Introduction to INTERNATIONAL DISASTER MANAGEMENT







B H

Contents

FOREWORD ACKNOWLEDGMENTS INTRODUCTION ACRONYMS		xiii XV XVII XIX
CHAPTER 1	THE MANAGEMENT OF DISASTERS	
	INTRODUCTION	1
	DISASTERS THROUGHOUT HISTORY	1
	THE HISTORY OF DISASTER MANAGEMENT	2
	Ancient History	2
	Modern Roots	3
	Civil Defense: The Birth of Modern Emergency Management	4
	The International Decade for Natural Disaster Reduction	5
	The Yokohama Strategy—Global Recognition of the Need for Disaster	
	Management	6
	MODERN DISASTER MANAGEMENT—A FOUR-PHASE APPROACH	8
	WHAT IS INTERNATIONAL DISASTER MANAGEMENT?	9
	DISASTERS, POVERTY, AND DEVELOPMENT	12
	DISASTER TRENDS	13
	DEFINITIONS	24
	CONCLUSION	28
CHAPTER 2	HAZARDS	
	INTRODUCTION	31
	HAZARD IDENTIFICATION AND HAZARD PROFILING	31
	HAZARD ANALYSIS	34
	THE HAZARDS	39
	Natural Hazards	39
	Technological Hazards	80
	International, Civil, and Political Hazards	96
	CONCLUSION	110
CHAPTER 3	RISK AND VULNERABILITY	
	INTRODUCTION	113
	TWO COMPONENTS OF RISK	114
	Likelihood	114
	Consequence	116

viii Contents

	TRENDS	119
	COMPUTING LIKELIHOOD AND CONSEQUENCE VALUES	120
	Depth of Analysis	120
	Quantitative Analysis of Disaster Likelihood	121
	Quantitative Analysis of Disaster Consequences Historical Data	124
		124
	Deaths/Fatalities and Injuries Modeling Techniques	125
		125
	Abbreviated Damage Consequence Analysis Full Damage Consequence Analysis	125
	RISK EVALUATION	126
	RISK ACCEPTABILITY	130
	ALTERNATIVES	138
	Personal	138
	Political/Social	139
	Economic	139
	VULNERABILITY	139 146
	The Physical Profile	140
	The Social Profile	
	The Environmental (Natural) Profile	151 152
	The Economic Profile	154
	Risk Factors That Influence Vulnerability	154
	Risk Perception	162
	CONCLUSION	172
	CONCECUION	112
CHAPTER 4	MITIGATION	
	INTRODUCTION	175
	WHAT IS MITIGATION?	175
	Mitigation Goals	176
	TYPES OF MITIGATION: STRUCTURAL AND NONSTRUCTURAL	178
	Structural Mitigation	179
	Nonstructural Mitigation	185
	Risk Transfer, Sharing, and Spreading	190
	OBSTACLES TO MITIGATION	200
	ASSESSING AND SELECTING MITIGATION OPTIONS	200
	Impact of Risk Mitigation Options on Community Risk Reduction	201
	Probability That Each Action Will Be Implemented	201
	The STAPLEE Method of Assessing Mitigation Options	202
	EMERGENCY RESPONSE CAPACITY AS A RISK MITIGATION	
	MEASURE	205
	INCORPORATING MITIGATION INTO DEVELOPMENT AND	
	RELIEF PROJECTS	205
	CONCLUSION	207

Contents

CHAPTER 5	PREPAREDNESS	
	INTRODUCTION	209
	OVERVIEW OF DISASTER PREPAREDNESS	209
	GOVERNMENT PREPAREDNESS	210
	Planning	210
	Exercise	216
	Training	217
	Equipment	218
	Statutory Authority	220
	PUBLIC PREPAREDNESS	222
	Public Education	222
	THE MEDIA AS A PUBLIC EDUCATOR	231
	OBSTACLES TO EFFECTIVE PUBLIC EDUCATION AND	
	PREPAREDNESS	233
	Literacy and Education	233
	Language	234
	Access to Technology and the Media	235
	Class Structure	235
	Poverty, or the Effects of Poverty	236
	Cultural Understanding	237
	Lack of Government Sponsorship	237
	Conflicting Interests of "Big Business"	238
	Hostile or Restrictive Governments	239
	CONCLUSION	240
CHAPTER 6	RESPONSE	
	INTRODUCTION	251
	WHAT IS RESPONSE?	251
	RESPONSE—THE EMERGENCY	252
	RECOGNITION—PREDISASTER ACTIONS	252
	RECOGNITION—POSTDISASTER	254
	Search and Rescue	255
	First Aid Medical Treatment	256
	Evacuation	257
	Disaster Assessments	258
	Treating the Hazard	261
	Provision of Water, Food, and Shelter	261
	Health	270
	Sanitation	271
	Safety and Security	275
	Critical Infrastructure Resumption	276
	Emergency Social Services	277

