

## Measuring Vulnerability to Natural Hazards

Towards Disaster Resilient Societies

EDITED BY JÖRN BIRKMANN

A seemingly non-stop series of disasters has shown that societies worldwide seem unprepared for the threats posed by natural hazards: Hurricane Katrina, drought in Africa; flooding in China and Germany; earthquakes in Pakistan and India; a tsunami in South-East Asia; and forest fires in Portugal, Australia and North America.

The tragic impacts of these events drew short-term attention from policy makers, the media and the general public, but their response was too late to prevent serious harm. Societies need to measure their vulnerabilities in advance, and make adequate provisions. To do so, they have to understand the complex relationships between natural hazards and the related social, economic and environmental vulnerabilities. Recognizing and measuring vulnerabilities is the first and perhaps most important step towards disaster resilient societies.

*Measuring Vulnerability to Natural Hazards* presents a broad range of current approaches to measuring vulnerability and contains concrete experiences and examples from Africa, Asia, the Americas and Europe to illustrate the theoretical analyses.

This book is a unique compilation of state-of-the-art vulnerability assessment and is essential reading for academics, students, policy makers, practitioners, and anybody else interested in understanding the fundamentals of measuring vulnerability. It is a critical review that provides important conclusions which can serve as an orientation for future research towards more disaster resilient communities.

**Jörn Birkmann** is an Academic Officer at the United Nations University Institute for Environment and Human Security (UNU-EHS) and Chair of the International Expert Working Group on Measuring Vulnerability.

### Contents Overview:

Foreword, Hans van Ginkel

Preface, Sálvano Briceño

Introduction, Janos J. Bogardi

#### Basic principles and theoretical basis

Contributors include: Jörn Birkmann, Stefan Schneiderbauer, Daniele Ehrlich, Angela Queste and Peter Lauwe.

#### Vulnerability and environment

Contributors: Fabrice Renaud, Marcel T.J. Kok, Vishal Narain, Steven Wonink, Jill Jaeger

#### Global, national and sub-national index approaches

Contributors include: Mark Pelling, Pascal Peduzzi, Maxx Dilley, Omar Cardona, Stefan Greiving, Robert Kiunsi, Manoris Victor Meshak, and Erich J. Plate.

#### Local vulnerability assessment

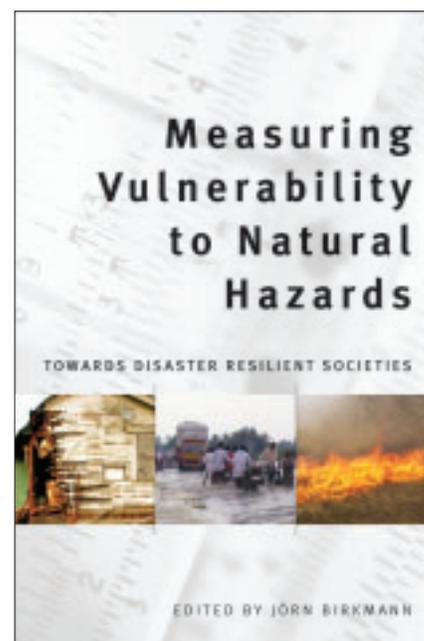
Contributors include: Christina Bollin, Ria Hidajat, Masaru Arakida, Juan Carlos Villagrán de León, Ben Wisner, Jörn Birkmann, Nishara Fernando, and Siri Hettige.

#### Institutional vulnerability, coping and lessons learned

Contributors include: Louis Lebel, Elena Nikitina, Vladimir Kotov, Jesse Manuta, Reinhard Mechler, Stefan Hochrainer, Joanne Linnerooth-Bayer, Georg Pflug, Simon Horner, Peter Billing, Ulrike Madengruber, Elisabeth Krausmann, and Fesil Mushtaq.

#### Comparative glossary of disaster reduction, Katharina Thywissen

#### Conclusion, Jörn Birkmann



ISBN 92-808-1135-5

ISBN 13: 978-92-808-1135-3

400 pages; paper: US\$39.00

October 2006

