- **The different situations carry distinct levels of political liability for the Bank.** Reconstruction and disaster prevention, unlike conflict-related work, do not require special attention to the politics of sovereign affairs.

The policy framework for the Bank's natural disaster response is currently set within the context of "emergency lending," as covered in Operational Policy 8.50. However, the policy focuses almost entirely on the ERL instrument, and does not fully cover the scope of the Bank's disaster-related work.

Most of the Bank's activities regarding natural disasters fall elsewhere, and therefore receive too little attention. About 83 percent of the disaster projects identified by this study use instruments other than the ERL. Only 17 of the 106 drought projects are ERLs and only 2 of 95 projects with some fire-related activity are ERLs. In contrast, just below half of all earthquake projects (23 of 59) are ERLs. The largest grouping, flood projects, includes 42 ERLs within a subportfolio of 243 projects. The policy spotlight on ERLs, and especially the emphasis on the three-year timeframe, has led to problems and delays in project implementation because projects that benefit from attention to social and economic details have been prepared too quickly (see Chapter 4).

What is needed is a highly flexible approach to disaster response and prevention that is built on the activities required and the adjustments to the financing mechanisms used. A first step for a policy focused only on natural disasters would be to establish parameters such as those outlined in Chapter 3 for the conduct of operations, such that all Bank-financed operations responding to disasters, *and even normal lending in the most disaster-prone borrowers,* take disaster systematically into account.

Emergency Recovery Lending Timeframe

OP 8.50 stipulates a three-year timeframe for implementation of Emergency Recovery Loans. Analysis of the full range of activities conducted through these loans has shown that only one activity, balance of payment support, was regularly completed in this timeframe.

Too much reliance is placed on the ERL instrument.

However, even that activity has not been completed rapidly enough (see figure 4.2). That is, on average, disbursements have taken place much later than anticipated, and often too late to achieve the original purpose—providing macroeconomic stability in the short term. Notwithstanding, many activities that would normally benefit from more systematic and detailed preparation have been rushed during the preparation of ERLs.

Given that ERLs have averaged almost as long as other lending instruments to begin disbursements, the Bank has no true emergency lending mechanism other than reallocations, though alternatives are being developed. Moreover, even at the appraisal stage, an analysis of the original closing dates showed that the implementation of more than half of the ERLs was projected at over three years.

Natural disasters should be part of a country's risk profile, but country strategy and project approaches should be nuanced by the country context.

Faced with this, the Bank could either extend or eliminate the implementation time of ERLs to allow for more realistic project planning, or reduce the implementation time, limit the scope, and simultaneously process a regular investment loan for reconstruction. Of course, a third alternative would be to keep the three-year time limit and find ways to make it work as originally anticipated by the policy. But if after having implemented 89 ERLs over the course of 20 years the Bank has still not comfortably made the three-year goal, it is doubtful that it will ever happen.

Given the time it has taken to begin disbursement from an ERL, the Bank has had no true emergency lending mechanism other than reallocation.

The Bank needs an instrument that enables

it to respond quickly when a fast response is critical, whether it is an ERL executed in a shorter timeframe or a fund such as the Inter-American Development Bank (IDB) uses. However, the Bank also needs to ensure that activities can be properly sequenced and that those requiring more time to implement can be completed within a single lending package. The latter is imperative because borrower demand for addressing vulnerability almost always declines once the immediate needs following a disaster have been met. Thus, the next policy revision needs to position ERLs within a broader array of lending instruments that can fill all of these needs. The flexibility that has characterized the Bank's response to disasters needs to be further enhanced to allow the creation of customized lending packages based on disaster type, country needs, and long-term vulnerability concerns.

Relief and Consumption Expenditures

The current policy rules out the purchase of consumables and actions that benefit individuals, and lists those not to be financed by the Bank. While such prohibitions are sensible for smaller-scale disasters where relief expenditures can be covered by the government on its own or with nongovernmental organization (NGO) assistance, it is too constraining on the Bank when countries are nearly paralyzed by truly cataclysmic events.

In any event, current practice has not followed these provisions very closely, and some projects have financed such prohibited activities. For example, the 2002 Zambia Emergency Drought Recovery Project provided $20 million for food distribution. Evacuation, restoration of access to transport, and temporary shelters are other items proscribed by Bank policy, yet during the policy period the Bank has financed temporary shelter programs in Colombia, El Salvador, Honduras, India, and Turkey.

Though the policy prohibits it, the Bank has financed both relief and consumption.

Project experience shows that the Bank also financed consumption. Even during the OPN-governed period, the Bank financed components in the Chile Public Sector Housing Project (1985) that provided cash transfers to the earthquake-affected population. The funds made available to victims provided them with the means to meet "immediate consumption needs" and to pay for their interim shelter, helping to revive the local economy. A cash transfer program was also successfully implemented following the 1999 Turkey earthquake.

Bank documents identify other cases where relief and consumption activities have been financed directly or indirectly through the provision of cash. These include:

- Tsunami relief in Sri Lanka[1] and Maldives.[2]
- Potable water provision to victims in Honduras[3] and Zambia.[4]
- Food provision in Bangladesh (indirectly through a microcredit program),[5] Honduras,[6] and St. Kitts and Nevis.[7]
- Emergency search, rescue, and medicine were provided in 11 projects.

The study Literature Review shows that thinking on the support for relief and consumption has evolved since the 1980s—so should policy (IEG 2003). Events such as the recent Indian Ocean tsunami and Hurricane Mitch incapacitate urban infrastructure in vast regions and capital cities. Extreme events such as Hurricane Katrina in the United States show how policies that are sensible in most cases can lead to breakdowns in extreme cases. When humanitarian considerations temporarily overwhelm the capacities of all the involved agencies, cash-strapped governments need assistance with critical aspects of relief in order to proceed expeditiously with reconstruction and economic recovery. In Bangladesh, following the 1998 floods, the extent of the damage to agricultural production was such that the government could not restore production to pre-disaster capacity without help.

A Harvard University study found that when relief is handled in a developmental manner (that is, it builds on local capacities), it has a significant positive impact on the reconstruction process that follows (Anderson and Woodrow

1989). When existing social networks are strengthened and new ones are established, they can continue even after relief efforts end, providing important social and institutional links for the developmental processes that follow.

Forms of Disaster Assistance

The current policy describes five forms of Bank emergency assistance: ERLs, reallocation, redesign of pipeline projects, free-standing mitigation projects, and assessments. The study finds that the options provided by this policy provision grant considerable flexibility for countries affected by natural disasters. What it does not do especially well is to provide urgent lending for relief in a manner that does not involve opportunity costs, especially over the medium term. Regional or global solutions may also be appropriate, and the Bank policy may need to take account of this.[8] While such funds may help fill important needs during disasters, they also may detract from the need to focus attention on prevention and mitigation.

Policy on critical inputs for relief and shelter has not evolved in line with specialist thinking on these issues.

Recognizing that some disaster-prone countries need immediate access to recovery and reconstruction financing following a disaster event, the Bank supported the creation of contingency mechanisms under three recent projects.[9] This form of emergency lending was designed to provide flexibility for the immediate rehabilitation of critical public services and the rapid restoration of physical and social public infrastructure, as

With some modification, the forms of assistance currently available are adequate to the task.

Box 6.1: Contingency Financing—A Learning Process

While contingency financing seems to be a logical form of disaster risk management to support, Bank attempts have met with some difficulty.

First, initial attempts in the Caribbean and Mexico had narrow parameters that limited the accessibility of the funds. In the Caribbean, the floating phase 4 of an Adaptable Program Loan provides for contingency financing to Grenada, St. Kitts and Nevis, St. Lucia, Dominica, and St. Vincent and the Grenadines. In the beginning, to be able to use the funds, a country had to declare a national disaster. Not only did this not allow countries to address smaller disasters, but there was reluctance to declare a national disaster, because doing so would clearly hurt one of the Caribbean's main industries—tourism.

The parameters have since been relaxed, and, in the meantime, Grenada has made use of the facility to respond to a hurricane that was declared a national disaster. In the case of Mexico, it was difficult to justify paying the commitment fee for the contingency fund, because the country had not had a major disaster to put the funds to use, and already had a fund to deal with smaller disasters. The loan was cancelled.

Second, countries lacked the capacity to engage in this form of emergency borrowing, even if they expressed interest in the funds. The Bank recognized in hindsight that few countries were prepared to implement such a lending facility, and that it needed to support the training of Bank staff and government agencies.

Taking these experiences into account, a slightly different approach has been taken in Vietnam and Colombia. In the case of Vietnam (Vietnam Natural Disasters Mitigation Project [P073361]), because a contingency funding facility would incur interest or commitment charges and only cover low-frequency hazards not likely to occur during the project timeframe, a rapid disbursement facility was created instead. This facility was designed to have the capacity to also provide funding to smaller, more localized disasters, using the existing country disaster response system. Likewise, the Colombia Disaster Vulnerability Reduction Project involves the creation of a $150 million contingent financing facility to act as a bridging facility until resources from other multilateral financial institutions (MFIs) and international agencies become available. This financing would be available within one month of the declaration of a national disaster emergency. Though these more recent projects have made steps to correct for the previous problem of limited accessibility, they have not yet been put to the test with a disaster.

Source: Background report on small island nations (IEG 2005f).

The Bank needs a way to get funds to borrowers more quickly than it has in the past.

well as to incorporate prevention measures into Bank-financed emergency projects. The mechanisms provided were to assist the rehabilitation and reconstruction of public infrastructure and the purchase of capital goods, but not the provision of relief supplies.

The Bank might consider the development of an emergency facility like that of the IDB. Doing so could solve the urgent needs of those borrowers for whom reallocations are impossible or undesirable and for whom new borrowing would be too large a burden. Of course, the bigger borrowers do not need small amounts, because they are usually capable of financing immediate actions on their own.

Rebuilding Physical Assets and Restoring Economic and Social Activities

The Bank has a long and positive experience with the execution of physical components of projects, and their physical design (when it is sufficiently disaster resilient) has generally been appropriate and of good quality. Addressing the social and economic recovery aspects of emergency projects has been more difficult. Yet project experience examined by this evaluation shows that this aspect is critical for the sustainability of the reconstruction investments.

Creating user organizations to manage facilities occupied by multiple families or used by numerous businesses remains a challenge.

The failure to create the social organizations necessary for upkeep and decision making in housing and commercial areas caused problems in many reconstruction projects.[10] Creating the sustainable user organizations needed to manage infrastructure remains an unsolved challenge. Additional policy emphasis on this point would be desirable. Creating a capacity for maintenance is often as critical to long-term vulnerability reduction as the quality of the initial construction. This too could be reflected in policy.

Recurring Disaster Events

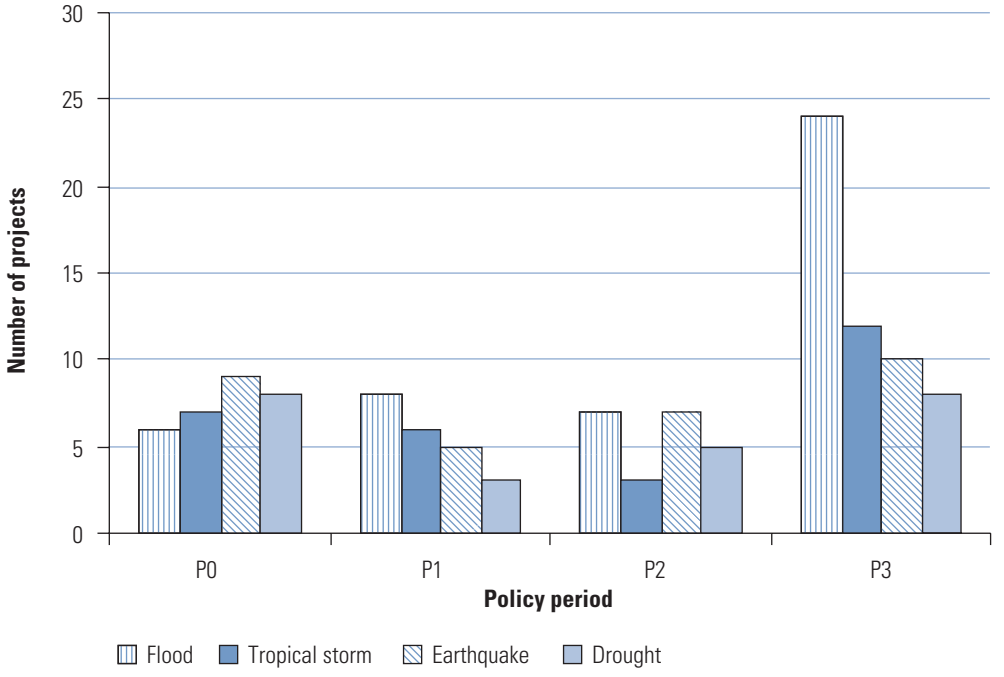
The OP considers ERLs less appropriate for recurring events and suggests that for annual flooding and slow-onset disasters such as drought, a regular investment loan is likely to be more effective. In practice, ERLs *have been* used to respond to droughts and recurrent events. Generally, ERLs tend to focus on more prominent and large-scale events. Figure 6.2 shows the relationship between disaster types and ERLs over the three policy periods. During the current policy period (P3), the number of drought projects almost equaled the number of earthquake projects, and 44 percent of the ERLs responded to recurrent flood phenomena such as those caused by El Niño. So rather than exclude recurrent events from emergency projects, Bank policy could recognize the likely recurrence of disaster and give more attention to identifying vulnerability and to mitigating the effects of future disasters in regular investment lending.

Disaster-Resistant Construction Standards

Sixty percent of the completed projects in the disaster portfolio were either struck by a subsequent disaster during implementation or had their implementation process interrupted by disaster, and 40 percent of those found that project-constructed infrastructure or project activities had been compromised to some degree. In 121 of 197 completed projects with a strong focus on mitigation, which were supposed to use disaster-resilient reconstruction standards, evaluations of 31 projects (26 percent) acknowledged flaws in the design, leading in 13 cases to severe damage by a subsequent event, and in 6 cases to partial damage. In most cases the damage was minor and restricted to one or two structures. More recent projects are showing considerable improvement in this area, and later projects are more frequently attempting to increase resiliency and prevent destruction through mitigation measures. Still, this is a disturbing finding, and more needs to be done.

Failure to plan for disasters at the project level also underlies losses in highly vulnerable

Figure 6.2: ERLs by Natural Disaster Type



Source: IEG project database.

countries. Of 65 projects in the transportation, urban, and water and sanitation sectors (approved between 2000 and 2004 in countries identified as hotspots by the *Natural Disaster Hotspots* study [World Bank 2005]), the documents for only 3 include any detailed description of how a natural disaster might affect the project and any cautionary actions to be taken. Nine mention disaster risk in passing. ERLs and other disaster reconstruction projects were not included in the review.

Staff seem to agree on the importance of emphasizing disaster-resilient construction. In the survey of experienced task managers, almost all of the respondents to the open-ended question, "What new directions should the Bank's efforts in natural disaster response take?" answered that the Bank should strengthen prevention activities. However, where they are attempted, results have not always been good: 58 percent of respondents said that prevention and mitigation objectives often are not achieved in Bank-financed projects.

Emergency Preparedness Studies

More than half the projects were disrupted by subsequent disasters: in many, Bank-financed infrastructure was damaged.

Disaster projects often have a studies component (flood-related studies predominate) related to the achievement of an important project objective. IEG has found that when studies were intended to be used in disaster prevention, about half of the time they were completed but not taken into account. Of 197 projects that prioritized disaster mitigation or prevention and related technical assistance, 142 (72 percent) included studies. In 54 projects (38 percent), findings were taken into account, and in 23 additional projects (16 percent), study findings were partially taken into account. In 37 projects (26 percent), however,

Disaster-resilient construction needs strong, consistent attention by borrowers and the Bank.

Emergency preparedness studies are typically completed too late and used too little.

studies were not undertaken or findings were not taken into account. For the rest, project documents did not provide information.

Ten project evaluations mentioned lessons learned about preparedness studies. General experience is that studies tend to be left until late in a project, and it is therefore important to carefully prepare the groundwork for studies much earlier—before project approval if possible, in order to avoid the long delays that are known to be common. While a new policy could continue to emphasize these studies, without conditionality tied to them, a full treatment in a good practice handbook would be sufficient.

Technical Assistance on Prevention and Mitigation Measures

Attention to mitigation efforts is improving, but too often lacks borrower ownership.

Since the mid-1990s, prevention and mitigation have been high priorities, and in the most recent projects have become the primary project objective.[11] The emphasis has also shifted from structural measures, which are still important, to nonstructural measures such as institution building for hazard management, policy changes, the preparation of hazard management plans, land use planning, enforcement of building codes, and insurance.

Turkey, for example, has invested more resources in such activities with each successive project (figure 6.3). In Central America, the Bank is implementing two innovative projects dedicated fully to developing disaster mitigation and prevention capacity in Honduras and Nicaragua; and preparation of a grant-funded regional disaster mitigation and response project, along with four individual country mitigation projects, is under way.

Prevention and mitigation are areas where much remains to be done, and a new policy should retain a strong provision to this effect, though, as noted earlier, prevention approaches may require more research and closer evaluation.

During the first policy period (1984–89, OPN 10.07), an average of three prevention or mitigation measures per project were identified; during the second period (1989–96, OD 8.50), four, and during the third period (1996–2004, OP 8.50), five. More rigor is still required, however. Out of all 197 projects with clearly identifiable technical assistance for mitigation or prevention activities, 80 (40 percent) did not complete one or more mitigation or prevention components (see Appendix F, table F.2).

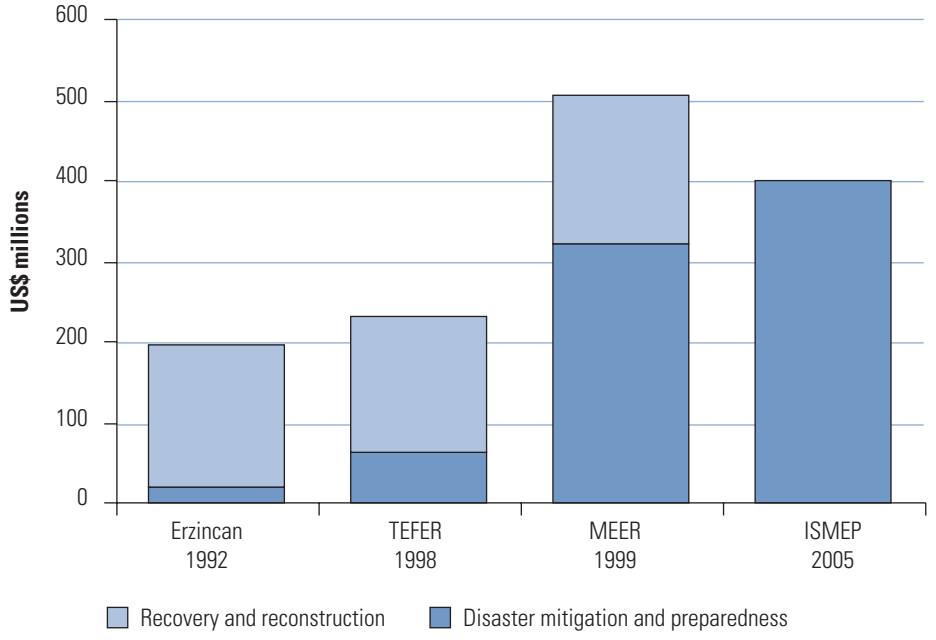
The evaluation found that strong borrower ownership is essential for successful mitigation or prevention, and that many borrowers still do not see the importance of such measures. High borrower ownership was observed in about half of the projects (51 percent) that had mitigation or prevention components, partial ownership in 30 percent, and lack of ownership in 16 percent.[12] The lack of ownership often expressed itself in high staff turnover or lack of staff (failure to appoint individuals for key positions), and in a failure in the timely provision of counterpart funds. High staff turnover or understaffing was observed in 32 percent of the 197 projects with mitigation or prevention activities, and problems associated with counterpart funds in 39 percent.

Addressing Longer-Term Disaster Issues

The current policy implies that long-term issues are better treated in a follow-on project than in an ERL. However, few ERLs have been followed up with normal disaster investment projects. An additional element of the rationale for the policy guidance on avoiding long-term problems was that whatever a country's implementation capacity is under normal circumstances, it is greatly reduced after a major disaster. Thus, activities that were not possible before the disaster are probably even more difficult afterward. Ensuring a flexible approach to financing a natural disaster response would help ensure that longer-term issues get the careful attention that has sometimes been missing.

The failure to maintain infrastructure is an entrenched problem that, while not easily solved, requires attention. Among disaster experts, it has become increasingly apparent

Figure 6.3: Focus on Mitigation Has Increased with Each Successive Project in Turkey



Source: Project Performance Assessment Report: Turkey (IEG 2005b).

that much expensive disaster prevention infrastructure fails for lack of maintenance. The 2004 Caribbean Regional Disaster Conference "Managing Hazards in a Changing Environment" concluded that governments' investments in large-scale structures to reduce disaster vulnerability have been seriously compromised by failure to conduct and fund maintenance. For example, many Bank-financed cyclone shelters in Bangladesh are no longer usable for lack of maintenance. In another case, Bank-financed flood control infrastructure protecting a major South American city was severely compromised by the presence of junked automobiles and refuse blocking the watercourses.

Evaluations of Bank activities have often noted that inadequate budgeting for operations and maintenance reduces the sustainability of project benefits, and it is no different in natural disaster projects. This is a particular problem in the maintenance of protective infrastructure such as river training works,[13] emergency shelters, and emergency evacuation routes.

There is also a lack of human resources available for maintenance tasks generally, a lack of training in maintenance management, and a lack of beneficiary ownership and accountability. Over the past 20 years, only about half (58 out of the 121) of the projects in the database with clearly identified mitigation activities provided for long-term maintenance of reconstructed infrastructure, while 21 percent provided only partially for long-term maintenance. In 27 percent of the projects no maintenance was provided at all.[14] Without project-financed efforts to improve maintenance, hard-won progress is put at risk.

Maintenance is critical for many types of protective infrastructure, yet is often overlooked.

Twenty-five project evaluations mentioned the maintenance of infrastructure as a concern. Six of them recommended that provisions for maintenance need to be made during preparation. In Bank experience, governments in developing countries tend to borrow in order to rebuild what was lost and to construct to higher design standards—but quite often they do not develop functional mechanisms to maintain the structures. To address attitudes toward mainte-

nance of infrastructure, evaluations proposed field-level training in maintenance. To provide a sustainable flow of budgetary resources after project closing, project evaluations identified only two alternatives for funding: the governmental budget and the collection of user fees from beneficiaries.

Procurement

OP 8.50 stipulates that standard Bank operational policies on procurement, consultants, and disbursement apply to emergency situations. OP 11.00 (2004) on procurement makes a special exception for emergencies—it allows direct contracting without competitive bidding (single source) when this is the most appropriate course of action. In the project evaluations reviewed for this study, the challenges inherent in the Bank's procurement procedures were of great concern. Forty project evaluations mentioned problems associated with the Bank's procurement procedures when borrowers are stressed and implementation capacity is insufficient to the scale of the task at hand.

Although procurement guidelines now have provision for disasters, they remain difficult for smaller or infrequent borrowers.

When training in the Bank's procurement rules has not been given to borrower staff with administrative responsibilities for project accounts, deviations from accepted procedures have caused significant delays in the reconstruction process. The biggest concern of staff that had been involved with projects was that future projects should ensure that procurement procedures are understood and that documentation is ready before start-up. Ten natural disaster project evaluations (of the 40 that deal with procurement) stressed the importance of giving attention to procurement even before loan or credit approval. The policy wording on this issue could benefit from the advice of a task force convened among procurement specialists in the Bank.

Development of a joint strategy for donors has often worked well.

Donor Coordination

Disasters typically attract numerous donors. About 34 percent of completed and ongoing disaster projects involve donors other than the Bank. The documents for 170 of the 528 disaster-related projects mention coordination with other donors.[15] NGOs are involved in 38 percent of the disaster projects financed by the Bank. The documents mention working with donors on many different levels—co-financing Bank-supported projects, the Bank co-financing others' projects, donors working on related projects of their own, or doing joint damage assessments.

The successive policy statements require that following a disaster, the Bank should facilitate collaboration between the government, the Bank, multilateral and bilateral donors, and NGOs to develop a common recovery strategy. Project experience suggests that the development of such a strategy requires an immediate and prolonged Bank presence in the disaster-affected area.

Project documents show that the development of a joint strategy has often been done well—in Bangladesh (1999), Gujarat (2002), Honduras (1999), Mozambique (2000), Nicaragua (1999), Sudan (1989), and Turkey (2000), and in Sudan serves as a best practice example. However, sometimes such development has been done poorly (box 6.2).

For the 1989 Sudan Emergency Flood Reconstruction Program (EFRP), the Bank, together with the UNDP, fielded a 52-member multi-donor mission to conduct a damage and needs assessment. The Bank members of the team were selected for their technical expertise in relevant sectors (agriculture, education, telecommunications, health, rural water, power, transport, telecommunication, and urban) and previous experience in Sudan. Over a two-week period, the mission produced a document that was then presented at a donor conference in Paris.

At the Paris conference, the members of the mission helped broker the various donor interests. The Bank followed up the agreements made in these meetings with separate meetings with each donor to make more specific arrangements. The Bank negotiators worked with the donors to ensure that their interests were met

Box 6.2: What Happens When the Bank Does Not Stay Engaged?

As early as 10 days after the 1994 Maharashtra earthquake, a World Bank delegation arrived to assess the damage and develop a plan for reconstruction and mitigation. After an initial assessment, the team flew back to Washington in order to get the Maharashtra Emergency Earthquake Reconstruction Project (MEERP) approved quickly. In the meantime, a few international NGOs started reconstruction.

These NGOs set the standards for reconstruction quality and created expectations among beneficiaries that were difficult for the government to meet. Since international NGOs provided large, steel-reinforced concrete buildings, the government eventually had to do the same; when the NGOs provided flooring for the housing, the government had to do the same. Had the World Bank team remained on site it could have facilitated discussions between donors, NGOs, the government, and beneficiaries to develop standards and a shared reconstruction strategy that was amenable to all parties. In the end, the Bank's strategy was finished five months after the earthquake, too late to influence other donors.

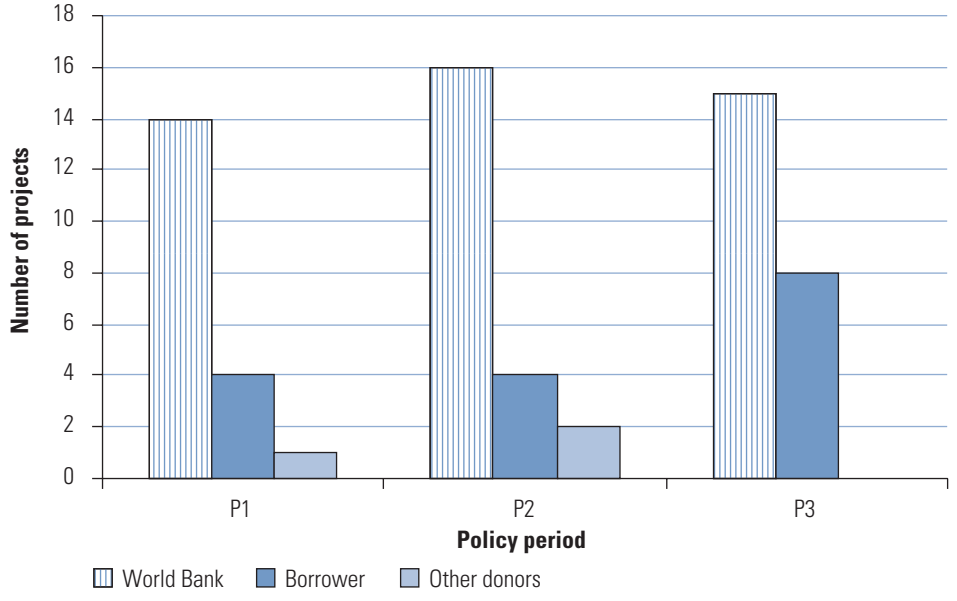
Source: IEG project evaluation.

but that there were no unnecessary overlaps in coverage. By keeping the composition of the Bank's contribution flexible, the other donors were helped to make adjustments in their programs. The Bank then financed what was left to complete a comprehensive Emergency Flood Reconstruction Program.

The OPN and the OD recommended that the Bank coordinate donor efforts, and suggested that Bank staff share their damage assessments and overall strategy with others. However, an important shift occurred under OP 8.50, which calls for giving more responsibility to the borrower and letting the borrower take the coordinating role when that is appropriate. Figure 6.4 shows that, at least partly in response to policy requirements, borrowers are indeed becoming more involved in coordinating donors.

Borrowers are now taking more responsibility for coordination.

Figure 6.4: The Bank Often Leads Coordination, But Borrower Role Is Growing



Source: IEG project database.

Project performance shows an interesting pattern regarding the participation of other donors in Bank-financed projects. It gets steadily better when an increasing number of donors are involved only up to a point (once four donors are involved, performance falls off precipitously, table 6.1).

Donor coordination was a concern in 16 project evaluations. Ten evaluations mentioned that donor coordination is especially important if interventions overlap and/or if the project success of one funding agency depends on the other. While several evaluations suggested that other donors may be better at providing relief and strengthening institutions, five evaluations asserted that the Bank was well placed to leverage external assistance after an emergency. Suggestions were offered on how the Bank could coordinate donors. This seems an issue better suited for a good practice handbook, and the evaluation sees little reason for retaining it in Bank policy.

Staff suggest establishing donor cooperation in regular projects so it will be in place when needed for disasters.

When task managers were asked to suggest ways the Bank can increase the effectiveness of donor coordination in disaster situations, 8 of 26 respondents recommended mainstreaming cooperation with other donors in regular projects so that these links and working relationships are already in place when a disaster strikes. Other frequent responses were to strengthen the government to better coordinate natural disasters (5 respondents) and to prepare a common strategy with other donors (5 respondents). Other ideas offered were to create a permanent multidonor task force for disaster response and to coordinate closely with other donors with contacts in agencies that are politically and socially closer to the affected people.

Table 6.1: Project Performance Drops Sharply with More Than Three Partners

Number of partners	Projects (number)	Satisfactory (percent)
One	41	63
Two	29	66
Three	17	71
Four or more	9	56
Total number with other donors	96	

Source: IEG project database.

Institutional Development

Because hazard risk management takes place in a broad sectoral context, institutional development activities need to address the work of line agencies as well as to strengthen disaster-specific units. The evaluation found that the Bank strengthened hazard management institutions on its own in 6 countries and in cooperation with other agencies in 17 countries. It strengthened single-sector line agencies in 14 countries (20 projects). In addition, it strengthened community-based disaster management in 6 countries (India, Indonesia, Kenya, Nepal, St. Lucia, and St. Kitts and Nevis). Forty-nine project evaluations discuss institutional development; 28 of them stress the importance of strengthening a country's institutional capacity for long-term disaster prevention and mitigation.

Along with establishing or strengthening disaster management institutions, for which budgetary allocations need to be made, changes in the national disaster policy are also important. In their response to the survey, a few experienced task managers specifically warned against designing projects with over-ambitious disaster management objectives. Project experience with institutional development could be summarized in a good practice handbook, but there seems to be no compelling reason to retain this provision in a new policy. Hazard management institutions are most effective when they are cross-sectoral and address all potential natural and technological hazards.

Over the past 20 years, the Bank has formulated institutional development components for 160 completed projects. Institutional development encompasses a wide variety of activities, including project management (75 projects), disaster management (40 projects), general research (43 projects), early warning improvements (39 projects), disaster-specific training programs (27 projects), engineering studies (23 projects), and legal and policy reform (13 projects).

7

Conclusions and Recommendations

Nature creates hazards, but the actions of people, societies, and governments create disasters. When disasters occur, international development institutions now routinely experience intense public pressure to act quickly to relieve the devastation and ease the government's macroeconomic burdens.

As the World Bank strives to be agile, and to meet the expectations of its shareholders, it needs to become more strategic, responding with advice and resources, as well as lending and nonlending activities that contribute not only to recovery but also to long-term development and disaster prevention. In doing so, it would be well to remember that there is no period when disaster risks can be safely ignored or set aside, especially for the subgroup of countries that is highly vulnerable to disasters.

Several disaster-related challenges face the Bank as it attempts to provide better services to its borrowers:

- First is to ensure that the poor do not miss out on the recovery or, worse, lose the little they have left.
- Second, and even more challenging, is to work against complacency during those periods when disasters are not on the nightly news and in the headlines. In its role as development advisor, the Bank needs to be a steadfast advocate for the small additional investments in disaster prevention that over time will lower the cost of the inevitable next event.
- Third, borrowers need regular reminders that all actions that take place in development projects—financed by any donor or by the country itself—affect peoples' motivation and psychology, as well as the physical, social, economic, cultural, and political factors that can either increase societies' capacity to respond to extreme events or reduce it. Rebuilding what existed before is never enough. Policies and actions intended to reduce the impact of the next disaster must be an integral part of a strategy of both the recovery from disaster and pre-disaster planning.
- Fourth, maintenance helps ensure that what is rebuilt will have an extended life span. The durability of infrastructure rebuilt after disaster is always in doubt when measures to increase the capacity to conduct routine maintenance are absent.

Of course, the longer the return period, the more difficult it can be for governments to justify investments in prevention. The problem

often comes down to making difficult development choices from among the many competing demands. Disaster prevention, because it is wrongly perceived to be a periodic need rather than a constant one, tends to lose out to other priorities—especially once the immediate relief needs of the most recent disaster have been met. It is easy to forget that natural hazards become disasters only when we fail to take account of the risks and plan for them.

What Works in Developed Countries May Not Work Elsewhere

Many strategies that work for recovery efforts in developed countries should never be attempted in developing societies—especially when marginalized groups are affected. For example, following a disaster that destroys infrastructure in a developed country, time is money. Rubble clearance takes place quickly, as does reconstruction; the cost of money and labor are the only major constraints to completing these tasks.

In lower-income developing countries, taking the time to ensure that all usable building materials are recovered and recycled is often the only way to ensure that the poor will be able to afford to rebuild. Once work opportunities associated with rubble clearance and materials recycling diminish, cash assistance targeted to affected families as they wait for more permanent shelter is very important. Under strictly specified circumstances, direct cash payments to individual victims can be one of the best available options to keep the situation of the poor viable until the recovery takes off.

Some strategies that do work in both developed and developing countries are the use of building codes to improve the quality of the built environment and salvage of objects that created the sense of place in the original environment. The problem with emphasizing building codes in developing countries is that squatter settlements and other informal neighborhoods will not comply with code requirements, and safer building practices will therefore need to be disseminated in other ways. Simplicity of message is essential to the widespread adoption of disaster-resilient technologies.

When to Engage and How to Stay Engaged

The Bank's policy prohibitions on relief have not been respected for good reasons. Staff have seen that other agencies cannot always fill the immediate needs of the affected people and regions following a large disaster. The Bank can mobilize the large-scale resources necessary for cash transfer and the rapid restoration of import/export-related infrastructure.

The Bank, like its borrowers and other donors, has found it difficult to stay engaged with mitigation and prevention efforts. Rather than promoting long-term solutions that address the interaction between environmental degradation and natural disaster, highly vulnerable countries—with the cooperation of the Bank and other donors—too often have been willing to borrow repeatedly without addressing the root causes of disaster impacts.

Particularly when it comes to prevention and response measures, project objectives and activities need to become more relevant. The very high outcome and sustainability ratings that have been achieved over the past 20 years show that Bank financing can deliver the outputs needed for a disaster response, but the high ratings conceal shortcomings on the achievement of durable outcomes and relevant impacts.

For example, the equipment intended to help reduce vulnerability needs to be used effectively to achieve its purpose; acquisition alone is not enough. Prevention and mitigation measures need to be bold enough to make a difference. Distribution of educational materials about disasters in classrooms has more meaning when the schools have been built to resist the prevailing hazards. Perhaps most important, those facilities that are essential for an effective response need to be tied to networks that will not fail them. Hospitals not only need to be sited and built so that they are disaster resilient, but they also need to be assured of an uninterrupted power supply, a network of secure access routes, and secure provision of safe water and sanitation.

The Challenges Ahead: A Review of the Evidence

What disaster-related *challenges* does the Bank face? While the number of natural disaster-

related loans per year has gone up in each decade and the scale of those operations has grown, the economic losses due to natural disasters have risen even faster—they currently exceed in one year the Bank's contribution to reconstruction over 20 years. The cost of successive reconstruction in many countries constrains subsequent development and puts at risk agreed development goals. Far more attention to prevention, mitigation, and risk management is needed (Chapter 4), but client demand for such services is easily displaced by other development concerns.

The Bank has organized itself in a manner that handles emergencies unevenly. The three-person Hazard Risk Management (HRM) Team has done a commendable job of training Bank and borrower staff, organizing awareness-building events, analyzing vulnerability, and establishing partnerships with the international and scientific communities and the private sector to promote hazard reduction.

When a disaster strikes, however, it is the country teams who are the Bank's interface with the borrowers. Yet country team staff are unlikely to have confronted a disaster before and must call on others in the Bank (recently including IEG). Because of its small size, the HRM Team calls on colleagues in the Hazard Management Thematic Group for technical assistance.

The quality of the result is partly a function of who is around to answer the calls. But it is also the case that an important reserve capacity has been lost. Soon after it was founded, what was then the Disaster Management Facility became the secretariat for the ProVention program—making the team far more visible internationally. But when that program left the Bank, the team lost staff that could help in emergencies.

Three people are too few to spread across the natural disasters that occur every year, and they are too few to be both the face of the Bank to the donor community and serve the needs of countries affected by disaster, while also ensuring attention to long-term reduction of hazard risks in client countries and lending programs. While it could be argued that the core team remained the same, and only the name has changed, the evaluation finds that the Bank has been effectively deprived of a focal point that is visible to donors and borrowers and once was internationally known.

The high number of damage assessments that result in ERLs suggests that Bank staff too often try to respond to disaster by asking what activities can be accommodated in a three-year ERL, rather than asking what needs to be done so that reconstruction and recovery can be handled most effectively and in a way that permanently reduces vulnerability. The Bank needs to be able to identify when urgency is counterproductive, lest funding mechanisms rather than development needs drive its response. The funding mechanisms themselves need to be rethought: balance of payment lending has been a relatively quick-disbursing mechanism, but it is nowhere near as fast as it was supposed to be, and it has only helped in very limited circumstances. Contingency finance has not yet lived up to its early promise, and reallocations have been too concentrated in highly vulnerable countries (Chapter 4).

