

situation of the casualties. Resources can be categorized into human, material, financial, and informational. Because the headquarters have to process much information, it is important to clarify the objective and strategy of disaster response. The headquarters gather various quantitative and qualitative information using information and communication technology, telephone, meeting and other methods. Qualitative information can be categorized as: expected, surprising (unexpected), and unusual (rare) contents. For expected contents, quantification or estimation of needs from information in normal time or limited information immediately after the disaster and displaying or further analyzing by geographic information systems is useful. By surprising contents or case reports, additional responses or strategies will need to be reviewed.

Conclusion: The procedure, including information gathering and decision-making, follows the OODA (observe, orient, decide, act) loop. According to our mail survey of all 47 prefectural local governments in 2019, 89% were planning to establish the headquarters. However, only 36% had prepared a manual. Using the results of this study, a standard strategic manual for the operations of the headquarters is being developed and brushed up.

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Chemical Industry Disaster Risk Assessment During Complex Emergencies in Ukraine.

Rick Kye Gan MD^{1,2}, Rafael Castro Delgado MD, PhD¹, Emanuele Bruni PhD, MSc, MA³, Pedro Arcos González MD, PhD, DSc¹, Carlos Alsua, PhD⁴

1. Unit for Research in Emergency and Disaster, Public Health Area, Department of Medicine, University of Oviedo, Oviedo, Spain
2. Department of Global Public Health, Karolinska Institutet, Stockholm, Sweden
3. World Health Organization Ukraine, Kiev, Ukraine
4. University of Arizona, Tucson, Arizona, USA

Introduction: The war in Ukraine has not only led to complex emergencies and humanitarian crises but also other severe consequences, such as the chemical industry disaster. The chemical industry is one of the principal sectors of Ukraine's economy, and it is estimated that Ukraine has a total volume of hazardous chemical accumulation of more than 5.1 billion tons. An attack on chemical industrial facilities will lead to catastrophic consequences. This thesis aims to study the disaster risk of chemical industrial facilities and its consequences on public health and the environment during complex emergencies in Ukraine.

Method: Observational cross-sectional risk assessment method was utilized to assess hazard, vulnerability, and exposure of the chemical industry in Donetsk Oblast, Luhansk Oblast, Kherson Oblast, Zaporizka Oblast, and Kharkiv Oblast, Ukraine. Data on chemical factories in Eastern Ukraine was collected on Google Maps and Google Earth in May 2022. Lastly, the semi-quantitative risk assessment method was utilized to describe the risk from the perspective of consequences for life and health, the environment, property, and speed of development.

Results: Chemical industry disaster risks in Ukraine during complex emergencies in Donetsk Oblast, Luhansk Oblast,

Kherson Oblast, Zaporizka Oblast, and Kharkiv Oblast are high in terms of likelihood and consequences to life and health, environment, property, and speed of development.

Conclusion: This risk assessment enables potential chemical disaster risks in Ukraine during complex emergencies to be understood and communicated by the local community, the first responder, and till policy makers. Therefore, enable a whole-of-society approach involving risk management, disaster preparedness, and response. Further detailed risk assessment on the type of chemical and their hazards should be conducted once the situation permits.

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The UNDRR/ISC Hazard Definition and Classification Review and Hazard Information Profiles and Links to the Sendai Framework, the SDGs, and the Paris Agreement

Virginia Murray FRCP

on behalf of the UNDRR/ISC Technical Working Group members and the many authors and reviewers, London, United Kingdom

Introduction: The 'all hazards' approach that the Sendai Framework on Disaster Risk Reduction calls for 'to strengthen technical and scientific capacity to capitalize on and consolidate existing knowledge and to develop and apply methodologies and models to assess disaster risks, vulnerabilities and exposure to all hazards;' (paragraph 24 j) needed clarification.

Method: Following extensive scientific consultation, the United Nations Office for Disaster Risk Reduction (UNDRR) and the International Science Council (ISC) published in 2020 the UNDRR/ISC Hazard definition and classification review. This was followed by the UNDRR/ISC Hazard Information Profiles: Supplement to UNDRR-ISC Hazard Definition & Classification Review-Technical Report (2021). This Supplement consists of a description of each of the 302 hazard information profiles (HIPs), which was developed using a consultative process by scientists and experts across the globe.

Results: The UNDRR/ISC Hazard Information Profiles (HIPs) provide a common set of hazard definitions and other information relevant to informing the strategies and actions of governments and stakeholders, and for managing the risks associated with hazards. They can be used whenever and wherever for assessment, planning, and action related to hazards. As such, they relate to the design, implementation, and monitoring of disaster risk reduction and risk-informed investments at all levels.

Conclusion: The science-based structure of the HIPs serves to avoid confusion and duplication in the classification of hazards. It also promotes up-to-date information derived from the 'data revolution, rigorous accountability mechanisms and renewed global partnerships'. The HIPs support the implementation of not only the Sendai Framework for Disaster Risk Reduction 2015-2030, but also the Sustainable Development Goals of Agenda 2030, the Paris Agreement and International Health Regulations (2005). In 2022 an International Science Council Policy Brief was published

describing the use of UNDRR/ISC HIPs to manage risk and implement the Sendai framework for disaster risk reduction.

