

# **TERRORISM AND WEAPONS OF MASS DESTRUCTION**

**Russell D. Howard and James J.F. Forest**  
Editors

With  
**Natasha E. Bajema**

**Foreword by**  
AMB Michael A. Sheehan  
Former NYPD Deputy Commissioner for Counterterrorism

© McGraw-Hill, 2007

# **CONTENTS**

## **Foreword**

*Michael Sheehan, former NYPD Deputy Commissioner for Counterterrorism*

## **Preface**

*Russell D. Howard*

## **I. INTRODUCTION**

### **1.1 Definitions, Trends, and the Concept of “New Terrorism”**

The New Terrorism and Weapons of Mass Destruction

*Russell D. Howard*

The New Age of Terrorism

*Brian Jenkins*

### **1.2 The Nature of the Post-9/11 WMD Terrorism Threat**

The Rise of Complex Terrorism

*Thomas Homer-Dixon*

Weak States and Global Threats: Fact or Fiction

*Stewart Patrick*

### **1.3 The WMD Terrorism Hype**

Terrorist Use of Weapons of Mass Destruction: How Serious is the Threat?

*Andrew O’Neil*

The New Threat of Mass Destruction

*Richard K. Betts*

### **1.4 The Terrorist WMD of Choice**

WMD and Lessons from the Anthrax Attacks

*Leonard A. Cole*

## **II. UNDERSTANDING THE THREAT**

### **2.1 Different “Faces” of Nuclear Terrorism**

The Characteristics of Nuclear Terrorist Weapons

*Morten Bremer Maerli, Annette Schaper, and Frank Barnaby*

The Seven Myths of Nuclear Terrorism

*Matthew Bunn and Anthony Wier*

### **2.2 Radiological Dispersal Devices**

Securing U.S. Radioactive Sources

*Charles D. Ferguson and Joel O. Lubenau*

### **2.3 Sabotage of Nuclear Facilities and other Critical Infrastructure**

Nuclear Terrorism: Reactors and Radiological Attacks after September 11

*Gavin Cameron*

Terrorism Potential for Research Reactors compared with Power Reactors

*George Bunn and Chaim Braun*

Nuclear Power Plants and Their Fuel as Terrorist Targets

*Douglas M. Chapin and Associates*

### **2.4 Bioterrorism**

Bioterrorism Defense: Controlling the Unknown

*David Franz*

Biotechnology and Bioterrorism: An Unprecedented World

*Christopher F. Chyba and Alex L. Greninger*

### **2.5 Chemical Terrorism**

Chemical Terrorism: Assessing Threats and Responses

*Jonathan Tucker*

### **2.6 Food Security and Agricultural and Terrorism**

Biological Attack on Agriculture: Low-Tech, High-Impact

Bioterrorism

*Mark Wheelis, Rocco Casagrande, and Laurence V. Madden*

Planting Fear: How Real is the Threat of Agricultural Terrorism

*Gavin Cameron, Jason Pate and Kathleen Vogel*

### **2.7 Cyberterrorism**

Cybersecurity and Critical Infrastructure Protection

*James A. Lewis*

### **2.8 Case Study #1: Ricin Plot in London 2003**

Ricin Plot (need chapter title)

*Bruce Hoffman*

### **2.9 Case Study #2: Jemaah Islamiyah**

Jemaah Islamiyah and the Threat of Chemical and Biological Terrorism

*Adam Dolnik and Rohan Gunaratna*

- 2.10 **Case Study #3: Aum Shinrikyo**  
Aum Shinrikyo's Biological Weapons Program: Why Did it Fail?  
*William Rosenau*
- 2.11 **Case Study #4: Al Qaeda**  
Can al Qaeda Be Deterred from Using Nuclear Weapons?  
*Levis A. Dunn*
- 2.12 **Case Study #5: A.Q. Khan Network**  
Unraveling the A. Q. Khan and Future Proliferation Networks  
*David Albright and Cory Hinderstein*
- 2.13 **Case Study #6: Iraq as an Example of State-Directed WMD Terrorism**  
Saddam Hussein: Political Psychological Profiling Results  
Relevant to His Possession, Use and Possible Transfer of  
WMD to Terrorist Groups  
*Eric D. Shaw*