The Bank has done better at reconstructing infrastructure than at reducing vulnerabilities and addressing their root causes. It has yet to discover the best ways to respond when gender or the locations and "informality" of neighborhoods within settlements make vulnerability irregular.

Strategies and projects in disaster-prone countries do not routinely consider disaster risks. Even disaster response projects themselves can be compromised by the rapid occurrence of the next unexpected event. Thus, reconstruction projects have sometimes built infrastructure that is insufficiently resilient to disaster.

Many project activities with long-term development impact (such as creating a capacity for infrastructure maintenance or creating sustainable disaster management institutions) take more than three years to implement—in many cases much longer. And many of the fastest-implemented and best-performing projects are not as impressive with hindsight—especially when considering the important priorities and vulnerable groups that ultimately went unattended (Chapter 4).

The way problems are defined determines the nature of the proposed solution and affects whether donor coordination can be effective. Post-disaster assessment, done in collaboration with others, has an important role but has not yet been adequately integrated into the Bank's disaster response activities (Chapter 4 and box 4.7). Even if the Bank ultimately does not lend, an early Bank presence with continuity and information on global best practice is highly important and valued by its member countries.

In the 20 years of Bank support for disaster reconstruction, what *achievements* stand out? The majority of borrowers have come to rely on the Bank for advice and financial support each time a major natural occurrence overwhelms their ability to cope. The Bank has lent an estimated $26 billion in 528 disaster responses that generally have achieved their objectives and exhibit an improving trend. The Bank also frequently works harmoniously with the regional development banks, the UN system, and other donors, ensuring that all parties' actions can be coordinated.

For more than 20 years the Bank has captured its best thinking in a succession of policy statements to guide its actions in countries overcome by catastrophe. Each restatement of policy has had a clear impact on the nature of Bank lending and contributed to reducing the vulnerability of human settlements. The policy statements have provided many ways for Bank staff to put together assistance tailored to each borrower's needs and circumstances. The policy statements have provided guidance, yet have not been too prescriptive, permitting an essential amount of flexibility.

Bank staff have long been able to select from an extensive menu of options when responding to disaster—this study has identified 60 different types of disaster-related activities supported by Bank-financed projects—and staff have not been pressured into a single approach for all disaster situations or all countries. Disaster as a thematic area has gradually been mainstreamed in Bank activities. Almost 250 ongoing projects conduct disaster-prevention activities, even though they have no specific disaster objectives. More than half the CASs in countries that have received Bank support for disaster discuss the countries' commitment to prevention and reduction. However, while Bank lending for disaster assistance has been influenced by the inclusion of this topic in the strategy documents, much more needs to be done.

Lessons

Pre-Disaster Risk Reduction

Natural hazard risks are highly concentrated, so special attention needs to be given to planning ahead for disaster and to reducing long-term vulnerability in countries at highest risk.

Research has shown the concentration of disaster risks and Bank lending patterns confirm that concentration. Yet, though disasters are foreseeable for many countries, they are infrequently considered in country lending programs. Furthermore, a surprisingly large number of projects in countries highly vulnerable to disaster have been adversely affected during implementation by unanticipated natural events. Yet projects, too, typically have not included disaster in their risk assessments. When formulating country lending programs and project lending, the Bank needs to elevate the importance of natural hazards, especially for highly vulnerable countries. To do this efficiently, borrowing countries need to be categorized by vulnerability levels.

In general, disaster responses have tended toward the reactive and tactical rather than the proactive and strategic.

A relatively short history of data collection together with a static view of disaster damages in highly vulnerable countries has led to project objectives that provided for short-term fixes. Projects rarely address the root causes of disaster. Natural disaster activities would benefit from the development of a strategy or action plan and related guidance that would: help staff to respond to emergencies with quick relief and well-planned reconstruction, and to do so more effectively in a much shorter period; ensure that contingent loan facilities (be it on a country, regional, or global scale) result in all borrowing

countries receiving a timely and adequate financial response to major events; and help bring natural hazard risk management to the most vulnerable countries.

Immediate Post-Disaster Actions

The development community should engage with disaster-stricken borrowers earlier and stay engaged longer.

International experience on the impacts of successful and unsuccessful relief management and on the ability of key stakeholders to participate effectively in the recovery process needs to be brought clearly to governments' attention. The Bank specifically needs to be present during the emergency stage to ensure the success of the reconstruction projects it finances. Low-income community groups need support until they develop the capacity to manage the infrastructure that has been placed in their care.

The Bank has a wide array of tools it can use when it responds to disaster, but it has increasingly relied on the Emergency Recovery Loan (ERL) to meet borrower needs following a disaster.

The ERL offers accelerated processing and a short implementation period of three years, and therefore has desirable qualities valued by both borrower and Bank staff who respond to disasters. ERLs generally have worked well and have high outcome ratings.

But accelerated project processing is not always desirable. For some projects, rushed appraisal has led to long pauses between loan approval and first disbursement, poorly designed interventions, and diminished poverty impacts. Furthermore, by relying on a three-year lending period the Bank may end up emphasizing activities that are expected to have short implementation times and not attending to other activities that address the needs and vulnerabilities more fully. It often happens that activities that might contribute greatly to the recovery effort (and to the borrower's subsequent long-term development) are not included in the ERL projects because they cannot be completed in the three years allotted—and then the project runs long in any event.

Reallocating resources from existing projects, a common Bank approach following natural disasters, affects the ability to attain long-term development goals and may be less effective than specific reconstruction lending.

Reallocation is most useful when the project being reallocated has been made irrelevant. While restructuring old projects may be politically easier than new lending, and allows the Bank to support government entities that are already accustomed to working with the Bank, for the most vulnerable countries, reallocation of resources is a partial solution, at best.

Reallocations fill an important niche in the Bank's ability to respond to natural disasters, and they will undoubtedly remain an important tool in the Bank's response package. However, reallocation can be impractical (for countries with few Bank loans) and can be overused (in countries hit by frequent disasters). Because they currently offer a more rapid response than the processing of an ERL, they may be used more often and more heavily than they should. The impact of loan restructuring using the additional funding mechanism is too recent to be evaluated but offers a promising alternative.

Planning for Long-Term Recovery

Actions taken during the first weeks and months after a disaster have a major impact on the recovery process that is to follow, and they need to be planned and implemented accordingly.

Choices made immediately following a disaster—regarding shelter, resettlement, debris clearance, distribution of relief, and the like—affect the later choices for longer-term solutions and vulnerability reduction and can have severe consequences for the ability of the poor to recover. Immediate post-disaster actions also need to include the development of the capacities, knowledge, and skills that will be required for the recovery process. If studies are going to produce knowledge that is critical to fully informed project actions, they need a strong advocate, such as the Bank. Capacity building for procurement and preparation of bidding documents should happen very early. Procurement is among the project activities

most cited in project-level evaluations as needing improvement.

A lack of maintenance has often been the main constraint on the sustainability of a natural disaster project.

There has also been a lack of human resources available for maintenance tasks generally, a lack of training in maintenance management, and a lack of beneficiary ownership and accountability for upkeep.

Bank Organization and Processes

Though natural disaster has no natural sectoral home in the Bank, staff in numerous sectors need specialized services to enable them to respond to disasters and to mitigate vulnerability to natural hazards.

While transport and urban development has recently been the sectoral home of disaster work, there is no compelling reason why this should be so: more work has been done in the rural sector, though that would not necessarily be a better place for a disaster team.

The general complexity of natural disaster response has led the Bank to draw from a broad array of activities, but this would happen more effectively in the presence of guidance at the institutional, country, and project levels.

Experience shows that custom-fitting a response to the disaster and to the country does work, and it often works best when artificial time limits are not imposed. Disasters hit all sectors, but not equally or even every time. Investments need to create disaster-resilient systems. After large disasters where the Bank has opted exclusively to provide budget support, infrastructure reconstruction and rehabilitation has often been partial, with serious consequences for economic recovery.

The current OP's strong focus on the ERL instrument is too narrow for natural disasters, which are not just emergencies but ongoing risk factors, especially in highly vulnerable countries.

Most of the Bank's natural disaster work is done by regular investment lending. The previous OPN and the OD laid out options for more effective and less instrument-focused responses to natural disasters.

The Bank has consistently underestimated the time needed to carry out emergency-related lending.

The vast majority of (natural disaster) emergency recovery activities have not (and probably cannot) be achieved within the three-year timeframe established by OP 8.50 for ERLs. And the Bank has consistently underestimated the time required for projects, which on average have taken approximately 20 percent longer than initially planned. Two-thirds of natural disaster projects have not met their original completion dates. While disaster projects are not unique in this regard, it often happens that activities that might contribute greatly to the recovery effort (and to the borrower's subsequent long-term development) are not included in the ERL projects because they cannot be completed in the time allotted—and then the project runs long in any event.

Recommendations

Chapter 6 of the report makes a number of specific suggestions about revisions to the Bank's policy for emergency lending—these are not repeated here in their entirety.

Prepare a Strategy or Action Plan for Natural Disaster Assistance

The Bank's natural disaster assistance would benefit from the development of a strategy or action plan and related guidance that would: help staff to respond to emergencies with quick relief and well-planned reconstruction, and to do so more effectively in a much shorter period; ensure that contingency funds (be it on a country, regional, or global scale) result in all borrowing countries receiving a timely and adequate financial response to major events; and help bring natural hazard risk management to the most vulnerable countries.

The strategy or action plan needs to identify a methodology to assess each country's level of disaster risk. It is suggested that countries be divided into high-, medium-, and low-risk

groups. The action plan then needs to identify how the Bank will assist borrowers in each category to lower their vulnerabilities and to build on local capacities and leadership.

In highly vulnerable countries, the action plan needs to make provisions to give more attention to natural hazards during the appraisal of investment projects generally, and specifically in the preparation of PRSPs, CASs, and other strategic documents. Where appropriate, these documents need to go beyond a description of the risks, and identify monitorable mitigation and institutional development activities.

For the most vulnerable countries, contingency funding needs to be available, whether as part of another loan, a set-aside in the CAS lending program, or a free-standing catastrophe fund (though these may become unnecessary if regional or global funds are eventually established). Another alternative worth consideration is a special "quick start" funding mechanism when disaster occurs.

Countries deemed to be at medium to high risk need to include disaster-resilient design in Bank-financed projects. For all countries, disaster risks need to be considered in standard risk assessment documents.

The strategy or action plan should be submitted to the Board for discussion.

Revise Policy to Better Guide Staff and Enhance Flexibility of Bank Responses to Natural Disasters

Emergencies are of many sorts and, although there is some overlap, most differ from the disasters created by natural events in critical ways. Bank policy needs to reflect these differences by treating conflict and epidemic diseases separately, with provisions that apply only to the relevant topic. There are two ways in which this can be done: natural disasters can either be the subject of a separate Operational Policy (as called for in the 1998 IEG evaluation of the Bank's experience with post-conflict reconstruction); or OP 8.50 could include specific provisions for natural disasters, for post-conflict situations, and for health and other emergencies, so that each topic is dealt with separately.

In whatever form it takes, Bank policy needs to focus more on disaster prevention and vulnerability reduction in all natural disaster operations. Policy prohibitions on relief and the financing of recurring events need to be relaxed.

Accelerated processing and provisions for quick disbursement for ERLs have partially addressed the need for speed in undertaking short-term activities, though they could be fruitfully complemented by a new mechanism, such as a special central fund managed by the president's office (akin to the one in place in the IDB) to fund the most urgent needs in the early days of a disaster response.

But the use of ERLs is less appropriate for longer-term activities, such as mitigation, reconstruction, and institution building, which require a longer preparation and appraisal time and need not be exempted from due diligence standards and safeguard compliance.

Similarly, attention to social issues during preparation and implementation generally requires a longer period than has been available under ERLs. Such activities are more suited to standard investment lending but have often been short-changed because of the ERL's three-year implementation time, and the loss of borrower interest in a second loan following the ERL.

Increase Bank Capacity to Respond to Disasters and Ensure That It Can Be Mobilized Quickly

Whether or not there is a designated unit to deal with natural disasters and hazard risks, the Bank needs the capacity to quickly gather and disseminate international experience to borrowers in an emergency. In addition, task teams need support while conducting post-disaster assessments and designing emergency interventions tailored to the needs and capacities of each borrower.

Responding to disasters requires multisectoral expertise. Including disaster-knowledgeable people on Bank missions following major crises can be crucial. Being selective in staffing identification for missions in post-disaster settings avoids problems of design and scale of response that can occur when people are

sent who are not used to seeing destruction on a massive scale or who lack country knowledge. The Bank has very few such people, and it currently has no consistent mechanism for mobilizing them to respond to natural disasters. Pulling members of the Hazard Management Thematic Group away from their ongoing responsibilities inevitably has a negative impact on their normal activities. And there are so few knowledgeable staff that the same people tend to be called upon repeatedly.

APPENDIXES

APPENDIX A: BANK POLICY AND PRODUCTS

The Bank's emergency-related work has been governed by three successive policy statements that have reflected the evolution of Bank thinking on responding to natural disasters. Operational Policy Note (OPN) 10.07, *Guidelines for Bank Participation in Reconstruction Projects after Disaster*, was adopted in July 1984. This was superseded by Operational Directive (OD) 8.50, *Emergency Recovery Assistance,* in November 1989. And the OD was replaced in turn by Operational Policy (OP) 8.50, *Emergency Recovery Assistance,* in August 1995. The three policy statements differ in how they characterize emergencies and in several other areas as described below.

Evolution of Policy

The emergency lending procedures formalized in OPN 10.07 were based on an analysis of 40 reconstruction projects from the 1970s and early 1980s. The OPN details how to respond to natural disasters, but barely mentions war, though it refers to man-made disasters.[1] OD and OP 8.50 are more specific, describing an emergency as "an extraordinary event of limited duration, such as a war, civil disturbance, or natural disaster."

Apart from the general definition, the policy statements have done little to restrict the kinds of emergency situations that would be eligible for Bank financing. Hence, the range of events that can be considered emergencies has grown. Each policy statement has had a slightly different list of natural disaster emergencies that are eligible for Bank response: the OPN names earthquakes, hurricanes, and droughts; the OD, earthquakes, floods, and hurricanes; and the current OP, cyclones, droughts, earthquakes, floods, forest fires, and tidal waves.

Owing to the lack of restriction, in recent years "emergencies" have included foot-and-mouth disease (Uruguay 2002), the decline in tourism in Caribbean countries after the September 11 attacks on the United States (St. Vincent and the Grenadines 2002; Dominica 2002; Grenada 2002; St. Kitts and Nevis 2002; and St. Lucia 2002), return-migration into Yemen during the Gulf Crises (Yemen 1991), the AIDS epidemic (Uganda 1988), and avian influenza (Vietnam 2005), among others.

The key provisions of the current OP are shown in table 1.1 in the main text. Table A.1, attached to this appendix, provides a detailed, comparative analysis of the three policy statements.

All three iterations of the emergency policy have instructed staff to see that projects are designed to restore assets and productivity levels after emergencies that seriously dislocate the economy. They focus on reconstruction, and agree that relief and consumption should never be financed. The prohibition is based on the argument that borrowing should be reserved for economically productive activities, and that relief is best provided by local groups, the governments concerned, bilateral relief programs, nongovernmental organizations, and specialized relief organizations.

The list of measures not to be financed by the Bank has been more detailed with each revision of policy. The OPN prohibits only temporary shelter, whereas the OD lists search and rescue, evacuation, health care, and food and water distribution. The OP adds temporary sanitation and restoration of access to transport. The policy statements generally guide the Bank away from financing any form of consumption or the immediate needs of disaster victims.

Forms of Bank Assistance after Emergencies

The Bank can respond to an emergency in several ways. A common response is to develop an Emergency Recovery Loan (ERL), but the Bank also can reallocate funds from an existing project or revise and hasten processing of a planned project. It can also develop a new investment loan for mitigation activities.

Emergency Recovery Loans

In 1970 and 1971, the Bank financed natural disaster reconstruction projects after an earthquake in Peru and a cyclone in Bangladesh.[2] In these projects, several shortcuts were taken to speed up the project appraisal process to meet the borrowers' urgent needs. These then became the model for a new instrument, which came to be called the Emergency Recovery Loan (ERL).

The three policy statements have not differed much in how they describe ERL features. As stated in the OPN, ERLs receive early clearance, convene an advisory group, prepare one document that is a combined appraisal report and memorandum of the president, and use simplified procedures.[3] The emphasis on using this lending instrument has increased over time, accompanying the broadening scope of what constitutes an emergency. The main features of this instrument are described in the remainder of this section.

Limits on what reconstruction should do

All three policy statements draw limits around what reconstruction projects should do. The OPN suggests that projects limit themselves to the "rapid restoration of physical structures and productive activities." It discourages the creation of permanent new institutions for project implementation and advocates limited changes—for example, through disaster prevention and mitigation measures. According to the policy note, the aftermath of a disaster is the ideal time to reduce vulnerability.

The OD suggests limiting the number of sectors and objectives in an emergency project. ERLs are not intended to address long-term economic problems that require major policy adjustments. On the contrary, in the aftermath of a disaster, a borrower tends to be overwhelmed by relief and reconstruction, so that it should not be burdened with complicated conditionality. Limited conditionality may be used, however, if it is linked directly to the emergency.

The OP calls for ERLs that do not reflect broad sectoral, structural, or institutional goals. It states: "Projects that are too complex, attempt to implement entirely new approaches, rely on an institutional support that in most cases is weak, and require detailed planning studies are not appropriate."

Short timeframe

All three policy statements aim to implement emergency projects within three years. The OPN and the OP recommend an even shorter implementation period of two to three years.

Recurrent events

All three policy statements agree that ERLs are not the right instrument for recurrent or long-term events such as annual flooding and drought, because these events have characteristics that are handled better by a normal investment project. Unlike the OPN and the OP, the OD lets the task manager decide whether slow-onset emergencies, such as drought, war, or civil disturbance, require the quick response of an ERL or the more thorough preparation of one or more normal investment projects.

Disaster-resistant design/studies/technical assistance

All three policy statements suggest that ERLs should use measures to reduce vulnerability, such as disaster-resistant construction standards. In addition, they note that ERLs should reinforce vulnerable structures, adjust building and zoning codes, and acquire hazard-reduction technology (for example, early warning systems). The OD and OP add the establishment of an adequate institutional and regulatory framework for prevention and mitigation to this list.

The policy statements differ, however, in the way these measures should be implemented. The OPN, for example, recommends not undertaking projects that require detailed planning studies. Yet later policy statements find

that without detailed planning studies, vulnerability is not reduced. Therefore, the OD recommends studies for vulnerability reduction as well as detailed preparation and record keeping of consultant services for these studies. The OP follows in a similar vein by calling for emergency-preparedness studies.

A shift in policy recommendations can also be found regarding technical assistance. While the OPN recommends that such assistance be provided by supervision missions, the OD and OP suggest having the assistance provided by consultants.

Procurement/disbursement/retroactive financing

The OPN allows for retroactive financing and advance contracting; the OD and OP stipulate that projects should "use no more than 20 percent of loan proceeds for retroactive financing." Other ways of making funds available quickly are Project Preparation Facility and Balance of Payment (BoP) Loans, the latter to finance a positive list of imports immediately after a disaster.

Once a project is approved, however, all three policy statements agree that standard Bank operational policies on procurement, consultants, and disbursement apply. OD 11.00 (1989) and OP 11.00 (2004) on procurement also make provisions for emergencies that allow for more flexibility in procurement procedures (as recommended in IEG 1998). They permit direct contracting without competitive bidding (single source) when this is the most appropriate course of action.

Other Response Options

Loan reallocations

Not all emergency situations call for free-standing ERLs. Therefore, the Bank often uses loan reallocations to provide smaller amounts quickly after an emergency. All three policy statements recommend reallocations of existing loans. The advantage of this approach is that the projects are already approved, so funds can be quickly rededicated. Often those funds keep their broad sector dedication. For example, funds originally intended for school improvement have been reallocated to school reconstruction after an earthquake had destroyed the schools. In other cases, projects have had slow-disbursing components that, after an emergency, have been reallocated to reconstruction purposes without regard to sector.

Redesign of projects not yet approved

Funds can also be made available after an emergency by redesigning projects not yet approved. All three policy statements propose redesigning projects to include components for disaster reconstruction.

Free-standing investment projects for mitigation

Another way to respond is through investments to prevent foreseeable disasters from occurring and/or limiting their destructive impact. Here, the three policy statements differ. The OPN discusses reducing vulnerability through investment and reconstruction projects, but it does not go as far as recommending free-standing mitigation projects. The OD also advocates including mitigation components in normal investment projects and ERLs, but goes one step further in proposing free-standing mitigation projects that are not to be processed as ERLs. The OP adheres to a similar approach.

Donor Coordination

All three policy statements discuss donor coordination. The OPN suggests that the Bank assist the borrower in coordinating donor efforts, especially in gathering information on damage assessment. It explains: "Coordination among government and international agencies is vital to avoid duplication of efforts, adoption of contradictory policies to guide reconstruction, neglect of areas that may be important to consider in the reconstruction strategy, and waste of resources."

The OD emphasizes the Bank's role in attracting and coordinating support from other donors. The UNDP and other international agencies as well as bilateral donors and local nongovernmental organizations are mentioned as potential partners. It notes that they should be involved in designing prevention and mitigation programs.

The OP recommends coordinating with the International Monetary Fund on quick-disbursing components. It also proposes collaboration with the organizations noted under the OD to

design a recovery assistance strategy and specific prevention and mitigation programs.

Disaster-Relevant Products

The Bank's Country Assistance Strategy (CAS) is supposed to synthesize the country situation, government priorities, Bank Group strategy, and Bank partner activities into a coherent program for future work together. For this study, CASs were reviewed to determine, for countries with significant disaster-related issues, whether these issues are reflected in their CASs.

A Poverty Reduction Strategy Paper (PRSP) is required for a country to receive concessional assistance from the International Development Association (IDA) and the International Monetary Fund. The PRSP is also the basis for the provision of debt relief under the enhanced Heavily Indebted Poor Country (HIPC) Initiative. Since the PRSP process is based on poverty diagnostics, it might be expected that PRSPs for countries where the risk of natural disaster is high, and where disaster regularly makes the life of the poor more difficult, would consider disaster impacts and strategies for vulnerability reduction. The degree to which this happens is noted in Chapter 3.

Table A.1: Comparative Analysis of World Bank Policy Statements

Category	July 1984 Operational Policy Note, No. 10.07 – Guidelines for Bank Participation in Reconstruction Projects after Disaster	November 1989 Operational Directive, OD 8.50 – Emergency Recovery Assistance	August 1995 Operational Policy, OP 8.50 – Emergency Recovery Assistance
Policy applicability	Finance reconstruction activities after disasters. Destruction must affect national priorities or may seriously disrupt the development process.	Emergencies that seriously dislocate the economy and call for a quick response from the government and the Bank.	Emergencies that seriously dislocate the economy and call for a quick response from the government and the Bank.
Definition of "emergency"	Natural and man-made disasters.	An extraordinary event of limited duration such as natural disaster, civil disturbance, or war.	An extraordinary event of limited duration such as natural disaster, civil disturbance, or war.
Relief and consumption	The Bank is not equipped to provide assistance in the immediate post-disaster period. Relief is better done by others.	The Bank does not finance relief and consumption.	The Bank does not finance relief and consumption.
Immediate support for damage and needs assessment	Assist in defining appropriate reconstruction strategies; identify long-term implications of immediate response; quickly assess damage and needs.	Provide immediate support for (a) assessing damage and needs, (b) decision-making consistent with the recovery program, and (c) developing a recovery strategy.	Provide immediate support in assessing the emergency's impact and develop a recovery strategy.
Financing instruments	Reallocate existing loans, substitute future lending, and /or prepare a project-specific reconstruction loan.	Modify existing projects, modify projects under preparation, and/or prepare a free-standing ERL.	Restructure the Bank's existing portfolio, redesign projects not yet approved, and/or prepare an ERL.
Financing instruments for mitigation	Introduce limited change in disaster reduction/mitigation: Assist countries to reduce vulnerability in regular projects as well as in reconstruction projects.	Inclusion of mitigation components in normal investment operations and ERLs and preparation of free-standing preparedness and mitigation projects.	In addition to emergency assistance, support free-standing investment projects for prevention and mitigation in countries prone to specific types of emergencies.

Table A.1: Comparative Analysis of World Bank Policy Statements (continued)

Category	July 1984 Operational Policy Note, No. 10.07 – Guidelines for Bank Participation in Reconstruction Projects after Disaster	November 1989 Operational Directive, OD 8.50 – Emergency Recovery Assistance	August 1995 Operational Policy, OP 8.50 – Emergency Recovery Assistance
Limited conditionality	Reconstruction projects, although closely related to the attainment of medium- and long-term development goals, should confine themselves to specific rebuilding activities and the rapid restoration of physical structures and productive activities.	ERLs are not intended to address long-term economic problems requiring macroeconomic policy adjustment. Conditionalities should be directly linked to the emergency.	ERLs do not attempt to address long-term economic, sectoral, or institutional problems, and do not include conditionality linked to macroeconomic policies.
Short timeframe	Complete projects within two to three years.	ERLs to be completed within three years.	Normally an ERL is fully implemented in two to three years.
Procurement/ disbursement	There is no need to depart from ordinary Bank lending mechanisms.	ERLs follow standard Bank Operational Policies including those on procurement, consultants, and disbursement.	Standard Bank Operational Policies, including those on procurement, consultants, and disbursement, apply to ERLs.
Recurrent events	Do not finance recurrent or long-term events such as annual floods or droughts.	ERLs respond to infrequent events, not recurrent events such as floods. Judgment is needed to decide whether slow-onset disasters, such as drought, war, or civil disturbance, require the quick response of an ERL, or the more thorough preparation of one or more normal investment projects.	ERLs are inadequate instruments for recurrent disasters such as floods and slow-onset disasters such as droughts.
Disaster-resistant design	Reconstruction projects use earthquake-resistant standards, flood control, and hurricane warning and response systems. They retrofit old structures and introduce an early warning system. Changes should be consistent with the local economy and traditions. Reconstruction projects also improve land use zoning and building codes.	ERLs use disaster-resilient reconstruction design standards and include measures for preventing and mitigating the impact of future disasters. They reinforce vulnerable structures, adjust building and zoning codes, and acquire hazard reduction technology. Attention should be given to early warning systems and other technologies for emergency preparedness.	ERLs use disaster-resistant construction standards, reinforce vulnerable structures, adjust building and zoning codes, and acquire hazard-reduction technology.
Institutional and regulatory framework		Establish an adequate institutional and regulatory framework for prevention and mitigation.	Establish an adequate institutional and regulatory framework for prevention and mitigation.

(*Table continues on the following page.*)

Table A.1: Comparative Analysis of World Bank Policy Statements (continued)

Category	July 1984 Operational Policy Note, No. 10.07 – Guidelines for Bank Participation in Reconstruction Projects after Disaster	November 1989 Operational Directive, OD 8.50 – Emergency Recovery Assistance	August 1995 Operational Policy, OP 8.50 – Emergency Recovery Assistance
Donor coordination	Bank experience may reinforce the government's capacity to coordinate efforts at all levels—local, national and international. Information gathering should be coordinated with the government and other donors. The Bank should avoid duplication of efforts, adoption of contradictory policies to guide reconstruction, neglect of areas that may be important to consider in the reconstruction strategy, and waste of resources.	The Bank can assist in attracting and coordinating reconstruction support from other donors. Collaboration with UNDP and relevant international agencies, local NGOs, and donors is often helpful in designing specific prevention and mitigation programs. The Bank can prepare a report to mobilize donor support.	Collaboration with the UNDP and other international agencies, local NGOs, and donors is often helpful in designing the recovery assistance strategy under an ERL and in designing specific prevention and mitigation programs

APPENDIX B: STUDY METHODOLOGY

This evaluation uses the IEG-World Bank (WB) objectives-based evaluation methodology in which performance is evaluated by measuring the Bank's progress toward its objectives. In a broad sense this involves the Bank's Mission Statement as well as OP, BP, and GP 8.50. In a more restricted sense, it concerns how well disaster response projects attain project-level objectives. The study draws heavily on completed and ongoing independent and self-evaluation, especially Project Performance Assessment Reports (PPARs).

Evaluative Questions

The study addresses questions in five areas:

- **Relevance**. Do the Bank's policy goals address the major disaster-related needs of client countries? Are they aligned with the Bank's overall strategic objectives and competencies? Have operations been aligned to policy and to country priorities? To what extent have operations complied with the policy by incorporating effective prevention and mitigation measures? Does the current policy provide adequate guidance to Bank staff? What has been the impact on operations of the policy changes that occurred?
- **Effectiveness**. How well have operations performed against the objectives of Bank policy? To what extent have operations routinely achieved their stated disaster-related objectives? How sustainable have the projects and initiatives been? How effectively has the Bank coordinated its activities with those of other donors? How have Bank skills and organization hampered/fostered its effectiveness?
- **Institutional development impact**. How effectively have operations promoted ownership and engagement of beneficiaries and civil society? Have they developed in-country capacity for disaster prevention and mitigation?
- **Generation of lessons.** Has the Bank developed best practice for mitigation, vulnerability reduction, donor coordination, poverty alleviation, and creating strong borrower ownership? What impact do events that take place during the emergency phase, before the Bank is usually involved, have on projects? How has the analysis of natural disaster risks influenced the design of operations? How can the situation of the poor be most effectively taken into account by post-disaster operations?

Evaluative Instruments and Methods

The study examined the Bank's experience from several angles. The basic approach taken was to avoid sampling by identifying a full universe. In the staff survey, all task managers that worked on at least one disaster project were invited to respond. If the evaluation was looking at an activity (such as housing) or a disaster type (such as tropical storms), all the relevant projects were reviewed. The study used the following instruments.

Portfolio Review

The study identifies the post-1984 portfolio of disaster operations financed by the Bank. Ratings data are reviewed, and patterns and trends in the Bank's lending in this area are identified (emergency lending projects initiated as a result of a disaster, projects with components aimed at disaster prevention and mitigation, and reallocations in response to disaster).

Desk studies (described below) were conducted of a representative sample of projects that reflects the degree to which each approach is represented in the portfolio. The

Box B.1: The Natural Disaster Portfolio: What Was Counted and What Was Not

The natural disaster portfolio review took into account all projects with any activity related to disasters, although it excluded many activities that have a non-disaster-related purpose, but that may also help to reduce the impact of disaster. For example, projects that build urban storm sewers or irrigation projects that improve drainage both have a positive impact in the event of disaster-related flooding. The study did not include such activities under the category of "flood mitigation" *unless they were a direct response to a specific disaster event, or the wording in project documents specifically mentioned their contribution to disaster prevention.*

post-1984 portfolio of disaster operations was analyzed for patterns and trends in the Bank's lending in this area. Work financed through trust funds was studied.

Natural Disaster and Emergency Lending Database

The study team created a database containing all the available information on Bank-financed disaster responses. This was analyzed to identify which activities have been undertaken most often, along with project performance ratings, to determine where the Bank has been most successful, as well as where it needs to improve practice.

Inter alia, the information generated from a review of the full universe of projects indicates: What percentage of projects include balance of payment support? How many reconstruct public buildings, urban infrastructure, private enterprises, and/or family homes? An equally important focus of the database is on an analysis of the activities and the lessons, and the results that they achieved.

Literature Review

The study conducted a review of the literature to inform the research and analysis processes with the findings of relevant academic and development agency research. Areas of consensus and controversy are identified, and issues and trends relevant to the Bank are explored. More specifically, the review report begins by outlining a short history of disaster response in Chapter 1. Chapter 2 discusses issues important to understanding disaster risk, such as man's connection to disaster, vulnerability, the macroeconomic effects of disaster, factors that amplify disaster effects, the effects of recurring disasters, cities and vulnerability, and the connection between underdevelopment, poverty, and risk. Chapter 3 explores the business of reducing risk, including topics such as mitigation, resources and financing, an integrated approach to risk reduction, and integrating poverty reduction and development programs with disaster risk reduction programs. Chapter 4 deals with the business of transferring risk, including cost-spreading financial mechanisms—insurance, reinsurance, and microfinance. It also touches on the approaches to disaster of various development organizations, including the ADB, DFID, the IDB, and UN organizations, as well as the World Bank.

Project Timing

The study analyzed the elapsed time of three distinct periods of the project cycle, including the initial preparation time (from disaster date, when available,[1] to Board approval), first disbursement time (from Board approval to effectiveness date[2]), and implementation time (from effectiveness date to revised closing date).

The study examined the entire disaster portfolio as well as all Bank investments with the aim of identifying projects that contain at least two dates. The study then categorized the relevant projects into four groups: balance of payment (BoP) projects,[3] Emergency Recovery Loan (ERL) projects, all natural disaster projects, and all projects Bankwide. Balance of payment projects were selected from only completed projects,[4] while ERL projects, the disaster-related projects, and the entire portfolio of projects included both ongoing and completed projects. In other words, 15 projects comprised the full universe of the BoP group; 89 projects, the full universe of the ERL group; 459 projects, the full universe of the disaster projects group; and 4,503 projects, the full universe of the entire Bank portfolio approved between 1984 and 2005.

When analyzing the project preparation time period, disaster event and Board approval dates were found in 11 BoP projects, 52 ERL projects,

and 66 disaster-related projects; project concept dates (PCDs) and Board approval dates were identified in 4,322 projects. With respect to first disbursement times, Board approval and effectiveness times were available in 16 BoP projects, 79 ERL projects, 455 disaster-related projects, and 4,369 other projects. As for implementation times, effectiveness and revised closing dates were found in 17 BoP projects, 79 ERL projects, 435 disaster-related projects, and 4,503 other projects.

The study also examined the projected and actual completion times of the 303 completed projects found in the natural disaster portfolio. The study analyzed project timing using two approaches. First, it focused on the projected and actual completion times of projects with disaster-related objectives. The project objectives were categorized into at least one of 11 areas: (1) disaster management; (2) rehabilitation and construction of public infrastructure; (3) agriculture improvements, environmental conservation, and natural resource management; (4) economic restoration and strengthening; (5) pre-event disaster prevention; (6) rehabilitation and construction of housing; (7) financial assistance; (8) project management; (9) operation and maintenance; (10) donor coordination; and (11) resettlement of affected populations. Second, the study looked at disaster activities derived from descriptions of the project components. Based on the descriptions, the study recognized 60 natural disaster activities, corresponding to 60 natural disaster component categories. Relevant projects contained at least one disaster activity.

Analysis of Balance of Payment/Budget Support

In the Bank's involvement in post-emergency situations, there has been an emerging trend of providing balance of payment (BoP) assistance or budget support to the affected countries as a means of stabilizing macroeconomic conditions. After the study database identified the post-emergency lending projects that were specifically designed to improve and support the BoP, the country assistance evaluation (CAE) findings and other macroeconomic indicators were analyzed to measure the economic impact of the selected natural disasters and the effects of these operations on the national economy. Empirical data were gathered; the effects of the BoP lending on the recipient country's economy were examined in the immediate, mid, and long term; and its effectiveness was evaluated. This entailed the following research activities:

- Identifying post-emergency lending projects that were specifically designed to improve and support the BoP as a means to stabilize macroeconomic conditions and to minimize the government deficit
- Gathering information on countries that were afflicted by a natural disaster and were provided with the BoP lending over the past two decades, and to summarize the features of the BoP lending together with the methodology of its implementation
- Collecting data on monthly BoP and macroeconomic indicators available at the IMF/World Bank Statistical Database for each relevant country over a pre- and post-emergency time-period.
- Developing econometric models with available empirical data in order to test the effectiveness of the BoP lending on economic stabilization in the post-disaster context
- Comparing the BoP performance of a target country over a several-disaster period, looking at instances when it received BoP lending and when it did not. Results were compared across countries and/or regions as appropriate.

Surveys and Interviews

Task managers still working for the Bank who had implemented one or more emergency loans were surveyed to gather the insights they have obtained through these experiences. In addition, individual interviews of other relevant stakeholders were conducted, including a survey of beneficiaries that received Bank-financed assistance at least five years ago to ascertain their perceptions of the process, their satisfaction with any infrastructure constructed, and the nature of longer-term impacts. The survey instrument used is reproduced in Attachment 1 to this appendix.

To gain a better understanding of project effects on the ground, the study conducted a

survey of project beneficiaries in El Salvador. Under IEG supervision, a team of surveyors conducted a survey of housing units (single-family homes and condominiums) built by the El Salvador Earthquake Reconstruction Project (L 2873) for low-income families affected by the earthquake. The draft survey instrument (see below) was developed in conjunction with the Ministry of Foreign Relations' Department of External Cooperation. The housing units surveyed covered the work of the four participating financial institutions: CREDISA, CASA, Atlacatl, and AHORROMET. The surveyors participated in the data analysis process. At the end of the analysis process, the team presented written and oral observations.

The survey included questions about householder characteristics, the housing unit and the surrounding neighborhood, and homeownership issues. The survey instrument is reproduced in Attachment 2 to this appendix.

On September 22, 2004, the IEG study team held a stakeholders' workshop with 19 NGO representatives participating in public-private partnership activities financed in part by the Gujarat Emergency Earthquake Reconstruction Project (GEERP). The conclusions the participants drew from their experience in response to the 2001 earthquake in Gujarat were summarized from detailed notes taken during the session. The document was used as a study Working Paper. The summary was shared with the participants, who were given the opportunity to comment and/or correct errors of fact or interpretation.

Desk Case Studies

The study team performed desk studies on a selection of the projects identified by the portfolio review, with the intent of gaining an overview of the key events that take place during implementation of Bank-financed emergency projects. The study sample was selected to reflect the distribution of natural events to which the Bank most often responds as shown by the portfolio review. And they were weighted toward projects implemented under the current policy.

Targeted Inquiries into Disaster-Specific Issues and Themes

A number of themes were explored. For instance, topics requiring a broader overview including the experience of other donors were examined: donor coordination, partnerships, the use of disaster insurance, and other donors' experience, including approaches to loss reduction (in those countries most prone to disaster). Other topics included *inter alia* a review of disaster-related local institutional development, contingency finance, damage assessment, storm shelters, gender issues, and an analysis of CASs.

Field Case Studies

Based on the Portfolio Review and the findings of the Desk Case Studies, five field case studies that were outliers for a variety of reasons were selected for extensive fieldwork. This work was done to see if the patterns identified for the full universe of projects held for: projects that were very large Bank-financed natural disaster assistance programs (earthquakes in Turkey); unusual topography where disaster damages sometimes reach a multiple of GDP (small island states in the Caribbean); the 100-year event (Hurricane Mitch in Central America); very large borrowers confronting the same events more than once (India, earthquakes and floods); frequently repeated Bank-financed projects for the same disaster type under successive policies (floods in Bangladesh); and a sixth case, which was done only as a desk study, examined loosely governed states and disaster interaction (tropical storms and floods in Mozambique).

