

Introduction to Disaster Management

Lecturers/Instructors: Viktor Lagutov

invited guest speakers: Armen Grigoryan (UNDP), Lorant Czaran (UN Office for Outer Space Affairs), Douglas Cripe (GEO Secretariat), Andras Nagy-Szollosi (UNESCO), others TBC

Credits: 2

Duration: January-March

Pre-requisites: none

Number of students: 15

Course e-learning site: <http://ceulearning.ceu.edu>

Course Description

Natural and technological hazards affect the everyday life as well as long-term development plans. For many decades the prevailing approach in dealing with disasters was focus on response and recovery, however lately pre-disaster actions to minimize the disaster risks are encouraged.

The course introduces Disaster Management, focusing on natural disasters. The problem is addressed in a holistic cross-sectoral and cross-disciplinary manner, including all stages of disaster management cycle: mitigation, preparation, response and recovery. Starting with theory, main definitions and concepts, the course considers other aspects of Disaster Management cycle, such as International Agreements, impact of climate change and urbanization on severity and extent of disasters, case studies of disaster management on national and local levels, some DRR technologies. Some of the topics will be covered by practitioners from corresponding international and national organizations (such as UNDP Bureau for Crisis Prevention and Recovery and UN Office for Outer Space Affairs). Special attention will be paid to information and communication technologies aimed at collecting, processing and analyzing spatial data for better decision-making in disaster risk management. The course will feature a day long field trip to UN-SPIDER (United Nations Platform for Disaster Management and Emergency Response) Headquarters in Vienna.

To pass the course all students (grade and audit) will be required to develop and present an individual course project on disaster management topic of their choice. In case number of registered students exceeds the course cap, the priority in registration will be given to those taking the course for grade.

Outline

lectures	Topic	Potential Sub-topics	Readings	Lecturer
1	Introduction: Theory, Main Concepts	<ul style="list-style-type: none"> Disaster as a natural/social phenomenon. Current state of Disaster Management Theory. Disaster trends (Emergency Events Database EM-DAT). Terminology (Hazard, Disaster, Vulnerability, Risk). Classification 	Perry, R.W. and Quarantelli, E.L. (ed). 2005. <i>What is a Disaster?: New Answers to Old Questions</i> . (Chapters) World Bank and UN. 2010. <i>Natural Hazards, UnNatural Disasters: The Economics of Effective Prevention</i> . UNISDR. 2009. <i>Terminology on Disaster Risk Reduction</i> . Integrated Research on Disaster Risk (IRDR). 2014. <i>Peril Classification and Hazard Glossary</i> .	Viktor Lagutov
2	Disaster Management Cycle	<ul style="list-style-type: none"> Introduction of Disaster Management Cycle (Disaster Phase Model). Main stages: Mitigation, Preparedness, Response, Recovery. Critique of Disaster Management Cycle. Disaster Risk Management. Knowledge Management in Disaster Risk Reduction 	Dahlberg, R., Rubin, O. and Vendelø, M.T. (ed). 2015. <i>Disaster Research: Multidisciplinary and international perspectives</i> . (Chapters) Jensen, J. 2010. Emergency Management Theory: Unrecognized, Underused, and Underdeveloped. In <i>Integrating Emergency Management Studies into Higher Education: Ideas, Programs, and Strategies</i> De Silva, S. and Burton, C. 2008. <i>Building Resilient Communities: Risk Management and Response to Natural Disasters through Social Funds and Community-Driven Development Operations</i> (Chapters)	Viktor Lagutov
3	Global Frameworks and Agreements	<ul style="list-style-type: none"> Predecessors of Sendai Framework (International Decade for natural Disaster Reduction (1990-2000); Yokohama Strategy and Plan of Action for a Safer World (1994); Hyogo Framework for Action (2005-2015)). Sendai Framework for Disaster Risk Reduction (2015-2030). 4 Priorities for action: Understanding disaster risk; Strengthening disaster risk governance to manage disaster risk; Investing in disaster risk reduction for resilience; Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction. International Charter "Space and Major Disasters". Paris Agreement (2015). Sustainable Development Goals (2015-2030) (Goal 11). 	UNISDR. 2015. Sendai Framework for Disaster Risk Reduction 2015 - 2030. Third UN World Conference on Disaster Risk Reduction UN General Assembly. 2015. <i>Transforming our world: the 2030 Agenda for Sustainable Development</i> , A/RES/70/1.	Armen Grigoryan (UNDP)
4-5	Technology supporting DRM	<ul style="list-style-type: none"> The Role of IT in Mitigation, Preparedness, Response, and Recovery Drones, geo-spatial mapping. Early warning systems. Online tools: SEDAC Hazards Mapper; Global Disaster Alert and Coordination System (GDACS); Extreme Rainfall Detection System (ERDS), etc. 	Quarantelli, E.L. 1997. Problematical aspects of the information/communication revolution for disaster planning and research: ten non-technical issues and questions. <i>Disaster Prevention and Management: An International Journal</i> 6 (2): 94-106. Rao, R.R., Eisenberg, J. and Schmitt, T. 2007. <i>Improving Disaster Management: The Role of IT in Mitigation, Preparedness, Response, and Recovery</i> .	Lorant Czaran (UNOOSA); Douglas Cripe (GEO Secretariat)
6	Climate Change and DRR	<ul style="list-style-type: none"> Climate change, impacts – precipitation, sea level rise, floods, droughts, etc. Water and Sanitation, Food security, Livelihoods, Migration. 	ISDR. 2008. Climate Change and Disaster Risk Reduction. ISDR. 2009. Adaptation to Climate Change by Reducing Disaster Risks: Country Practices and Lessons	Andras Nagy-Szollosi

