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Nota di contenuto	Part I Pre-Disaster -- 1. Impact of Mexican Public Policies in the development of COVID-19 Pandemic -- 2. Clustering of Highly Vulnerable Mexican Municipalities to Develop Humanitarian Public Policies -- 3. Strategies that improve the performance of the humanitarian supply chain -- 4. Water resources in Mexico and their implications in the phenomenon of drought -- 5. A Proposal to the Reduction of Carbon Dioxide Emission in Inventory Replenishment:

Mitigating the Climate Change -- 6. Theoretical approach to risk reduction since urban form -- 7. Allocation Model Applied to Preventive Evacuation for Volcanic Risk in Localities Near the Popocatepetl Volcano in Puebla, Mexico -- 8. Identification of homogeneous hydrological administrative regions in Mexico using analysis of variance -- Part II Post-Disaster -- 9. Optimising distribution of limited COVID-19 vaccines: Analysing im-pact in Argentine -- 10. Location of RegionalHumanitarian Response Depot (RHRD) in the Seven Regions in the State of Puebla -- 11. Location of Humanitarian Response Distribution Centers for the State of Chiapas -- 12. Distribution of Personal Protective Equipment, derived from the Pres-ence of the COVID-19 Virus in Mexico -- 13. A prediction model to determine a COVID-19 patient's outcome based on its risk factors -- 14. Application of a Markov Decision Process in Collection Center Opera-tions -- 15. Decision-Support Tool for Coordination of Volunteers during Lock-downs -- 16. Facilities Location under Risk Mitigation Concerns -- Part III Multi-criteria approaches -- 17. An Integrated FAHP-based Methodology to Compute a Risk Vulnera-bility Index -- 18. A multi-criteria decision-making framework for the design of the re-lief distribution routes.

Sommario/riassunto

This book aims to clarify the priorities of the Sendai Framework for the DRR 2015 – 2030, through gathering recent contributions addressing the different ways researchers define, measure, reduce, and manage risk in the challenge of the DRR. Beyond a discussion of the different definitions of disaster risk; this book provides contributions focused on optimization approaches that support the decision-making process in the challenge of managing DRR problems considering emerging disaster risks in the medium and long term, as well as national and local applications. Some of the topics covered include network flow problems, stochastic optimization, discrete optimization, multi-objective programming, approximation techniques, and heuristic approaches. The target audience of the book includes professionals who work in Linear Programming, Logistics, Optimization (Mathematical, Robust, Stochastic), Management Science, Mathematical Programming, Networks, Scheduling, Simulation, Supply Chain Management, Sustainability, and similar areas. It can be useful for researchers, academics, graduate students, and anyone else doing research in the field.