External Advisory Panel

A panel of experts in the field of developmental responses to natural disaster was convened to advise the study team and to review key evaluative documents and the final study report.

Attachment 1

Natural Disasters and Emergency Reconstruction: An IEG Review of Bank Assistance Project Manager Survey

1. If there was something you did during the course of a natural disaster-related project that you consider best practice, please describe it here.

2. What types of project designs or activities, if any, should Bank-financed disaster lending or non-lending services avoid?

3. What types of disaster-related project designs or activities is the Bank particularly good at?

4. a. Is the Bank's disaster-related lending focused enough on the poor?
   ❑ Yes
   ❑ No
   b. How could the Bank's disaster-related lending better address the needs of the poor?

5. How can the Bank increase the effectiveness of coordination with other agencies involved in disaster prevention or response?

6. What lessons have you learned about assessing damages after a major disaster event that the Bank or its Borrowers need to take into account?

7. Which beneficiary participation activities significantly enhance the implementation of disaster-related lending?

8. Under what circumstances (if any) have you seen beneficiary participation be counterproductive in the post-disaster context?

9. What can be done to increase borrower ownership of disaster prevention/mitigation components in natural disaster-related projects?

10. a. Have you utilized the Hazard Management Unit (TUDHM) (formerly known as the Disaster Management Facility)?
    ❑ Yes
    ❑ No
    b. What types of support do Task Managers confronting disaster need from the Hazard Management Unit?
11. a. After board approval, what avoidable delays have you encountered in disaster-related projects?
    b. What, if anything, could the Bank do about these delays?

12. What new directions should the Bank's efforts in Natural Disaster prevention and mitigation take?

13. What additional disaster-related lending or non-lending services might the Bank offer?

14. What aspects of the Bank policy governing natural disasters (OP 8.50 Emergency Recovery Lending) do you feel need be changed during the ongoing policy revision exercise?

15. Do you believe that the majority of Bank-financed disaster projects achieve their disaster prevention/mitigation objectives?
    - ❑ Yes
    - ❑ No

16. Emergency Recovery Loans are currently allotted 36 months for implementation. In a revision of OP 8.50 (Emergency Recovery Assistance) how many months would you allocate for implementation?

17. During the current revision of OP 8.50, what types of emergencies would be appropriate for the new policy to cover? (Please check all that apply):
    - ❑ Epidemics/pandemics
    - ❑ Post-conflict
    - ❑ Conflict reduction
    - ❑ Failed states
    - ❑ Natural disasters
    - ❑ Technological disasters
    - ❑ Economic crises
    - ❑ Acts of terrorism
    - ❑ Other
      If other, please specify

18. What training should be provided to task managers new to disaster?
    - ❑ A short disaster training course for all TMs
    - ❑ A mandatory training course for all task teams starting a disaster-related project.
    - ❑ A training course for only those task teams that request one.
    - ❑ No training is needed
    - ❑ Other

19. If there is something else that you would like to say about the effectiveness of Bank activities in the post-disaster context, please note it here.

Attachment 2

Natural Disasters and Emergency Reconstruction: An IEG Review of Bank Assistance Household Survey: El Salvador

Homeownership questions

		Number and percent:
Did someone occupy this unit before you?	*Yes*	%
	No	%
What is your legal situation regarding this house?	*Owner*	%
	Under contract	%
	Renting	%
	Occupying an abandoned house/ squatter	%
If you own this unit, in whose name is the title?	*Man*	%
	Woman	%
	Both	%
	Don't know	%
Before moving to this home, where did you live?	*Rural area*	%
	Capital city	%
	Another city	%
In your last home, what was your legal situation regarding that unit?	*Owner*	%
	Under contract	%
	Renting	%
	Living with others without paying	%
	Living in an abandoned house	%
	Public dormitory	%
	Homeless	%
	Other	%

The Housing Unit and Surrounding Neighborhood

How did the 1986 Earthquake affect you?	Destroyed my home
	Nothing/don't remember
	Damaged my home
	Psychological impact
	Lost personal effects
	Lost a family member
	Family member injured
What do you like about this house?	Everything
	Location
	That I own it
	Nothing
	Privacy
	House size
	Land area
	Comfortable
	Accessibility

What worries you about this house?	Roof (houses)
	Nothing
	Quality of construction/ materials/water infiltration
	Walls
	Interior space is too small
	High monthly payment
	Location
	Insecure/Vulnerable to criminals
	Plumbing
	Flooring
	Environmental pollution
What improvements have been made on this house?	None
	Replaced doors or windows
	Extra rooms
	Replaced roof
	Enlarged at least 1 room
	Dividing walls
	Added a second floor
	Replaced the flooring
	Security grill work
Name 3 things you like about this neighborhood	Mass transportation
	Low crime
	Central location
	Everything
	Quiet
	Basic services
	Green zone
	School nearby
	Nothing
	Neighbors
	Climate
Name 3 things that worry you about this neighborhood	Nothing
	Potable water in short supply
	Risk of road or pedestrian accessibility to the community being lost
	Danger/risk
	Crime
	Contaminated river nearby
	Inadequate garbage collection
	Flooding
	Retaining walls
	Lack of play areas
	Lack of schools
	Everything
	Lack of street lights
	Poor quality materials in stairs/walkways

Attachment 3

Original Survey Instrument in Spanish

Colonia:
Pasaje:

1. **¿Alguien ocupó la casa antes de usted?** ❑ SI ❑ NO

2. **¿Cuál es su situación referente a esta casa?**
   ❑ Propietario ❑ Con promesa de venta ❑ Alquilando ❑ Ocupando casa abandonada
   ❑ Otra

3. **¿Si es dueño, a nombre de quién está la escritura?**
   ❑ Hombre ❑ Mujer ❑ Ambos ❑ No sé

4. **¿Cómo le afectó el terremoto de 1986?**

5. **¿Antes de pasar a esta casa, dónde vivió?**
   ❑ En el campo ❑ En la ciudad capital ❑ Otra ciudad

6. **¿En su anterior vivienda, cuál era su situación?**
   ❑ Propietario ❑ Con promesa de venta ❑ Alquilando ❑ Vivía con otros, sin pagar
   ❑ Ocupando casa abandonada ❑ Dormitorio público ❑ Sin casa ❑ Otra

7. **¿Qué es lo que le gusta de esta casa?**

8. **¿Qué es lo que le preocupa de esta casa?**

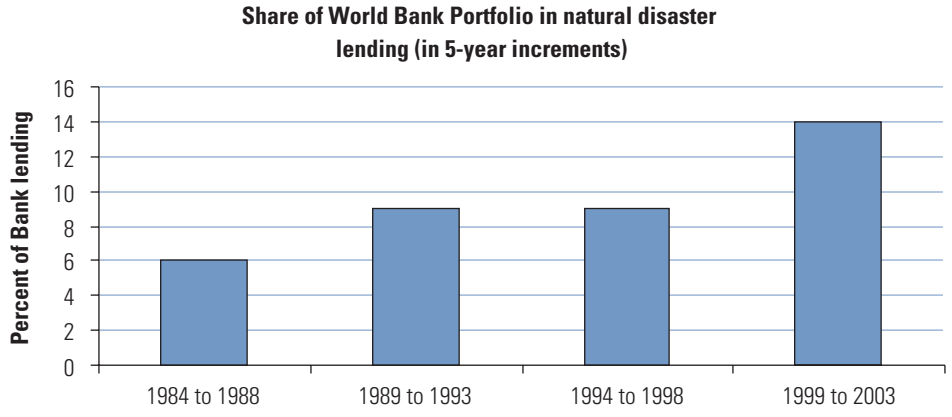
9. **¿Qué mejoras le han hecho a la casa?**

10. **Mencione tres cosas que le gusta de este barrio:**
    1.
    2.
    3.

11. **Mencione tres cosas que le preocupa de este barrio:**
    1.
    2.
    3.

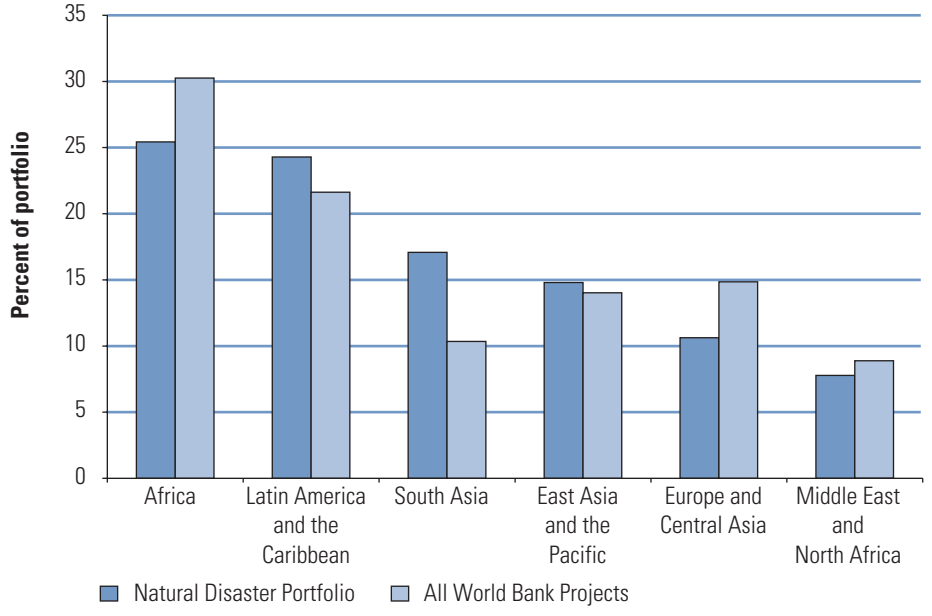
APPENDIX C: SUPPLEMENTAL DATA—CHAPTER 2

Figure C.1: Disaster Lending Has Increased as a Share of Bank Lending



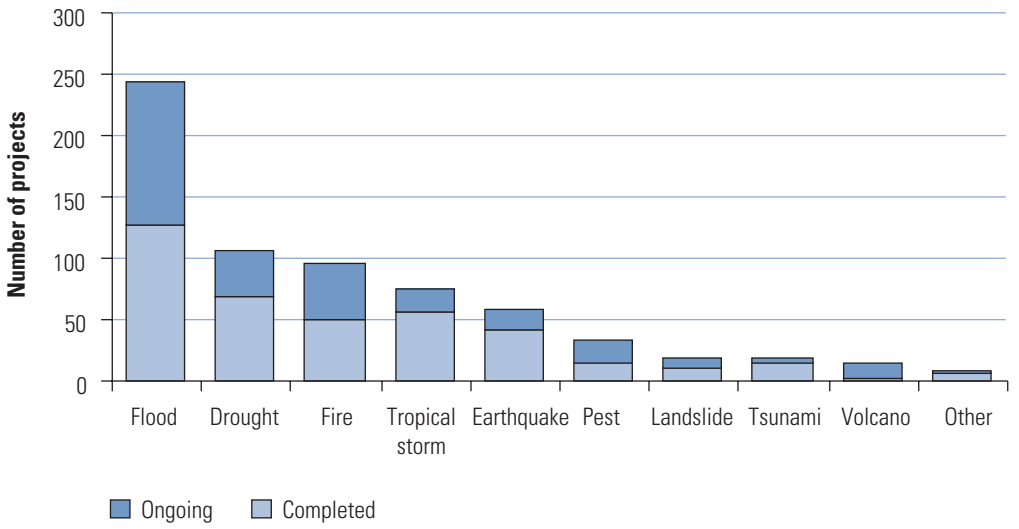
Source: World Bank data.

Figure C.2: Some Regions Have Natural Disaster Portfolios That Are Large Relative to Their Total Portfolios



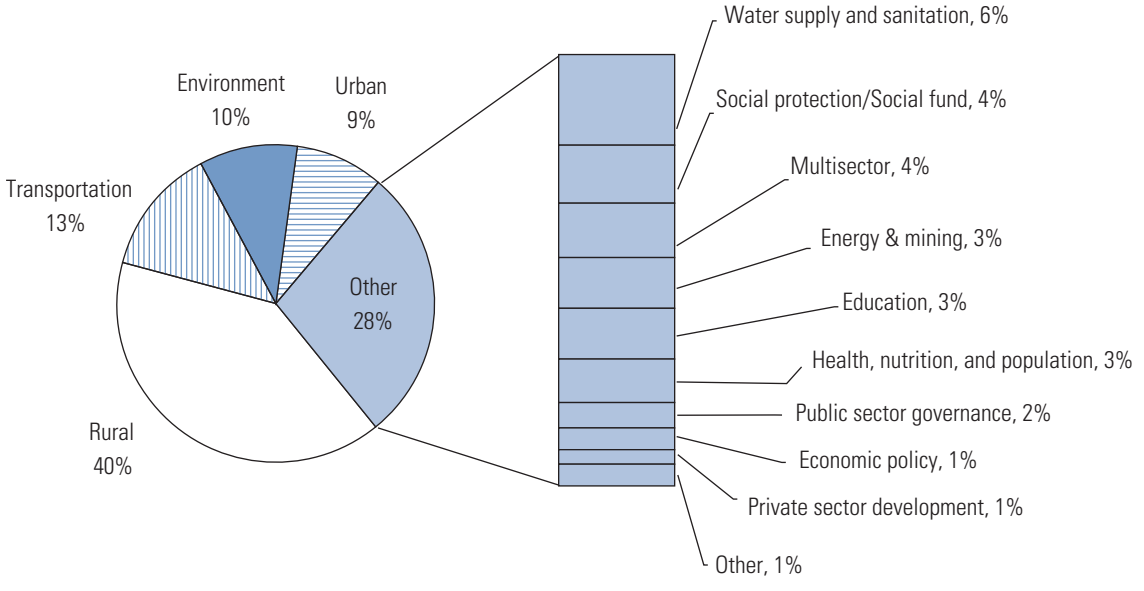
Source: World Bank data.

Figure C.3: The Bank Responds to Flooding More Often Than to Other Disaster Types



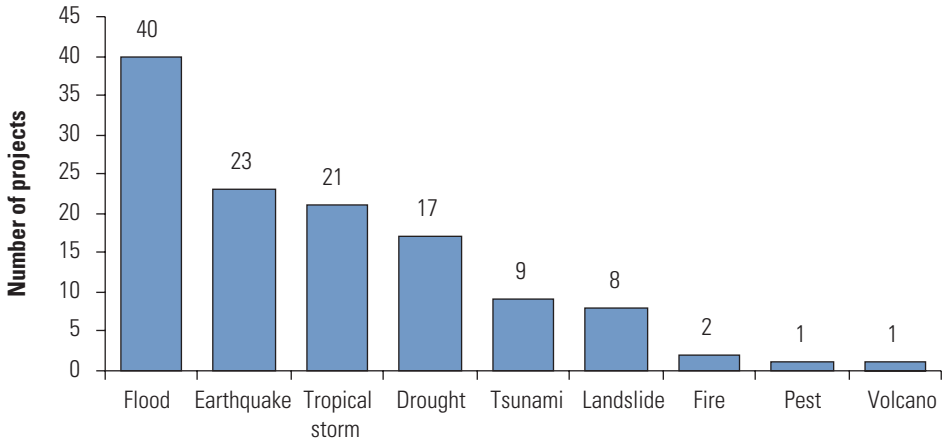
Source: World Bank data.

Figure C.4: The Rural Sector Implements the Largest Share of Projects



Source: World Bank data.

Figure C.5: ERLs Are Typically Used for Floods, Earthquakes, and Tropical Storms



Source: World Bank data.

Table C.1: Combined Loan Reallocations and Emergency Recovery Loans in Response to Major Natural Disasters (1984–2005)

Disaster	Project ID	Project name	Reallocation to the disaster (US$ million)	Total allocations to the disaster (US$ million)
2005 Grenada Hurricane Ivan	*P092692*	*Hurricane Ivan Emergency Recovery - Phase IV – Project (ERL)*	n.a.	10
	P077682	Emergency Recovery Project	0.4	
	P069922	Emergency Recovery and Disaster Management Program Project	3	9.7
	P076715	HIV/AIDS Prevention and Control Project	1.3	
	P077759	OECS Education Development Project	5	
2004 Bangladesh Flood	*P050752*	*Post-Flood Recovery Assistance Program*	n.a.	
	P050752	Post-Literacy and Continuing Education for Human Development Project	14	
	P044876	Second Female Secondary School Assistance Project	15	200
	P044789	Private Sector Infrastructure Development Project	154	
	P041887	Municipal Services Project	15	
	P009468	and Aquatic Resources Management (Fourth Fisheries) Project	2	
2002 El Salvador Earthquake	*P067986*	*Earthquake Emergency Reconstruction and Health Services Extension Project (ERL)*	n.a.	143
	P041680	Secondary Education	31.9	
	P050612	Education Reform		35.2
	P007167	Agriculture Sector Reform and Investment Project	3.3	

(*Table continues on the following page.*)

Table C.1: Combined Loan Reallocations and Emergency Recovery Loans in Response to Major Natural Disasters (1984–2005) (continued)

Disaster	Project ID	Project name	Reallocation to the disaster (US$ million)	Total allocations to the disaster (US$ million)
2001 Gujarat	*P074018*	*Gujarat Emergency Earthquake Reconstruction (ERL)*	n.a.	443
Earthquake in India	P009964	Haryana Water Resources Consolidation Project	37	
	P010455	Cataract Blindness Control Project	100.4	
	P010489	Andhra Pradesh First Referral Health System Project	7.5	
	P035827	Woman and Child Development Project	46.4	
	P010566	Gujarat State Highway Project	97	416
	P010561	National Agricultural Technology Project	23.2	
	P010531	Reproductive and Child Health	23.2	
	P043728	Environmental Management Capacity Building Technical Assistance Project	15.5	
	P035821	Second District Primary Education Project	23.2	
	P010522	Assam Rural Infrastructure and Agricultural Services Project	7.7	
	P010457	Family Welfare (Assam, Rajasthan, and Karnataka) Project	7.8	
	P009977	Second Integrated Child Development Services Project	27.1	
2001 Kenya	*P071196*	*Emergency Energy Credit (ERL)*	n.a.	72
Drought	P001331	Arid Lands Resource Management Project	1.03	1.03
2000 Mozambique	*P070432*	*Flood Emergency Recovery Project (ERL)*	n.a.	30
Floods and	P001804	Roads and Coastal Shipping Project	20	
Cyclones	P042039	Railways & Ports Restructuring Project	2	
	P001792	Health Sector Recovery	unknown	
	P001786	Education Sector Strategic Program	unknown	
	P001797	Capacity Building: Human Resources Development Project	3.6	57.1
	P001781	Agricultural Services Rehabilitation and Development Project	21	
	P039015	National Water Development Project	5.5	
	P083263	Second National Water Development Project - Supplemental Credit	5	
	P001806	Municipal Development Project	unknown	
2000 Colombia	*P065263*	*Earthquake Recovery Project (ERL)*	n.a.	225
Earthquake	P006854	Municipal Health Services Project	22.7	
	P006866	Secondary Education Project	50	93.7
	P006880	Agricultural Technology Development Project	15	
	P039291	Urban Environmental Management Project	6	
1999 Turkey	*P068368*	*Marmara Earthquake Emergency Reconstruction (ERL)*	n.a.	505
Marmara	P038091	Road Improvement and Traffic Safety Project	24	
Earthquake	P009071	Turkish Electricity Authority (TEK) Restructuring Loan Project	unknown	
	P009064	Employment & Training	10.8	
	P009089	Basic Education Project	46	257.3
	P009095	Primary Health Care Services Project	14.5	
	P009076	Second Health Project	100	

Table C.1: Combined Loan Reallocations and Emergency Recovery Loans in Response to Major Natural Disasters (1984–2005) (continued)

Disaster	Project ID	Project name	Reallocation to the disaster (US$ million)	Total allocations to the disaster (US$ million)
	P058877	Emergency Flood Recovery	62	
	P048852	National Transmission Grid Project	unknown	
1999 Dominican	*P063201*	*Hurricane George (ERL)*	n.a.	111
Republic	P035722	National Highway Project	7.5	
Hurricane George	P007020	Irrigated Land and Watershed Management Project	2	22.5
	P035494	Basic Education Development (02) Project	10	
	P007015	Provincial Health Services Project	3	
1999 Kyrgyz	*P062682*	*Flood Emergency Project (ERL)*	n.a.	35
Republic Flood	P046042	Irrigation Rehabilitation Project	4	4
1999 Kenya	*P056595*	*El Niño Emergency Project (ERL)*	n.a.	40
El Niño Flood	P001319	Urban Transport Infrastructure Project	37.5	37.5
1998 Ecuador	*P054656*	*El Niño Emergency Recovery Project (ERL)*	n.a.	60
El Niño	P007107	First Social Development Project-Education and Training	5	29.2
Phenomenon	P068739	Second Social Development Project-Health and Nutrition	13	
	P007115	Rural Development Project	11.2	
1998 Argentina	*P055935*	*El Niño Emergency Flood (SIL)*	n.a.	42
El Niño	P006051	Flood Rehabilitation	2	
Phenomenon	P006052	Flood Protection	101	117
	P006005	Provincial Development	14	
1998 Honduras	*P064083*	*Hurricane Mitigation (Honduras) BOP (ERL)*	n.a.	200
Hurricane Mitch	P007388	Transport Sector Rehabilitation Project	1	
	P064634	Transport Sector Rehabilitation Project	20	
	P007392	Nutrition and Health Project	10.4	
	P007396	Environmental Development Project	6	
	P007398	JSDF-Developing Central American Small Farmers Links to Specialty Coffee Market	5	127.9
	P007399	Basic Education Project	2.5	
	P048651	Fourth Social Investment Fund Project	45	
	P007387	Public Sector Modernization Structural Adjustment Credit	38	
1998 Poland	*P053796*	*Emergency Flood Recovery Project (ERL)*	n.a.	200
Flood	P008593	Second Roads Project	65	
	P008590	Housing Project	16	81
1997 Yemen	*P048522*	*Flood Emergency (ERL)*	n.a.	31
Flood	P062714	Irrigation Improvement Project	0.2	
	Unknown	Unknown	unknown	14.5

(*Table continues on the following page.*)

Table C.1: Combined Loan Reallocations and Emergency Recovery Loans in Response to Major Natural Disasters (1984–2005) (continued)

Disaster	Project ID	Project name	Reallocation to the disaster (US$ million)	Total allocations to the disaster (US$ million)
1995 Algeria Earthquake	*P038695*	*Mascara Emergency Reconstruction Project (ERL)*	n.a.	51
	Unknown	Rehabilitation Loan (proposed)	150	
	P004963	Enterprise and Financial Sector Adjustment Loan Project	350	500
	P004976	Housing Completion and Sector Development Project		
1994 Papua New Guinea Volcanic Eruption	*P054238*	*Second Gazelle Restoration Project (APL)*	n.a.	25
	P004386	Land Mobilization Project	5.7	
	P004387	Public Sector Training Project	12.5	27.2
	P004392	Education Development Project	5	
	P004381	Telecommunications Project	4	
1994 Madagascar Cyclone and Flood	*P035914*	*Cyclone Emergency Rehabilitation (ERL)*	n.a.	13
	P001507	Ports Rehabilitation Project	1.2	
	P001510	Highway Project	0.3	
	P001544	Economic Management and Social Action Program Project	0.9	10.1
	P001515	Education Sector Reinforcement Project	3	
	P001512	Antananarivo Plain Development	0.3	
	P001520	Health Sector Improvement Project	2	
	P001583	Antananarivo Urban Works Project	0.4	
	P001522	Irrigation Rehabilitation Project	2	
1994 Zimbabwe Drought	*P003330*	*Emergency Drought Recovery and Mitigation Project (ERL)*	n.a.	150
	P003309	*Third Power Project*	90	90
1993 Kenya Drought	*P001369*	*Emergency Drought Recovery (ERL)*	n.a.	20
	P001330	Animal Health Services Rehabilitation Project	2.5	
	P001317	Rural Services Design Project	2.75	8.95
	P001300	National Agricultural Extension Project	3.7	
1992 Zimbabwe Drought	*P003330*	*Emergency Drought Recovery and Mitigation (ERL)*		150
	P003294	Urban Project	25	
	P003305	Agricultural Credit and Export Promotion Project	7	37
	P003286	Railways Project	5	
1992 Sudan Drought	*P002645*	*Emergency Drought Recovery (ERL)*	n.a.	16
	P002608	South Kordofan Agricultural Project	2	
	P002597	Agricultural Research, Extension and Training Project	1.5	7.2
	P002640	Emergency Flood Reconstruction Project	3	
	P002613	Western Savannah Project	0.7	
1991 Bangladesh Cyclone and Flood	*P009549*	*Coastal Embankment Rehabilitation (SIL)*	n.a.	70
	P009435	BWDB Small Schemes Project		

Table C.1: Combined Loan Reallocations and Emergency Recovery Loans in Response to Major Natural Disasters (1984–2005) (continued)

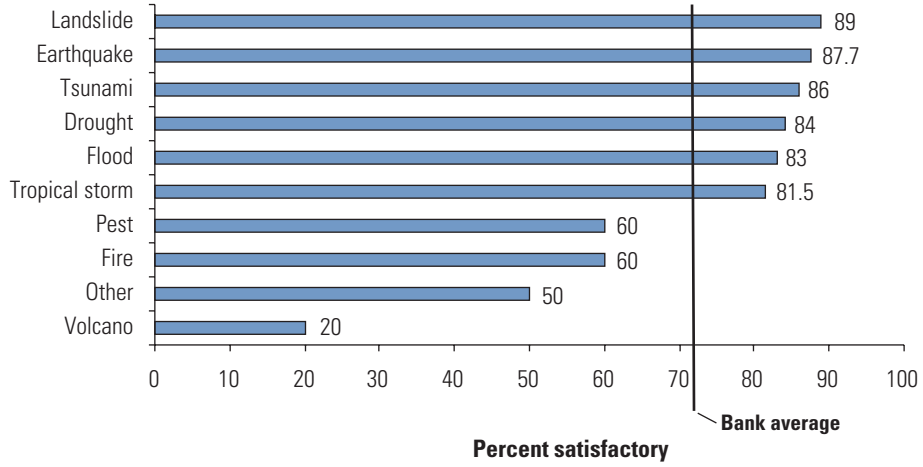
Disaster	Project ID	Project name	Reallocation to the disaster (US$ million)	Total allocations to the disaster (US$ million)
	P009481	Fourth Flood Control and Drainage Project	30.50	30.50
	P009512	Second Small-Scale Flood Control, Drainage and Irrigation Project		
1991 India	*P010362*	*Andhra Pradesh Cyclone Emergency (ERL)*	n.a.	210
Cyclone	P009843	Andhra Pradesh, Irrigation II	41	41
1990 Yemen	*P005896*	*Emergency Flood Reconstruction (ERL)*	n.a.	10
Flood	P005874	Highway Project (04)	5	
	P005883	Highway Project (05)	2	9
	P005871	Education Project (04) – YDR	2	
1989 Jamaica	*P007477*	*Emergency Reconstruction Import Loan (ERL)*	n.a.	30
Hurricane	P007444	Fourth Power Project	4	4
	P007439	Water Supply and Sewerage Technical Assistance and Rehabilitation Project	unknown	unknown
1989 Bangladesh	*P009541*	*Emergency Floods Rehabilitation III (ERL)*	n.a.	134
Cyclone and Flood	P009447	Second Primary Education Project	21	
	P009458	Population Project	unknown	
	P009425	Rural Electrification Project	unknown	
	P009424	Ashuganj Thermal Power Project	unknown	
	P009512	Small-Scale Drainage and Flood Control Project (02)	42	146.38
	P009491	Rural Roads and Markets Improvement and Maintenance Project	18.5	
	P009487	Flood Rehabilitation Project (02)	25	
	P009419	Drainage and Flood Control Project (02)	4	
	P009451	Power Transmission and Distribution Project	11	
	P009458	Population Project (03)	8.1	
	P009491	Rural Roads and Markets Improvement and Maintenance Project	16.78	
1989 Nepal	*P010326*	*Municipal Development and Housing Reconstruction (SIL)*	n.a.	42
Earthquake	P010199	Primary Education Project	2.4	2.4
1989 Sudan	*P002640*	*Emergency Flood Reconstruction Project (ERL)*	n.a.	75
Flood	P002581	Blue Nile Pump Schemes Rehabilitation Project	22.1	24.1
	P002587	Gezira Rehabilitation Project	2	
1988 Bangladesh	*P009487*	*Second Flood (Emergency) Rehabilitation (SIL)*	n.a.	25
Flood	P009447	Primary Education Project	16.7	
	P009458	Population Project	32.5	
	P009443	Port, Electrification and Supplemental Assistance Projects	unknown	61.34
	P009424	Ashuganj Thermal Power Project	unknown	
	P009419	Drainage and Flood Control Project	12.14	

(*Table continues on the following page.*)

Table C.1: Combined Loan Reallocations and Emergency Recovery Loans in Response to Major Natural Disasters (1984–2005) (continued)

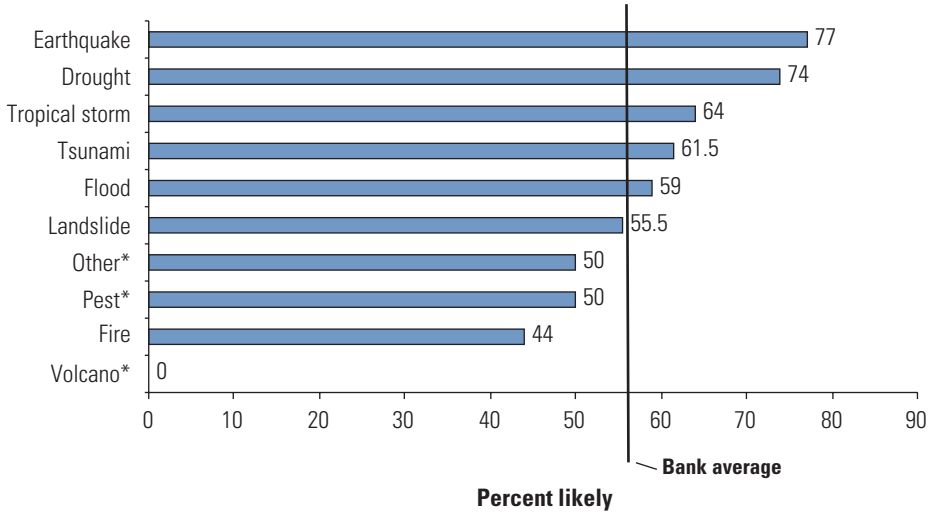
Disaster	Project ID	Project name	Reallocation to the disaster (US$ million)	Total allocations to the disaster (US$ million)
1988 El Salvador Earthquake	*P007163*	*Earthquake Reconstruction (ERL)*	n.a.	65
	P007156	Fourth Education Project	4.1	4.1
1988 Bhutan Pest	*P009573*	*Forestry Development II (SIL)*	n.a.	1
	P009569	Forestry Development Project	1.03	1.03
1988 India Drought	*P009992*	*Drought Assistance (ERL)*	n.a.	350
	P009828	National Bank For Agriculture and Rural Development (NABARD) Credit Project	100	100
1987 Yugoslavia Floods	*P009217*	Energy Conservation and Substitution Project	30	90
	P009231	Third Highway Sector Project	8	8
1986 Brazil Flood	*P006417*	*Northeast Urban Flood Reconstruction (ERL)*	n.a.	100
	P006324	NW Region Development Program (First Phase) Highway Project	60	60
1985 Madagascar Cyclone and Flood	*P001524*	*Cyclone Rehabilitation Project (ERL)*	n.a.	15
	P001524	Cyclone Damage Rehabilitation Project (01)	15	
	P001481	Education Project (02)	0.7	
	P001489	Water Supply and Sanitation Project (01)	2	18.2
	P001498	Highway Project (06)	0.5	
	P001484	Fifth Highway Project	unknown	
1985 Bangladesh Cyclone and Flood	*P009488*	*Flood Rehabilitation (ERL)*	n.a.	30
	P009392	Drainage and Flood Control Project	6.8	18.9
	P009419	Second Drainage and Flood Control Project	12.1	
1984 Mexico Earthquake and Flood	*P007580*	*Lazaro Cardenas Idustrial Port III (SIL)*	n.a.	76
	P007723	Highway Rehabilitation and Safety Project	unknown	
1984 Colombia Earthquake	*P006786*	*Popayan Region Earthquake Reconstruction (ERL)*	n.a.	40
	P006754	First Urban Development Project	6.4	7.7
	P006761	Medium and Small Size Cities Water Supply and Sewerage Project	1.3	

Figure C.6: Outcome by Disaster Type



Source: IEG data.

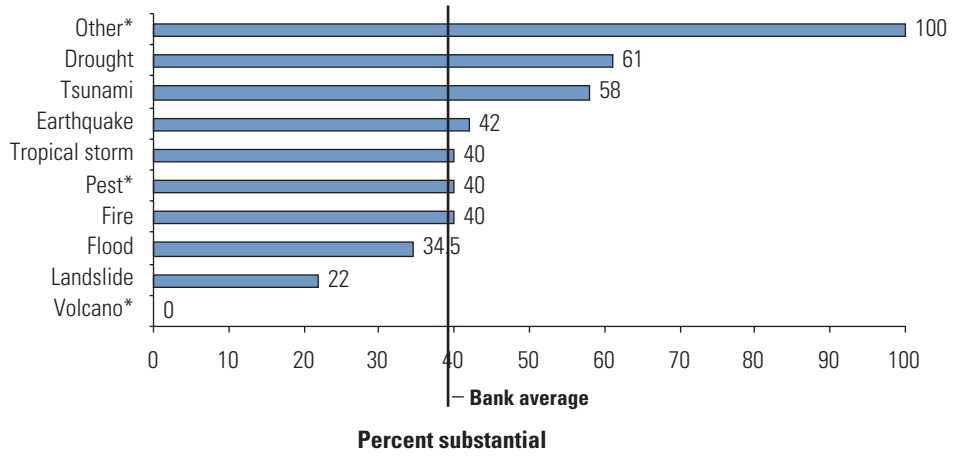
Figure C.7: Sustainability by Disaster Type



Source: IEG data.

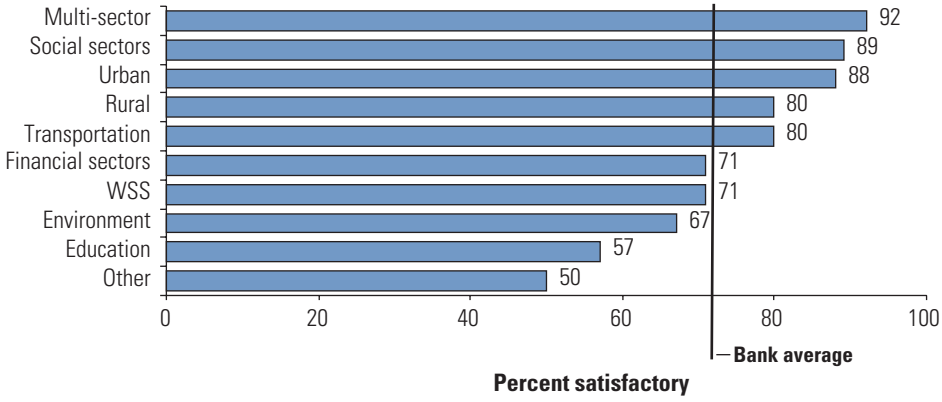
Note: * = fewer than 5 projects.

Figure C.8: Institutional Development Impact by Disaster Type



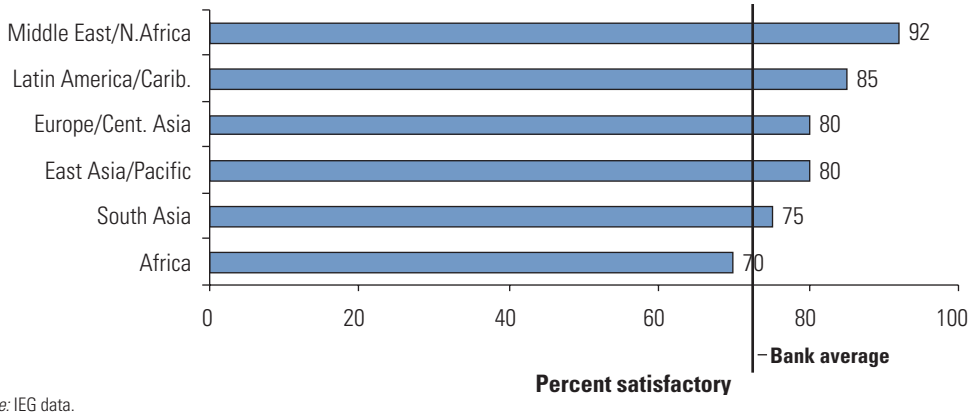
Source: IEG data.
Note: * = fewer than 5 projects.

Figure C.9: Outcome by Sector



Source: IEG data.

Figure C.10: Outcome by Region



Source: IEG data.

