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## Advances in homeland security series

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# Advances in Homeland Security Series Book Review

Naim Kapucu

## Abstract

This is a book review article for the Advances in Homeland Security Series by Purdue University. The series consist of two volumes. Volume one is entitled *The Science of Homeland Security*. Volume two is entitled *Guiding Future Homeland Security Policy*. Amass F. S., Bhunia, A. K, Chaturvedi, A. L., Dolk, D. R., Peeta, S., and Atallah, M. J. *Advances in Homeland Security Series: The Science of Homeland Security (Volume 1)*, West Lafayette, IN: Perdue University Press, 2006 227 pp, introduction, notes, bibliography, index (hardcover). Amass F. S., Chaturvedi, A. L., and Peeta, S. *Advances in Homeland Security Series: Guiding Future Homeland Security Policy*, West Lafayette, IN: Perdue University Press, 2006 152 pp, introduction, notes, bibliography, index (hardcover).

**Author Notes:** Dr. Naim Kapucu is an assistant professor in the Department of Public Administration at The University of Central Florida. He teaches Analytic Techniques for Public Administration and Emergency Management and Homeland Security courses.

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Amass F. S., Bhunia, A. K., Chaturvedi, A. L., Dolk, D. R., Peeta, S., and Atallah, M. J. *Advances in Homeland Security Series: The Science of Homeland Security (Volume 1)*, West Lafayette, IN: Purdue University Press, 2006 227 pp, introduction, notes, bibliography, index (hardcover)

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Since the September 11, 2001 terrorist attacks, homeland security has become the top priority of government at all levels. Homeland security is defined by the ANSER Institute as the overarching concept, consisting of all actions taken at every level (federal, state, local, private sector, and individual citizen) in “deterrence, prevention, and preemption of, and defense against, aggression targeted at U.S. territory, sovereignty, population, and infrastructure as well as the management of the consequences of such aggression and other domestic emergencies.” The Department of Homeland Security (DHS) was approved by Congress in November 25, 2002, [The Department of Homeland Security Act of 2002 -HR 5005 - Public Law 107-296] and was designed to consolidate U.S. defenses against terrorist attack and better coordinate counterterrorism intelligence along with emergency management and many other responsibilities. The department works with executive departments and agencies, state and local governments, and private entities to ensure the adequacy of the national strategy for detecting, preparing for, preventing, protecting against, responding to, and recovering from terrorist threats or attacks within the United States and periodically reviews and coordinates revisions to that strategy as necessary.

*Advances in Homeland Security Series: The Science of Homeland Security (Volume 1)*

Purdue University Press has published a two volume series on homeland security issues. The series is intended to be a resource for the scientific community, as well as government leaders, emergency managers, and homeland security officials. Purdue University’s Institute for Homeland Security issued a call for papers to contribute to the volume, and an Institute paper was one of eight selected. The first volume is entitled *Advances in Homeland Security: The Science of Homeland Security*, edited by Sandra F. Amass, A. K. Bhunia, A. L. Chaturvedi, D. R. Dolk, S. Peeta, S., and M. J. Atallah. The objective of the volume is “to begin to provide a scientifically sound basis for all

homeland security efforts.” Mahley also warns that “... there are serious and well-funded organizations in the world whose intentions are *not* humanitarian or even benign and that vigilance to deny such parties the truly repulsive capacity to inflict deliberate disease, death, or economic chaos is a necessary price of our own progress, it will have served a useful purpose” (p. 3).