		<ul style="list-style-type: none"> • Climate Change Mitigation (CCM) • Climate Change Adaptation (CCA) • Disaster Risk Reduction (DRR) • CCA-DRR-CCM overlap exercise 	<p>IOM. 2010. Disaster risk reduction, climate change adaptation and environmental migration: a Policy Perspective</p> <p>IFRC. 2013. A guide to mainstreaming guiding principles disaster risk reduction and climate change adaptation</p>	(UNESCO)
7-8	Community Resilience	<ul style="list-style-type: none"> • Urbanization • Community Resilience – definition, core concepts. • Why is risk increasing in cities? • Community involvement in DRR (local actors) • Access to technology – <i>digital divide</i>; <i>Reverse innovation</i> (missed calls; Ushahidi; etc.). • Critical infrastructure. 	<p>Community and Regional Resilience Institute. 2013. <i>Definitions of Community Resilience: An Analysis</i>.</p> <p>Twigg, J. 2009. <i>Characteristics of a disaster-resilient community: a guidance note</i>. (Chapters)</p> <p>IFRC. 2015. <i>World Disasters Report 2015: Focus on local actors, the key to humanitarian effectiveness</i>.</p>	Field trip
9-10	Humanitarian Assistance (local level)	<ul style="list-style-type: none"> • Disaster preparedness, response, recovery. • Public awareness and public education. • Community early warning systems. • Vulnerability and Capacity Assessment (VCA). • Cost–benefit analysis of community-based DRR. • Case studies 	<p>IFRC. 2015. <i>World Disasters Report 2015: Focus on local actors, the key to humanitarian effectiveness</i>.</p> <p>IFRC. 2013. Public awareness and public education for disaster risk reduction: key messages</p> <p>IFRC. 2006. What is VCA? An introduction to vulnerability and capacity assessment.</p> <p>IFRC. 2010. Cost–benefit analysis of community-based disaster risk reduction: Red Cross Red Crescent lessons learned, recommendations and guidance.</p>	Field trip
11-12	Student Term Projects presentations			

Learning outcomes:

Learning outcomes	Assessment	Activities	Estimated workload (h)
Understanding foundations of hazards, disasters and associated natural/social phenomena	Class participation and final assignment	Lectures, individual work, consultations	10
Familiarity with disaster management theory (cycle, phases)	Class participation and final assignment	Lectures, individual work, consultations	12
Awareness of existing global frameworks and existing agreements (e.g. Sendai)	Class participation	Lectures, individual work, consultations	10
Methods of community involvement as an essential part of successful DRR	Class participation and final assignment	Lectures, individual work, consultations	6
Humanitarian Assistance	Class participation	Lectures	6
Technological innovations in DRR: Advantages and problems	Class participation and final assignment	Lectures, individual work, consultations	6
Exposure to practical national disaster management activities and practical skills on First Aid	Class participation	Field trip	10
Experience on conducting independent DM study including data search, analysis and presentation of disaster case study	Term project including final paper and its presentation	Self-study, Library/ Internet search and reading, consultations	60
Total			120

Course Assessment

The evaluation is based upon student's performance using the following two criteria:

- **Class participation (20%):** active student participation in class discussions is expected and encouraged; evidence of reading the assigned texts; minor home tasks.
- **Final individual written assignment (60%) and project presentation (20%):** course project in a form of a case study, assessing the country's (or region's, or city's) current disaster management system, if relevant in a context of a recent natural disaster event (5,000 words). Preparing a final project presentation (10-minutes long presentation). Assignment will be due at the end of the semester.

Final individual written assignment

The case study should be developed both using information from the course lectures as well as student's individual studies, data specific to selected area of interest and selected disaster event.

The project should consist of five main parts:

- 1) *Background information* (basic data and statistics on the selected area of interest; vulnerabilities to natural disasters, historical data, forecasts).
- 2) *Brief description of the recent disaster event* (severity of disaster, losses and damages, reliance on external assistance, etc.).
- 3) *Overview of the disaster management system* (basic characteristics, organizational structure, existing legislation, policies, strategies; role of public sector, private sector, NGOs, and communities in different phases of disaster management).
- 4) *Strengths and weaknesses of DRM system* (illustrate using example of historical natural disaster event that has impacted area of interest; roles of public/ private sectors, communities and civil society).
- 5) *Recommendations for improvement* (describe any proposed changes to present DRM that could improve its efficiency, decrease vulnerability to natural hazards and reduce losses from future disaster events).

Final project presentation

10-minutes long PowerPoint (or equivalent) presentation, demonstrating main findings of the individual written assignment.