Table C.2: Project Outputs and Outcomes

Positive results		Negative results	
Successful restoration of physical assets	115	Subsequent disaster lessened the project's impact	73
Successful mitigation activities	86	Unsuccessful mitigation activities	32
Successful institutional development/institutional objectives were met	48	Infrastructure reconstruction was not completed / not successful	28
Successful poverty alleviation	41	Problems with procurement had a negative impact	27
Research program was implemented	18	Lack of maintenance lessened the project's impact	22
Beneficiary contribution had positive impact	16	Shortfall in counterpart funding	22
Involvement of local community in mitigation activity	12	Conceptual failure during design	19
Successful distribution of project-financed inputs	12	Objectives not attained due to reallocation	18
Successful restoration of social assets	9	Research component not undertaken / not implemented	17
Training had positive results	9	Problems with distribution of resources, goods, or services	13
Reallocation of funds described as having led to a good result	8	Uncooperative posture of government ministry	13
Successful poverty alleviation	7	M&E incapable of identifying extent of reconstruction achievements	12
Dynamic staff influenced implementation positively	6	Unsuccessful institutional development	12
Successful resettlement	5	Cost recovery failed	9
M&E improved	4	Political interference	9
Positive impact on private sector	4	Unsuitable technical staff	9
Procurement was well managed	4	Failure to implement TA	7
Modifying eligibility criteria/scope during implementation was important	3	Implementation agency not ready to implement	7
Project simplification was positive	3	Overambitious objectives	7
Successful distribution of cash subsidies	3	Neglect of stakeholders / vulnerable groups	6
Better maintenance introduced	2	Staff turnover had negative impact	6
Integration of disaster mitigation into projects in the respective country	2	Assessment data incomplete or inaccurate	5
Rapid Bank response had positive impact	2	Beneficiaries acted in unexpected ways	4
Root causes of environmental degradation addressed	2	Difficulties with land acquisition	4
Skills acquired by project implementers helpful for other projects financed by the Bank	1	Project scaled down due to slow implementation	4
Staff continuity had positive results	1	Root causes of environmental degradation not addressed	4
Successful damage assessment	1	Poor economic recovery	3
The Bank helped borrower leverage funds from other donors	1	Resettlement failed	3
		Reconstruction problems associated with pursuit of speed	2
		Target group missed	2
		Unsustainable local support/capacity	2
		Collected data were not analyzed	1
		Default by public agency partners	1
		Duplication of efforts with other donors	1
		Micro enterprise component not realized	1
		Other donors backed out with negative consequences for project achievements	1

Table C.3: How Other Donors Handle Natural Disasters

Issue	ADB	IDB
Do they have a disaster unit?	Planned	Yes
What is their organizational structure for disaster issues?[b]	A Disaster Unit is planned, and ADB is currently recruiting.	Decentralized network of DRM Focal Points. IDB has 36 disaster risk management focal points: 26 in the country offices and 10 in headquarters (2 in central department -SDS-; 1 in each of the three environment divisions of the operational departments; 1 in each of the Finance/Infrastructure divisions of the 3 operational departments; 2 in the country divisions). The center focal point provides training, facilitates regional dialogue, and provides support. The Sector Facility for Disaster Prevention (March 2001). Mainstreams instruments such as the project preparation checklists and indicators. They also conduct other training on risk management for staff, and provide special briefings for executive directors on instruments for disaster risk mitigation.
Do they have a policy that covers natural disasters?	Yes[c] "Rehabilitation after Disasters" (OM Section 25) "Emergency Rehabilitation Assistance Loan for Small Developing Member Countries (DMCs)" (OM Section 24, June 1998) "Disaster and Emergency Assistance" (OM Section D7/BP, June 2004)	Yes March 1999: "Natural and Unexpected Disasters" (IDB Operational Policy 704)[d] A "Plan of Action" was created in March 2000 to put the "Natural and Unexpected Disasters" policy into motion. A new financing mechanism, the "Sector Facility for Natural Disaster Prevention" (see below) was created a year later. Gn-2339, the "Bank Action Plan for Improving Disaster Risk Management 2005-08." New IDB-wide action plan published in March 2005. This action plan includes dedicated DRM activities for 2005-2008 with trust fund support.
Do they implement natural disaster projects?	Yes	Yes
Do they have specialized instruments or lending/grant tools?	Yes *Analytical instruments:* —Risk and Vulnerability Assessment	Yes Emergency Reconstruction Facility (ERF)[f] Created in November 1998, this stand-alone immediate

UNDP[a]	World Bank	EBRD	AfDB
Yes	No	No	No
The Bureau for Crisis Prevention and Recovery (BCPR) Disaster Reduction Unit (DRU) Helps UNDP country offices set up and provide more effective response for natural disaster reduction. The DRU is made up of seven Geneva-based professionals and 20–24 National Disaster Reduction Advisors, and four Regional Disaster Reduction Advisors (Bangkok, Nairobi, New Delhi, Panama). The DRU hosts the Secretariat of the United Nations Disaster Management Training Program.	The World Bank has a Hazard Management Thematic Group within the Bank. There was a Hazard Management Unit with one disaster specialist and one information specialist until 2005.	EBRD works primarily in loans to the private sector. Where projects face disaster risk, insurance is a condition.	AfDB has funded a number of 6-month-long relief operations, however.
Yes At the 52nd session of the UN General Assembly, UNDP was given a mandate to act as the focal point for disaster risk reduction. Guidance is given in the form of strategy notes and tools.	Yes OP/BP 8.50 "Emergency Recovery Assistance" Currently undergoing revisions.	No	Yes The Bank Group Emergency Assistance Policy Guidelines The Special Relief Fund General Regulations ("SRF")
Yes	Yes	No[e]	Yes
Yes UNDP provides:	Yes Emergency Recovery Loans (ERLs) Loan Reallocations	No	Yes Emergency Assistance Grants from the Special Relief Fund

(*Table continues on the following page.*)

Table C.3: How Other Donors Handle Natural Disasters (continued)

Issue	ADB	IDB
	—Watching Brief —Damage and Needs Assessment *Assistance instruments:* —Portfolio Restructuring and Use of Loan Savings —Emergency Assistance Loans (EALs) —Normal lending —Technical assistance for disaster and emergency	response facility (PR 806) is a financing window directed at improving the IDB's response time to natural disasters. The unit operates under a set of streamlined eligibility and approval procedures and can enable resources to reach the country in need within the first few weeks after the disaster.[g] Emergency loans with flexible requirements for counterpart funding from the borrower (unlike their regular loans). National, provincial, state and municipal governments and autonomous public institutions are eligible to borrow from the IDB for disasters.
Do they fund relief projects?	No	No
Do they fund reconstruction?	Yes	Yes
Do they reallocate existing funding to respond to natural disasters?	Yes Portfolio restructuring and use of loan savings is included as part of the initial damage and needs assessment "…In special cases with particularly urgent rehabilitation needs, ADB may reallocate outstanding loan proceeds for rehabilitation purposes …However, this option will not be detrimental to normal lending operations in the country and will be consistent with the government's priorities given the emergency."	Yes Not executed by operational staff. Rather, it is decided at the institutional level, and if the objectives are altered, the project has to go again for approval. The original objectives are preserved as much as possible. Need to consider opportunity costs. How the reorienting is done is critical. For example, in El Salvador, all of the sectors were affected by the twin earthquakes, and reorienting the country's portfolio made sense, given that the entire portfolio was affected.
Do they invest in prevention, preparedness, and/or mitigation?	Yes	Yes Established a natural disaster network. First phase of a study on national systems and institutional mechanisms for the comprehensive management of disaster risk completed. Second phase will concentrate on Bolivia, Colombia, the Dominican Republic, and El Salvador.

UNDP[a]	World Bank	EBRD	AfDB
—access to TRAC 1.1.3 sudden response funds to the UN Resident Coordinator in the event of major natural disasters. —Technical assistance to carry out impact assessments and to design sustainable recovery and vulnerability reduction frameworks and programs.	Regular lending Technical assistance Damage assessment Risk assessment		
Yes[h]	No	No	Yes
Yes	Yes	No	No
Yes	Yes The World Bank's Operational Manual considers a "major" reallocation one that reallocates over 5 percent of the loan or requires major changes in project description. Among 152 projects for which reallocated amounts could be identified, all but five were major reallocations that exceeded the 5 percent threshold. For more information, see Chapter 2 of this report.	No	No
Yes Early recovery initiatives, building mitigation and preparedness measures into the rebuilding process. Mainstreaming crisis prevention into its work using policy dialogue, staff training, and knowledge networking. Mainstreaming disaster reduction into development policy, strategies, plans and programs.	Yes Number of mitigation activities in projects has grown, with a shift from structural measures, which are still important, to non-structural measures such as institution building for hazard management policy changes, the preparation of hazard management plans, land use plans, enforcement of building codes, and insurance.	No	No

(*Table continues on the following page.*)

Table C.3: How Other Donors Handle Natural Disasters (continued)

Note: ADB = Asian Development Bank; IDB = Inter-American Devemopment Bank; UNDP = United Nations Development Program; EBRD = European Bank for Reconstruction and Development; AfDB = African Development Bank.

a. http://www.undp.org/bcpr/disred/index.htm

b. Bilaterals, such as DFID and USAID, also had disaster units. DFID has a team of seven experts, with a Humanitarian Response and Risk Reduction Team leader. In addition, six institutional partnership staff spend part of their time focusing on natural disasters. There is also the Operations Team comprised of 24 Crown Agent staff that are contracted to provide humanitarian expertise such as needs assessment and appropriate responses. They have an operational capacity as well, and thus can be deployed in the aftermath of a disaster to provide on-the-ground assessment and also to support United Nations agencies (included are finance, logistics, and support staff). USAID's Office of Foreign Disaster Assistance (OFDA) employs approximately 25 disaster professionals in their regional teams, 11 in the technical assistance group, and 7 in the evaluation and planning team.

c. http://www.adb.org/Documents/Manuals/Operations/om24.asp?p=aadb

d. This policy is in force, but IDB is currently developing a new disaster risk management policy, which emphasizes risk management capacity building, and calls for the mainstreaming of risk analysis and management in IDB's lending operations. The policy encompasses activities that take place before, during, and after an emergency occurs.

e. Some of EBRD's projects have been affected by natural disasters, but none is a disaster project, per se.

f. Also referred to as the "Immediate Response Facility for Emergencies Caused by Natural and Unexpected Disasters."

g. With the approval of the Executive Board, the president can approve a loan of up to $100 million if it meets the eligibility criteria. Otherwise, the maximum amount for an individual loan through the ERF is $20 million. The ERF provides for an investment loan with a fixed positive list of 10 items for recovery that do not require complex or long-term decisions (e.g., rubble clearance). Must disburse in 9 months, or all remaining will be cancelled in 12 months. This avoids wrapping immediate needs with other goals that require careful planning and more time.

h. The UNDP "picks up where humanitarian relief leaves off" and supports early recovery initiatives by building in mitigation and preparedness measures in the rebuilding process.

APPENDIX D: SURVEY RESULTS

Task Manager Survey

A survey of World Bank task managers was conducted in September and October 2004 to gather insights gleaned from the staff's experience working on natural disaster recovery and reconstruction projects. This section presents a summary of the answers obtained from the 19 questions originally posed in the survey.

To organize and summarize data, responses to the open-ended questions were grouped into categories, when this method seemed appropriate. A two-step process was used to identify and organize the categories. First, the respondents' comments were grouped according to specific key words taken from their direct statements. When this approach yielded too many unrelated groupings, a category best summarizing the overall statement was imposed on the comments. Where a significant aspect of the message was likely to be subsumed by combining categories, a decision was made not to combine the categories. The categories are sorted according to their frequency.

Survey Size and Response Rate

The survey did not select a sample, but instead opted to use the complete universe of respondents based on their involvement in at least one project in the natural disaster portfolio. Two-hundred and nineteen permanent staff and long-term consultants were identified, and a survey was sent to each of them. Among the employees identified, 34, or 16 percent, responded to the survey. While this represented a relatively low response rate, it was not deemed unusual for Bank staff preoccupied with implementation.

Survey Questions and Responses

1. ***If there was something you did during the course of a natural disaster-related project that you consider best practice, please describe it here.***

   Twenty-four task managers answered the question. Of these managers, 12 described specific disaster-related projects on which they had worked. Eight referred to a single project, while the remaining four referred to two, three, four, and five projects. The projects were located in the following countries: Afghanistan, Argentina, Bangladesh, Belize, the Caribbean, China, Djibouti, Dominican Republic, El Salvador, Honduras, India (4), Madagascar (2), Nicaragua, Sudan, Turkey, and Yemen.

   The best practice activities they described are summarized below.

   - Areas where cooperation with other donors is especially important (5)
   - Different kinds of post-disaster assessments (5)
   - Ideas on mitigation and disaster preparedness (5)
   - How to overcome bottlenecks in procurement (4)
   - Different approaches to housing reconstruction (3)
   - Loan reallocations as a way to provide funds quickly (3)
   - Early supervision (3)
   - How to improve project design (3)

- Importance of rapid project preparation (2)
- How to establish an implementation unit (2)
- Bank-financed relief and consumption (2)
- Handle safeguards parallel to implementation (1)
- Financial service products for rural areas (1).

2a. What types of project designs or activities, if any, should Bank-financed disaster lending or nonlending services avoid?

Twenty-seven task managers responded to this question. Some focused on what activities the Bank should support instead of stating what activities the Bank should avoid. The activities to be avoided include:

- Financing relief (5)
- Policy-related conditionality (4)
- Multisector programs (3)
- Designing overly ambitious disaster management institutions (3)
- Duplication of efforts with other donors (2)
- Creating new implementation units (1)
- Loan reallocations (1)
- Cash transfer to individuals (1)
- Activities that perpetuate a "hand-out" mentality (1)
- Social sector work (1)
- Budget support (1)
- Too many components in one project (1)
- Undermining sector strategy (1)
- Using ERLs and instead focusing on loan reallocations (1).

It is important to note that while three respondents thought that the Bank should avoid financing relief, one respondent supported the notion that the Bank should finance relief if necessary. He stated: "[The Bank] can't finance immediate disaster relief, which is mandate of other agencies. However, some flexibility is needed here; for instance, if medicines and blankets are needed, [the Bank should] finance them." Another task manager cited financing relief (blankets, nutrition kits, water purification tablets, and the like) as a best practice example (see above, question 1).

2b. What types of disaster-related project designs or activities is the Bank particularly good at?

Twenty-six task managers responded to this question. Their responses were categorized in the following way:

- Infrastructure reconstruction (12)
- Designing and implementing complex projects (5)
- Mitigation activities (4)
- Post-disaster assessments (3)
- Early capacity building in fiduciary support (2)
- Reacting with flexibility to a crisis using demand-driven projects (2)
- Balance of payment loans, supplemental loans, and reallocations (2)
- Donor coordination (1)
- Rehabilitation of social services (1).

When asked in what areas the Bank should increase its focus, the staff's answers were as follows:

- Outsourcing projects to NGOs (2)
- Developing insurance schemes (1)
- Making broader use of ERLs (1)
- Simplifying procurement procedures (1)
- Establishing strong project management (1)
- Introducing independent monitoring and evaluation (1)
- Establishing effective Bank teams (1)
- Improving mitigation measures (1).

3. Is the Bank's disaster-related lending focused enough on the poor? Yes/No

Yes: 18
No: 11
No response: 5

4b. How could the Bank's disaster-related lending better address the needs of the poor?

Twenty-six task managers responded to this question and offered the following suggestions:

- Developing comprehensive prevention and mitigation programs (7)
- Placing more emphasis on supporting rural areas (4)
- Supporting livelihood and using local labor (4)
- Focusing more on community-based approaches (4)
- Undertaking poverty analysis (4)
- Involving NGOs (2)
- Promoting trade and industry to increase growth (1)
- Including social capital restoration (1)
- Reconstructing basic infrastructure (1)
- Focusing grant funds from bilateral and other donors on poverty alleviation (1).

5. How can the Bank increase the effectiveness of coordination with other agencies involved in disaster prevention or response?

Twenty-six task managers responded to this question, some providing more than one answer.

Addressing the coordination with other agencies for disaster prevention, the responses included the following:

- Mainstream cooperation in everyday work (8)
- Strengthen the Bank's Hazard Mitigation Unit (3)
- Use agencies that are politically and socially closer to the affected people (1).

With respect to the coordination with other agencies for disaster response, task managers had the following to say:

- Strengthen the government to better respond to natural disasters (5)
- Prepare a common strategy (5)
- Broad communication is important (4)
- The Bank should take the lead in project preparation (3)
- Mutual training and knowledge transfer (2)

- Organize joint assessment missions (2)
- Create a permanent multi-donor task force for disaster response (1)
- Let other agencies be responsible for implementation (1).

6. ***What lessons have you learned about assessing damages after a major disaster event that the Bank or its borrowers need to take into account?***
   Twenty-five task managers responded to this question. While most answers addressed damage assessment, some focused on the related needs assessment.

   - Help build in-country capacity for data collection prior to the disaster (7)
   - Speed is more important than accuracy (6)
   - Involve the government and NGOs for damage assessment (5)
   - Take into account that damage is usually overestimated in the beginning (2)
   - Professional multisectoral teams are needed (2)
   - The Bank should use accelerated internal procedures to facilitate swift damage assessment (1)
   - Pay less attention to social and more to legal, institutional, and technical issues (1)
   - Distinguish between neglected maintenance and damage (1)
   - Identify measures to prevent future damage (1)
   - The Bank should rely more on expert agencies such as the Economic Commission for Latin American and the Caribbean (ECLAC) (1)
   - Assess what withstood the disaster (1)
   - Use digital cameras to document the damage to private property (1).

For those respondents who discussed needs assessments, their answers were as follows:

- Deal with unrealistic expectations early on (3)
- High-quality needs assessment is important (3).

7. ***Which beneficiary participation activities significantly enhance the implementation of disaster-related lending?***
   Twenty-two task managers provided relevant information on this question. They identified the following activities:

   - Activities at the local level (8)
   - Activities with benefits for individual beneficiaries (4)
   - Providing beneficiaries with information (4)
   - Consultation with beneficiaries (4)
   - Participation in housing reconstruction (3)
   - Developing a suitable early warning system (1)
   - Formulation of a safety net (1)
   - Activities on the policy level (1)
   - Quality monitoring (1)
   - Disaster management courses for mayors and government officials (1)
   - NGO-led activities (1).

   According to the respondents, beneficiary involvement was deemed useful during the following phase:

   - During the relief phase (1)

- During project identification (1)
- During the project planning phase (1)
- During the reconstruction phase (1).

8. ***Under what circumstances, if any, have you seen beneficiary participation be counterproductive in the post-disaster context?***
   Sixteen task managers responded to this question. Five of them did not see beneficiary participation as counterproductive. The eleven task managers who indicated some form of counterproductivity provided the following examples:

   - When projects involve beneficiaries in damage and needs assessment, which might cause small-scale corruption (4)
   - When projects involve beneficiaries in managing and distributing emergency assistance (1)
   - When authorities are corrupt (1)
   - When there is a lack of a good communication strategy with the public (1)
   - When the main beneficiaries are not the people participating (1)
   - When beneficiary participation is difficult for major infrastructure reconstruction (1).

   In some cases, task managers identified specific circumstances under which counterproductivity may arise. They included:

   - Mass mobilization (1)
   - Disease prevention (2)
   - Combined natural disaster and civil unrest (2).

9. ***What can be done to increase borrower ownership of disaster prevention/mitigation components in natural disaster-related projects?***
   Twenty-four task managers responded to this question. Three of them stated that they had not encountered a lack of borrower ownership after a natural disaster. Twenty-one task managers provided comments that can be grouped into the following categories:

   - Develop good communication strategies (10)
   - Empower implementing ministries in each sector (4)
   - Ensure a strong implementation task force (3)
   - Involve beneficiaries in project design (2)
   - Create incentives for better government planning (2)
   - Provide more supervision (1)
   - Recognize the role that the media play in emergencies (1)
   - Promote the government's regulatory role (1)
   - Provide assistance rapidly (1)
   - Borrower ownership must be a prerequisite for Bank involvement (1).

   Some staff provided specific activities, including analytical and advisory assistance (AAA), workshops, capacity building, and establishing data preservation systems.

10. ***Have you utilized the Hazard Management Unit (HMU), formerly known as the Disaster Management Facility? Yes/No?***
    Yes: 8
    No: 23
    No response: 3

If task managers had used the HMU, they were asked the following questions:

10a1. What aspects of its assistance were helpful?

All eight respondents that used the HMU commented on its helpful assistance in the following areas:

- Providing advice (7)
- Providing project documentation / institutional memory (4)
- Maintaining consultant database (2)
- Offering other support (1).

10a2. What additional services would you like to see provided?

Six of the eight task managers that used the HMU provided comments on additional services the HMU could provide. These services included the following:

- Topics for disaster-risk management courses (2)
- Seed funding for supervision (1)
- Knowledge sharing services (1)
- Technical assistance (1)
- Additional staff for the HMU (1).

10a3. What services that it provides should be improved?

Four of the eight task managers that used the HMU provided ideas on how to improve its services, including:

- Providing more assistance in designing prevention policies (1)
- Offering more training (1)
- Organizing a more active thematic group (1)
- Promoting adjustments of the Bank's ERL guidelines (1)
- Using mitigation as a safeguard and mainstream it in regular lending activities (1)
- Promoting the Bank's operational experience in conferences around the world (1).

If task managers had not used the HMU they were asked the following question:

10b1. What types of support do task managers confronting disaster need from the Hazard Management Unit?

Ten task managers that had not used the HMU suggested the following types of support:

- Provide advice and technical and procedural assistance (5)
- Provide support in damage and needs assessment (4)
- Combine the different emergency facilities into one (1)
- Increase HMU's visibility within the Bank (1).

11a. After Board approval, what avoidable delays have you encountered in disaster-related projects?

Twenty-two task managers responded to this question. They raised the following issues that contribute to delays:

- Procurement and disbursement issues (15)

- Delays related to institutional arrangements within the implementation agencies (5)
- Political reasons (3)
- Safeguard issues (2)
- Lack of effectiveness conditions (1)
- Lack of Bank management support (1)
- Lack of disaster relief institution in the country (1)
- Lack of seed money (1)
- Project start up (1).

11b. What, if anything, could the Bank do about these delays?

Nineteen task managers provided ideas on how to avoid delays between Board approval and effectiveness:

- Simplify procurement guidelines (4)
- Develop simple project designs (4)
- Provide seed money (3)
- Generate ideas on how to overcome political hurdles in the country (3)
- Set up an implementation unit under the umbrella of the highest level of management (2)
- Set up strong implementation teams (2)
- Change legal requirements (2)
- Overcome lack of in country capacity (1)
- Establish disaster prevention and relief organization (1)
- Relax effectiveness conditions (1).

12. What new directions should the Bank's efforts in natural disaster prevention and mitigation take?

Twenty-three task managers answered this question. Their responses offered a broad range of advice:

- Strengthen prevention activities (17)
- Change Bank procedures (5)
- Innovation in providing relief (4)
- Lend directly to local authorities (3)
- Focus on capacity building (2)
- More research and best practice examples for disaster management (2)
- Combine the Bank's different emergency facilities for hazards, civil war, and LICUS into one (1)
- Use direct budget support instrument (1).

13. What additional disaster-related lending or nonlending services might the Bank offer?

Nineteen task managers answered this question. Their thoughts covered a number of areas, including:

- Research and advisory activities (7)
- Use different financing mechanisms (6)
- Provide more grant-based funding / seed funds to speed up project preparation and reduce vulnerability (5)
- Increase knowledge sharing and awareness (4)
- Increase safety in privately owned houses and apartment buildings (2)

- Offer relief coordination and management services (2)
- Increase safety (2).

14. What aspects of the Bank policy governing natural disasters (OP 8.50 Emergency Recovery Lending) do you feel need to be changed during the ongoing policy revision exercise?

Fourteen task managers responded to this question. Their comments were as follows:

- Change ways of disaster financing (6)
- Create incentives, planning, and economic instruments for prevention (3)
- Simplify the current policy (2)
- Develop a future policy that is more explicit on safeguards (2)
- Consider financing relief (2)
- Develop emergency procedures for project implementation, not only for preparation (1)
- Create separate policies for natural disasters, post-conflict situations, and so on (1).

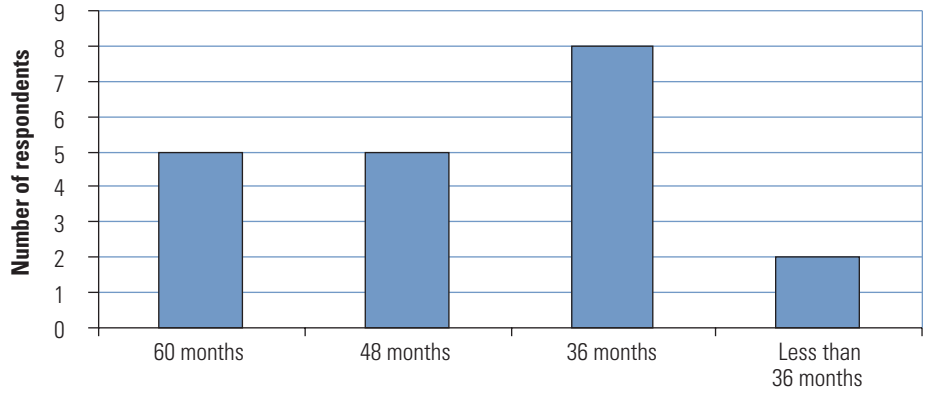
15. Do you believe that the majority of Bank-financed disaster projects achieve their disaster prevention/mitigation objectives? Yes/No

Yes: 14
No: 10
No response: 10

16. Emergency Recovery Loans are currently allotted 36 months for implementation. In a revision of OP 8.50 (Emergency Recovery Assistance), how many months would you allocate for implementation?

Average:	**43.5**
Did not respond	9
60 months	5
48 months	5
36 months	8
Less than 36 months	2
No ERLs	1

Figure D.1: Suggested Implementation Time for ERLs

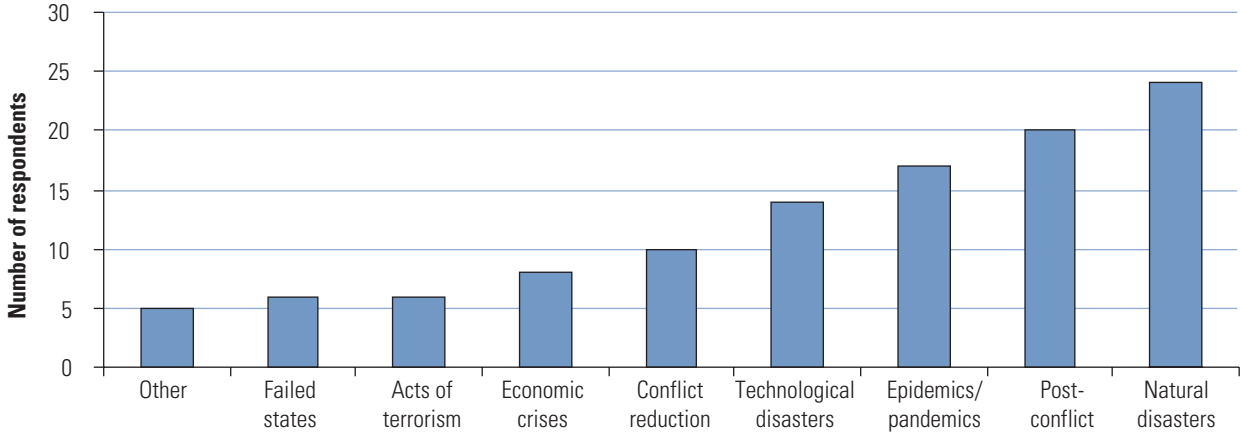


17. During the current revision of OP 8.50, what types of emergencies would be appropriate for the new policy to cover? (Please check all that apply):

Twenty-seven task managers answered this question, and provided the following feedback:

Epidemics/pandemics:	17
Post-conflict:	20
Conflict reduction:	10
Failed states:	6
Natural disasters:	24
Technological disasters:	14
Economic crises:	8
Acts of terrorism:	6
Other:	5
No response:	7

Figure D.2: Importance Task Managers Attribute to Emergency Types to Be Covered by a Future Policy on Emergency Lending



18. What training should be provided to task managers new to disaster?

Thirty-one task managers answered this question. Their comments were as follows:

- A short disaster training course for all task managers (6)
- A mandatory training course for all task teams starting a disaster-related project (14)
- A training course for only those task teams that request one (4)
- No training is needed (1)
- Other (5).

19. If there is something else that you would like to say about the effectiveness of Bank activities in the post-disaster context, please note it here.

Only one task manager responded to this question, adding the following comment:

- Increase flexibility. especially in procurement (1).

El Salvador Beneficiary Survey

IEG fielded a mission to El Salvador in September 2003 to review the results of the El Salvador Earthquake Reconstruction Project (L2873-ES) and to conduct a survey with the beneficiaries of the emergency housing component. The survey examined project impacts seven years after the loan closed. A total of 918 housing units were visited in greater El Salvador (including Apopa and Santa Tecla). In six neighborhoods of single-family homes, surveyors visited 753 units, and in four neighborhoods of multistory condominium buildings, surveyors visited 165 families. Table D.1 shows the response rate.

A team of four surveyors conducted the survey under IEG supervision. The following survey instrument was developed in conjunction with the Ministry of Foreign Relations' Department of External Cooperation. The housing units surveyed covered the work of the four participating financial institutions: CREDISA, CASA, Atlacatl, and AHORROMET. It was not possible to use random sampling. In many areas housing was not numbered and streets had no visible name. It also was not possible to find maps of the communities.

Surveyors were unwilling to enter a number of communities for safety reasons, and government informants concurred that the risk was as great as the surveyors described. The surveyors stayed in visual contact with each other at all times, going to all the units on every street or floor. A vehicle was placed at the disposition of the survey team, and the driver assisted with the monitoring of gang activity. Work in each community ended when the survey team or the driver felt endangered, or at the end of the working day. The surveyors participated in the data analysis process. At the end of each day, there was a debriefing with the task manager. At the end of the analysis process, the team presented written and oral observations.

Table D.1: General Survey Information

	Number	Percent
Housing units visited	918	
Consent to be interviewed	465	51
Abandoned/uninhabited units	89	10
Declined to be interviewed	364	39

Table D.2: El Salvador Survey: Responses from Individual Neighborhoods

		Bosque de Prusia	Los Almendros	Los Naranjos	Monte Carmelo	Res. Europa	Resid San Lucas	Condo America	Condo el Bosque	Condo Marconi	Condo San Miguelito
General interview info	Condo/casa	casa	casa	casa	casa	casa	casa	condo	condo	condo	condo
	Number of houses visited	103	149	121	146	129	105	60	33	48	22
	Percentage interviewed	43.7	64.4	66.9	47.9	51.2	51.4	30.0	42.4	22.9	45.5
	Percentage of nonrespondents (sum of next two)	56.3	35.6	33.1	52.1	48.8	48.6	70.0	57.6	77.1	54.5
	Percentage of abandoned/uninhabited units	7.8	4.7	14.9	11.0		18.1	6.7	21.2	16.7	9.1
	Percentage of inhabited but nonrespondent units	48.5	30.9	18.2	41.1	49.0	30.5	63.3	36.4	60.4	54.5
						Percent					
1. Alguien ocupo la casa antes de usted?											
si		35.6	38.5	37.0	30.0	19.7	31.5	44.4	35.7	33.3	20.0
no		64.4	61.5	63.0	70.0	80.3	68.5	55.6	64.3	66.7	80.0
											100.0
2. Cual es su situacion referente a esta casa?											
proprietario		79.5	86.6	75.3	77.1	46.2	81.8	37.5	84.6	72.7	90.0
con promesa de venta		0.0	5.2	3.7	0.0	7.7	1.8	0.0	0.0	0.0	0.0
alquilando		20.5	7.2	16.0	10.0	46.2	10.9	50.0	15.4	27.3	10.0
ocupando casa abandonada		0.0	1.0	4.9	12.9		5.5	12.5	0.0	0.0	0.0
3. Si es dueno, a nombre de quien esta la escritura?											
hombre		47.2	51.8	50.0	75.9	27.3	45.5	33.3	66.7	50.0	66.7
mujer		50.0	42.2	46.7	22.2	37.9	47.7	16.7	33.3	50.0	33.3
ambos		2.8	2.4	0.0	1.9	1.5	0.0	11.1	0.0	0.0	0.0
no se		0.0	3.6	3.3	0.0	33.3	6.8	38.9	0.0	0.0	0.0
4. Antes de pasar a esta casa, donde vivio?											
campo		4.4	10.4	7.4	10.0	10.6	9.3	5.6	0.0	0.0	0.0
ciudad capital		68.9	64.6	75.3	62.9	66.7	75.9	61.1	92.9	81.8	70.0
otra ciudad		26.7	25.0	17.3	27.1	22.7	14.8	33.3	7.1	18.2	30.0
5. En su anterior vivienda, cual era su situacion?											
propio		35.6	17.7	27.2	28.6	25.8	33.3	11.1	7.1	9.1	10.0
con promesa de venta		2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
alquilan		46.7	71.9	54.3	64.3	60.6	53.7	61.1	85.7	72.7	90.0
vivio con otros sin pagar		15.6	10.4	18.5	4.3	10.6	9.3	11.1	0.0	18.2	0.0
ocupando casa abandonada		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
dormitorio publico		0.0	0.0		0.0	0.0	1.9	0.0	7.1	0.0	0.0
sin casa		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
otra		0.0	0.0		2.9	3.0	1.9	16.7	0.0	0.0	0.0

Table D.3: El Salvador Survey: Ranked Response Questions

Bosque Prusia		Los Almendros		Los Naranjos	
6. Como le afecto el terremoto de 1986?					
G. en nada/no se acuerda	24	B. perdida de vivienda	51	B. perdida de vivienda	40
A. danos a la vivienda	13	G. en nada/no se acuerda	22	G. en nada/no se acuerda	28
B. perdida de vivienda	5	A. danos a la vivienda	20	A. danos a la vivienda	11
C. perdida de efectos personales	3	F. dano psicologico	7	C. perdida de efectos personales	1
F. dano psicologico	2	C. perdida de efectos personales	5	D. perdida de un familiar	1
D. perdida de un familiar	0	E. heridas	3	F. dano psicologico	1
7. Que es lo que le gusta de esta casa?					
A. ubicacion	16	E. todo	33	E. todo	24
D. es propio	15	I. Privacidad	16	D. es propio	14
E. todo	13	B. tamano de casa	13	A. ubicacion	13
G. comodo/acogedor	7	C. tamano de terreno	9	F. nada	8
F. nada	6	F. nada	8	I. Privacidad	5
I. Privacidad	5	H. accesibilidad	7	B. tamano de casa	4
C. tamano de terreno	2	D. es propio	5	C. tamano de terreno	3
B. tamano de casa	1	A. ubicacion	1	G. comodo/acogedor	0
H. accesibilidad	0	G. comodo/acogedor	1	H. accesibilidad	0
8. Que es lo que le preocupa de esta casa?					
I. Nada	24	A. techo (casas)	29	A. techo (casas)	22
A. techo (casas)	22	I. Nada	21	I. Nada	18
G. espacio interior muy pequeno	12	B. paredes	20	C. calidad de construccion/ materiales/filtracion de agua	4
B. paredes	7	E. cuota alta	15	E. cuota alta	3
J. ubicacion	3	C. calidad de construccion/materiales/ filtracion de agua	13	G. espacio interior muy pequeno	3
C. calidad de construccion/materiales/ filtracion de agua	2	F. inseguridad/entrada de ajenos	5	B. paredes	1
D. piso	0	G. espacio interior muy pequeno	3	H. plomeria	1
E. cuota alta	0	J. ubicacion	2	K. contaminacion del medio ambiente	1
F. inseguridad/entrada de ajenos	0	D. piso	0	D. piso	0
H. plomeria	0	H. plomeria	0	F. inseguridad/entrada de ajenos	0
K. contaminacion del medio ambiente	0	K. contaminacion del medio ambiente	0	J. ubicacion	0
9. Que mejoras le han hecho a la casa?					
E. ampliacion de cuartos	22	H. nada/no	35	H. nada/no	32
H. nada/no	21	G. cambio de puerta/ventana/ balcon, instalacion de defensas	32	A. Cuartos extras	19
F. cambio de techo	10	F. cambio de techo	22	G. cambio de puerta/ventana/ balcon, instalacion de defensas	13
A. Cuartos extras	9	A. Cuartos extras	13	B. muros divisores	8

Monte Carmelo		Res. Europa		San Lucas	
B. perdida de vivienda	33	B. perdida de vivienda	31	G. en nada/no se acuerda	22
G. en nada/no se acuerda	23	G. en nada/no se acuerda	18	B. perdida de vivienda	19
A. danos a la vivienda	11	A. danos a la vivienda	8	A. danos a la vivienda	12
F. dano psicologico	1	C. perdida de efectos personales	2	F. dano psicologico	2
C. perdida de efectos personales	0	D. perdida de un familiar	0	D. perdida de un familiar	1
D. perdida de un familiar	0	E. heridas	0	C. perdida de efectos personales	0
A. ubicacion	16	E. todo	15	H. accesibilidad	3
E. todo	16	A. ubicacion	10	B. tamano de casa	2
D. es propio	14	D. es propio	9	E. todo	2
I. Privacidad	10	F. nada	8	D. es propio	1
C. tamano de terreno	8	G. comodo/acogedor	5	F. nada	1
F. nada	8	I. Privacidad	3	I. Privacidad	1
B. tamano de casa	6	B. tamano de casa	2	A. ubicacion	0
G. comodo/acogedor	4	C. tamano de terreno	1	C. tamano de terreno	0
H. accesibilidad	0	H. accesibilidad	1	G. comodo/acogedor	0
A. techo (casas)	42	A. techo (casas)	25	C. calidad de construccion/ materiales/filtracion de agua	8
I. Nada	18	I. Nada	15	F. inseguridad/ entrada de ajenos	1
B. paredes	9	C. calidad de construccion/materiales/ filtracion de agua	9	G. espacio interior muy pequeno	1
J. ubicacion	8	G. espacio interior muy pequeno	8	J. ubicacion	1
C. calidad de construccion/materiales/ filtracion de agua	7	B. paredes	7	A. techo (casas)	0
E. cuota alta	5	E. cuota alta	4	B. paredes	0
H. plomeria	4	F. inseguridad/entrada de ajenos	4	D. piso	0
F. inseguridad/entrada de ajenos	1	J. ubicacion	4	E. cuota alta	0
G. espacio interior muy pequeno	1	D. piso	3	H. plomeria	0
D. piso	0	H. plomeria	3	I. Nada	0
K. contaminacion del medio ambiente	0	K. contaminacion del medio ambiente	3	K. contaminacion del medio ambiente	0
H. nada/no	40	A. Cuartos extras	18	H. nada/no	6
G. cambio de puerta/ventana/ balcon, instalacion de defensas	22	H. nada/no	17	G. cambio de puerta/ventana/ balcon, instalacion de defensas	4
A. Cuartos extras	21	G. cambio de puerta/ventana /balcon, instalacion de defensas	12	A. Cuartos extras	0
F. cambio de techo	8	F. cambio de techo	9	B. muros divisores	0

(*Table continues on the following page.*)

Table D.3: El Salvador Survey: Ranked Response Questions (continued)