,			

		Contents
	Donations Management COORDINATION The Incident Command System The Disaster Declaration Process CONCLUSION	278 279 280 282 283
CHAPTER 7	RECOVERY	
	INTRODUCTION OVERVIEW OF RECOVERY THE EFFECTS OF DISASTERS ON SOCIETY PREDISASTER RECOVERY ACTIONS Short- and Long-Term Recovery COMPONENTS OF RECOVERY—WHAT IS NEEDED, AND WHERE DOES IT COME FROM? Planning Coordination Information—The Damage Assessment Money and Supplies TYPES OF RECOVERY Public Assistance The Housing Sector Economic Recovery Individual, Family, and Social Recovery SPECIAL CONSIDERATIONS IN RECOVERY Resisting the Urge to Return to "Normal" Recognizing That Recovery Is an Opportunity in Disguise Ensuring Equity in Recovery Moving the Whole Community CONCLUSION	299 299 300 301 302 302 304 305 306 315 316 317 318 322 322 323 325 333 334
CHAPTER 8	PARTICIPANTS: GOVERNMENTAL DISASTER MANAGEMENT AGENCIES	
	INTRODUCTION GOVERNMENTAL EMERGENCY MANAGEMENT STRUCTURES EMERGENCY MANAGEMENT PARTICIPANTS Fire Departments Law Enforcement Emergency Management (Civil Protection) Emergency Medical Services The Military Other Resources	337 338 338 338 340 341 341 342 344

Contents	x
----------	---

	ORGANIZATIONAL STRUCTURES	347
	Locally Based Structures	350
	Regionally Based Structures	351
	Nationally Based Structures	352
	No Capacity or No Recognized Government Exists	353
	BILATERAL DISASTER MANAGEMENT ASSISTANCE	356
	HOW GOVERNMENTS PROVIDE ASSISTANCE	362
	TYPES OF BILATERAL ASSISTANCE	362
	Monetary Assistance	362
	Equipment/Supplies	364
	Expertise	364
	TYPES OF NATIONAL GOVERNMENT AGENCIES INVOLVED IN	
	INTERNATIONAL DISASTER MANAGEMENT	365
	Overseas Diplomatic Missions (Embassies and Consulates)	365
	International Development Agencies	367
	National Disaster Management Agencies	368
	Other Government Agencies Involved in International Disaster	
	Management	368
	Military Resources	371
	CONCLUSION	377
CHAPTER 9	PARTICIPANTS: NONGOVERNMENTAL ORGANIZATIONS (INCLUDING THE PRIVATE SECTOR AND ACADEMIA)	
	INTRODUCTION	387
	WHO ARE THE NGOs?	388
	WHAT DO THEY DO?	390
	NGO OPERATIONS	392
	Funding	392
	Coordination	393
	NGO/MILITARY COOPERATION	397
	STANDARDS OF CONDUCT	398
	THE ROLE OF THE PRIVATE SECTOR	404
	THE ROLE OF ACADEMIA	406
	CONCLUSION	407
CHAPTER 10	PARTICIPANTS: MULTILATERAL ORGANIZATIONS AND INTERNATIONAL FINANCIAL INSTITUTIONS	
	INTRODUCTION	451
	THE UNITED NATIONS	452
	Background	452
	UN Role in Disaster Management	454
	UN Agencies and Programs	464

x	

	The World Food Programme (WFP)	473
	The Consolidated Appeals Process (CAP)	485
	Other UN Agencies Involved in Disaster Response	489
	The UN International Strategy for Disaster Reduction (ISDR)	495
	REGIONAL INTERNATIONAL ORGANIZATIONS	500
	INTERNATIONAL FINANCIAL INSTITUTIONS	507
	CONCLUSION	516
CHAPTER 11	SPECIAL CONSIDERATIONS	
	INTRODUCTION	525
	COORDINATION	527
	THE MEDIA	527
	INSTITUTIONAL CAPACITY DEVELOPMENT	529
	POLITICAL WILL	529
	COMPOUND EMERGENCIES	530
	DONOR FATIGUE	530
	CORRUPTION	531
	STATE SOVEREIGNTY	531
	EQUALITY IN HUMANITARIAN ASSISTANCE AND RELIEF	
	DISTRIBUTION	532
	CLIMATE CHANGE AND THE ENVIRONMENTAL IMPACT	
	OF DISASTERS	534
	EARLY WARNING	534
	LINKING RISK REDUCTION AND DEVELOPMENT	535
	TERRORISM	535
	GLOBAL DISASTERS: SARS, AVIAN INFLUENZA, AND OTHER	
	EMERGING EPIDEMICS	536
	CONCLUSION	537
INDEX		539

Contents