*Information & Security: An International Journal*

Andre Samberg, v.40:1, 2018, 5-8 https://doi.org/10.11610/isij.4000

# SMART SOLUTIONS FOR SUSTAINABLE EMERGENCY AND CRISIS MANAGEMENT

Andre SAMBERG

**Abstract**: This editorial article introduces the reader to vol. 43 of *Information & Security: An International Journal* containing papers presented at the 24th TIEMS Annual Conference in Kyiv, Ukraine. The volume is structured in four sections: Assessing Risks of Natural Disasters and Industrial Catastrophes; Disaster Risk and Resilience Management; Concepts and Solutions for Critical Infrastructure Protection; and Risks Related to Conflict and Contributions of the Military to Disaster Risk Management with a final section representing relevant education and training courses in Ukraine and TIEMS.

**Keywords**: natural disasters, industrial catastrophes, risk, disaster risk management, resilience, critical infrastructure protection, CIP, civ-mil coordination, volunteers, honeypot, TIEMS.

The 24th Annual Conference of The International Emergency Management Society (TIEMS) took place in Kyiv, Ukraine from 4-7 December 2017. About 100 experts from North and South Americas, Europe and Asia participated for the first three days of the conference and many attended the guided tours on the fourth day to the Chernobyl exclusion zone: the Chernobyl nuclear power station and the Duga-3 radar installation which is known in the West as the Russian Woodpecker (Chernobyl-2) as well as the medical and emergency centre in Kiev. There were 62 oral and poster presentations and a small technical exhibition. Experts exchanged the latest scientific results and practical experience in emergency management, disaster risk reduction and the increasing environmental risks of the war-torn Donbas region in South-Eastern Ukraine.

Authors of selected papers were invited to contribute to a special issue of Information & Security: An International Journal (ISIJ). This volume is the result of our efforts, with two issues, structured in four sections.

The first section presents advanced methods and tools for assessing risks of natural disasters and industrial catastrophes. The section includes four articles presenting respectively the use of:

- network models to analyse the vulnerabilities of an urban natural gas pipeline network system on the example of Beijing's gas pipeline system;[1]
- remote sensing methods to map secondary pollutant redistribution and thus refine the landscape-morphological regionalization of a particular region of Ukraine;[2]
- longitudinal data from satellite-based radar interferometry to map geodynamic risks in an urban area;[3] and
- mapping of neotectonics for the territory of the Ukrainian Shield to better estimate radon emanation as a source of radiation hazard.[4]

Section Two deals with disaster risk and resilience management and includes articles on elaborating approaches to reduce risk of waterborne diseases in Zimbabwe by rigorous statistical and expert analysis of vulnerabilities,[5] the creation of a on Local Safety Index to improve leisure sports safety management in Korea,[6] and a methodology to utilise the combined effect of technical standards and legal norms towards resilient infrastructure and sustainable development of settlements.[7]

The third section includes three articles by Ukrainian authors analysing the progress and the challenges of introducing in practice the concept of critical infrastructure protection (CIP). In the first article Dr. Oleksandr Sukhodolia from the National Institute of Strategic Studies [8] of Ukraine describes the development of the concept and the challenges in its implementation in view of the variety of stakeholders and the multitude of competing security agendas.[9] In his focus is the Green Paper on CIP,[10] elaborated with international assistance. The second article is by the same author, proving overview of the organisation and the outcomes of a table-top exercise intended to facilitate the understanding of the concept underlying Ukraine's Green Paper on CIP and the requirements for multiagency cooperation in its implementation in the particular instantiation of critical energy infrastructure protection.[11]

Section Four looks into risks related to conflict, cyberattacks and contributions of the military to disaster risk management – issues that are usually beyond the focus of emergency managements and yet may be of crucial importance for a successful resolution of a crisis. It starts with a comprehensive treatment by Valeri Ratchev and Todor Tagarev in the EU DRIVER project [12] of the evolving legal, policy frameworks,[13] modalities and specific capability contributions of armed forces to disaster response and relief operations.[14] The next article looks into the crucial role played by

volunteers in zones of armed conflict building on experience in Syrian refugee camps in Jordan.[15]

As usual, the Monitor section wraps up this volume with presentation of the experience of Ukraine's Taras Shevchenko in educating first line emergency managers in geomatics [16] and presentation of TIEMS – The International Emergence Management Society.

## References


[1] Qiuju You, Wei Zhu, Jianchun Zheng, and Shaohu Tang, "Vulnerability Analysis for Urban Natural Gas Pipeline Network System," *Information & Security: An International Journal* 40, no. 1 (2018): 11-28, https://doi.org/10.11610/isij.4001.