Bosque Prusia		Los Almendros		Los Naranjos	
G. cambio de puerta/ventana/balcon, instalacion de defensas	6	E. ampliacion de cuartos	10	F. cambio de techo	4
B. muros divisores	5	I. Cambio de piso	4	C. verjas	2
C. verjas	4	B. muros divisores	1	E. ampliacion de cuartos	2
D. segunda planta	4	C. verjas	0	D. segunda planta	0
I. Cambio de piso	1	D. segunda planta	0	I. Cambio de piso	0
10. Mencione 3 cosas qu le gusta de este barrio					
C. transporte colectivo	23	I. Poca delincuencia	44	A. todo	20
K. el clima	18	C. transporte colectivo	37	C. transporte colectivo	18
H. apartado de ruidos	16	G. centrico	22	D. servicios basicos	16
G. centrico	15	F. los vecinos	21	E. escuela cerca	12
A. todo	14	J. zona verde	21	F. los vecinos	6
I. Poca delincuencia	14	B. nada	14	H. apartado de ruidos	6
D. servicios basicos	11	D. servicios basicos	6	I. Poca delincuencia	6
E. escuela cerca	8	H. apartado de ruidos	5	J. zona verde	6
F. los vecinos	5	A. todo	2	B. nada	4
J. zona verde	3	E. escuela cerca	0	G. centrico	4
B. nada	2	K. el clima	0	K. el clima	1
11. Mencione 3 cosas que le preocupa de este barrio					
H. nada	14	A. riesgo de incomunicacion	55	H. nada	26
E. las maras/delincuencia	13	C. mal sericio de agua potable	45	B. rios contaminados	22
B. rios contaminados	7	M.Crime	24	C. mal sericio de agua potable	14
C. mal sericio de agua potable	6	L. Lack of Schools	16	E. las maras/delincuencia	12
D. basura (servicios)	6	G. aguas lluvias en pasajes	10	D. basura (servicios)	11
F. alumbrado publico	4	E. las maras/delincuencia	5	M.Crime	9
M. Crime	4	H. nada	5	F. alumbrado publico	7
I. Todo	3	I. Todo	3	J. muros de contencion	4
G. aguas lluvias en pasajes	1	D. basura (servicios)	1	N.Lack of play areas	4
A. riesgo de incomunicacion	0	F. alumbrado publico	1	G. aguas lluvias en pasajes	1
J. muros de contencion	0	B. rios contaminados	0	I. Todo	1
K. Poor Quality Materials	0	J. muros de contencion	0	A. riesgo de incomunicacion	0
Condo. America		**Condo. El Bosque**		**Condo. Marconi**	
4. Como le afecto el terremoto de 1986?					
B. perdida de vivienda	10	B. perdida de vivienda	10	B. perdida de vivienda	6
G. en nada/no se acuerda	9	F. dano psicologico	2	G. en nada/no se acuerda	3
A. danos a la vivienda	0	G. en nada/no se acuerda	2	A. danos a la vivienda	1
C. perdida de efectos personales	0	A. danos a la vivienda	1	C. perdida de efectos personales	0
D. perdida de un familiar	0	C. perdida de efectos personales	0	D. perdida de un familiar	0
E. heridas	0	D. perdida de un familiar	0	E. heridas	0

Monte Carmelo		Res. Europa		San Lucas	
B. muros divisores	4	E. ampliacion de cuartos	7	C. verjas	0
E. ampliacion de cuartos	2	B. muros divisores	5	D. segunda planta	0
I. Cambio de piso	1	C. verjas	1	E. ampliacion de cuartos	0
C. verjas	0	D. segunda planta	1	F. cambio de techo	0
D. segunda planta	0	I. Cambio de piso	1	I. Cambio de piso	0
C. transporte colectivo	40	H. apartado de ruidos	22	G. centrico	6
I. Poca delincuencia	34	C. transporte colectivo	16	H. apartado de ruidos	4
G. centrico	19	E. escuela cerca	13	A. todo	1
J. zona verde	13	I. Poca delincuencia	12	B. nada	1
H. apartado de ruidos	12	D. servicios basicos	10	D. servicios basicos	1
A. todo	10	G. centrico	10	E. escuela cerca	1
B. nada	9	B. nada	8	K. el clima	1
E. escuela cerca	7	A. todo	7	C. transporte colectivo	0
D. servicios basicos	4	K. el clima	6	F. los vecinos	0
F. los vecinos	4	F. los vecinos	2	I. Poca delincuencia	0
K. el clima	1	J. zona verde	2	J. zona verde	0
H. nada	23	H. nada	27	D. basura (servicios)	14
J. muros de contencion	11	G. aguas lluvias en pasajes	22	H. nada	14
E. las maras/delincuencia	6	J. muros de contencion	15	A. riesgo de incomunicacion	12
B. rios contaminados	6	M.Crime	7	B. rios contaminados	10
C. mal sericio de agua potable	5	D. basura (servicios)	6	N.Lack of play areas	9
D. basura (servicios)	4	B. rios contaminados	2	E. las maras/delincuencia	5
N.Lack of play areas	2	K.Poor Quality Materials in stairs/walkways	2	C. mal sericio de agua potable	4
M.Crime	2	N.Lack of play areas	2	M.Crime	3
I. Todo	2	C. mal sericio de agua potable	1	G. aguas lluvias en pasajes	1
G. aguas lluvias en pasajes	2	E. las maras/delincuencia	1	I. Todo	1
L.Lack of Schools	1	F. alumbrado publico	1	J. muros de contencion	1
K.Poor Quality Materials in stairs/walkways	0	I. Todo	1	F. alumbrado publico	0

Condo. San Miguelito	
B. perdida de vivienda	5
G. en nada/no se acuerda	5
A. danos a la vivienda	0
C. perdida de efectos personales	0
D. perdida de un familiar	0
E. heridas	0

(*Table continues on the following page.*)

Table D.3: El Salvador Survey: Ranked Response Questions (continued)

Condo. America		Condo. El Bosque		Condo. Marconi	
7. Que es lo que le gusta de esta casa?					
F. nada	7	E. todo	5	A. ubicacion	4
E. todo	4	H. accesibilidad	3	E. todo	3
A. ubicacion	2	F. nada	2	I. Privacidad	2
D. es propio	1	A. ubicacion	0	D. es propio	1
G. comodo/acogedor	1	B. tamano de casa	0	F. nada	1
I. Privacidad	1	C. tamano de terreno	0	G. comodo/acogedor	1
B. tamano de casa	0	D. es propio	0	B. tamano de casa	0
C. tamano de terreno	0	G. comodo/acogedor	0	C. tamano de terreno	0
H. accesibilidad	0	I. Privacidad	0	H. accesibilidad	0
8. Que es lo que le preocupa de esta casa?					
C. calidad de construccion/materiales/ filtracion de agua	8	A. techo (casas)	3	I. Nada	4
B. paredes	3	C. calidad de construccion/materiales/ filtracion de agua	3	C. calidad de construccion/ materiales/filtracion de agua	3
I. Nada	2	E. cuota alta	2	A. techo (casas)	2
E. cuota alta	1	I. Nada	2	H. plomeria	2
G. espacio interior muy pequeno	1	G. espacio interior muy pequeno	1	D. piso	1
J. ubicacion	1	B. paredes	0	B. paredes	0
A. techo (casas)	0	D. piso	0	E. cuota alta	0
D. piso	0	F. inseguridad/entrada de ajenos	0	F. inseguridad/entrada de ajenos	0
F. inseguridad/entrada de ajenos	0	H. plomeria	0	G. espacio interior muy pequeno	0
H. plomeria	0	J. ubicacion	0	J. ubicacion	0
K. contaminacion del medio ambiente	0	K. contaminacion del medio ambiente	0	K. contaminacion del medio ambiente	0
9. Que mejoras le han hecho a la casa?					
H. nada/no	14	H. nada/no	8	H. nada/no	8
E. ampliacion de cuartos	2	E. ampliacion de cuartos	2	G. cambio de puerta/ventana /balcon, instalacion de defensas	5
G. cambio de puerta/ventana/balcon, instalacion de defensas	2	G. cambio de puerta/ventana/ balcon, instalacion de defensas	1	I. Cambio de piso	2
A. Cuartos extras	0	A. Cuartos extras	0	A. Cuartos extras	1
B. muros divisores	0	B. muros divisores	0	B. muros divisores	1
C. verjas	0	C. verjas	0	C. verjas	0
D. segunda planta	0	D. segunda planta	0	D. segunda planta	0
F. cambio de techo	0	F. cambio de techo	0	E. ampliacion de cuartos	0
I. Cambio de piso	0	I. Cambio de piso	0	F. cambio de techo	0

Condo. San Miguelito	
E. todo	16
B. tamano de casa	7
F. nada	6
D. es propio	4
I. Privacidad	4
A. ubicacion	3
H. accesibilidad	3
G. comodo/acogedor	1
C. tamano de terreno	0
I. Nada	26
A. techo (casas)	5
G. espacio interior muy pequeno	4
F. inseguridad/entrada de ajenos	2
H. plomeria	2
C. calidad de construccion/materiales/ filtracion de agua	1
B. paredes	0
D. piso	0
E. cuota alta	0
J. ubicacion	0
K. contaminacion del medio ambiente	0
H. nada/no	16
A. Cuartos extras	14
D. segunda planta	10
E. ampliacion de cuartos	8
F. cambio de techo	3
C. verjas	2
G. cambio de puerta/ ventana/ balcon, instalacion de defensas	2
I. Cambio de piso	1
B. muros divisores	0

(*Table continues on the following page.*)

Table D.3: El Salvador Survey: Ranked Response Questions (continued)

Condo. America		Condo. El Bosque		Condo. Marconi	
10. Mencione 3 cosas qu le gusta de este barrio					
A. todo	6	G. centrico	6	G. centrico	9
B. nada	5	B. nada	3	A. todo	3
G. centrico	2	A. todo	2	E. escuela cerca	3
H. apartado de ruidos	2	D. servicios basicos	2	I. Poca delincuencia	3
I. poca delincuencia	2	I. poca delincuencia	1	D. servicios basicos	2
E. escuela cerca	1	J. zona verde	1	H. apartado de ruidos	2
C. transporte colectivo	0	C. transporte colectivo	0	C. transporte colectivo	1
D. servicios basicos	0	E. escuela cerca	0	F. los vecinos	1
F. los vecinos	0	F. los vecinos	0	B. nada	0
J. zona verde	0	H. apartado de ruidos	0	J. zona verde	0
K. el clima	0	K. el clima	0	K. el clima	0
11. Mencione 3 cosas que le preocupa de este barrio					
H. nada	5	H. nada	8	E. las maras/delincuencia	4
C. mal sericio de agua potable	2	C. mal sericio de agua potable	1	J. muros de contencion	4
I. todo	2	J. muros de contencion	1	H. nada	3
K. poor quality materials in stairs/walkways	1	K. poor quality materials in stairs/walkways	1	G. aguas lluvias en pasajes	2
M.crime	1	M. crime	1	N.lack of play areas	2
A. riesgo de incomunicacion	0	A. riesgo de incomunicacion	0	A. riesgo de incomunicacion	1
B. rios contaminados	0	B. rios contaminados	0	I. Todo	1
D. basura (servicios)	0	D. basura (servicios)	0	B. rios contaminados	0
E. las maras/delincuencia	0	E. las maras/delincuencia	0	C. mal servicio de agua potable	0
F. alumbrado publico	0	F. alumbrado publico	0	D. basura (servicios)	0
G. aguas lluvias en pasajes	0	G. aguas lluvias en pasajes	0	F. alumbrado publico	0
J. muros de contencion	0	I. todo	0	K. poor quality materials in stairs/walkways	0

Condo. San Miguelito	
I. poca delincuencia	16
D. servicios basicos	13
J. zona verde	12
C. transporte colectivo	11
E. escuela cerca	10
A. todo	8
G. centrico	7
B. nada	4
F. los vecinos	1
K. el clima	1
H. apartado de ruidos	0
E. las maras/delincuencia	3
H. nada	3
M.crime	2
C. mal sericio de agua potable	1
D. basura (servicios)	1
I. todo	1
A. riesgo de incomunicacion	0
B. rios contaminados	0
F. alumbrado publico	0
G. aguas lluvias en pasajes	0
J. muros de contencion	0
K. poor quality materials in stairs/ walkways	0

APPENDIX E: SUPPLEMENTAL DATA—CHAPTER 3

Table E.1: Natural Disaster Issues Discussed in CASs

Issue	CASs (number)	CASs (percent)
Work with other donors	20	37
Strengthen the capacity for management of natural disasters	18	33
Long-term planning	17	31
Rehabilitation and reconstruction	15	28
Promote community participation	12	22
Recognize why the country is prone to natural disaster	9	17
Remove impediments to growth in agriculture	9	17
Food security	9	17
Catastrophe insurance	7	13
Strengthen safety net	7	13
Emergency relief planning	6	11
Public education	6	11
Land use planning	6	11
New construction	5	9
Orphans and vulnerable persons	5	9
Early warning system	4	7
Appropriate legal framework	4	7
Undertake analytical and advisory activities for assessment of mitigation strategies	4	7
Seismic strengthening of critical facilities	3	6
Country performance	3	6
Disaster as a major issue	3	6
Disaster as a country priority	3	6
Disaster as a Bank priority	3	6
Ensuring sustainability of disaster mitigation efforts	1	2
Creation of off-farm income opportunities	1	2

Table E.2a: Countries with High Vulnerability Based on Economic Risk to GDP from Two or More Hazards

Ranking	Country	Percent of total area at risk	Percent of population in areas at risk	Percent of GDP in areas at risk
1	El Salvador	88.7	95.4	96.4
2	Jamaica	94.9	96.3	96.3
3	Dominican Rep.	87.2	94.7	95.6
4	Guatemala	52.7	92.1	92.2
5	Vietnam	33.2	75.7	89.4
6	Albania	86.4	88.6	88.5
7	Costa Rica	51.9	84.8	86.6
8	Colombia	21.2	84.7	86.6
9	Bangladesh	71.4	83.6	86.5
10	Philippines	50.3	81.3	85.2
11	Turkey	73.0	80.9	83.3
12	Trinidad and Tobago	66.7	82.4	83.1
13	Thailand	47.8	70.1	81.2
14	Barbados	79.9	79.9	79.9
15	Ecuador	24.4	73.6	72.2
16	Mexico	15.9	68.2	71.1
17	Dominica	68.3	67.0	68.3
18	Nicaragua	21.6	68.7	67.9
19	Chile	5.2	64.9	67.7
20	Iran, Islamic Republic of	31.7	69.8	66.5
21	Venezuela	4.9	61.2	65.9
22	Uzbekistan	9.3	65.6	65.5
23	St. Kitts and Nevis	0.0	52.8	64.9
24	Jordan	13.7	64.9	64.7
25	Argentina	1.8	57.4	63.2
26	South Africa	8.6	56.3	62.4
27	Tunisia	30.4	64.1	62.4
28	Indonesia	11.5	67.4	62.3
29	China	13.1	49.8	56.6
30	Honduras	19.0	56.0	56.5
31	Haiti	44.4	47.9	56.0
32	Uruguay	3.0	55.0	55.0
33	Peru	4.0	41.5	53.7
34	Kyrgyz Rep.	8.3	51.3	53.4
35	Romania	37.4	45.8	50.3

Source: World Bank 2005c.

Note: Nonborrowing countries have been omitted from this list.

Table E.2b: Countries with Medium Vulnerability Based on Economic Risk to GDP from Two or More Hazards

Ranking	Country	Percent of total area at risk	Percent of population in areas at risk	Percent of GDP in areas at risk
36	India	22.1	47.7	49.6
37	Algeria	3.1	49.3	48.3
38	Paraguay	2.0	45.6	42.9
39	Azerbaijan	15.6	42.3	42.4
40	Pakistan	9.0	40.1	41.6
41	St. Vincent and the Grenadines	41.6	41.6	41.6
42	Georgia	4.4	40.5	41.0
43	Macedonia, FYR	38.8	29.6	38.7
44	Tajikistan	4.1	38.2	38.3
45	Bolivia	1.0	36.6	37.7
46	Mozambique	0.0	1.9	37.3
47	Djibouti	1.9	31.7	35.3
48	Cambodia	9.1	31.3	34.5
49	Morocco	3.4	30.4	33.4
50	Bulgaria	29.3	31.6	30.0

Source: World Bank 2005c.

Note: Non-borrowing countries have been omitted from this list.

APPENDIX F: SUPPLEMENTAL DATA—CHAPTER 4

Box F.1: Objectives of Bank Lending

The study analyzed the objectives of all the loans that had disaster-related objectives to identify the most common project aims and to see whether the amount of time projects took to disburse and to implement had a close relationship with objectives or activities. (There is a very close relationship between the nature of objectives, the activities undertaken, and implementation time. A Background Paper on this topic is available upon request.)

Project objectives addressing natural disasters fell into 11 categories: (1) disaster management; (2) rehabilitation and construction of public infrastructure; (3) agriculture improvements, environmental conservation, and natural resource management; (4) economic restoration and strengthening; (5) pre-event disaster prevention; (6) rehabilitation and construction of housing; (7) emergency financial assistance to affected groups; (8) project management; (9) operation and maintenance; (10) donor coordination; and (11) resettlement of affected populations.

Public infrastructure and disaster management were the two most frequently pursued disaster objectives, occurring in almost 50 percent of the projects. When these are combined with the next two most frequently occurring objectives (agricultural and environmental works, and economic restoration/strengthening), approximately 80 percent of all completed disaster projects were represented.

Figure F.1: Frequency of Disaster Activity Categories: 1984–2005

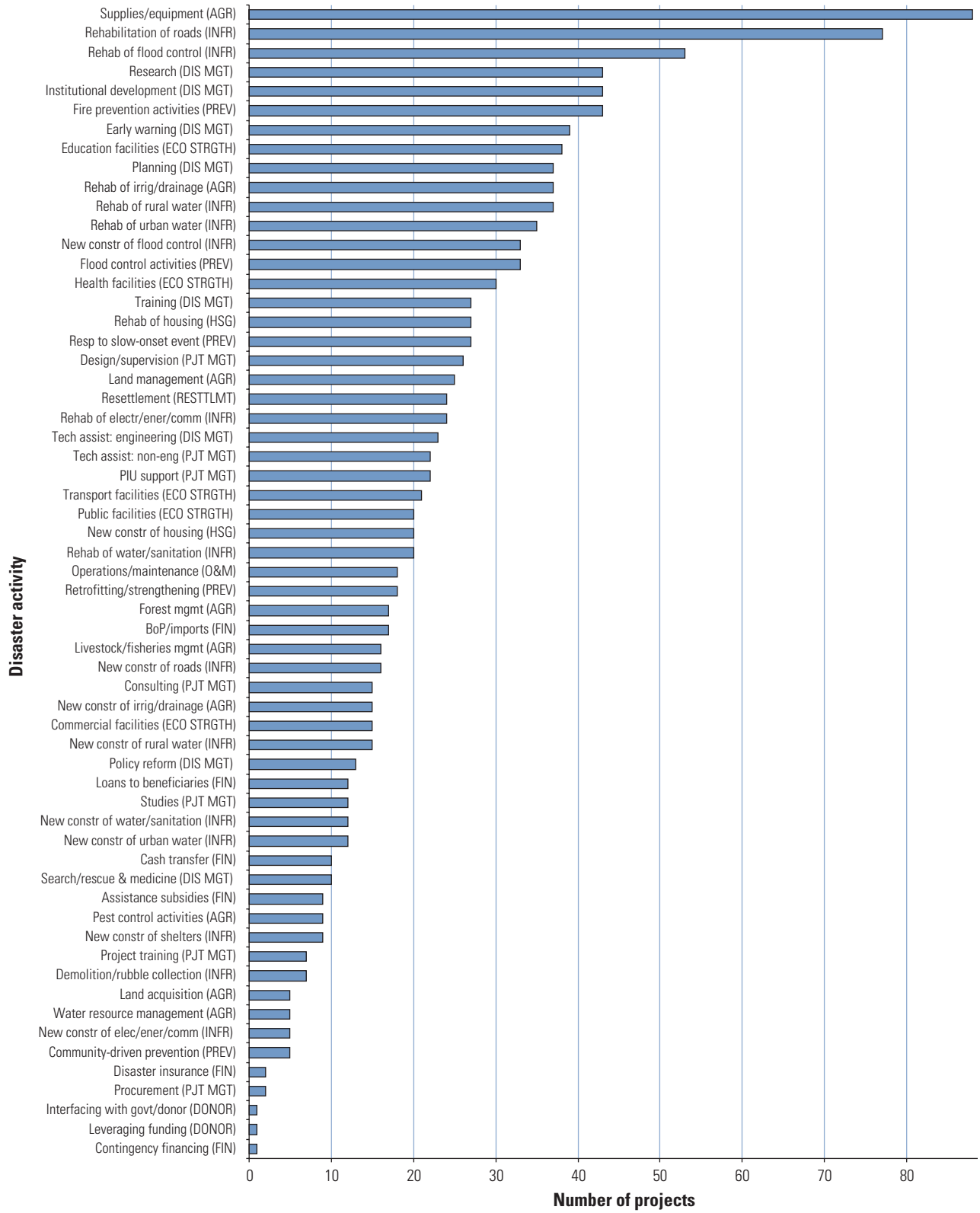


Figure F.2: Frequency of Disaster Objective Categories: 1984–2005

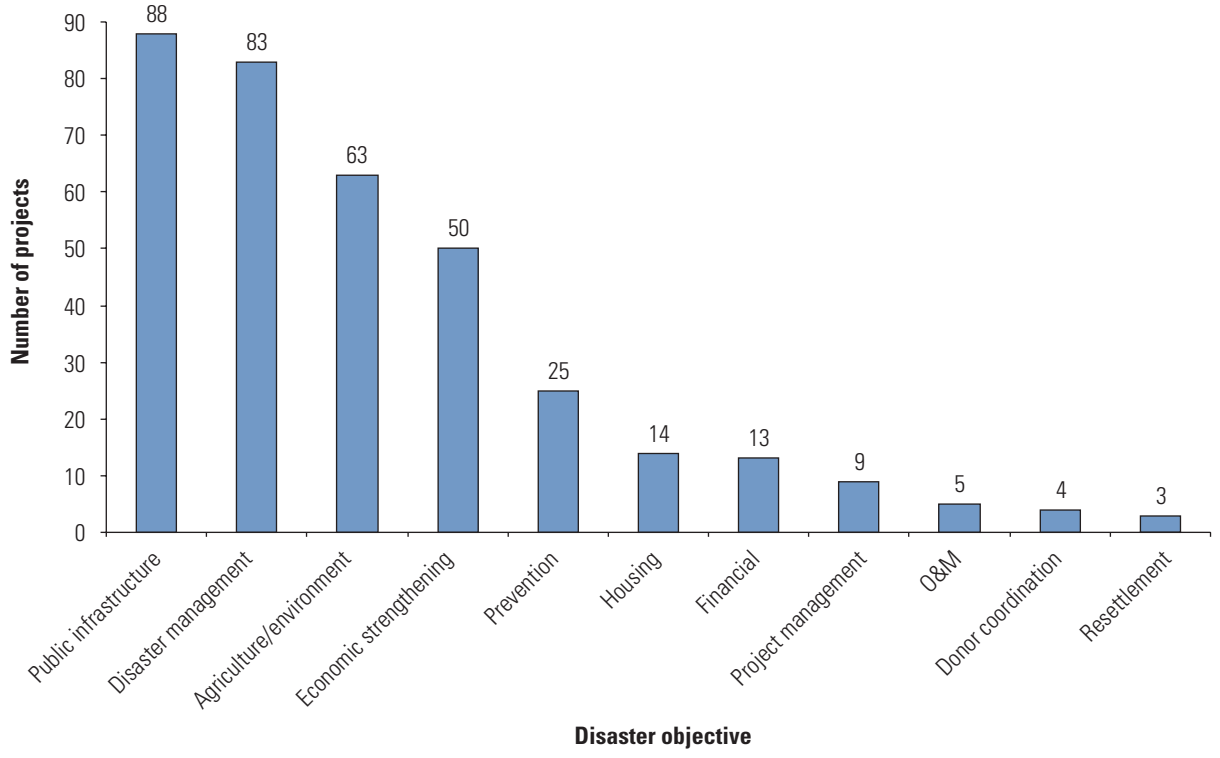


Figure F.3: Distribution of Disaster Objective Categories among All Completed Projects: 1984–2005

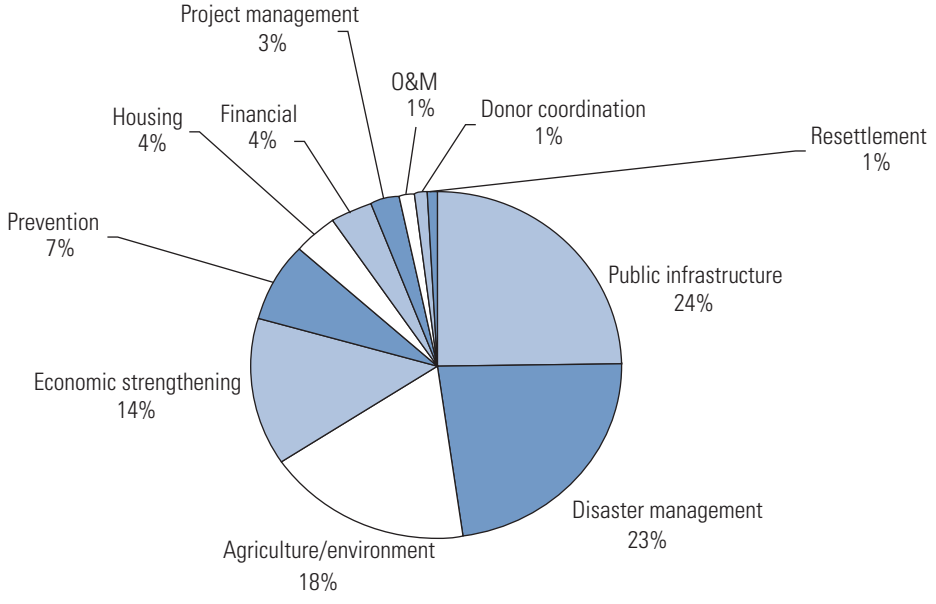


Figure F.4: Average Implementation and Extension Time by Disaster Objective Category—All Projects, 1984–2005

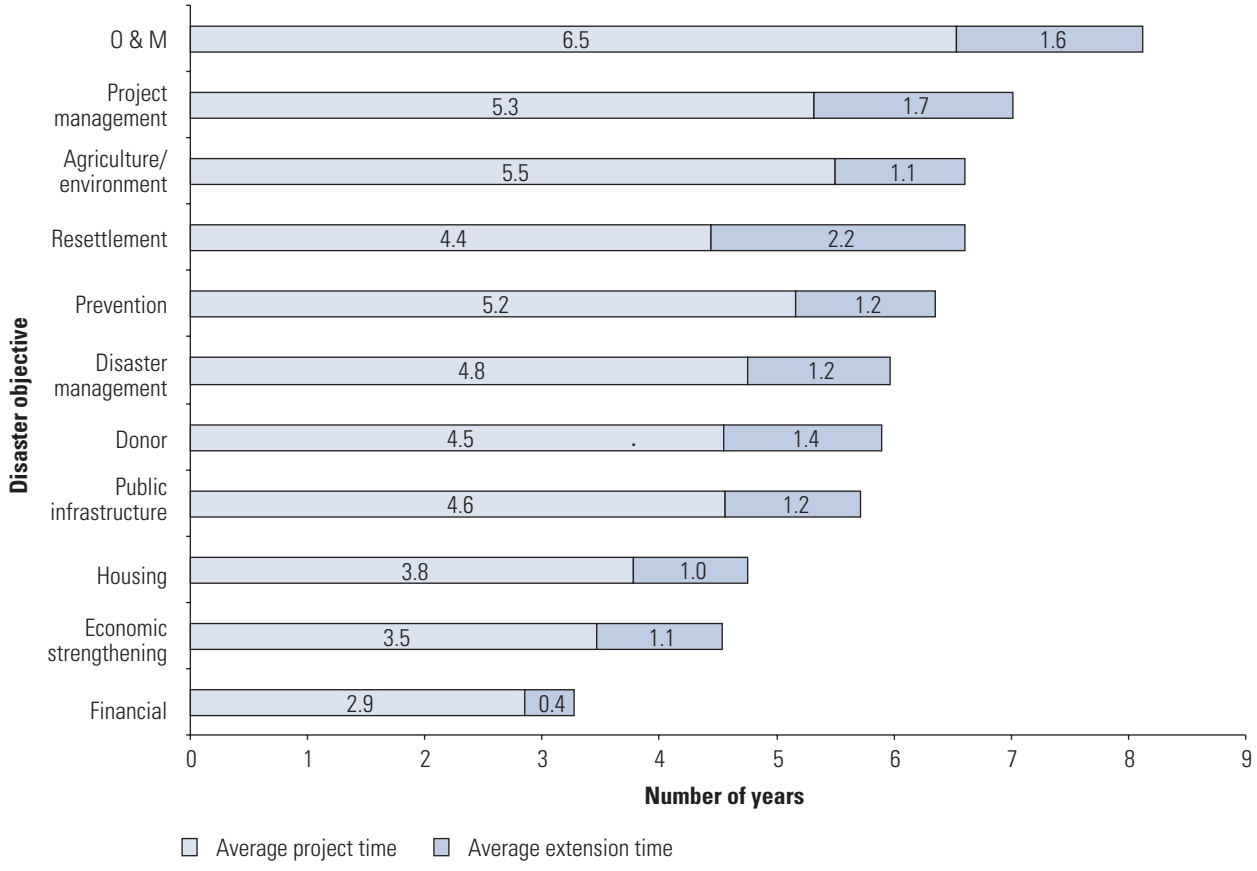
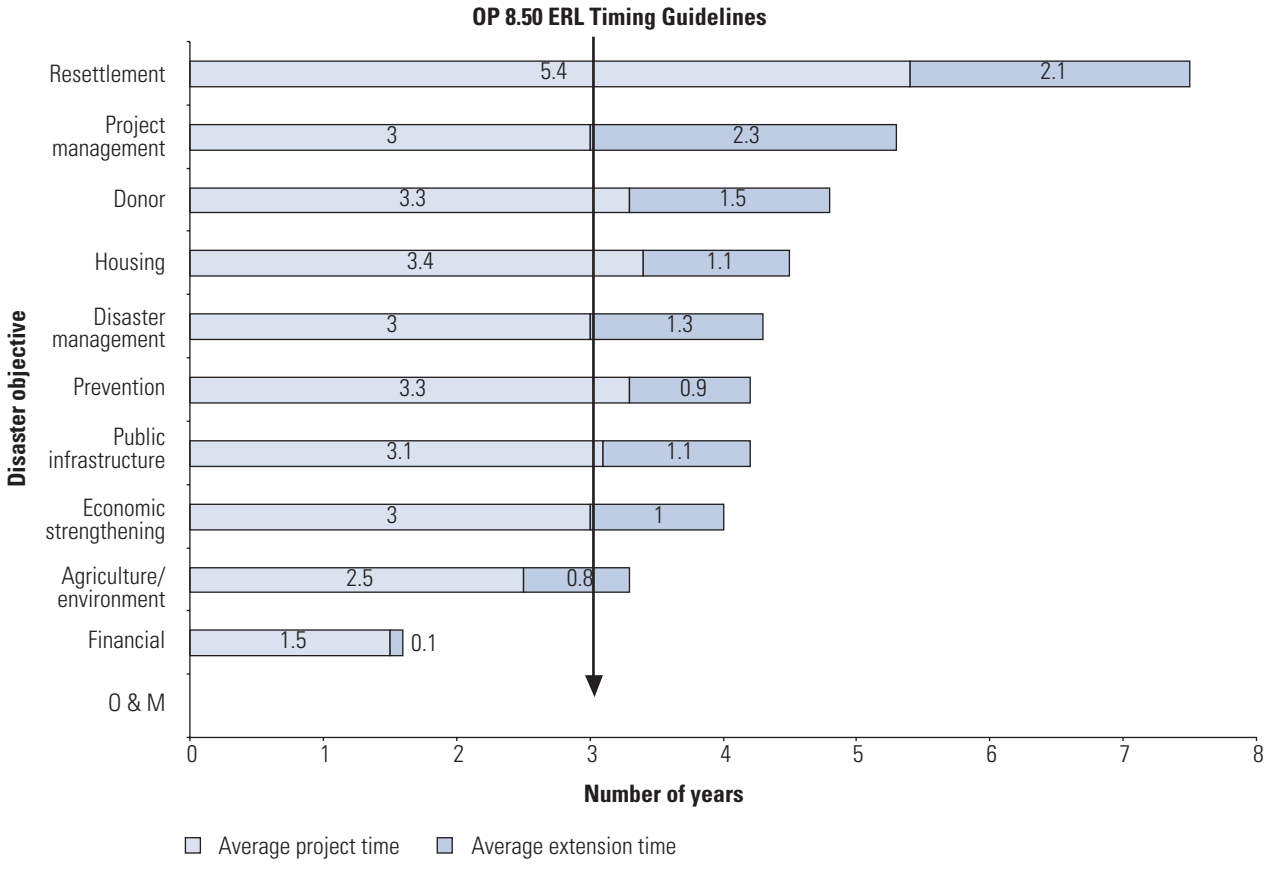


Figure F.5: Average Implementation and Extension Time by Disaster Objective Category—ERL Projects, 1984–2005[a]

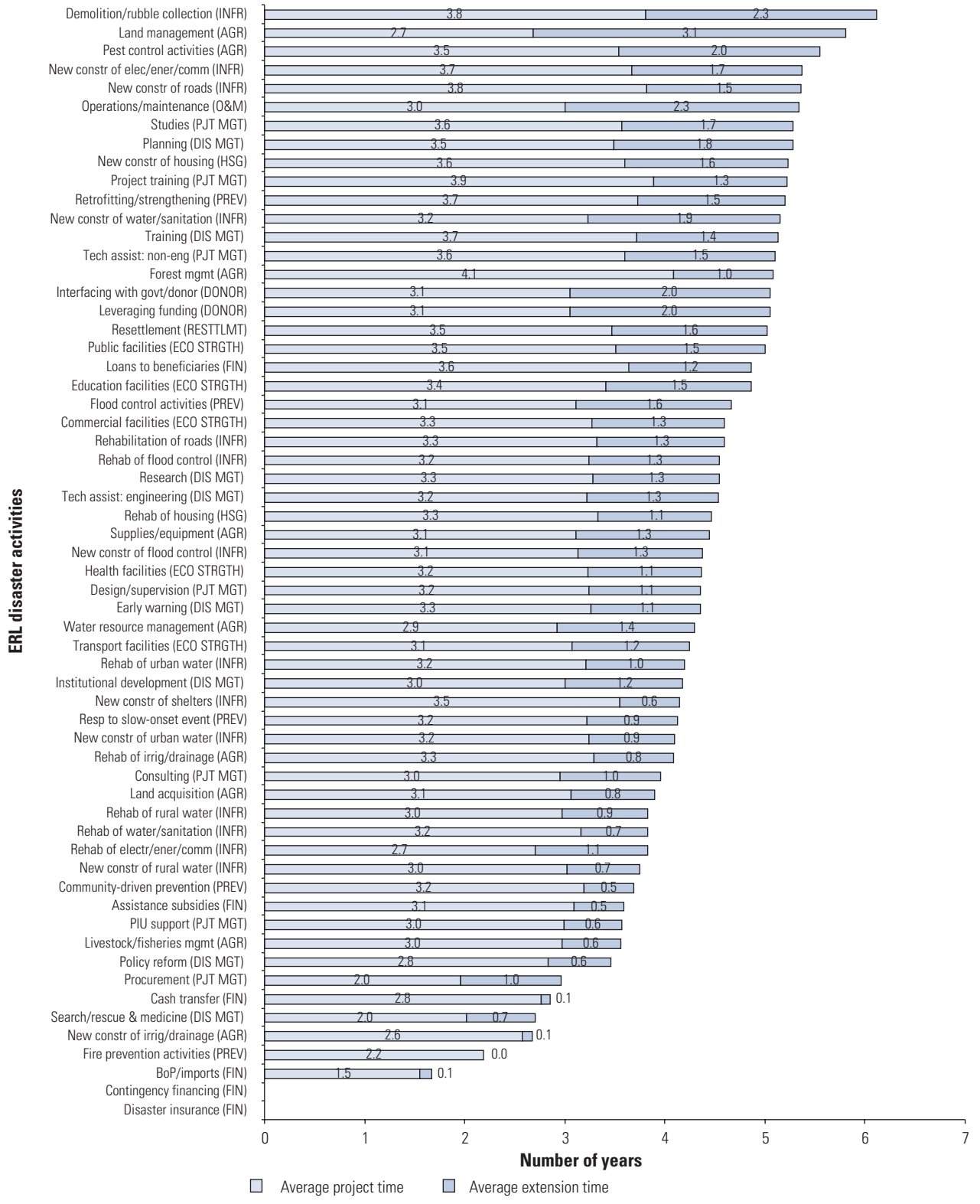


a. Last year figures were available.

Table F.1: List of Disaster Activities

(2)	**Pre-disaster prevention**
201	Retrofitting/strengthening of existing/undamaged (private/public) infrastructure
202	Responding to indications of coming slow-onset event
203	Flood control activities and structures (pre-event)
204	Fire prevention activities and structures (pre-event)
205	Community-driven disaster prevention activities (pre-event)
(3)	**Public infrastructure**
301	Rehabilitation of road infrastructure
302	Rehabilitation of (rural) water systems infrastructure
303	Rehabilitation of (urban) water systems infrastructure
304	Rehabilitation of (urban) water/sanitation infrastructure
305	Rehabilitation of electricity/energy/telecommunications systems
306	Rehabilitation of flood control structures
307	Demolition and rubble collection
308	Rehabilitation of shelters
309	New construction of road infrastructure
310	New construction of (rural) water systems infrastructure
311	New construction of (urban) water systems infrastructure
312	New construction of (urban) water/sanitation infrastructure
313	New construction of electricity/energy/telecommunications systems
314	New construction of flood control structures
315	New construction of shelters
(4)	**Housing**
401	Rehabilitation of housing
402	New construction of housing
(5)	**Economic restoration**
501	Commercial facilities
502	Public facilities
503	Health facilities
504	Transport facilities
505	Education facilities
(6)	**Agriculture/environment**
601	Livestock/fisheries management
602	Water resource management
603	Land acquisition
604	Land management
605	Forest management
606	Equipment and supplies acquisition
607	Rehabilitation of irrigation/drainage infrastructure
608	New construction of irrigation/drainage infrastructure
609	Pest control
(7)	**Resettlement**
701	Resettlement
(8)	**Disaster management**
801	Early warning/public awareness
802	Institutional development/strengthening (disaster-specific)
803	Emergency search, rescue, and medical assistance
804	Training (disaster-specific)
805	Legal and policy reform
806	Studies and research
807	TA: Engineering
808	Planning
(9)	**Project management**
901	Support for PIU
902	Procurement
903	Training
904	Design and supervision
905	Consulting
906	Studies and research
907	TA: Non-engineering
(10)	**Financial assistance**
1001	Insurance
1002	Contingency finance
1003	Balance of payment/import finance
1004	Cash transfer
1005	Assistance subsidies to beneficiaries
1006	Loans to beneficiaries
(11)	**Operations & maintenance**
1101	Operations and maintenance
(12)	**Donor coordination**
1201	Leveraging additional funds
1202	Interfacing between government and donors

Figure F.6: Average Implementation and Extension Times for Projects Containing Disaster Activities: Emergency Recovery Loans



Note: Each bar represents the average actual implementation time of all projects that included a given activity.