### III. RESPONDING TO THE THREAT

- 3.1 **Deterrence and Preemption**  
Detering Terrorists: Thoughts on a Framework  
*Daniel Whiteneck*  
Stop or Else: Basic Concepts to Deter Violent Non-State Actors  
*Vera L. Zakem and Danielle R. Miller*
- 3.2 **Intelligence and WMD**  
The Perfect Intelligence Failure? U.S. Pre-War Intelligence on  
Iraqi Weapons of Mass Destruction  
*Mark Phythian*
- 3.3 **WMD Detection Technology**  
The Role of Technology in Protecting America's Gathering Places  
*Jeffrey Lewis*
- 3.4 **Nonproliferation Regimes**  
Assessing the Role of the Nonproliferation Regimes: Are they  
Relevant Tools for Countering WMD Terrorism?  
*Natasha Bajema*

- 3.5 **Interdiction and Law Enforcement**  
Interdiction and Law Enforcement to Counter WMD-Terrorism:  
Practical Measures that Should be Strengthened  
*Emma Belcher*
- 3.6 **Case Study #1: The Public Health Response to the 2001 Anthrax Attacks**  
Anthrax 2001: Observations on the Medical and Public Health  
Response  
*Elin Gursky, Thomas V. Inglesby and Tara O'Toole*
- 3.7 **Case Study #2: Hurricane Katrina and Emergency Response**  
Systemic Collapse: Medical Care in the Aftermath of Hurricane  
Katrina  
*Crystal Franco, Eric Tooner, Richard Waldborn, Beth Maldin, Tara  
O'Toole, and Thomas V. Inglesby*
- 3.8 **Case Study #3: The Response to the 1995 Attack in Tokyo, Japan**  
Consequence Management in the 1995 Sarin Attacks on the  
Japanese Subway System  
*Robyn Pangj*

### IV. LESSONS LEARNED AND FUTURE THREATS

- 4.1 **The Need for a Comprehensive, Multidimensional Strategy**  
The Best Defense: Counterproliferation and U.S. National  
Security  
*Jason D. Ellis*  
How to Counter WMD  
*Ashton B. Carter*
- 4.2 **Gaps in the Framework**  
Gaps in the International Framework for Combating Terrorism  
*Chen Zak Kane*
- 4.3 **Future Threats**  
Emerging WMD Technologies  
*Forrest Waller and Michael George*
- 4.4 **Conclusion**  
Terrorism and WMD: The Road Ahead  
*James J.F. Forest and Aaron Danis*

## APPENDIX

- A-1 *NSPD-17 / Homeland Security Presidential Directive-4 (HSPD-4)*  
[unclassified version]: National Strategy to Combat Weapons of Mass Destruction, The White House, December 2002
- A-2 *Fact Sheets on Chemical, Biological, Nuclear and Radiological Terrorism, from the National Academies and the U.S. Department of Homeland Security*
- A-3 Integrating the Agents of Bioterrorism into the General Biology Curriculum: A Primer on Bioterrorism  
*Jeffrey Pomerville*
- A-4 Near Term Threats of Chemical Weapons Terrorism  
*Margaret E. Kosal*

## ABOUT THE EDITORS

**Brigadier General (retired) Russell Howard**, a career Special Forces officer, is the Director of the Jebson Center for Counterterrorism Studies, and former Head of the Department of Social Sciences at the U.S. Military Academy. He has had numerous antiterror and counterterror responsibilities and has taught and published several books and articles on terrorism subjects, including *Homeland Security and Terrorism: Controlling the Security Environment* (McGraw-Hill, 2005) and *Terrorism and Counterterrorism: Readings and Interpretations* (McGraw-Hill, 2002). As a Special Forces officer, Brigadier General Howard served at every level of command, including: Detachment Commander in the 7<sup>th</sup> Special Forces Group, Company Commander in the 1<sup>st</sup> Special Forces Group, Battalion Commander in the Special Warfare Center and School and Commander of the 1<sup>st</sup> Special Forces Group. In preparation for his academic position, Brigadier General Howard earned degrees from San Jose State University, the University of Maryland, the Monterey Institute of International Studies, and Harvard University.

**Dr. James JF Forest** is the Director of Terrorism Studies and an associate professor at the United States Military Academy, where he teaches courses on terrorism and counterterrorism, information warfare and foreign policy, and directs several research initiatives for the Combating Terrorism Center at West Point. He has published nine books on a variety of topics, including *Teaching Terror: Strategic and Tactical Learning in the Terrorist World* (Rowman & Littlefield, 2006), *The Making of a Terrorist: Recruitment, Training and Root Causes* (Praeger, 2005), and *Homeland Security and Terrorism: Controlling the Security Environment* (McGraw-Hill, 2005), as well as articles in the *Cambridge Review of International Affairs, Democracy and Security* and the *Journal of Political Science Education*. Dr. Forest also serves as a guest lecturer for several government agencies in the U.S. and Europe, and maintains a top secret security clearance. He holds degrees from De Anza College, Georgetown University, Stanford University, and Boston College.