The first volume focuses on communication strategies, water infrastructure, modeling to understand risk, biosensors, biodetection, and agricultural terrorism. Chapters in Volume I include *Decomplexifying Communication Strategies in Response to Bioterrorism: Toward a Synergistic Crises Communication Model*, written by Mohan Dutta-Bergman and Marifran Mattson. The chapter focuses on the role of crisis communication and interoperability in a homeland security setting. It defines the synergic crisis communication, applies the model to the anthrax crisis case, and offers applied communication strategies in response to bioterrorism and other future terrorist threats. Another chapter, *Physical Security Aspects in Water Infrastructure*, written by Jianhiong Qiao, Hyung S. Jeong, Mark A. Lawley, and Dulcy M. Abraham, reviews the recent literature on water infrastructure systems security and critiques “different vulnerability assessment methods and mitigation strategies.” *Modeling, Measuring, and Understanding Risk to Our Security* written by Dennis Engi models a risk management for homeland security and emphasizes the “[u]nderstanding risks to homeland security requires us to think in terms of outcomes of potential malevolent acts committed by groups intent upon intimidating a population or government into granting their demands” (p. 64). Additional chapters include *Enzyme-Based Biosensors for the Direct and Discriminative Detection of Chemical Warfare Nerve Agents and Related Agricultural Pesticides*, written by Aleksandr L. Simonian and James R. Wild and *Detection of Significant Bacterial Pathogens and Toxins of Interest in Homeland Security* written by Arun K. Bhunia. *Anticrop Bioterrorism*, written by Don M. Huber, identifies the characteristics of basis for U.S. production efficiency as potential for its vulnerability to bioterrorist attacks. “Recognition of US vulnerability to the biological threat provides opportunities to minimize the potential damage a terrorist or criminal group could inflict upon specific segments or general society through bioterrorism and anticrop warfare” (p. 152). The final chapter, *Medical Surveillance: The State of the Art and Agenda for Future Research* written by David Siegrist. The chapter describes medical surveillance as “the prospective statistical analysis of health-related data for rapid detection of anomalies that indicate the outbreak of disease in a population” (p. 193). The author concludes that “medical surveillance is feasible and sustainable and can perform a useful role in a broader architecture for rapid and reliable detection of disease outbreaks” (p. 215).

*Advances in Homeland Security: Guiding Future Homeland Security Policy Directions for Scientific Inquiry (Volume 2)*

Part of the challenge in homeland security research is developing plans for emerging areas of research. The objective of this volume of *Advances in Homeland Security* is “to

provide a venue for emerging topics that do not yet have a strong basis in the scientific literature” (p. VII). In order to provide a solid basis for future needs, authors in the volume comment on current information in their fields and provide directions for future scientific research in their areas. The volume introductory chapter focuses on “[a] national homeland security architecture- integrating the complex system-of-systems required to implement homeland security solutions – will unable us to hedge our bets against uncertainty” (p. 10). This volume covers the following topics: Coordinating Effective Government Responses to Bioterrorism; Interagency Relations in Animal Biosecurity Disasters; Nuclear Power Plant Security; Modeling and Analysis of Public Policies for Managing the Risks to Homeland Security; Security Screening; and, Use of Advanced 3D Visualization for Bioterror Crises Communication Training.

The second chapter, *Interagency Relations regarding Agroterrorism and Agrosecurity*, by Steve Cain and Abigail Borron discusses coordination at the different levels of government in response to agroterrorism and emphasizes the importance of research on the development of comprehensive plans for state and county governments to more easily identify their roles. Chapter Three, *Pedagogical E-Learning Framework Using Advanced 3D Visualization for Bioterror Crises Communication Training*, by Krishna P. C. Madhavan, Mohan J. Dutta-Bergman, and Laura Arns, emphasizes the importance of interdisciplinary and innovative perspectives in the public health and healthcare in dealing with complex bioterror crises communication. Chapter Four, *Coordinating Effective Government Responses to Bioterrorism*, by Paul Drnevich, Shailendra Mehta, and Eric Dietz, examines the decision making processes under uncertain environments of disasters and crises. It also applies management and public sector applications to extreme cases. Chapter Five, *A Qualitative Architecture for Investigating the Quantitative Aspects of the Impacts of Public Policies Related to Homeland Security*, written by Dennis Engi, describes a qualitative perspective for dynamic and complex problems of homeland security. Chapter Six, *Security Screening*, by J. L. Fobes, focuses of many aspects of security screening in homeland security and emergency management. The final chapter, *Bioterrorism training Simulations: Implications for Effective Response*, by Paul Drnevich, Alok Chaturvedi, and Shailendra Mehta, highlights the importance of simulation exercises as ways of developing, testing, analyzing, and implementing public policies and operational procedures in response to terrorism. The chapter concludes that “with early intervention and effective communication, coordinated multi agency responses can be formulated and implemented in order to successfully contain a bioterror attack for minimizing health and economic impacts on the population” (p. 142).

These two volumes are good initial resources for those involved with issues of the “science of homeland security.” I had hoped to see more diverse issues from a policy standpoint. While the two volumes raise significant issues and suggest several recommendations, they are far from comprehensive and multi-disciplinary as we might expect in this emerging “discipline of homeland security.”