Figure F.7: Average Implementation Time and Number of Completed Projects by Disaster Component: 1984–2005 (Part 1 of 2)

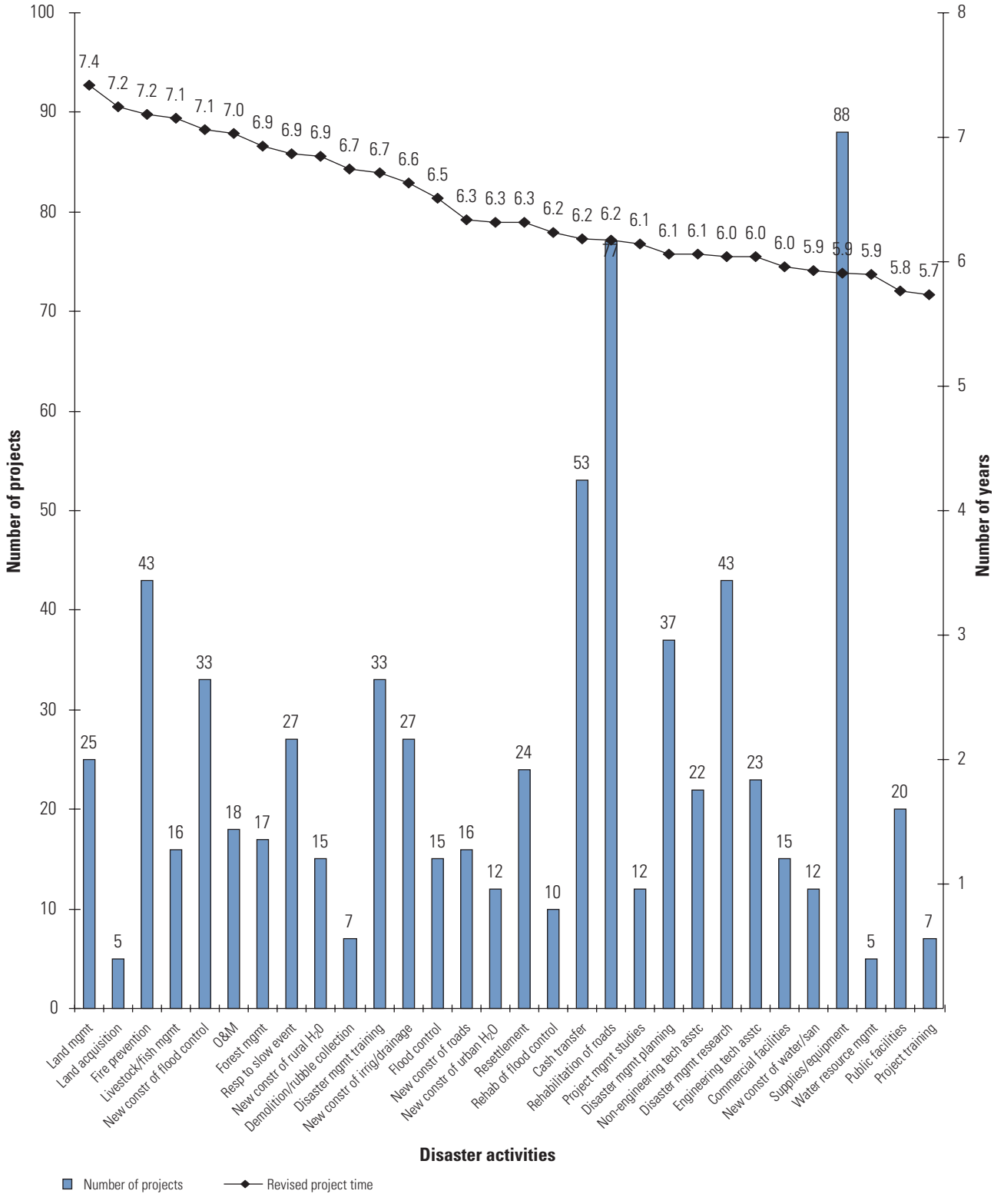


Figure F.8: Average Implementation Time and Number of Completed Projects by Disaster Component: 1984–2005 (Part 2 of 2)

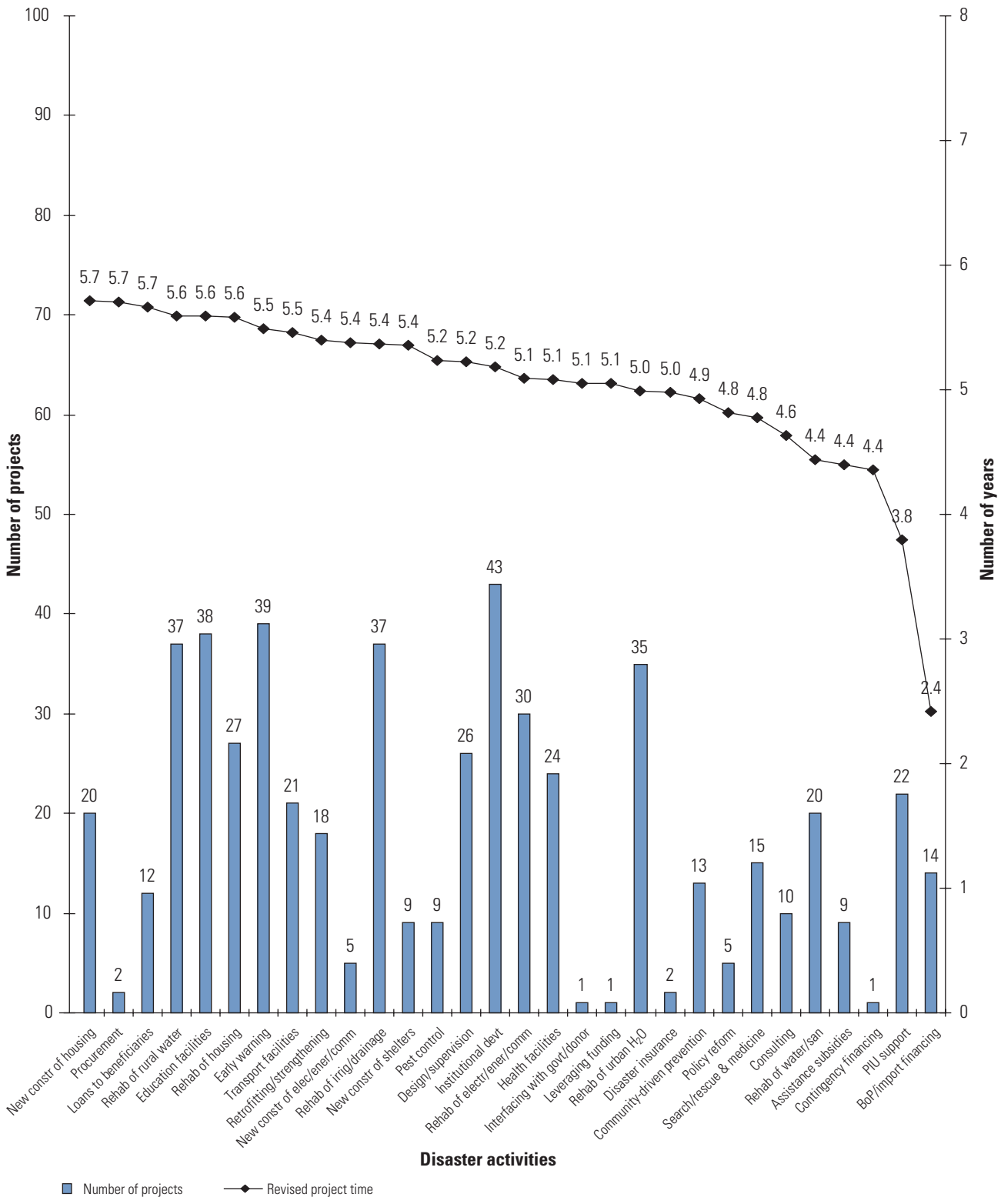


Table F.2: Implementation of Hazard Reduction/Mitigation Components in 197 World Bank–Assisted Disaster Projects

Component	Times implemented
Maintenance	124
Construction to higher design standards and/or to protect from future hazards	123
Research, studies, policy changes including building codes	109
Training	89
Institution building for disaster and hazard management	73
Community participation in mitigation activities and disaster preparedness	67
Water supply / watershed management	61
Relocation and resettlement	44
Quality assurance and monitoring in construction	44
Early warning, forecasting, and seismic monitoring systems	41
Hazard mitigation and preparedness plan	38
Tree plantation and Vetiver plantation for slope stabilization	35
Forest management/fire protection	34
Agricultural inputs/drought-resistant crops	26
Risk and vulnerability assessment and monitoring	24
Communication equipment	24
Soil improvement/arresting land degradation	22
Employment/income creation	19
Drought management	19
Public information / awareness campaign	18
Pest management	16
Fire breaks	14
Shelter repair and construction	9
Fire tower	8
Insurance	5
Demonstration houses	2
Noncompletion of one or more mitigation components = 80	

Table F.3: Projects Involving Financing Mechanisms

Country	Project name	Approval fiscal year	Disaster-related component	Status
1. Dominica	Emergency Recovery and Disaster Management Project (P069633)	1999	Insurance for public buildings	Subcomponent cancelled
2. Morocco	National Rural Finance (P005486)	1994	The use of the National Guarantee Fund as a drought insurance mechanism.	"The establishment of a Climatic Risk Insurance Fund, …never materialized." (ICR)
3. Tunisia	National Rural Finance (P005720)	1995	Drought insurance mechanism[a]	Unclear if ever happened from project documents.
4. OECS	OECS Emergency Recovery and Disaster Management Project covering St. Kitts & Nevis, St. Lucia, Dominica, Grenada, and St. Vincent & the Grenadines (P062668)	1998	Financing lending operations in each of the five mentioned countries with the objects of fortifying or reconstructing and rehabilitating key economic and social infrastructure and facilities and strengthening the countries' institutional capacities to prepare for and respond to disaster emergencies.	The floating 4th phase of this APL provides for contingency financing to Grenada, St. Kitts and Nevis, St. Lucia, Dominica, and St. Vincent and the Grenadines in the event of a disaster. This project was ultimately unbundled into separate country projects. The floating phase 4 has been used by Grenada in response to Hurricane Ivan (see below).
	Grenada (4APL) Hurricane Ivan Emerg. Rec. (P092692)	2004	Contingency financing (floating phase 4 of the APL)[b]	(Connected to above OECS project) ongoing
5. St. Lucia	Emergency Recovery and Disaster Management Project (P070430)	1999	Increase government access to insurance	"Little was done to increase the government's access to insurance under the proj ect, other than the preparation of an inventory of public buildings" (PPAR).
6. Turkey	Emergency Earthquake Recovery (P068394)	2000	Catastrophic insurance pool	TCIP, ongoing
7. India	Gujarat Emergency Earthquake Reconstruction Project (P074018)	2002	The component funded TA to assist in the building of the Gujarat Disaster Insurance Program. Premiums were taken from the money received by beneficiaries for rebuilding.	Ongoing micro insurance scheme provided. Compulsory for housing recipients. For a house of 2,500, insurance for 10 years was $10. The government has taken up insurance for schools and roads. The government also wants to include other buildings (not damaged) in insurance scheme.
8. OECS	(P070658) Only PID	2002	Insurance for the Caribbean region.[c] (insurance regulatory strengthening, catastrophe funding and risk pooling mechanisms, and risk management and mitigation to manage low income communities' exposures.)	Dropped

(*Table continues on the following page.*)

Table F.3: Projects Involving Financing Mechanisms (continued)

Country	Project name	Approval fiscal year	Disaster-related component	Status
9. Colombia	Disaster Vulnerability Reduction (P082429)	2005	TA ($124,000) Risk Assessment using a model for EQ and flood—average annual loss and probable maximum loss. $150 million contingent financing[d] facility to act as a bridging facility until resources from other MFIs and international agencies become available. PAD: "The contingent facility can play a useful role in closing the gap between high frequency, but low severity, events covered with annual government appropriation and budget reallocations and low frequency, but high severity events, for which all other resources would be exhausted. As explained below, the contingent facility is also well suited to cover large, but not major, losses caused by multiple sources of risks which cannot be captured by a single parameter, as required by parametric (earthquake) insurance." "the contingent facility is also well suited to cover large, but not major, losses caused by multiple sources of risks which cannot be captured by a single parameter, as required by parametric (earthquake) insurance."	Ongoing
10. Vietnam	Natural Disasters Mitigation Project (P073361)	2005	"Contingency budget for disaster" "rapid disbursement facility" "contingency funding mechanism," PAD: "The option of a 'Contingency Funding Facility' providing readily available budgetary support was explored. However, this option was rejected by the Government because it would incur costs (interest or commitment charges) and only cover low-frequency hazards, which	Ongoing

Table F.3: Projects Involving Financing Mechanisms (continued)

Country	Project name	Approval fiscal year	Disaster-related component	Status
			might not happen during the project's lifespan. Instead, agreement was reached on the idea to develop a *rapid disbursement facility* which might also apply to lower-level localized disasters, utilizing to the extent possible the existing country system for post-disaster reconstruction and, at the same time, paving the way for future direct support to the Government's budgetary system through an integrated institutional strengthening program."	
Other: Mauritius	Port Development and Environmental Protection (P001926)	1995	Project-built cranes were insured.[e]	Mention of insurance was made in the SAR, in that it was one of the operational parameters used for economic evaluation of the project. Because of the damage caused by two cyclones, particularly the Cyclone Daniella, the contractor had to get the compensation from the insurer which did not cover all the costs. (ICR)

Note: OECS = Organization of Eastern Caribbean States.

a. "Although the use of the *Fonds National de Garantie* (National Guarantee Fund) as a drought insurance mechanism did partially address a systemic risk in agricultural financing in Tunisia, in the medium term, BNA was not able to implement its Action Plan successfully without a firm commitment from the GoT to give BNA autonomy in its loan portfolio management decisions. This issue had a significant impact on BNA's ability to implement the project and should have been resolved during project preparation." (ICR)

b. "The financing consists of 50 percent IBRD funding, and 50 percent IDA credit. Given Grenada's current fiscal constraints, it is proposed that the Bank finance 100 percent of the project's expenditures. Up to 20% of total project funds may be allocated toward retroactive financing for activities procured after September 7, 2004." (MOP)

c. "The project aims to put in place comprehensive country and sub-regional risk management ex ante funding strategies to reduce fiscal, economic, and financial instability in the wake of natural disasters, which occur due to resource dislocations and budgetary outlays traditionally required for reconstruction of uninsured and uninsurable public and private assets. The project also aims to strengthen the domestic insurance industries and their arrangements with the international reinsurance and credit markets, to augment the capacity of domestic insurance markets to manage and transfer large risk exposures, while building up the requisite reserves to pre-fund and insure against future natural disasters." (PID)

d. Front-end fee, plus annual commitment fee. "The contingent facility is also well suited to cover large, but not major, losses caused by multiple sources of risks which cannot be captured by a single parameter, as required by parametric (EQ) insurance." PAD 104. 2-3 year return period: reserve funds (recurrent risks) ($15 million). 10-20 year return period: WB financed contingent facility ($150 million); 30-200 year return period: parametric insurance coverage (EQ risk).

e. Not clear if the insurance was funded by the project.

APPENDIX G: CASH SUPPORT

Since 1984, the Bank has funded over $850 million in cash assistance (cash transfer, cash for work, and similar programs) in the context of 11 projects, 5 of which are ongoing. Approximately 94 percent of these funds have been lent since the Turkey EERL was appraised in 1999. In projects that have closed and been rated, four out of six were satisfactory. Projects that were rated unsatisfactory accounted for less than one percent of the funds allocated.

Table G.1: Projects with Cash Transfer Elements

Country	Project (plus appraisal date)	Cash transfer element	Amount for cash transfer component	Rating
1. Chile	Public Housing Sector Project (1984) (P006608)	**Housing subsidies and tangible goods following an earthquake.** The Bank reallocated US$5.0 million of the Loan to finance 4,000 grant certificates under the ASP program for homeless owners. Within six months of the earthquake, MINVU had replaced 3,200 houses, granted subsidies for 3,600, and assisted 37,000 other households with temporary shelter, repairs and materials	$5.0 million	Closed, no rating found
2. China	North China Earthquake Reconstruction Project (1991) (P003621)	**Credit provided to village beneficiaries in-kind** (as construction supplies), **and in-cash** (as reimbursement for construction goods).[a] After the first EQ, the reinforcement of EQ-resistant measures for the new housing produced a significant result: none of these housing units fell or had any cracks on the walls when an EQ with a magnitude of 5.8 occurred in Yangyuan on March 26, 1991[b]	$30 million	Highly satisfactory

(*Table continues on the following page.*)

Table G.1: Projects with Cash Transfer Elements (continued)

Country	Project (plus appraisal date)	Cash transfer element	Amount for cash transfer component	Rating
3. Burkina Faso	Food Security and Nutrition Project (P000303) (1991)	**Cash for work** program Did not lead to permanent income increases at the household level, nor was adequate training for infrastructure maintenance provided. Implementation problems because arrangements were left until after project start-up.[c]	$4.9 million	Component was unsatisfactory
4. Poland	Housing (P008590) (1992)	**Cash assistance to small and medium-size enterprises** affected by flooding that occurred during lifetime of project.[d] First 40% a grant, rest a loan.	$13 million for SMEs[e]	Satisfactory
5. Turkey	Emergency Earthquake Recovery Project (P068394) (1999 10/27)	**Cash transfer to earthquake victims** in the form of rent support, death compensation, and business compensation.	$252.53 million	Satisfactory
6. Colombia	Earthquake Recovery Project (P065263) (2000)	**Housing subsidies** (Funds went toward housing or rent compensation)[f]	$233 million (ICR) US$100 million (at appraisal) Bank Project funds would be used only to partially finance the direct subsidy program for owners. Other resources were identified to finance the subsidized loan component and the renter subsidy programs.	Highly satisfactory
7. Papua New Guinea	Emergency El Niño Drought (2003) (P055462)	**Cash for work**[g] (For road maintenance, and vehicular bridge repairs.) The contracting of these works demonstrated that communities can be mobilized to receive payment for works to be undertaken by local government bodies in rural areas, thereby providing the opportunity to introduce cash into economies in disaster situations and reducing dependence on government and donor handouts. Monitoring procedures not adopted and the intended enhanced role of NGOs and church groups in community organization and monitoring was not developed.	Original: $2.50 million; actual: $.04 million	Unsatisfactory
		TOTAL CLOSED	$538.47 million	

Table G.1: Projects with Cash Transfer Elements (continued)

Country	Project (plus appraisal date)	Cash transfer element	Amount for cash transfer component	Rating
8. Maldives	Post-Tsunami Recovery and Reconstruction (P094193) (2005)	**Cash support for those with damaged houses** and for those especially vulnerable for 10 months post disaster[h] Also **sub-grants to small businesses**	$5.6 million from the IDA Grant for cash support $3 million for the sub-grants (not an IDA grant)	Ongoing
9. Sri Lanka	Tsunami Recovery (2005)	**Cash transfer**	$36.5 million	Ongoing
10 Indonesia	Indonesia Community Recovery Through the Kecamatan Development Project (P097535) (2005)	**Block grants to tsunami-affected kecamatans**	$49.9 million	Ongoing
11 Pakistan	Earthquake Recovery (2005)	**Cash transfer**	$220 million	Awaiting approval
		Total ongoing	$312 million	
		TOTAL	**$850.47 million**	

a. CHINA: "Considering the emergency nature of the project, special procurement and disbursement arrangements were made to support swift project implementation. Under the special procurement arrangements, the credit was provided to village beneficiaries in two forms: (a) in kind-as basic materials (timber, steel, cement and glass) procured in bulk; and (b) in cash-as reimbursement for expenditures on other materials and labor obtained locally. …because of the large number of individual and public beneficiaries in each village, a consolidated village contract (between the village and the county) based on the agreed village plans was devised to facilitate documentation for disbursement. Disbursements against the village contract were further simplified by a schedule of payments." (PCR) "Each village plan for the affected villages was prepared by the village and by the direct beneficiaries of the credit. Participation promoted an energized commitment at the local level. Although the local PMOs were disbanded, the lessons learned from this experience remained with the reconstruction management staff after they moved to other organizations. 2 2. Comments received from the borrower (see Annex D) underline the importance of the local management system. "Strict supervision and efficient operation are the keys to project success. During the implementation of the project, we established a good institutional system. The Project Units were set at the levels of county, town and village, contracts were signed, duties and deadlines were specified. The county government established the Project Office with special units dealing with finance, purchasing, project management, and quality control. Following the standards of the World Bank and local conditions, these groups effectively managed the project and obtained superior outcomes. After the first earthquake, the reinforcement of earthquake-resistant measures for the new housing produced a significant result: none of these housing units fell or had any cracks on the walls when an earthquake with a magnitude of 5.8 Richter scale occurred in Yangyuan on March 26, 1991" (ICR).

b. The highly participatory modality used to implement the project, based on local management and decentralized decision making, proved to be very successful. Each village plan for the affected villages was prepared by the village and by the direct beneficiaries of the credit. Participation promoted an energized commitment at the local level.

c. BURKINA FASO: "This component corresponded only partially with the project's objective of strengthening food security at the household level through income diversification. It did not lead to permanent income increases at the household level, nor was adequate training for infrastructure maintenance provided. Implementation arrangements were properly assessed during project preparation, but the formulation of adequate operational procedures for its implementation were left until after project start-up (in particular, procedures to ensure that contractors would have an incentive to use local unskilled labor rather than skilled labor from urban centers), which posed problems during implementation" (ICR).

d. POLAND: "Although the number of SME beneficiaries turned out to be substantially less than initially projected, the project achieved its principal goal of providing a significant level of assistance to SMEs, and did help to restore production and economic growth in the flood affected area. However, the impact of the program was not as great as initially anticipated, in part because of the delay in start-up. By the time funds from the program started to flow, almost one year after the flood, some enterprises had already ceased operations. The first grant under the program was approved at the beginning of July 1998. As of end June 1999, when the final applications for assistance were submitted, a total of 586 enterprises had received government grants totaling PLN 46.9 million (about US$13.0 million)—bringing total commitments to about 80 percent of the US$16 million allocated from the housing loan for the SME assistance operation. Overall, substantial assistance was provided under the program and the outcome of the project was positive. The program mobilized PLN 126 million (about US$32.6 million) in commercial bank resources and disbursed PLN 46.6 million (about US$12.3 million) in grant form (slightly less than the total committed as some of the approved grants were not fully disbursed by the loan closing date). About PLN 22 million ($5.5 million) was provided from the beneficiaries own funds. Of the total assistance, 85 percent was provided to enterprises employing 50 people or less, for amounts of less than $100,000 equivalent. Only 10 grants were made for more than this amount. In terns of numbers, about 350 of the total number of grants were for less than PLN 35,000 each (about $10,000)" (ICR).

e. "Commercial banks participating in the program were allowed to charge interest on the SME loans up to the level of the prevailing Lombard Rate (the rate at which commercial banks can obtain financing from the National Bank of Poland (NBP)), if they are short of funds. At the time the program started, this rate was around 27–28 percent, compared to the normal market rate for lending to businesses of around 22 percent. As flood recovery assistance at such a high rate would not have been very helpful or accepted, the initial proposal was for an interest rate subsidy, but following discussions with the Bank, and to avoid any risk of distorting the banking and financial markets, it was agreed to finance up to 40 percent of the SME loan as a grant, with the grant funded from the budget, including financing from the Housing Loan. For grants up to PLN 35,000, the beneficiary was expected to receive the full 40

(*Continued on the following page.*)

Table G.1: Projects with Cash Transfer Elements (continued)

percent of the commercial bank loan as a grant. Commercial banks would have approval authority for grants of up to this amount. For grants larger than PLN 35,000, the percentage was determined by PARR, based on need, and submitted to the Minister for Flood…" (ICR).

f. COLOMBIA: "The majority of residents of the affected zone fall in the lowest three income strata. Two subsidies offered to owners: a one-time subsidy to qualified beneficiaries for use exclusively for the repair, reconstruction or acquisition of a new unit which must, among other things, comply with the updated building code; or subsidized $60,000 credit for rebuilding (very low uptake on this option). Direct subsidy assistance for owners was in the form of a grant to cover actual losses suffered up to a maximum of COP 8 million (approximately US$4,000) per family. If the beneficiary lives or lived in a vulnerable zone, apart from the COP 8 million, there is an additional payment of COP 4 million (US$2,000) to acquire the lot which has to be vacated, thus assisting the owner to purchase a lot in a less vulnerable site. Families who lost the units they rented are entitled to subsidy assistance amounting to COP 5.9 million (US$2,950) toward the acquisition of their own home" (PAD).

g. The rural works subprojects in Simbu covered road maintenance and vehicular bridge repairs. Most were completed or well advanced when loan funding ceased. The contracting of these works did demonstrate that communities can be mobilized to receive payment for works to be undertaken by local government bodies in rural areas, thereby providing the opportunity to introduce cash into economies in disaster situations and reducing dependence on government and donor hand-outs. Unfortunately, the lack of adoption of the recommended procedural forms did not allow monitoring of aspects concerning the organization systems for work, the participation of women, youth, and so on in the schemes, preferred method of payments, and legitimacy of distribution of payments. More comprehensive information would have been useful for future programs. Records at project completion were even inadequate to indicate the number of person-days employed in each subproject. The Bank found that the initial proposals for the self-help social infrastructure (schools and health posts) did not meet the project guidelines for local participation (labor contributed without remuneration) and advised that these should be revised to be in accordance with the project concept. None of these subprojects eventuated. This meant that this innovative part of the project was not developed, although the concept of self-help was adopted in the water supply schemes in Simbu. The intended enhanced role of NGOs and church groups in community organization and monitoring was not developed" (ICR).

h. MALDIVES: "Component 1: Restoration of livelihoods consists of (a) safety net cash transfers to the affected population for their subsistence needs, and (b) a program to restore lost or damaged assets of affected enterprises. Sub-Component a: Safety net cash grants to households affected by the tsunami (US$5.6 million from the IDA grant). The government has begun providing one-time cash grants to families seriously affected by the tsunami under this program. This program is ongoing and an amount of Rf. 30 million has been disbursed to the affected population with an estimate of additional Rf. 20 million to be disbursed shortly. Government has started distributing Rf. 1,500 (US$117) per capita to families whose houses were completely destroyed; Rf.1,000 per capita to families whose houses were partially damaged; and Rf.500 per capita to families whose houses are intact but the household items swept away. This amount is intended to help affected families cover immediate expenses on food and household essentials. The government is also preparing a follow-up safety net program targeting the poorest and most vulnerable among the affected population; this new program would provide a small monthly cash payment for a limited period of 10 months to poor and heavily affected families. The purpose of limiting the period and narrowly defining the target groups is to avoid developing a dependency syndrome" (PAD).

Table G.2: Cash Compensation in Resettlement, Not Directly Emergency-Related

1. Colombia	Irrigation Rehabilitation II (P006793) (1986)	Not an emergency.	Completed, but not direct cash transfer	Closed
2. Brazil	Northeast Irrigation I (P006453) (1990)	Not an emergency.	Completed, but not direct cash transfer	Closed
2. Madagascar	Antananarivo Plain Development Project (1990) (P001512)	**Compensation for resettlement.**[a] Not an emergency.	Completed, but not direct cash transfer	Moderately unsatisfactory
3. Brazil	Minas Gerais Water Quality and Pollution Control Project (P006540) (1992)	2/3 of the 2,855 families moved by the project from a flood basin opted **for cash compensation in lieu of relocation.**[b]	$22 million[c]	Satisfactory
4. Bangladesh	Jamuna Bridge Project (P009509) (1994)	**Cash compensation for land lost due to bridge construction.** Not an emergency.[d]	Completed, but not direct cash transfer	Closed
5. Vietnam	Coastal wetlands protection and management development (P042568) (1999 10/26)	**Cash compensation for resettlement** and for annual crops/fish/produce lost, and for affected businesses[e] compensation in cash for affected assets (10 percent implemented to date), (Typhoon Linda hit after the resettlement plan had been issued, delaying the whole process.)		Ongoing
6. Moldova	SAC (P061496) (1999)[f]	Drought followed by ice storm. Structural Adjustment Credit. No cash support to beneficiaries.	Completed, but not direct cash transfer	Closed

a. MADAGASCAR: "Involuntary Resettlement. While the project has improved the living conditions of many poor households in the Antananarivo Plain, many households subject to resettlement are in worse conditions than before. The original plan to give each family a resettlement plot in addition to compensation was changed to one of reduced compensation, temporary shelter and an option to buy a plot in three designated areas far from most employment opportunities. In 1998, only 3 of the 2,341 households displaced were living in the 3 designated resettlement sites. Most households used their compensation to settle nearer their original homes and many suffered a deterioration in tenure status and housing quality. More than 60 percent of former owners and tenants in a survey on resettled households were not satisfied with resettlement. The resettlement process did not provide assistance with the move, support at the resettlement site or assistance with improving living standards as would now be required (appraisal was one year before OD 4.30 on involuntary resettlement was issued)." (ICR)

b. BRAZIL: "An assessment of the group that received cash compensation demonstrated a high percentage of satisfaction with the new living conditions. The results related to plot area and type of use indicated a substantial improvement. Cash compensation enabled a family to select a bigger plot (180–230m2) situated in a planned urban area served by basic infrastructure. The assessment also indicated that a significant group moved to more distant neighborhoods" (ICR).

c. The compensation was provided by the state government as part of the overall project.

d. BANGLADESH: "In Bangladesh, the level of poverty is high; the population density is high; and the availability of replacement land is low. During the project preparations it was therefore agreed that providing replacement land to all displaced persons would not be a viable option. Instead, the project would ensure that people were given sufficient cash compensation to enable them to replace their lost land through private purchases, or make other investments. The project was to facilitate this process. Additionally, support was to be given to those suffering a reduction in incomes, to ensure that they were adequately rehabilitated and assisted in finding new or alternative livelihood opportunities. It was recognized that this constituted a risk, in that poor people are frequently unable to make productive use of a large cash grant, and that the money might be spent on consumption rather than on replacement land, homestead, or investment in income opportunities. The project therefore has the responsibility to assist people in making the best use of the compensation money provided" (ICR).

e. VIETNAM: "All legal PAP are entitled to the following allowances: (i) Transport. Boat and/or truck transport will be put at the disposal of all relocating PAP so as to transport household effects, salvaged and new building materials to the new resettlement site. Transport will provided in kind and is budgeted at US$77 per household; (ii) Subsistence. Each PAP will receive food support equal to US$30 per month for 6 months; (iii) Training. One member for each PAP will be entitled to a vocational training course to enhance household production or facilitate employment search. The allocation for this purpose is US$100 per PAP to be paid directly to the training institution; (iv) Business allowance. Affected businesses will receive cash compensation for lost revenues equal to six month of average income to be defined by PAP and VPC Chairman or a fixed allowance for lost business of US$100; and (v) Relocation

(*Continued on the following page.*)

Table G.2: Cash Compensation in Resettlement, Not Directly Emergency-Related (continued)

Incentive. All PAP relocating in accordance with the schedule as proposed by the Project Management Board will receive a bonus of US$77. (h) Illegal PAPs will receive a US$30 transport allowance to move salvaged materials and to transport their goods to their relocation site" (PAD).

f. One more project was considered for cash assistance, but no mention could be found in the text of either the ICR or the PPAR: Tanzania, Cashew and Coconut Treecrops Project (P002779) (1989); Credit program (vi) strengthening credit facilities in the southern cashewnut production areas in the form of a pilot credit scheme managed by the Cooperative and Rural Development Bank (CRDB); in kind credit for inputs has been given in the past, but this has carried with it the problem of creating a monopoly over seasonal inputs and investment items, hindering the development of local industries. In this example, critical inputs and equipment for cashew production that were not available in the local market, such as sulphur dust and blowers, were funded instead. $2.2 million; Credit program component was unsatisfactory.

In Turkey the Bank supported a $252.53 million cash transfer ERL, which helped the government respond expeditiously to the Marmara earthquake emergency by providing up-front cash assistance to earthquake victims for accommodation assistance (75 percent of total benefits); repair assistance (13.4 percent); death and disability benefits (10 percent); and death benefit, survivor, and disability pensions (1.5 percent). Affected business owners received a lump sum payment.

Providing immediate *cash* assistance for victims meant that they could purchase their own supplies, shelter, and the like, rather than receive items in kind that might not have been appropriate. Such assistance also represented a tangible sign of the government's efforts to help the victims. Implementation was possible largely because the distribution infrastructure already existed and was functioning relatively well. The primary distribution agency was already set up to make such payments and they had a network of over 900 offices to enable distribution.[1]

A beneficiary assessment performed for the Turkey cash transfer project (the Emergency Earthquake Recovery Project [L4581-TR]) reports that 85 percent of the people receiving the allowance for rent support believe that it is necessary. Beneficiaries say that this support "saves them from total devastation and it helps to relieve a situation which would otherwise be more painful" (Akkayan, Kirimli, and Polat 2000). One beneficiary said of humanitarian aid, "It should be cash support instead of goods. Everybody would try to deal with his problems in a proper way. And there would be no queues or quarrels"(Akkayan, Kirimli, and Polat 2000).

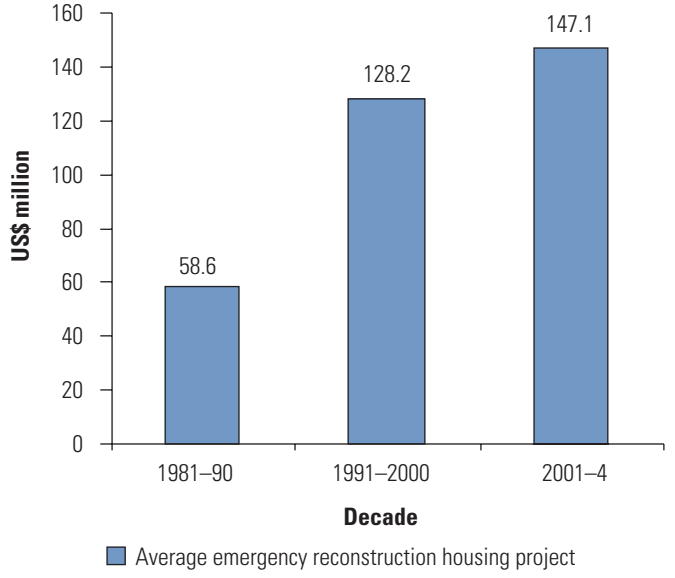
In Gujarat, India, earthquake victims' need for cash assistance became apparent to the Bank in an indirect way following the 2001 earthquake. Families were using the first installment of house construction funding to purchase food and other necessities to survive, rather than using it toward the construction. As a result, when it was time to issue the second installment, many of the families did not have the first phase of the house to show in order to receive the second installment.

APPENDIX H: HOUSING AND SHELTER

All sudden-onset disasters can create a need for temporary or medium-term shelter. Several approaches to shelter have been taken in the emergency context—building emergency shelters, relocating victims to safer areas, and facilitating self-help construction of temporary shelter while simultaneously preparing to house the homeless with housing reconstruction components. Where it has not been feasible or desirable to relocate people, the Bank has supported activities that set up shelter on site and strengthened warning systems. For example, in Bangladesh, the Bank has funded the construction of cyclone shelters, which have provided Bangladeshis at risk with a place to go during severe storms. Sea-level monitoring and warning systems were also implemented.

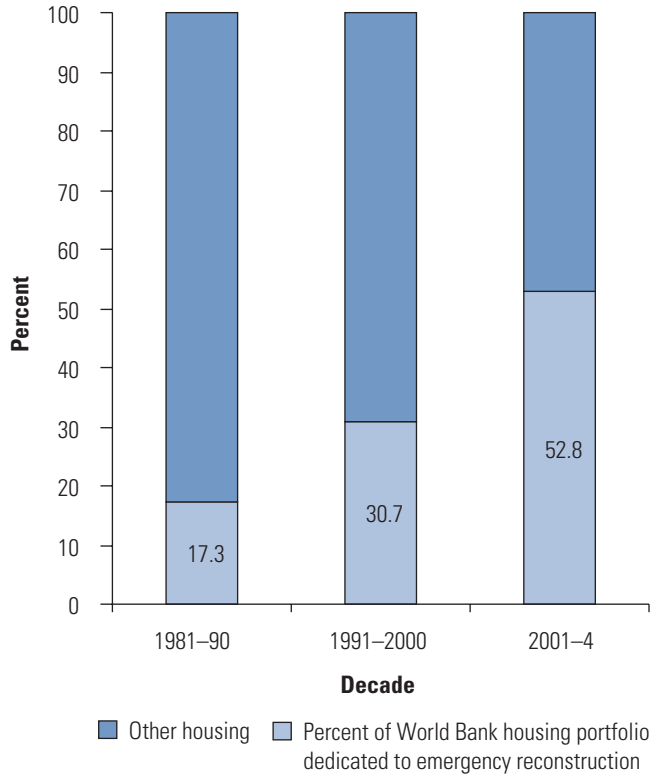
The study identified 46 reconstruction projects involving housing. Of these, 44 were rated by IEG as satisfactory (95.6 percent). Through the years, natural disaster–related housing projects have been growing in both number and size (see figure H.1). The average loan size of the 8 projects implemented in the 1980s was $58.6 million. Twenty were implemented in the 1990s, and the average cost was $128.2 million. In the first four years of this decade, 14 projects have been completed, with an average loan size of $147.1 million. Eleven more are ongoing. The total amount of funding and the share of the overall housing funding they represent are also growing (see figure H.2).

Figure H.1: Average Emergency Reconstruction Housing Project Size Is Growing



Source: World Bank data.

Figure H.2: Funding for Emergency Housing Is Claiming a Growing Portion of Overall Funds for Housing



Source: World Bank data.

Emergency Shelters

Along low-lying coastal plains, which are particularly subject to tidal surges when tropical storms coincide with high tides, storm shelters have the potential to save thousands of lives. It is not necessary to construct shelters for everyone, and there is probably no country where there is a sufficient number of these shelters because other alternatives—such as escape roads leading inland and/or to higher ground—allow the more mobile to move themselves to safety. Seven Bank-financed projects built cyclone shelters between 1984 and 2003 (see Background Paper available upon request). The total number of cyclone shelters planned at appraisal was 624, and 524 have been built by projects that are now closed (see table H.1). In two ongoing projects a cyclone shelter program was also planned, but no figures on achievements to date have been provided.