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Development of the Matrix for Regional Collaboration on Disaster Health Management in the ASEAN Region

Sukanya Suttthalak BSc^{1,2}, Alisa Yanasan MD^{1,2}, Ob-orm Utthasit MA³, Taro Kita BHSc^{4,5}, Shuichi Ikeda MSc^{4,5}

1. Division of Public Health Emergency Management, the Permanent Secretary, Ministry of Public Health, Thailand
2. Thai Task Force for the ARCH Project, Bangkok, Thailand
3. ARCH Project Team, Bangkok, Thailand
4. Japan International Cooperation Agency, Tokyo, Japan
5. JICA Expert Team for the ARCH Project, Bangkok, Thailand

Introduction: The ASEAN Leaders' Declaration on Disaster Health Management (ALD on DHM) was adopted at the 31st Summit in Manila in 2017. The Plan of Action (POA) to implement the ALD on DHM was adopted by the ASEAN Health Ministers Meeting in 2019, with Regional Collaboration Committee on Disaster Health Management (RCCDHM) established as a primary implementing mechanism under the purview of ASEAN Health Cluster two and Senior Officials Meeting on Health Development (SOMHD) to operationalize the implementation of the POA with its priority areas and targets to be realized by 2025. The first RCCDHM Meeting was organized in-person in Bangkok in 2020. The RCCDHM is composed of two representatives from each ASEAN member state (AMS), one representative from the ASEAN Secretariat and one representative from AHA Centre, and the secretariat role for the RCCDHM is carried out by the Ministry of Public Health, Thailand. The RCCDHM Meeting decided to develop the Matrix of Detailed Activities (MDA) addressing the five priority areas of the POA-ALD on DHM.

Method: The RCCDHM Meeting organized a core group consisting of the Philippines and Thailand to develop the MDA which identifies information on activities, expected outputs, indicators, lead country, source of support, and the timeline for achieving objectives of the POA. During the COVID-19 pandemic, online communication was applied to discuss and coordinate among the AMS.

Results: The core group developed the draft MDA in consultation with the ASEAN Secretariat/Health Division. After a series of discussions, the RCCDHM endorsed the MDA which confirms necessary activities and commitment of AMS.

Conclusion: The review and endorsement process for the MDA will be elevated to the higher level meetings in the ASEAN Health sector for final approval. The RCCDHM also confirmed to strengthen collaboration with other ASEAN initiatives, non-health ASEAN sectors, UN, or other international partners, and the ARCH Project.

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Heatwaves Risk Perception and Knowledge-Empirical Evidence from Pakistan

Ullah Farman MSc, PhD(c)¹, Francesco Barone-Adesi MD, PhD², Ives Hubloue MD, PHD³, Luca Ragazzoni MD, PHD¹, Martina Valente PhD¹

1. CRIMEDIM – Center for Research and Training in Disaster Medicine, Humanitarian Aid, and Global Health - Università del Piemonte Orientale (UPO), Novara, Italy
2. Department of Translational Medicine, Università del Piemonte Orientale (UPO), Novara, Italy
3. Research Group on Emergency and Disaster Medicine (REGEDIM), Vrije Universiteit Brussel (VUB), Brussels, Belgium

Introduction: Heatwaves are the leading weather-related causes of deaths globally. Since the mid 20th century, the frequency and intensity of heatwaves has increased with recent reports projecting a substantial warming in temperature extremes by the end of the 21st century.

Method: In this cross-sectional study, we attempted to assess public perception and knowledge on heatwaves. Data was collected across Pakistan among a sample of people aged 18 years and above using an online survey questionnaire. Health Belief Model (HBM) constructs were used to assess risk perception using a total of 14 statements while knowledge was measured using 12 statements. The Unadjusted Odd Ratio (UOR) and Adjusted Odd Ratio (AOR) of 95% Confidence Intervals (CI) were employed through binary logistic regression. A total of twelve variables were included in the model (11 categorical and 1 continuous).

Results: Out of the 686 participants, the majority of the people (57.73) showed high heatwaves risk perception and a high level of heatwave knowledge (59.91). The results of the multivariate regression model (AOR) showed that participants within the Secondary and/or higher Secondary (Grade 9th to Grade 12th) were less likely (OR=0.304) perceiving heatwaves risk compared to the reference group (Basic/Elementary Level i.e., (Grade 1st to Grade 8th)). As the number of participants who lives with others and who heard about heatwaves increases, the participants are more likely to perceive high heatwaves risk. For instance, participants who lives with others and have heard about heatwaves perceived heatwaves risk 1.982 and 1.816 times higher respectively than those who live alone and those who have not heard about heatwaves before.

Conclusion: HBM can be useful in designing interventions aimed at increasing people's adaptive behaviors during heat waves. This study provides useful insights to the policymakers across Pakistan in understanding the public's perception that can lead to informed decision-making.

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The Role of Self-help Women's Groups in Disaster Risk Reduction and Community Resilience in Nepal

Jyoti Khatrri KC MPH, Vivienne Tippett PhD, Joanne Durham PhD

Queensland University of Technology, Brisbane, Australia

Introduction: The differential impact and needs of women during disasters are highlighted in contemporary research, there