[2] Oleksandr T. Azimov, Anastasiia Bunina, and Yelyzaveta Dorofey, "Using Remote Sensing Methods to Refine the Landscape-Morphological Regionalization for the Territory Due to the Secondary Pollutant Redistribution Across Soil Cover," *Information & Security: An International Journal* 40, no. 1 (2018): 29-37, https://doi.org/10.11610/isij.4002.

[3] Sergey Stankevich, Iryna Piestova, Olga Titarenko, Volodymyr Filipovych, Andre Samberg, Tamara Dudar, and Mykhailo Svideniuk, "Urban Area Geodynamic Risk Mapping Using Long-Term Time Series of Sentinel-1 Satellite Radar Interferometry," *Information & Security: An International Journal* 40, no. 1 (2018): 39-50, https://doi.org/10.11610/isij.4003.

[4] Tamara Dudar, Valentin Verkhovtsev, Georgii Lysychenko, and Yurii Tyshchenko, "Radon Emanation as a Source of Radiation Hazard to the Environment: The Case of the Ukrainian Shield," *Information & Security: An International Journal* 40, no. 1 (2018): 51-57, https://doi.org/10.11610/isij.4004.

[5] Tatenda Grace Chirenda, Roman Tandlich, Viwe Krele, Catherine Diane Luyt, Chandra Sunitha Srinivas, and Chidinma Uche Iheanetu, "Legislation, Vulnerability and Disaster Risk Management of Waterborne Diseases in Zimbabwe," *Information & Security: An International Journal* 40, no. 1 (2018): 61-91, https://doi.org/10.11610/isij.4005.

[6] Young Jai Lee, Yejin Kim, and Hwan Yu, "Improving Local Safety Management in Korea: A Case Study on Local Safety Index and Leisure Sports Safety Management," *Information & Security: An International Journal* 40, no. 1 (2018): 92-99, https://doi.org/10.11610/isij.4006.

[7] Oleksandr Nepomnyashchyy and Iryna Lahunova, "Methodology of Risk Management in Providing Sustainable Development of Settlements," *Information & Security: An International Journal* 40, no. 1 (2018): 100-104, https://doi.org/10.11610/isij.4007.

[8] The National Institute for Strategic Studies is part of the Presidential Administration of Ukraine, https://en.niss.gov.ua.

[9] Oleksandr Sukhodolia, "Implementation of the Concept of Critical Infrastructure Protection in Ukraine: Achievements and Challenges," *Information & Security: An International Journal* 40, no. 2 (2018): 107-119, https://doi.org/10.11610/isij.4008.

[10] Dmytro Biriukov, Sergiy Kondratov, Oleh Nasvit, and Oleksandr Sukhodolia, *The Green Paper on Critical Infrastructure Protection: Analytical Report* (Kyiv: NISS, 2015), http://en.niss.gov.ua/content/articles/files/Green-Paper-engl-4bd7c.pdf, accessed December 15, 2018.

[11] Oleksandr Sukhodolia, "Training as a Tool of Fostering CIP Concept Implementation: Results of a Table Top Exercise on Critical Energy Infrastructure Resilience," *Information & Security: An International Journal* 40, no. 2 (2018): 120-128, https://doi.org/10.11610/isij.4009.

[12] Driving Innovation in Crisis Management for European Resilience, https://www.driver-project.eu/.

[13] Valeri Ratchev and Todor Tagarev, "Policy and Legal Frameworks of Using Armed Forces for Domestic Disaster Response and Relief," *Information & Security: An International Journal* 40, no. 2 (2018): 137-166, https://doi.org/10.11610/isij.4011.

[14] Todor Tagarev and Valeri Ratchev, "Evolving Models of Using Armed Forces in Domestic Disaster Response and Relief," *Information & Security: An International Journal* 40, no. 2 (2018): 167-180, https://doi.org/10.11610/isij.4012.

[15] Naill Momani and Mohamad Alzaghal, "Volunteers in Disaster Relief in Zones of Armed Conflict: The Case of Syrian Refugee Camps in Jordan," *Information & Security: An International Journal* 40, no. 2 (2018): 181-188, https://doi.org/10.11610/isij.4013.

[16] Liudmyla Datsenko, Oleksii Mikhno, and Mykola Molochko, "Education in Geomatics for First Line Emergency Management in Ukraine," *Information & Security: An International Journal* 40, no. 2 (2018): 205-211, https://doi.org/10.11610/isij.4015.

## About the Author

Andre Samberg is Head of the Mission to Ukraine of The International Emergence Management Society and Chief Executive Officer of TIEMS' Ukraine Chapter, https://www.tiemsukr.org. He was main organiser of the TIEMS international annual conference in Kyiv, 4-6 December 2017. *E-mail*: info@tiemsukr.org