Dedicated versus Multi-Purpose Shelters

To improve shelter maintenance prospects, the Bank moved from building dedicated cyclone shelters to building multi-use cyclone shelters that were used primarily as schools. When it became apparent that school could not be interrupted for weeks or months on end because those made homeless by a disaster were using it for a shelter, the Bank focused more on creating shelters that were also used as community centers or local government buildings, so as not to interrupt studies for prolonged periods of time. Not being able to send children to school also caused unanticipated child care burdens for the family. Another strategy, which has been discussed but not yet put in practice with Bank financing, is to enable lower-middle- to middle-income families to build multi-story cyclone-resistant homes. In the event of a disaster, these structures could save the lives of poorer neighbors with nowhere to go.

Table H.1: Cyclone Shelters Financed by the World Bank, 1984–2003

Country	Approval fiscal year	Cyclone shelters planned	Cyclone shelters constructed
Bangladesh	1972	260	238
India	1991	187	182
India	1997	140	82
St. Lucia	1999	23	12
Dominica	1999	6	5
St. Kitts and Nevis	1999	8	5
Grenada	2001	No figures	No figures
St. Vincent and the Grenadines	2002	No figures	No figures

Relocation

In the distress following major disasters, politicians are often eager to promise relocation to victims. World Bank support is welcomed to help realize these promises. Over the last 20 years, people rendered homeless by natural disasters or living on at-risk land were relocated in 30 of the projects in the study database, with varying levels of success.

A review of those projects shows that in 20, people were relocated to a safer area. A lack of technical expertise coupled with victims' anxieties and opportunism led to a suboptimal result in seven projects (all earthquake-related). In four projects, the area that disaster victims vacated received a higher value once they were gone.

An increase in land value, however, was not always at the expense of the economically most vulnerable. After the Lijiang earthquake in China, high-rise apartment complexes were torn down and single family houses in a traditional style constructed. This helped Lijiang to be accepted by UNESCO as a World Heritage Site, which increased the city's attractiveness for tourists. It could therefore be argued that even families that had to leave the area and resettle at the city's periphery may profit from this project in the future.

By relocating families through these projects, their vulnerability was reduced in almost all of the cases. However, in 24 cases, relocation sites were quite distant from the original settlements, and commercial transport costs were therefore involved. For instance, in India's Maharashtra Emergency Earthquake Reconstruction Project, some villages were relocated so far away that peasants gave up farming because they could no longer reach their fields.

In 7 of the 30 projects, resettled people moved back to their former location, either to go back to where their roots were, or to cash in their benefits by selling their new home and moving back to the hazardous area. In one case (Brazil 1988), new squatters settled into areas vacated by disaster victims. In some cases, project planners have designed ways to discourage people from moving back by creating parks and recreation areas in the vulnerable area (Honduras 2000) or having families sign contracts confirming that they would live in

Box H.1: Highly Successful Relocation in Brazil

The Rio Flood Reconstruction Project in Brazil was strongly poverty-oriented and benefited several hundred-thousand low-income families. Measures were taken after the 1988 flooding to relocate the estimated 3,428 families away from flood-prone or drainage work areas. The resettlement component itself was successfully implemented despite a number of delays. One study done immediately after resettlement indicated that the living standards of 95 percent of the relocated families had improved substantially. A follow-up study done four years later indicated the same results, with 80 percent of respondents reporting that they were better off after resettlement.

Source: IEG project database.

their new homes, which they built through self-help, for at least five years (Argentina 1993).

A well-known drawback to relocation is the difficulty in preserving social networks in the process. Of the 30 cases reviewed, only one successfully preserved social networks, confirming the pattern identified by the (2005) IEG study, *Putting Social Development to Work for the Poor: An IEG Review of World Bank Activities*. In one case, focus groups reported that the major reason that beneficiaries had not moved to the assigned house was that they did not want to leave their original neighborhood. The Beneficiary Analysis performed by the project reports: "Beneficiaries reported a strong preference for rebuilding their own damaged houses, rather than moving to the assigned houses in new neighborhoods. Moving meant dissolving social networks that often had generations of history."

In most cases people tended to be pleased with their resituated homes. In 17 projects for which information was available, a majority of beneficiaries reported being satisfied with their new home, or team leaders judged relocation a success, while in 9 projects this was not the case. When a majority is satisfied with a project, one can forget to pay special attention to a minority of often very poor families that might not have fared as well.

Whatever the positives of each case, relocating people usually has downsides: the disruption of social networks to some degree is unavoidable (because changes in the built environment inevitably change interaction patterns); it is bound to interfere with some families' livelihoods; and it results in the abandonment of existing infrastructure. When relocation is unavoidable, the Bank may choose to work with NGOs and other partners to ensure that communities' social cohesion and livelihood are preserved.

Box H.2: Relocation, If Not Carefully Planned, Can Lead to a Second Blow—The Loss of Social Support Networks

In El Salvador, families that had lived together in apartment buildings before the earthquake had developed patterns of interaction based on an established level of trust. They had spent years working out ways of managing things such as childcare, laundry, and holidays; there was a formal and an informal leadership structure.

When they were relocated, no effort was made to keep social groupings together. Even under the best of circumstances, taking people from an apartment complex (where there had been a landlord involved with building maintenance) and making them owners of condominium units was going to be a challenge. Putting together families that did not know each other made the adjustment infinitely more challenging.

Source: IEG project database.

Box H.3: The Extremely Poor Remained in Tent Cities

In the Turkey Emergency Earthquake Recovery Project, most of the over 115,000 families that received accommodation allowances were satisfied with their new homes. Some 3,000 extremely poor families, however, remained in tent cities because they were unable to successfully complete the process that would qualify them for temporary shelter or permanent housing. No solution had been found for these homeless victims by the end of the project.

Source: IEG project database.

Housing

From the Bank's perspective, the goal is to help the disaster homeless get back on their feet as quickly as possible, while focusing on the poorest and encouraging mitigation measures to help reduce the impact of future disasters. Help to the disaster homeless means addressing a range of needs to help them piece their lives back together.

The publication "Doing More for Those Made Homeless by Natural Disasters" (World Bank DMF 2001) stresses that emergency efforts to help the homeless should avoid undermining good housing sector policies, and always seek to incorporate best practice prescriptions of such policies whenever possible. And emergency housing reconstruction efforts should always embody the Bank's priority concern with benefiting the poor, by providing priority assistance to those unable to afford housing by other means. Looking at the disaster project database, 98 projects made a direct impact on the poor. The most frequently cited activity in this group of projects was the

provision of housing or infrastructure services (33 of 98).

Temporary Housing

The Bank has also supported temporary housing for disaster victims and has learned through that process that such shelters are sometimes occupied for long periods of time, and often become a part of the permanent housing stock. With this in mind, projects have begun to build temporary shelter to slightly higher standards so that they could then become another form of housing for the poorer once the new housing is built.

Sites and Services

One approach the Bank has taken in sites and services projects is providing beneficiaries with a "wet core" of plumbing in cooking and bathroom facilities and having them invest in building up around that start. The approach has met with mixed success, in part because without a place to sleep, beneficiary families find it difficult to move to the site.

In El Salvador, following the earthquake, the sites and services aspect of the project met with poor initial acceptance and was not built. The sites and services component of the Popayan, Colombia project met with considerable success, however. The project's infrastructure components, which carefully targeted poor households, had a lasting positive impact on urban development. The social situation after the earthquake was explosive: landlords could not repair low-income apartments cheaply enough to charge rents that the poor could afford. For the first time, Popayan experienced land invasions—a result of 24,000 people becoming newly homeless. The project helped to defuse the incipient squatter problem by providing funding for the acquisition of land and a strong sites and services component. Seventeen new neighborhoods were created in which marginalized people received legal title to plots of land. Nearly a decade later, results are excellent.

Multi-Story Housing Complexes

Another approach has been building housing units outright. This relatively expensive approach has been taken for middle-income families and for low-income families. Difficulties have been faced in some projects because relocating peo-

Box H.4: El Salvador

Several factors made cost recovery difficult in the housing component of the fiscal 1988 El Salvador earthquake project:

- Beneficiary selection specifically targeted low-income families affected by the earthquake.
- The difficult post-disaster context meant that repayment was especially challenging. Many housing recipients had just suffered a disaster, with loss of personal possessions, medical or funeral expenses, and temporary loss of employment.
- The cost of screening applicants and administering the loans was considerable, and it was passed on to the beneficiaries.
- The actual price of the homes rose during construction.

It turned out that the monthly payments on the project-provided homes were too expensive for the intended beneficiaries to repay. This is reflected in the low levels of repayment at the original loan amount and term. Not only did the financial institutions suffer, NGO staff estimated that half of the original families had been obliged to move out, many having forfeited years of mortgage payments.

When the IEG mission visited in October 2003, the families who had been able to keep up their original payment plans had paid off their loans. Those who fell behind were offered the opportunity to refinance, but when the accumulated interest was incorporated into the principal, a higher rate was applied, and the term significantly extended. Thus, many original families are still paying back their loans. But they are complaining bitterly and they have created associations to lobby the government for loan forgiveness. Numerous association members have stopped paying, although some credit agencies (including successors to those that went bankrupt because of the repayment levels) forcibly evicted delinquent mortgage holders and resold the units, according to families interviewed.

Source: IEG project database.

ple from different places into one complex dislocates people from their jobs and their extended families, breaking up social support networks. The sheer numbers of people needing to be housed have been daunting in some cases.

Also an issue is the difficulty beneficiaries might have keeping up with maintenance of units handed over (even if unit was free). Reaching a balance between size and need has been difficult, especially because units tend to be standardized for cost control reasons, and then turn out to be poorly suited to large families. Whatever beneficiaries see as "excess housing," they will then rent out or sell off. Some argue for giving cash for repairs of the old house, or for issues that are a higher priority to the poor, and skipping the house building step.

Since the North China Earthquake Reconstruction Project was implemented, production and living conditions in the earthquake-stricken areas have not only recovered but improved. Before the project, most of the people lived in small, dark adobe dwellings with poor earthquake resilience. After the project was implemented, families in the project villages moved into new permanent houses that are large and bright.

Cost Recovery

Cost recovery is a contentious issue in the context of the Bank's post-disaster housing work. While cost recovery may be a goal in regular lending, having such expectations in the difficult post-disaster context may be too optimistic, or perhaps even counterproductive.

Certain situations have seen success, but most projects aiming for cost recovery have experienced mixed results. Expecting beneficiaries to pay for project benefits after having just suffered a disaster—likely including the loss of personal possessions, medical or funeral expenses, and temporary loss of employment—is perhaps not realistic. Expecting cost recovery from those most likely to have difficulty paying for services or repaying loans exacerbates their situation, and may not be a viable political decision either. Or, when cost recovery is a priority, the poorest can be bypassed because of their inability to pay. Add in administrative costs, the limited experience of the poor with receiving credit from formal sources, the seasonal income situation of the poor, and obligations to pay penalties for missed monthly payments, and cost recovery can quickly move from difficult to impossible for all involved.

Bank-financed housing projects have taken different tacks with respect to cost recovery. In general, efforts have not been successful. In the case of the El Salvador Earthquake Reconstruction Project, housing beneficiaries were chosen according to their income status, creating a homogeneous beneficiary pool of low-income families. The screening was successful, the houses were built, and the beneficiaries were housed. The cost of the houses was more than planned, and more of a subsidy had to be given to each one as a result. Then, there were miscommunications as to the payback of the loans, after the beneficiaries had already agreed to a given scenario. Suddenly they were expected to repay more than anticipated. All of this set up a situation in which the people carefully screened to be beneficiaries were unable to pay, and the banks funding the houses all went under because no one repaid their loans. Later, households delinquent on their loan payments were evicted and a new payment plan was adopted.

Box H.5: Very Large, High-Quality Post-Disaster Housing—Mexico City

Most of the homes wrecked by the earthquake were typical of the "vecindades" that housed Mexico City's poorest families—inner-city tenements where 20 years of rent control had left housing overcrowded and in ill repair. The project had a substantial effect on Mexico's disaster awareness, and the city, particularly its poorest residents, will not be as vulnerable to the next natural disaster. The substantial housing component rehoused some 78,000 families at a reasonable cost in housing of a quality rarely found in the public sector, or in private housing for low-income families, anywhere.

Source: IEG project database.

APPENDIX I: EXTERNAL ADVISORY PANEL COMMENTS

The members of the External Advisory Panel welcome the IEG Evaluation of World Bank Assistance for Natural Disasters covering 20 years' experience of policy, practice, and investment in natural disaster mitigation, reconstruction, and recovery actions. Lending in relation to disasters ranks very high in the overall scale of Bank sectors of support; over 500 projects have been undertaken totaling over $42 billion.

Further, there is evidence (cited in this report and widely known to disaster experts elsewhere) that there is an increasing global threat from a variety of disasters. Within the past decade there have been at least 16 severe to catastrophic events. The list is well known, and it ranges from the Kobe Earthquake, Mozambique floods, a volcanic eruption in Goma, the 2004 Asian tsunami, devastating hurricanes such as Mitch and Katrina, and the recent earthquake in Pakistan.

The trends indicate that, alas, in the coming decades it will be prudent for the Bank to expect a much longer list of cataclysmic events than in the past decade! Therefore, in our view, it is important for the Bank to anticipate and prepare for these credible scenarios. The findings of the IEG evaluation point to the need for the Bank to raise the subject of disaster risk reduction and recovery support (including capacity building) on its policy agenda as a matter of extreme urgency and priority.

The IEG evaluation presents a number of recommendations to strengthen the Bank's readiness in this area. We endorse all of these.

In addition, however, having reviewed the remarkable data assembled through the IEG team's evaluation, the members of the External Advisory Panel would add or place greater emphasis on several distinct areas.

1. **The Bank needs a strong, high-level, well-resourced central unit to effectively take its disaster-related strategy and policies forward**. Such a unit is needed to guide policy, monitor progress, and provide a vital information function for the entirety of Bank operations. Even more important, such a unit should be prepared to address resilience and risk reduction (which too often languishes in sleepy backwaters) and to integrate risk reduction into the mainstream of the Bank's development program, policies, and projects.
2. The report refers to **the importance of assessing existing local capacities in areas vulnerable to disasters as the basis for designing strategies for prevention and readiness**. The External Advisory Panel strongly underlines this finding. As the report notes, there is no single disaster response strategy that would prove most effective everywhere. Rather, an appropriate strategic response that answers immediate disaster-related needs, reduces future disaster vulnerability, and supports long-term development rests on accurate knowledge of, and programmatic support to, capacities in the disaster-affected region. Therefore, we note with some concern that when the Bank conducts an initial assessment of a disaster situation, its staff or consultants consider a double negative: *"damage"* and *"needs,"* without simultaneously looking for the positive strength of *"capacities."*
3. The report mentions **the importance of analyzing gender in disaster prevention, preparedness, and response**. The Advisory Panel would place more emphasis than is in the report on this critical analysis. In our experience in multiple disaster settings worldwide, clarity about the differences in gender roles, partic-

ularly, but not limited to, those that arise in female-headed households, has proven important to ensure fairness and effectiveness in disaster programming.

We offer these thoughts in appreciation of the excellent work done by the IEG evaluation team. After the most careful reflection on their findings, we are convinced that the Bank has a unique opportunity to make a real and lasting contribution to a more resilient global system that mainstreams risk reduction, disaster preparedness, and prevention.

Disasters pose a significant impediment to a sustainable global future. The World Bank, committed as it is to providing leadership in sustainable development, cannot honorably ignore the challenges contained in this evaluation.

We appreciate the opportunity to have been associated with this study and feel sure that it provides a strong basis for the Bank's future disaster-related work.

Mary B. Anderson
President, Collaborative for Development Action, Inc., Cambridge, MA, USA
Ian Davis
Visiting Professor, Resilience Centre, Cranfield University, UK
Prema Gopalan
Director, Swayam Shikshan Prayog, Mumbai, India
Franklin McDonald
Institute for Sustainable Development, Regional Centre for Disaster Risk Reduction and Management, University of the West Indies, Jamaica

APPENDIX J: MANAGEMENT RESPONSE

Management welcomes IEG's evaluation of Bank assistance for natural disasters from 1984 to 2005. This comprehensive study highlights several areas of Bank involvement in a range of disaster management–related activities. The review's main findings are appropriate and sound, and its recommendations are duly noted and appreciated. This response summarizes the main findings and conclusions of the IEG review. It then presents management's comments on the analysis, conclusions, and recommendations. The draft Management Action Record is attached.

Summary of IEG's Findings and Recommendations

The key findings of the study include:

- The Bank has demonstrated considerable flexibility in its approach to natural disaster assistance and learned to manage responses from those of very large dimensions to smaller, more limited events.
- The Bank also has demonstrated its ability to work with donors in a shared response and has adapted policies and procedures to ensure that assistance can be delivered expeditiously.
- Natural disaster projects financed by the Bank have had higher ratings for outcome and sustainability than the Bank's portfolio as a whole.
- Disaster responses have tended toward the reactive and tactical rather than the proactive and strategic. In addition, to meet borrowers' emergency recovery needs, the Bank has increasingly relied on the Emergency Recovery Loan (ERL) instrument following a disaster, which has proven to be less appropriate for longer-term activities such as mitigation, institution building, and full coverage of social issues.
- The crucial activities for long-term reduction of vulnerabilities take longer than three years to implement and have weak borrower demand.
- Given the high concentration of risk in certain countries and regions, special attention needs to be given to planning ahead for disaster and to reducing long-term vulnerability, including mechanisms to finance and/or transfer risks. The Bank's long-term engagement with client countries needs to ensure continued focus on permanent vulnerability reduction.
- The Bank has the human resource capacity to both respond to disasters and address long-term country needs related to hazard risks, but mobilizing it is cumbersome.

Recommendations

The following are recommendations for management:

- Prepare and submit to the Board for discussion a strategy or action plan for assistance related to natural disasters that takes into account the differing vulnerabilities of borrowing countries. Such a strategy or action plan should identify a methodology to assess each country's level of disaster risk. It is suggested that the countries be divided into high-, medium-, and low-risk groups. The action plan then must spell out how the Bank will assist borrowers in each category to lower their vulnerabilities and to build on local capacities and leadership. In highly vulnerable countries, the action plan needs to make provisions to give more attention to natural hazards during the appraisal of investment projects generally, and specifically in the preparation of Poverty Reduction Strategy Papers (PRSPs), Country As-

sistance Strategies (CASs), and other strategic documents.

- Modify OP 8.50 (or prepare a new OP) so that it focuses on natural disasters and fosters the use of instruments best adapted to addressing the long-term development needs of borrowers. Bank policy needs to reflect differences between different emergency impacts, such as natural disasters versus, for instance, post-conflict situations or health crises. The policy should focus more on disaster prevention and reduction in all operations. Policy prohibitions on relief and the financing of recurring events need to be relaxed. It also recommends considering the establishment of a special central fund managed by the President's office to fund the most urgent needs in the early days of a disaster response.
- Ensure that the Bank has sufficient specialized expertise available to respond quickly to disasters in a way that is suited to the specific circumstances of the event and the country context. The Bank needs capacity to quickly gather and disseminate international experience to its borrowers in an emergency. In addition, task teams need support while conducting post-disaster damage and needs assessments and designing emergency interventions tailored to the requests and capacities of each client.

Management Comments

Impact

The IEG report indicates that the costs of natural disasters are increasing worldwide: in constant dollars the costs are now 15 times higher than they were in the 1950s, with material losses reaching $652 billion in the 1990s. The human cost is also staggering; from 1984 to 2003, more than 4.1 billion people were affected by natural disasters. The World Bank increasingly has been engaged in helping developing countries recover from the disastrous impacts of natural events through analytic, technical, and advisory support and lending activities. Since 1984, the Bank has financed approximately 528 projects that addressed natural disasters, providing more than $26 billion in lending for disaster response and prevention. Now, more Bank disaster recovery projects either include disaster mitigation elements or are followed by specific investment lending for disaster mitigation in client countries.

Improving the Bank's Response to Disasters. The IEG review shows that the Bank has demonstrated considerable flexibility in its approach to natural disaster assistance and learned to manage responses better over time. Management agrees that speed, flexibility, and innovation matter in disaster response. The review also shows that accelerated processing and provisions for quick disbursement from Emergency Recovery Loans (ERLs) have partially addressed the need for speed in undertaking short-term activities in the aftermath of a disaster. Ongoing revision of the Operational Policy statement on Emergency Recovery Assistance (OP 8.50) will explore further simplification of procedures, update the expenditure eligibility provisions of the policy, and clarify that financing options for immediate emergency needs include rapidly disbursing contingent financing and supplemental development policy lending. Immediate relief activities (in which UN agencies normally take the lead) and the follow-on transitional and recovery activities (in which the Bank often plays an important role) should be coordinated. Management agrees with IEG's conclusion that in the transition to recovery, cash transfer payments to disaster-affected families and communities can be among the most effective means of support. An effective response to a disaster depends on pre-emergency preparedness planning and strong institutional mechanism in the Bank's client countries to mobilize and coordinate the post-disaster response of all stakeholders. With this in view, the Bank is increasingly engaging with its client countries in regions prone to disaster risks to provide technical and financial assistance for building holistic capabilities for emergency preparedness and disaster prevention, though it has experienced weak borrower demand for such projects.

Building Bankwide Capacity for Emergency Response and Sustainable Disaster Recovery. Management would like to note that the Hazard Risk Management (HRM) Team in the Infrastructure Net-

work anchor (INF) has undertaken systematic documentation and dissemination of lessons and good practices from past disaster recovery projects to enable the Bank staff and clients to improve the quality and effectiveness of Bank's disaster recovery projects. In order to enhance Bank staff capacity to respond effectively to clients' requests, the HRM Team regularly organizes training of Bank staff in post-disaster damage and needs assessment and design of recovery projects. The Bank's internal procedures are being streamlined by putting in place an emergency response checklist to delineate the roles and responsibilities of various Bank headquarters units and country offices in a post-disaster situation, including identifying contact points in central units. Further disaster mitigation and recovery specialists are being identified from the staff in regions and networks with relevant skills and expertise. These specialists will be grouped to constitute the Quick Reaction Team (QRT) of the Bank to assist country teams to engage with the clients and other stakeholders from early on after a disaster. The QRT, with the assistance of the anchor HRM Team, will provide the much-needed capacity in the Bank to gather and disseminate international experience to borrowers in emergencies.

Bringing Risk Management into Development. The review recognizes the need for special attention to be given to planning ahead for the disaster and to reducing long-term vulnerability in those countries prone to disaster risks. Many studies at the Bank and its other partners have shown that poverty and disaster vulnerabilities are intrinsically linked, and that sustainable poverty reduction approaches must therefore incorporate risk reduction as one of the integral elements. Management concurs with IEG's findings that because natural hazard risks are foreseeable in many countries, country lending programs and all sectoral project lending should give adequate consideration to managing and reducing disaster risks. With this in view, the HRM Team, in collaboration with Columbia University, conducted a global-scale risk analysis to identify natural disaster hotspots on the basis of mortality and economic loss risks due to multiple hazards. This study, a first of its kind, provides a scientific foundation for benchmarking risks and ranking countries on the basis of their mortality and economic loss risks. The Bank is working with countries at varying degrees of risk, as brought out in this study, to assist them to reduce their vulnerabilities by giving more attention to risk reduction in preparation of their strategy documents, such as PRSPs. The Global Facility for Disaster Reduction and Recovery being established with Development Grant Facility (DGF) and donor funding will support client countries in putting in place appropriate policy, institutional and financial frameworks for *ex ante* risk management.

Catalyzing Greater Investment in Disaster Prevention and Mitigation. The IEG review notes weak borrower demand for investment in risk mitigation and emergency preparedness. Management would like to note that more analytical work—such as risk, vulnerability, and capacity assessment studies; modeling catastrophes in macroeconomic projection; developing mitigation strategies; and identifying priority investment opportunities with highest returns—is required at the country level to demonstrate that hazard risk is a manifestation of flawed development plans and that managing hazard risks is a good practice in sustainable development. With this in view, the Bank, in collaboration with donors in the context of the International Strategy for Disaster Reduction (ISDR),[1] is also exploring to establish a Global Facility for Disaster Reduction and Recovery to support national capacity building to deal with the risks of natural disasters and to catalyze global and regional partnerships for enhanced advocacy, information, and knowledge exchange for risk reduction in line with the strategic goals under the Hyogo Framework for Action (HFA).[2] The Bank commits substantial resources each year for reconstruction after disasters and this proposed program would help move the focus from reconstruction to mitigation and pre-disaster preparedness activities as a critical dimension of the Bank's poverty reduction agenda.

Coordination Inside and Outside the Bank. The review notes that the Bank has the capacity to respond

to disasters and address long-term country needs related to hazard risks, but mobilizing it is cumbersome. The Bank has a core HRM Team, which provides strategic and rapid advice to country and Regional teams, disseminates lessons learned from past experiences, and facilitates access to global practices, which have been developed through an ambitious research and knowledge management agenda. Beyond the core team, the Bank's hazard risk management approach is truly multisectoral, and the Bank's capacity is distributed across sectoral experts in country teams, Regions and Networks that are grouped in the Hazard Risk Management Thematic Group, which now consists of more than 100 Bank staff. Hazard risk management is a cross-cutting issue that requires the engagement of a large number of stakeholders. In order to develop and execute a Bankwide approach to hazard risk management in different sectors, a Steering Committee of Directors of relevant sectors has been constituted to coordinate Bank efforts in hazard risk management.

Improving Donor Coordination. The review notes that donor coordination is especially crucial to disaster relief and recovery and that increasingly governments are providing donor coordination. Where requested by the government, the Bank has facilitated collaboration between the government, multilateral and bilateral donors, and the NGOs to develop a common recovery strategy. The Bank's presence in countries has helped in staying engaged with the authorities from early on, as has been experienced in a number of recent disasters. While strengthening government capacity to better coordinate responses to disasters remains a priority, the Bank is also working with donors, multilateral development banks, and UN agencies to develop common tools and methodologies for post-disaster assessments and to improve coordination.

Scope

Emergency Recovery Loans (ERLs). An ERL as an instrument of emergency response has three main advantages, which are (i) quick disbursement against a positive list of disaster-related imports, (ii) an ability to speed up the preparation and processing of the response and stagger response activities over the life of operation in a sequence that best fits borrowers needs due, in part, to the ability to postpone key safeguard and fiduciary processing conditions; and (iii) leadership of the process by the country director and the Advisory Committee. Management agrees with IEG's recommendations for greater emphasis on risk reduction and mitigation measures. A disaster-recovery phase often witnesses greater political will and momentum to introduce policies and plans for long-term risk reduction, and an ERL with a flexible time limit can provide a window to initiate important long-term programs, which would enable the borrowers to manage and reduce future hazard risk.

Building Resilience through Risk Mitigation. Thanks to recent advances in catastrophic risk modeling and analysis, it is now possible for country poverty and economic diagnostic work to take into account, in every disaster-prone country, the risks that the country faces, identify the overall exposure of the country's productive assets and population to such hazards, determine the vulnerability of the housing stock and productive assets and population to such hazards, and draw numeric conclusions with regard to the expected annual and probable maximum economic and fiscal losses from catastrophic events with different return periods. The Bank will increasingly work with client countries to institutionalize comprehensive disaster risk analysis, and use its results to guide its analytic and advisory activities (AAA) and lending support for investments in disaster risk mitigation and emergency preparedness.

Pricing the Residual Risk. In recent years, the Bank has made a considerable effort to develop catastrophe risk transfer mechanisms in developing countries and established partnerships with leading reinsurers. Insurance and reinsurance prices are highly sensitive to risk and thus act as the most reliable indicator of an appropriate risk management strategy. The Bank has funded a number of insurance initiatives under disaster-

related projects and is working on several innovative instruments of risk financing to meet the specific needs of client countries. The Bank's experience with contingent facilities is limited to a few initiatives, including the Turkish Catastrophe Insurance Pool (TCIP) under the fiscal year 2000 Marmara Earthquake Emergency Reconstruction Project, and a contingent loan component of the fiscal 2005 Natural Disaster Vulnerability Reduction Project—First Phase Adaptable Program Loan (APL) for Colombia. The Bank is also spearheading several new instruments in the area of risk financing. For example, a catastrophe insurance facility is currently being developed for the Caribbean Region (the Caribbean Catastrophe Insurance Initiative).[3] In addition, the Bank is exploring other ways to provide timely and effective assistance for disaster recovery through a contingent financing instrument, which would leverage adoption of disaster risk management strategies. Besides initiatives on risk hedging, the Bank is also working on development of a parametric catastrophe reinsurance facility (Global Index Insurance Facility), in collaboration with many development partners.

Coordination and Partnerships. Management supports IEG's finding that the Bank should be fully engaged from the outset of the recovery process in order to share its expertise in design of an integrated recovery strategy. As the largest external financier of disaster reconstruction, the Bank has a tremendous amount of experience and lessons to share on disaster recovery, and governments and other stakeholders will benefit from the Bank's participation from early on after a disaster. The Bank is in discussion with UN Office for Coordination of Humanitarian Affairs (OCHA) to better coordinate the onset of response and relief and transition to recovery phase. Donors and other stakeholders of the new ISDR system have also sought the Bank's continued and active engagement at global, regional and national levels due to its leveraging and convening capacity. The Bank has been nominated to the strategic oversight board of the ISDR, and many donors have shown keen interest to work with the Bank in mainstreaming risk management into poverty reduction agendas in countries at high risk of natural disasters.

Knowledge Management and Learning Activities. The role of the HRM Team (INF) is to facilitate exchange of knowledge and good practice, facilitate Bank staff training in hazard risk management approaches, strengthen Bank's partnerships with donors, UN agencies, private sectors and other stakeholders, and also act as a clearing house on matters pertaining to hazard risk management. The Bank has undertaken a series of actions to develop policy-based tools for risk analysis, risk mitigation and risk financing. Regional working papers in risk management, the hotspots study on global risk analysis, lessons from past disaster recovery projects, training and knowledge management in hazard risk management are all examples of the ways in which the Bank's work has influenced global, regional and national strategies for risk management and had a positive impact on the plans and policies of client governments. Management appreciates that the review acknowledges the high level of quality and impact of the Bank's research and AAA, which have enhanced the awareness in client governments about the need to strengthen public management capacities and public-private partnerships for speedy execution of disaster risk management projects.

Recommendations

Recommendation 1. Prepare and submit to the Board for discussion a strategy or action plan for assistance related to natural disasters that takes into account the differing vulnerabilities of borrowing countries.

Management agrees that a comprehensive action plan for better managing disaster risk is needed at all levels. The Bank's natural disaster assistance would benefit from a country-led and country-owned national hazard risk management approach focusing on concrete client governments' needs. These needs, as reflected in the national strategies, should be the foundation for a program of Bank Group assistance to reduce disaster risks. Mainstreaming risk management in all Bank operations and similarly helping countries to integrate risk management in all sectoral development strategies is a good practice consis-

tent with the Bank's overall mission to reduce poverty. The hotspots study identifies the risk level of countries on the basis of their relative risk of mortality and economic losses to six major natural hazards. The Bank will work with the government counterparts in the countries at high risks where new PRSs and CASs are being developed, to integrate risk reduction in development strategies and facilitate development and implementation of country-led national hazard risk management strategies.

Recommendation 2. Revise policy to better guide staff and enhance flexibility of Bank responses to natural disasters.

Management agrees that speed, flexibility and innovation are important to an effective disaster response. To respond to these needs, the revised OP 8.50 should (i) address simplification of procedures to make the ERL a more effective emergency lending instrument; (ii) clarify the expenditure eligibility provisions to include cash transfers and consumables; and (iii) provide time-limit flexibility in the use of ERLs to allow initiation of important long term programs, which will enable the borrowers to manage and reduce future hazard risks. The revision of OP 8.50 will also emphasize the value of other tools, which the Bank deploys in response to emergencies, such as portfolio restructuring, additional financing, supplemental development policy lending, and engagement with partners. While management agrees that certain aspects, such as emergency predictability and preparedness and technological know-how developed in response to natural disasters, may not apply to other types of disasters, the vast majority of recovery and reconstruction aspects to be addressed in all emergencies (including social assistance to address the needs of displaced persons and other vulnerable groups, economic integration and reinstatement of basic services, communication with affected populations and communities, restoration of livelihoods, and rebuilding of infrastructure) are in fact the same. The ongoing revision of OP 8.50 will result in a flexible, principles-based umbrella policy for emergencies. This approach will allow the Bank to tailor its response to different types of emergencies, whatever the underlying causes may be, and thus ensure increased effectiveness and relevance of Bank assistance.

Recommendation 3. Increase Bank capacity to respond to disasters and ensure that it can be mobilized quickly.

Management concurs that the development of a cadre of staff with sufficient specialized expertise for disaster response and mitigation is crucial. Beyond the core team of specialists in the anchor HRM Team (INF) and the Regions, the Bank will implement a time-bound program for capacity enhancement of Bank staff, put in place a standard emergency response plan, and constitute a Quick Reaction Team (QRT) of disaster specialists from Regions and Networks for rapid deployment in disaster-affected areas.

Management Action Record. The draft Management Action Record provides more specific responses to IEG's recommendations. It is attached below.

Draft Management Action Record

Recommendation	Management Response
Prepare a strategy or action plan for natural disaster assistance. The Bank's natural disaster assistance would benefit from the development of a strategy or action plan and related guidance that would: help staff to respond to emergencies with quick relief and well-planned reconstruction, and to do so more effectively in a much shorter period; ensure that contingency funds (be it on a country, regional, or global scale) result in all borrowing countries receiving a timely and adequate financial response to major events; and help bring natural hazard risk management to the most vulnerable countries. The strategy or action plan needs to identify a methodology to assess each country's level of disaster risk. It is suggested that countries be divided into high, medium, and low-risk groups. The action plan then needs to identify how the Bank will assist borrowers in each category to lower their vulnerabilities and to build on local capacities and leadership. In highly vulnerable countries, the action plan needs to make provisions to give more attention to natural hazards during the appraisal of investment projects generally, and specifically in the preparation of PRSPs, CASs, and other strategic documents. Where appropriate, these documents need to go beyond a description of the risks, and identify monitorable mitigation and institutional development activities. For the most vulnerable countries, contingency funding needs to be available, whether as part of another loan, a set-aside in the CAS lending program, or a free-standing catastrophe fund (though these may become unnecessary if regional or global funds are eventually established). Another alternative worth consideration is a special fund under the President's control that can be used to fund a quick start when disaster occurs. Countries deemed to be at medium to high risk need to include disaster-resilient design in Bank-financed projects. For all countries disaster risks need to be considered in standard risk assessment documents. The strategy or action plan should be submitted to the Board for discussion.	Management agrees that a systematic approach for better managing disaster risk is needed at all levels. The Bank's natural disaster assistance would benefit from a country-led and country-owned national hazard risk management approach focusing on concrete client governments' needs. These needs, as reflected in clients' national strategies, should be the foundation for a program of Bank Group assistance to reduce disaster risks. Mainstreaming risk management in all relevant Bank operations and similarly helping countries to integrate risk management in all relevant sectoral development strategies is a good practice consistent with the Bank's overall mission to reduce poverty. The methodology provided by the hotspots initiative, conducted by the Bank and other partners, identifies the relative risk levels of countries on the basis of mortality and economic losses associated with six major natural hazards. Countries at high risks, where new Poverty Reduction Strategy Papers (PRSPs) and Country Assistance Strategies (CASs) are being developed, are being identified for initiating a dialogue with the government counterparts so that risk management approaches can be mainstreamed early on. In fiscal 2006–8, management plans to focus on the following action items: • Facilitate the preparation and implementation of country-led national hazard risk management strategies, as part of national development strategies. • Mainstream diagnosis of natural disaster risks in CAS and provide financial and advisory support to the implementation of hazard risk management strategies when requested by the respective governments. • Working in partnership with governments, UN and other multilateral development banks (MDBs), establish a Bank-led global facility for disaster reduction and recovery, to provide technical and financial assistance to client countries for developing national risk management strategies and action plans for risk prevention, and better disaster preparedness. • Develop incentives for client investment in mitigation measures, especially in high-risk countries. • Develop a Bankwide emergency response plan along with necessary Standard Operating Procedures and Checklists to guide the Bank staff to respond to emergencies and undertake a well-planned recovery.

Recommendation	Management Response
Revise policy to better guide staff and enhance flexibility of Bank responses to natural disasters. Emergencies are of many sorts and, although there is some overlap, most differ from the disasters created by natural events in critical ways. Bank policy needs to reflect these differences by treating conflict and epidemic diseases separately, with provisions that apply only to the relevant topic. There are two ways in which this can be done: natural disasters can either be the subject of a separate operational policy (as called for in the 1998 IEG evaluation of the Bank's experience with post-conflict reconstruction); or OP 8.50 could include specific provisions for natural disasters, for post-conflict situations, and for health and other emergencies, so that each topic is dealt with separately. In whatever form it takes, Bank policy needs to focus more on disaster prevention and vulnerability reduction in all natural disaster operations. Policy prohibitions on relief and the financing of recurring events need to be relaxed. Accelerated processing and provisions for quick disbursement for ERLs have partially addressed the need for speed in undertaking short-term activities, though they could be fruitfully complemented by a new mechanism, such as a special central fund managed by the President's office (akin to the one in place in IDB) to fund the most urgent needs in the early days of a disaster response. But the use of ERLs is less appropriate for longer-term activities, such as mitigation, reconstruction, and institution building, which require a longer preparation and appraisal time and need not be exempted from due diligence standards and safeguard compliance. Similarly, attention to social issues during preparation and implementation generally requires a longer period than has been available under ERLs. Such activities are more suited to standard investment lending but have often been short-changed because of the ERL's three-year implementation time, and the loss of borrower interest in a second loan following the ERL.	Management agrees that speed, flexibility and innovation are important to an effective disaster response. To respond to these needs, the revised OP 8.50 should (i) address simplification of procedures to make the ERL a more effective emergency lending instrument; (ii) clarify the expenditure eligibility provisions to include cash transfers and consumables; and (iii) provide time-limit flexibility in the use of ERLs to allow initiation of important long term programs, which will enable the borrowers to manage and reduce future hazard risks. The revision of OP 8.50 will also emphasize the value of other tools, which the Bank deploys in response to emergencies, such as portfolio restructuring, additional investment financing, supplemental development policy lending, and engagement with partners. While management agrees that certain aspects, such as emergency predictability and preparedness and technological know-how developed in response to natural disasters, may not apply to other types of disasters, the vast majority of recovery and reconstruction aspects to be addressed in all emergencies (including social assistance to address the needs of displaced persons and other vulnerable groups, economic integration and reinstatement of basic services, communication with affected populations and communities, restoration of livelihoods, and rebuilding of infrastructure) are in fact the same. The ongoing revision of OP 8.50 will result in a flexible, principles-based umbrella policy for emergencies. This approach will allow the Bank to tailor its response to different types of emergencies, whatever the underlying causes may be, and thus ensure increased effectiveness and relevance of Bank assistance. Management agrees that more emphasis must be placed on disaster prevention and risk reduction in all natural disaster operations, and actions to that end are set out in response to the first recommendation above.
Increase Bank capacity to respond to disasters and ensure that it can be mobilized quickly. Whether or not there is a designated unit to deal with natural disasters and hazard risks, the Bank needs the capacity to quickly gather and disseminate international experience to borrowers in an emergency. In addition, task teams need support while conducting post-disaster assessments and designing emergency interventions tailored to the needs and capacities of each borrower. Responding to disasters requires multisectoral	Management agrees that the development of a cadre of staff with sufficient specialized expertise for disaster response and mitigation is crucial. Beyond the core team of specialists in the HRM Team in the Infrastructure Network anchor (INF) and its important functions in training and knowledge management and technical assistance to the country teams and Regions, the following actions will be taken before end-fiscal 2007 to increase the Bank's capacity and to put in place an effective mobilization plan for emergency management specialists:

Recommendation	Management Response
expertise. Including disaster-knowledgeable people on Bank missions following major crises can be crucial. Being selective in staffing identification for missions in post-disaster settings avoids problems of design and scale of response that can occur when people are sent who are not used to seeing destruction on a massive scale or who lack country knowledge. The Bank has very few such people, and it currently has no consistent mechanism for mobilizing them to respond to natural disasters. Pulling members of the Hazard Management Thematic Group away from their ongoing responsibilities inevitably has a negative impact on their normal activities. And there are so few knowledgeable staff that the same people tend to be called upon repeatedly.	• Support increased capacity within (i) the existing HRM Team (INF), (ii) Regional teams, and (iii) teams working to assist countries highly vulnerable to disaster impacts. • Develop learning and certification programs for staff in disaster response and conducting damage and needs assessments. • Mobilize and train multisectoral teams from each region to be prepared for emergency response in highly vulnerable countries prior to a disaster. • Strengthen partnerships with other development agencies to leverage experience and resources and facilitate improved coordination following a disaster.

APPENDIX K: CHAIRMAN'S SUMMARY: COMMITTEE ON DEVELOPMENT EFFECTIVENESS (CODE)

Background. The IEG Report prepared at the request of the Board covers a range of analytic services, technical assistance, and more than 500 projects amounting to over US$26 billion in lending since 1984 related to natural disasters.

Main Findings and Recommendations. The Report discusses the rationale for the Bank's involvement in disaster assistance, its response to natural disasters, mainstreaming risk management into development strategy, and cross-sectoral and cross-regional coordination within the Bank and with other development partners. Three major recommendations are to prepare and submit to the Board for discussion a strategy or action plan for natural disaster assistance, revise policy (OP 8.50), and increase Bank's capacity to respond to disasters and ensure that it can be mobilized quickly.

Draft Management Response. Overall, management welcomed IEG's evaluation, found the report's main findings to be sound, and appreciated its recommendations. They clarified the activities already undertaken or planned for the near future: first, the Bank is working with the governments of high-risk countries to integrate risk reduction in PRSPs and CASs, and a new global facility for disaster reduction and recovery is being established to provide speedy and effective technical assistance to clients; second, Operational Policy 8.50 is being revised; and third, the Bank is in the process of strengthening its in-house capacity on disaster mitigation and emergency response by providing training to staff and by constituting a Quick Reaction Team (QRT) of Bank staff with relevant expertise and experience in disaster-related operations for rapid deployment to disaster-affected areas.

Conclusions and Next Steps. The Committee unanimously commended the IEG Report for its analytical rigor and insight, and welcomed management's response. Members were pleased with the high performance rating of the Bank's disaster response operations, exceeding that of the Bank's regular portfolio. This being said, it was recognized that the Bank needs to become even better prepared to assist its clients to reduce disaster risks both *ex ante* and *ex post.* Agreeing with the Report that mainstreaming hazard risk management in the Bank's operations is the most effective way to achieve sustainable poverty reduction, speakers encouraged greater emphasis on disaster risk reduction in Country Assistance Strategies (CASs) and Poverty Reduction Strategy Papers (PRSPs), in particular in countries prone to natural disasters. The need to address the link between climate change and the frequency and severity of natural disasters was also discussed in this context. A variety of views was expressed on proposed financial mechanisms to support national capacity building and catalyze global and regional partnerships. A review of Bank's Operational Policy 8.50 was broadly supported despite some diversity of opinion on the direction of this effort. The end of the calendar year 2006 was welcomed as a deadline for the completion of the revision, with an understanding that the revised OP 8.50 would be accompanied by a complementary covering note on disaster management, which could clarify the broader issues raised at the meeting and by IEG. The creation of a QRT was broadly welcomed as a measure to sharpen the Bank's own staffing deployment capacity. The main issues raised during the meeting were the following:

Strategy. There was strong support for a strengthened Bank involvement in disaster management.

One speaker stated that this involvement was at the heart of the Bank's founding mandate for reconstruction and development. Most members supported the suggestion that the Bank needs a clear but flexible strategy for assistance to disaster management. Management proposed that rather than developing a full-fledged stand-alone strategy paper, it would be more practical and appropriate to capture broad strategic issues raised by the Committee and IEG in the cover note attached to the revised Operational Policy (OP 8.5).

Mainstreaming Disaster Management. Many speakers agreed that natural disasters should be treated as integral elements of development processes, and emphasized the importance of the Bank shifting its focus on disaster management even further toward prevention and preparedness and to mainstream disaster management in its strategies and operations. In this vein, several speakers urged the Bank to include disaster management as major theme in CASs for all vulnerable countries, especially fragile and small island states. Likewise, governments were encouraged to do the same for PRSPs. Agreeing with the comments, management gave the example of the recent CAS for the Organization of Eastern Caribbean States (OECS) countries, where disaster preparedness and prevention were used as one of the strategy pillars. Speakers stressed that Bank's engagement should be flexible enough to respond *ex ante* and *ex post* to all types of disasters. Members pondered how to convince governments to adopt *ex ante* policies and measures to reduce disaster risks. For this purpose, many speakers called for proactivity by the Bank and timely sharing with the governments of vulnerable countries of accurate, scientific-based risk assessment as well as data on impacts of natural disasters. In this context, it was suggested that country risk analysis should also be an essential element of CASs and PRSPs and that the Bank's recent "hotspots" publication be distributed among the constituencies.

Financing Disaster Management. The evaluation findings revealed a need for more flexible ways of mobilizing Bank financing for disaster responses. On this point, some speakers urged caution on establishing a separate contingent fund and suggested more discussion on the topic. One member suggested that this debate needed to be situated in the context of potential future revisions of the IDA allocation framework. This could be done by revising the existing IDA allocation framework, by earmarking separate resources within the IDA funding envelope, or by creating a special fund outside of IDA, Furthermore, funding initiatives by other donors would need to be examined in order to avoid overlaps. This comment drew support from other discussants. Management indicated that these issues will be discussed with other donors over next few months.

Some speakers urged the Bank to examine more deeply the apparent lack of private sector financing for disaster risk management (including private insurance). Management agreed with this observation and clarified that private insurance may be more suitable in middle-income countries (e.g., Turkey) with more developed financial sectors, while it may present problems for small countries. Staff further clarified that in cases where market failures prevented the provision of private disaster insurance, insurance mechanisms that would be partly financed by premiums, and partly through development aid, could be considered. The Bank will engage in discussions on this over next several months.

Instruments. A member found deficiencies in the traditional emergency recovery loans (ERL), and agreed with the Report's findings that ERL's duration of three years limited the scope to Bank's achieve lasting results. Loan reallocations and "front-loading" of CASs in the wake of disasters caused concern to some speakers, as such approaches tend to divert resources from other projects. Management clarified that it was considering the introduction of new innovative instruments, including contingent financing instruments. Additionally, the Bank is also planning to present for Board approval a Global Facility for Disaster Reduction and Recovery (through Development Grant Facility funding), to be established in collaboration with members of the International Strategy for Disaster Re-

duction (ISDR) System, particularly national governments, the UN system, and the private sector. This Global Facility would focus on country-level technical assistance and holistic capacity building for both *ex ante* and *ex post* disaster risk management in client countries.

Climate Change. Several speakers regretted the absence of the issue of climate change from the documents under discussion, noting that abrupt and powerful effects of climate change on the weather massively increased the vulnerability of people. This threat was particularly imminent in poor countries. A speaker pointed out that climate change was still a contentious topic, which needed to be treated with caution. IEG agreed that climate change is an important link to disaster management, but stressed that a deeper analysis was needed before definite causal linkages could be understood. Management pointed out that a viable and integrated risk management strategy would support adaptation measures in respect to climate change and variability in risk management approaches, and informed the forum that the recent Clean Energy paper contained a chapter on adaptation. This paper discussed climate change impact in Africa and low-lying states, but also indicates that more knowledge is needed. In this context, a speaker stressed that the Bank needed to enhance its assistance to countries exposed to drought, especially in Africa.

Revision of OP 8.50. The Committee generally welcomed the revision of OP 8.50. A majority of members felt that the policy should take on the form of an umbrella policy, encompassing all dimension of disasters (made by man and nature), as proposed by management. This was seen as in line with the current drive toward creating more generic policies, as envisaged under the modernization and simplification agenda. Some members disagreed and felt that disaster management was better addressed through a separate policy. A speaker suggested that the revised policy should state that the Bank should not normally fund direct cash transfers to disaster-affected people, as this was better handled by other agencies. He argued that the revised policy should strengthen and formalize the division of labor between the Bank and other actors in disaster management. While other organizations (such as UN's Office for the Coordination of Humanitarian Affairs, OCHA, and international NGOs) should be responsible for immediate assistance (including cash transfers), the Bank ought to focus on disaster prevention, building capacity, and strengthening institutions. A number of other speakers were of the view that the Bank should retain the flexibility to provide short-term assistance to affected people, including cash transfer if the circumstances dictated this. IEG commented that its review of the experience revealed an emerging consensus on the importance and effectiveness of cash transfers following severe events, citing examples of cash being used for shelter and other needs necessary for immediate survival. Management explained that it is important to distinguish between immediate relief activities and the follow-on transitional recovery stage, during which the Bank plays an important role and for which cash payments are often the most effective means of support. A speaker suggested that a cover note accompanying the revised OP 8.50 could clarify some broader issues that cannot be captured in the operational guidelines. Management explained that the CODE discussion and the IEG study were important inputs into the ongoing revision of OP 8.50, which will explore further simplification of procedures, update the expenditure eligibility provisions of the policy, and clarify financing options for immediate emergency needs. Staff indicated that the revised OP 8.50 was planned to be presented to the Board before the end of calendar year 2006.

Partnerships and "Division of Labor." Members agreed that building partnerships through development programs and before disasters happen is essential for effective collaboration after destructive events. Some speakers also emphasized a need for a clear division of labor in disaster risk management among UN agencies, the Bank, other IFIs and, where appropriate, non-governmental organizations. Management emphasized that partnerships with key donors and governments, other IFIs, and UN agencies under the umbrella of the International Strategy for

Disaster Reduction (ISDR) System have been established for leveraging resources and developing common tools and methodologies for *ex ante* risk management and post-disaster assessments and other recovery instruments. It was also noted that the Bank has been invited to be a member of the strategic oversight board for the entire ISDR System.

Enhancing Bank Capacity and Staffing. Most speakers welcomed the Bank's good record in global disaster response and recovery, but also agreed with the findings of the Report on the need to strengthen Bank staffing capacity further, to assist its clients to respond to disasters timely and efficiently. Management agreed with these comments and stressed the importance of systematically strengthening and building staff capacity for emergency response and disaster mitigation. In recognition that more organization and flexibility was needed in moving expert staff from one region to another and equipping them with necessary "tools," management indicated that in addition to a small specialized core team in the Infrastructure Network ("Hazard Risk Management Team"), a Bank-wide Quick Reaction Team was being established. Most members broadly supported the QRT proposal, while one member favored establishing a specialized and well-staffed hazard risk unit. Management responded that there were no plans for a new, specialized unit, but that a proposal for a more flexible deployment of institutional capability from across the Bank was being developed.

Other Issues. Some speakers noted the dearth of information on *gender* and urged the Bank to devote more attention to gender assessments in connection with its disaster assistance. Staff responded that gender issues are integral to Bank's approach to risk management in operations, especially for post-disaster projects, where women's participation has become integral to recovery and reconstruction project design. A member also raised the issue of *procurement.* Staff acknowledged that the Bank has faced some procurement problems in disaster situations, especially when dealing with infrequent borrowers. However, staff also stressed the need for maintaining a sufficient degree of flexibility in procurement in disaster situations. A speaker introduced the issue of *resettlement* after disasters, to which management responded that the IEG report and findings from self-evaluation of operational work (e.g., CAS Completion Reports and Implementation Completion Reports) provide valuable information for operationalizing resettlement.

Pietro Veglio
Chairman

ENDNOTES

Chapter 1

1. John MacKinlay and Randolph Kent, "A New Approach to Complex Emergencies," *International Peacekeeping* 4: 31-49.

2. ABC news report, October 16, 2005, quoting Prime Minister Shaukat Aziz.

3. Official development assistance equaled $5.154 billion (OECD data). Bank lending, based on approvals for 38 projects over 1996–2006, equaled $5.277 billion.

4. Bank research (World Bank 1998) has shown evidence that increases in development may initially lead to increases in vulnerability before declining as an economy becomes more developed.

Chapter 2

1. The treatment of reallocations in the several Bank databases is inconsistent. A small amount of double counting may have occurred where reallocated loan proceeds are reported twice, in the original ICR and as part of new emergency loans.

2. This amount includes grants. Also taken into account are 11 Bank-administered projects using resources from the Global Environment Fund and trust funds. In the absence of a completion report, appraisal estimates of activity costs were used. If no amount could be found for the disaster activity, but it was included in a larger activity at the subcomponent level, the only available amount was used.

3. Thirty-four drought projects had activities related to other types of disasters as well.

4. For this reason, when classifying disaster types, loans are sometimes double counted, and the number of projects is greater than 528.

5. The OPN referred to them as "reconstruction projects."

6. This does not include damage assessments or Board Reports.

7. Since Bank documents and databases do not always include information on the amount reallocated, the total amount of reallocations is actually higher. The $3.0 billion does not include information on 29 percent of the 217 reallocation projects.

8. A Hazard Risk Management steering committee, jointly chaired by the directors of the Financial Sector Operations and Policy Department (OPD) and the Transport and Urban Development Department (TUD), was constituted in fiscal 2006 to advise the thematic group and to facilitate better coordination among various units across the World Bank Group that work on disaster-related issues. The steering committee will meet quarterly and communicate electronically as necessary. It is expected that the steering committee will improve synergy through information sharing and provide strategic guidance to the thematic group.

9. Surveys were sent to 219 task managers, 34 of whom responded (a 16 percent response rate).

Chapter 3

1. United Nations Division for the Advancement of Women (DAW), Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UN/ISDR), "Environmental Management and the Mitigation of Natural Disasters: A Gender Perspective," Report of the Expert Group Meeting, Ankara, Turkey, 6-9 November 2001. http://www.crid.or.cr/digitalizacion/doc/eng/doc13987.doc.

2. The four disaster types were tropical cyclones, floods, earthquakes, and drought.

3. The predominant concerns were environmental degradation, particularly of watersheds in rural areas, and the effects of rapid and uncontrolled urbanization.

4. The six natural hazards were drought, floods, wind storms, earthquakes, landslides, and volcanoes.

5. A first step in such a strategic approach may be wider adoption of the "five pillars" currently used in Europe and Central Asia, Latin America and the

Caribbean, and South Asia: risk assessment, risk mitigation, institution building, emergency preparedness, and risk financing.

6. Eleven of them are interim PRSPs (IPRSPs). For a full list, see: http:// web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPRS/0,,menuPK:384207~pagePK:149018~piPK:149093~theSitePK:384201,00.html.

7. According to the Hazard Risk Management Team, those PRSPs are Cambodia (2003), Ghana (2003), Honduras (2001), Malawi (2002), Mongolia (2003), Mozambique (2001), Nicaragua (2001), Tajikistan (2002), and Vietnam (2002).

8. IEG-World Bank, in consultation with the Hazard Risk Management Team of the Urban Unit, started with the list of hotspot countries that are borrowers from the Bank and divided them into three groups according to levels of vulnerability (high, medium, and low), based on to the percentage of a country's GDP at risk from two or more natural hazards. The countries in the high- and medium-risk groups are listed in Appendix E, tables E.2a and E.2b. This was deemed suitable because an approach based on economic risk is in line with the Bank's work as a financial institution. It needs to be stressed that the proposed categorization is offered for the purpose of stimulating discussion. It is not IEG's role to be the arbiter of borrower risk. Bank management may choose to categorize countries with a more complex system (including mortality risk, for example) that takes more account of issues such as Africa's high susceptibility to drought but lower economic vulnerabilities. Only three African countries currently figure in the proposed high- and medium-risk groups.

Chapter 4

1. http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/EXTARCHIVES/0,,contentMDK:20485265~pagePK:36726~piPK:437378~theSitePK:29506,00.html

2. See the balance of payment background paper (IEG 2004b; informal, available on request).

3. Such countries would include many of the least-developed countries.

4. See the balance of payment background paper (IEG 2004b; informal, available on request).

5. That so many ERLs are planned to take longer than three years indicates that practice often departs from policy. Some task managers of disaster projects have admitted that they did not even realize that ERLs had a three-year limit.

6. The analysis included 459 ongoing and completed disaster projects for which data were available.

7. Twenty-seven percent equates to 125 ongoing and completed projects, out of a total of 459 projects.

8. The analysis examined 303 completed projects.

9. The analysis examined 4,503 projects approved after fiscal year 1984 and completed by 2004.

10. The lower average may be explained by the structural adjustment projects, which typically take less time than most projects. Without structural adjustment projects, the average implementation time goes up to 6.76 years (2,467 days). These findings would still suggest that natural disaster projects do not take less time to implement than other projects, on average.

11. Fifty-nine completed ERLs were analyzed.

Chapter 5

1. Asian Disaster Reduction Center http://www.adrc.or.jp/LWR/LWR_abridged/definitions.pdf

2. Another 30 projects mentioned participation in connection with labor, 21 mentioned consultation, 11 mentioned self-help construction, and 47 mentioned participation in other contexts.

3. The countries were Bangladesh, Honduras, India (Gujarat), Mozambique, and Turkey.

4. Social vulnerability is reflected by the degree to which a socioeconomic system or physical assets are either susceptible or resilient to the impact of natural hazards and environmental changes. This vulnerability is determined by a combination of several issues, according to DAW and the UN/ISDR Secretariat:: 1) hazard awareness; 2) the condition of human settlements and infrastructure; 3) public policy and administration; 4) the wealth/poverty of a given society; 5) organized abilities in all fields of disaster and risk management; 6) inequalities—gender relations, economic patterns, and ethnic or racial divisions; and 7) development practices that do not take into account susceptibility to natural hazards (United Nations Division for the Advancement of Women [DAW], Inter-Agency Secretariat of the International Strategy for Disaster Reduction [UN/ISDR] 2001. http://www.crid.or.cr/digitalizacion/doc/eng/doc13987.doc)

5. Albala-Bertrand, as cited in Freeman and others 2002.

6. The Bank began flagging projects with specific poverty objectives in 1992, and recently discontin-

ued the practice. The average of the project ratings of these 44 completed disaster PTI interventions was 91 percent satisfactory—much higher than the Bank average of 72 percent.

7. Of these, 65 were completed and rated, with 80 percent having satisfactory outcomes.

8. According to the Center of Studies in Social Science (CSSS) 1999 study, the male-female ratio of the surveyed population in Maharashtra was significantly higher than the ratio of the earthquake-devastated districts. It was 942 and 937 for Latur and Osmanabad and 926 for the surveyed population affected by the earthquake. According to the survey, the larger number of women who died in the earthquake may be one of the reasons for this phenomenon.

9. See study background paper on this topic for more detail and relevant references to literature (IEGB 2005e; informal, available on request).

10. For the purpose of this discussion, only projects with at least one full disaster component were considered.

Chapter 6

1. 2005 Tsunami Economic Recovery Project (P094205).

2. 2005 Post-Tsunami Recovery and Reconstruction Project (P094193).

3. 2003 Fourth Social Investment Fund Project (P048651).

4. 2003 Emergency Drought Recovery Project (P080612).

5. 1999 Emergency Flood Reconstruction Project (P063089).

6. 1995 Basic Education (P007399).

7. 1999 OECS: Emergency Disaster and Reconstruction (P062668).

8. At the regional trade talks in Argentina in November 2005, a proposal was made to establish an emergency relief fund for Latin America and the Caribbean. A $500 million revolving fund also has been proposed for the UN.

9. *1994 Morocco National Rural Finance (L3662)*—This project used the National Guarantee Fund as a drought insurance mechanism. *2001 Mexico Natural Disaster Management Project (L7038)*—This project prepared a contingent earthquake-triggered facility (a facility that would allow deployment of pre-arranged funding to cover risks in the event of natural catastrophes) and a catastrophe bond as a market-based insurance mechanism. *2001 Organization of Eastern Caribbean States Emergency Recovery and Disaster Management Program (L4418)*—This project set up a contingent facility with allowance for post-catastrophe mitigation work that could be called upon in the event of a natural disaster during project implementation.

10. This issue is discussed in some detail in recent project evaluations: El Salvador Earthquake Reconstruction Project (Loan 2873-ES), Report No. 28389; Maharashtra Emergency Earthquake Rehabilitation Project (Credit 2594-IN), Report No. 32515; Erzincan Earthquake Rehabilitation and Reconstruction Project (Loan 3511-TR); Turkey Emergency Flood and Earthquake Recovery Project (Loan 4388-TR); and Emergency Earthquake Recovery Project (Loan 4518-TR), Report No. 32676-TR.

11. Several ongoing projects put mitigation measures as their first priority: *the OECS Emergency Recovery and Disaster Management Project* covering St. Kitts & Nevis, St. Lucia, Dominica, Grenada, and St. Vincent & the Grenadines (P062668, approval year 1998—financed lending operations in each of the five mentioned countries with the objects of fortifying, or reconstructing and rehabilitating key economic and social infrastructure and facilities and strengthening the countries' institutional capacities to prepare for and respond to disaster emergencies); *the Honduras Natural Disaster Mitigation Project* (P064913, approval year 2000—supports capacity building to reduce vulnerability to natural disasters at the municipal level); *the Nicaragua Natural Disaster Vulnerability Reduction Project* (P064916, approval year 2001—aims to improve Nicaragua's disaster management capacity); *OECS Catastrophe Risk Management and Insurance Reform Project* (P070658, approval year 2002); *the Colombia Natural Disaster Vulnerability Reduction Project Adaptable Program Loan phases 1 and 2* (P082429, approval year 2005—aims at reducing the fiscal vulnerability of the state to adverse natural events by strengthening national capacity to manage disaster risk and by reducing vulnerability in key municipalities that combine high exposure to disaster risk and high contributions to national income and productivity); *the Romania Hazard Risk Mitigation and Emergency Preparedness Project* (P075163, approval year 2004—aims to assist the government in reducing the environmental, social, and economic vulnerability to natural disasters, and catastrophic mining accidental spills of pollutants); and *the Vietnam Natural Disaster Risk Management Project* (P073361, approval year 2005—adopts an innovative ap-

proach, providing support primarily for disaster prevention and mitigation measures, including at the community level where vulnerability is often greatest, to reduce the impact of natural hazards on Vietnam's development process).

12. For the remaining 3 percent, no information was available.

13. Storms wash soil and debris into rivers, reducing channel capacity and increasing the risk of flooding. River training, the only solution other than addressing the root causes of the problem, consists of a series of works that modify or constrain the behavior of rivers, typically including the creation of new embankments and the upgrading of existing ones, the planting of certain varieties of trees and grasses to hold soil in place, and stabilizing the outer edge of river bends using stones or other inorganic material to lessen erosion and to keep the river to its course. Once rivers leave their channels due to flooding, they can abandon them for good. River training returns waterways to alignments from which they have departed. River training also protects bridges, drainage infrastructures, and roads by the creation of guide bunds (sometimes referred to as hard points).

14. No information was available for 4 percent of projects.

15. The largest proportion occurs in African projects. However, among the 138 projects that consist wholly of disaster-related activities, 49 mention working with other donors, and the South Asia Region has the largest proportion. Curiously, project documents have mentioned other donors less and less as the years have gone by. This may simply be a reporting phenomenon.

Appendix A

1. Two-thirds of the 40 projects referenced dealt with reconstruction after natural disasters, and one-third dealt with reconstruction after civil wars.

2. These are the earliest natural disaster projects adequately documented in currently accessible files.

3. Though ERL procedures already were laid down in the OPN, the use of that term occurred only later in the OD, which stipulated that every ERL should have the term "emergency," "recovery," or "reconstruction" in the title, to be more easily recognizable. Conversely, however, not every loan with these words in its title is an ERL.

Appendix B

1. Project concept date (PCD) was used for the analysis of the timing of the all Bank projects, and that figure is compared with all disaster projects in the background paper. The analysis of timing from event date only looks at projects for which that date is available.

2. The effectiveness time is defined as the time between Board approval and the time when the project can start disbursing funds.

3. Balance of payment/budget support was examined separately because it is considered one of the quickest forms of Bank lending.

4. Balance of payment projects had already been identified in a previous analysis of the component activities of completed projects.

Appendix G

1. TURKEY: For more information, see the Turkey Emergency Earthquake Recovery Project PPAR (*Project Performance Assessment Report, Turkey, Erzincan Earthquake Rehabilitation and Reconstruction Project [L3511-TR]; Turkey Emergency Flood and Earthquake Recovery Project [L4388-TR]; and Emergency Earthquake Recovery Project [L4518-TR]*).

Appendix J

1. The ISDR aims at building disaster resilient communities by promoting increased awareness of the importance of disaster reduction as an integral component of sustainable development, with the goal of reducing human, social, economic, and environmental losses due to natural hazards and related technological and environmental disasters. See http:// www .unisdr.org

2. The World Conference on Disaster Reduction, which was held in Kobe (Hyogo, Japan) on January 18-22, 2005, adopted the Hyogo Framework for Action 2005–15: Building the Resilience of Nations and Communities to Disasters.

3. See the joint IBRD/IDA/IFC Country Assistance Strategy for the Organization of Eastern Caribbean States (Report No. 22205-LAC), which was discussed by the Executive Directors on September 6, 2005. A note describing the proposal, which was presented to the 2005 Small States Forum held in Washington, DC on September 24, 2005, is available at www.worldbank.org/smallstates.

REFERENCES

The study literature review includes an extensive bibliography of documents reviewed for this study. The background papers for this evaluation are available on request from IEG–World Bank.

Akkayan, Taylan, Yuksen Kirimli, and Tulin Polat. 2000. "Beneficiary Assessment, Republic of Turkey Emergency Earthquake Recovery Loan." Istanbul University.

Anderson, Mary B., and Peter J. Woodrow. 1989. *Rising from the Ashes.* Boulder, CO: Westview.

Benson, Charlotte. 1997. "The Cost of Disasters." In *Development at Risk? Natural Disasters and the Third World*, John Twigg, ed. Oxford: The U.K. National Co-ordination Committee for the International Decade for Natural Disaster Reduction. http://www.bghrc.com/DMU/DEVRISK1/DEVRISK/BENSON.HTM

CSSS (Center of Studies in Social Science). 1999. "Survey of Rehabilitated Households Affected by Killari Earthquake (Latur and Osmanabad Districts)." Pune, India: CSSS.

Freeman, Paul K. 2000. "Estimating Chronic Risk from Natural Disasters in Developing Countries: A Case Study on Honduras." Paper for the Annual Bank Conference on Development Economics—Europe Development Thinking at the Millennium, June 26-28, 2000, Paris.

Freeman, Paul K., Leslie A. Martin, Reinhard Mechler, Koko Warner, with Peter Hausmann. 2002. "Catastrophes and Development: Integrating Natural Catastrophes into Development Planning." World Bank Disaster Risk Management Working Paper Series No. 4. Washington, DC, http://www.proventionconsortium.org/files/catastrophes_complete.pdf

Gilbert, Roy. 2001. "Doing More for Those Made Homeless by Natural Disasters." World Bank Risk Management Working Paper Series No. 1. Washington, DC.

Guha-Sapir, Debarati, David Hargitt, and Philippe Hoyois. 2004. "Thirty Years of Natural Disasters, 1974–2003: The Numbers." Brussels: Center for Research on the Epidemiology of Disasters.

IEG-World Bank (Independent Evaluation Group-World Bank; formerly OED). 2005a. "Project Performance Assessment Report, Bangladesh Coastal Embankment Rehabilitation Project (C2783-BD)." Washington, DC.

———. 2005b. "Project Performance Assessment Report, Turkey: Erzincan Earthquake Rehabilitation and Reconstruction Project (L3511-TR), Turkey Emergency Flood and Earthquake Recovery Project (L4388-TR), and the Emergency Earthquake Recovery Project (L4518-TR)." Washington, DC.

———. 2005c." Lessons Learned: The Findings of 303 Project Evaluations." IEG Background Paper. Washington, DC. Photocopy.

———. 2005d. "Analysis of the Country Assistance Strategy." IEG Background Paper. Washington, DC. Photocopy.

———. 2005e. "Women and Disaster Reconstruction in World Bank-Financed Projects." IEG Background Paper. Washington, DC. Photocopy.

———. 2005f. "Effectiveness of Bank Post-Disaster Lending in the Organization of Eastern Caribbean States, 1984–2004. " IEG Background Paper. Washington, DC. Photocopy.

———. 2005g. *Putting Social Development to Work for the Poor: An IEG Review of World Bank Activities*. IEG Study Series. Washington, DC: The World Bank.

———. 2004a. "Project Performance Assessment Report: El Salvador Earthquake Reconstruction Project (L2873-ES)." Washington, DC.

———. 2004b. "The Impact of Balance of Payment Lending in the Context of Natural Disaster." IEG Background Paper. Washington, DC. Photocopy.

———. 2003. "Natural Disasters and Emergency Reconstruction: A Review of the Literature." Washington, DC. Photocopy,

———. 2002. *Social Funds: Assessing Effectiveness*. IEG Study Series. Washington, DC: World Bank.

———. 1998. *The World Bank's Experience with Post-Conflict Reconstruction.* IEG Study Series. Washington, DC: World Bank.

IFRC (International Federation of Red Cross and Red Crescent Societies). 2005. "Humanitarian Media Coverage in the Digital Age." *World Disasters Report 2005*. Bloomfield, CT: Kumarian.

———. 2001. "Relief, Recovery, and Root Causes." *World Disasters Report 2001.* http://www.ifrc .org/publicat/ wdr2001/chapter1 .asp

IMF (International Monetary Fund). 2003. "Being Prepared: Natural Disasters Are Becoming More Frequent, More Destructive, and Deadlier, and Poor Countries Are Being Hit the Hardest," by Paul K. Freeman, Michael Keen, and Muthukumara Mani. *Finance and Development* 40 (3):42–45.

Linnerooth-Bayer, Joanne, and A. Amendola. 2000. "Global Change, Natural Disasters and Loss-Sharing: Issues of Efficiency and Equity." *The Geneva Papers on Risk and Insurance—Issues and Practice,* 25(2).

Linnerooth-Bayer, Joanne, and Reinhard Mechler. 2005. "Disaster Risk Financing for Developing Countries." IIASA Presentation for the World Bank. Washington, DC, IIASA, November 17, 2005.

MacKinlay, John, and Randolph Kent. 1997. "A New Approach to Complex Emergencies." *International Peacekeeping* 4: 31–49.

Munich Re. 2000. "Topics 2000: Natural Catastrophes—the Current Position." Munich.

Mushtaque, A., R. Chowdhury, Abbas U. Bhuyia, A. Yusuf Choudhury, and Rita Sen. 1993. "The Bangladesh Cyclone of 1991. Why So Many People Died." *Disasters* 17 (4).

OED (Operations Evaluation Department) See IEG.

Oxfam International. 2005. "The Tsunami's Impact on Women." *Oxfam Briefing Note*, p. 7. Retrieved on August 5, 2005 from: http://www.oxfam.org.uk/what_we_do/issues/conflict_disasters/downloads/bn_tsunami_women.pdf

ProVention. Forthcoming. *Natural Disasters: Lessons from the Brink*. Washington, DC.

United Nations Division for the Advancement of Women, Inter-Agency Secretariat of the International Strategy for Disaster Reduction. 2001. "Environmental Management and the Mitigation of Natural Disasters: A Gender Perspective." Report of the Expert Group Meeting, Ankara, Turkey, 6–9 November.

UNISDR (United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction). 2004. "First Announcement, World Conference on Disaster Reduction, 18-22 January 2005, Kobe, Hyogo, Japan." http://www.unisdr.org/wcdr/preparatory-process/1st-announc/First-Announcement-WCDR-eng.pdf

UNDP (United Nations Development Program). 2004. *Reducing Disaster Risk: A Challenge for Development.* New York: UNDP Bureau for Crisis Prevention and Recovery.

Webster, P.J., G. J. Holland, J. A. Curry, and H.-R. Chang. 2005. "Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment." *Science* 16 (309): 1844–46.

World Bank. 2005. *Natural Disaster Hotspots: A Global Risk Analysis*, Maxx Dilley, Robert S. Chen, Uwe Deichmann, Arthur L. Lerner-Lam, and Margaret Arnold, with Jonathan Agwe, Piet Buys, Oddvar Kjekstad, Bradfield Lyon, and Gregory Yetman. Washington, DC: The World Bank.

———. 2004a. "Guidelines. Procurement under IBRD loans and IDA Credits." http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Procurement-May-2004.pdf.

———. 2004b. *World Development Report 2003—Sustainable Development in a Dynamic World: Transforming Institutions, Growth,*

and Quality of Life. New York: Oxford University Press for the World Bank.

———. 1998. *The Impact of Drought on Sub-Saharan African Economies*. World Bank Technical Paper 401. Washington, DC.

World Bank DMF (Disaster Mangement Facility)/ProVention Consortium. 2003. "Fighting Poverty while Supporting Recovery from Major Disasters, Synthesis Report, Learning Lessons from Recovery Efforts." Washington, DC.

———. 1991. *Managing Natural Disasters and the Environment*, Alcira Kreimer and Mohan Munasinghe, eds. Washington, DC.

IEG PUBLICATIONS

Study Series

2004 Annual Review of Development Effectiveness: The Bank's Contributions to Poverty Reduction
Addressing the Challenges of Globalization: An Independent Evaluation of the World Bank's Approach to Global Programs
Agricultural Extension: The Kenya Experience
Assisting Russia's Transition: An Unprecedented Challenge
Bangladesh: Progress Through Partnership
Brazil: Forging a Strategic Partnership for Results—An OED Evaluation of World Bank Assistance
Bridging Troubled Waters: Assessing the World Bank Water Resources Strategy
Capacity Building in Africa: An OED Evaluation of World Bank Support
The CIGAR at 31: An Independent Meta-Evaluation of the Consultative Group on International Agricultural Research
Country Assistance Evaluation Retrospective: OED Self-Evaluation
Debt Relief for the Poorest: An OED Review of the HIPC Initiative
Developing Towns and Cities: Lessons from Brazil and the Philippines
The Drive to Partnership: Aid Coordination and the World Bank
Economies in Transition: An OED Evaluation of World Bank Assistance
The Effectiveness of World Bank Support for Community-Based and –Driven Development: An OED Evaluation
Evaluating a Decade of World Bank Gender Policy: 1990–99
Evaluation of World Bank Assistance to Pacific Member Countries, 1992–2002
Financial Sector Reform: A Review of World Bank Assistance
Financing the Global Benefits of Forests: The Bank's GEF Portfolio and the 1991 Forest Strategy and Its Implementation
Fiscal Management in Adjustment Lending
IDA's Partnership for Poverty Reduction
Improving the Lives of the Poor Through Investment in Cities
India: The Dairy Revolution
Information Infrastructure: The World Bank Group's Experience
Investing in Health: Development Effectiveness in the Health, Nutrition, and Population Sector
Jordan: Supporting Stable Development in a Challenging Region
Lesotho: Development in a Challenging Environment
Mainstreaming Gender in World Bank Lending: An Update
Maintaining Momentum to 2015? An Impact Evaluation of Interventions to Improve Maternal and Child Health and Nutrition Outcomes in Bangladesh
The Next Ascent: An Evaluation of the Aga Khan Rural Support Program, Pakistan
Nongovernmental Organizations in World Bank–Supported Projects: A Review
Poland Country Assistance Review: Partnership in a Transition Economy
Poverty Reduction in the 1990s: An Evaluation of Strategy and Performance
The Poverty Reduction Strategy Initiative: An Independent Evaluation of the World Bank's Support Through 2003
Power for Development: A Review of the World Bank Group's Experience with Private Participation in the Electricity Sector
Promoting Environmental Sustainability in Development
Putting Social Development to Work for the Poor: An OED Review of World Bank Activities
Reforming Agriculture: The World Bank Goes to Market
Sharing Knowledge: Innovations and Remaining Challenges
Social Funds: Assessing Effectiveness
Tunisia: Understanding Successful Socioeconomic Development
Uganda: Policy, Participation, People
The World Bank's Experience with Post-Conflict Reconstruction
The World Bank's Forest Strategy: Striking the Right Balance
Zambia Country Assistance Review: Turning an Economy Around

Evaluation Country Case Series

Bosnia and Herzegovina: Post-Conflict Reconstruction
Brazil: Forests in the Balance: Challenges of Conservation with Development
Cameroon: Forest Sector Development in a Difficult Political Economy
China: From Afforestation to Poverty Alleviation and Natural Forest Management
Costa Rica: Forest Strategy and the Evolution of Land Use
El Salvador: Post-Conflict Reconstruction
India: Alleviating Poverty through Forest Development
Indonesia: The Challenges of World Bank Involvement in Forests
The Poverty Reduction Strategy Initiative: Findings from 10 Country Case Studies of World Bank and IMF Support
Uganda: Post-Conflict Reconstruction

Proceedings

Global Public Policies and Programs: Implications for Financing and Evaluation
Lessons of Fiscal Adjustment
Lesson from Urban Transport
Evaluating the Gender Impact of World Bank Assistance
Evaluation and Development: The Institutional Dimension (Transaction Publishers)
Evaluation and Poverty Reduction
Monitoring & Evaluation Capacity Development in Africa
Public Sector Performance—The Critical Role of Evaluation

All IEG evaluations are available, in whole or in part, in languages other than English. For our multilingual selection, please visit http://www.worldbank.org/ieg

IEG
Independent Evaluation Group

THE WORLD BANK

16605
9 780821 366509
ISBN 0-8213-6650-5