

## 3<sup>RD</sup> DISASTER RISK REDUCTION CONFERENCE

### International Conference (Warsaw, Poland, 12<sup>th</sup>–13<sup>th</sup> October 2017)

On October 12<sup>th</sup>–13<sup>th</sup> 2017 the 3<sup>rd</sup> Disaster Risk Reduction Conference (3<sup>rd</sup> DRR)<sup>1</sup> was run in Warsaw, Poland. The Conference gained the honorary support of Prof. Maciej Pałys, Rector of the University of Warsaw, while co-organising institutions were the Associations of Polish Hydrologists, Polish Climatologists and Polish Geomorphologists, as well as distinguished researchers from around the world. The 3<sup>rd</sup> DRR sought to bring together leading academic scientists, researchers and young researchers with a view to experiences, research results and questions about all aspects of Disaster Risk Reduction being shared.

The Opening Ceremony keynote speech was given by José Manuel Palma-Oliveira, Professor of Environmental Psychology and Risk Perception and Management at the University of Lisbon, Portugal). His presentation showed the consequences of societal changes (i.e. higher chronic stress, a total absence of perceived control in a high percentage of the population, power imbalances between genders, etc.), notably the negative consequences of the said changes for human health and wellbeing, particularly when associated with pollution, urban life, and badly designed “places”. These symptoms are felt to be especially important at a time when climate change poses a major threat. The speaker noted how communities’ resilience in the face of climate change can be deemed to depend upon two main factors, i.e. a) the degree to which an ecosystem is dependent on human activity, and b) the degree to which stress and inequality abound.

The second invited speaker – for day two of the Conference – was Sharon D. Moran, Associate Professor of Environmental Studies at the State University of New York College of Environmental Science and Forestry, Syracuse, New York. Her presentation

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<sup>1</sup> 3<sup>rd</sup> Disaster Risk Reduction Conference 2017, Abstract and Programme Book, Warsaw 12<sup>th</sup>–13<sup>th</sup> October, 2017, Rucińska D., Porzeczek M., Moran S. (eds), Faculty of Geography and Regional Studies, University of Warsaw.

was *Defusing Disasters – Exploring Preparedness and Coastal Storm Warnings*. Her main focus was on what we have learned from research into Hurricane Sandy's impacts in the NYC area, not least from people who did not follow directions to evacuate as the coastal storm was approaching. Many coastal communities cope with the threat of flooding and storms; and in the context of climate change, with sea-level rise and projected increases in the number and severity of storms, planning efforts have become much more urgent. Data show that people with disabilities (PWD) and elderly people have disproportionate harm inflicted upon them when disaster strikes. Work by Prof. Sharon D. Moran reveals that the experiences of people with disabilities include: misinformation, shelters failing to offer accommodation, abandonment, and a sense of exclusion brought about by inaccessible communication practices. While institutions have powerful incentives to reinscribe disparities and injustices, new perspectives on the role of design may help animate movement toward more functional and inclusive spaces.

The first day of the Conference featured a Discussion Panel on *Psychological consequences of catastrophes. Post-traumatic disorders: organizational support, therapy and prevention* led by Profesor Bogdan Zawadzki. Papers in the course of that panel were presented by:

- Agnieszka Popiel (SWPS University of Social Sciences and Humanities, Warsaw): Symptoms of post-traumatic disorders and their dynamics in time. The role of organizational and psychological support;
- Bogdan Zawadzki (Faculty of Psychology, University of Warsaw): Post-traumatic disorders. The efficacy of prevention programs;
- Ewa Pragłowska (SWPS University of Social Sciences and Humanities, Warsaw): The Polish programme for the prevention of post-traumatic disorders in firefighters. Preliminary results.

In Poland, there has been a considerable change over recent years in the approach to the prevention of natural and manmade disasters. The recent state of the Polish institutions responsible for reducing the likelihood of disasters, and for mitigating their effects, was presented by:

- Krzysztof Malesa (Government Centre for Security, Poland): Risk management in government strategic documents;
- Beata Janowczyk (Department of Risk Assessment and Civil Planning, Government Centre for Security, Poland): Conclusions and recommendations of the EC to the risk assessment process conducted in Poland;
- Anna Prędecka (Main School of the Fire Service, Warsaw, Poland): Communication tools and susceptibility of fire-rescue units responding to natural hazards in Poland;
- Paweł Gromek (Main School of the Fire Service, Warsaw, Poland): Fire-rescue units' response to natural hazards in Poland – the two-dimensional emergency communication approach.

During the first day of the 3<sup>rd</sup> DRR Conference, the following papers addressed relationships between human beings and disasters:

- Sławomir Wilk (Institute of Sociology, University of Rzeszów, Poland): The social assistance system in the event of mishaps and natural disasters;
- Irena Tsermegas (Faculty of Geography and Regional Studies, University of Warsaw, Poland): Natural hazards in ancient Greek myths: palaeogeographical and contemporary context;
- Mirosław Kamiński (Polish Geological Institute – National Research Institute, Poland): Spatial analysis of the threat of mass movements of the cliff in Jastrzębia Góra (northern Poland).

An important aspect of natural disasters is the human context, which gained expression in the following presentations addressing economic and sociological dimensions of the problem, from:

- Nehir Varol (Ankara University, Turkey): Vulnerable groups in disasters and coping mechanisms;
- Timur Gultekin (Ankara University, Turkey): Human beings and disasters from past to present in Anatolia. An anthropological perspective;
- Monika Kaczała (Poznań University of Economics and Business, Poland): Factors affecting farmers' drought and flood-risk perception;
- Dorota Rucińska (Faculty of Geography and Regional Studies, University of Warsaw, Poland): Ethical challenges in disaster risk reduction.

During the second day of the Conference the first morning session was devoted to issues of measurement and adaptation for risk mitigation. Presentations addressing these issues were from:

- Jie-Ying WU (University of Taipei, Taiwan): The effectiveness of urban flood mitigation. Applying the low impact development concept in land uses in Taiwan;
- Agnieszka Dudzińska-Jarmolińska (Faculty of Geography and Regional Studies, University of Warsaw, Poland): Adapting modern urban spaces to the negative consequences of natural disasters: floods;
- Grzegorz Dumieński (Institute of Meteorology and Water Management – National Research Institute): The measurement of the adaptive capacity of the social-ecological system towards flood hazard;
- Marek W. Jaskólski (University of Wrocław, Poland): an index-based method for heritage vulnerability assessment in the case of a storm surge – a study of UNESCO Candidate Hershel Island, Canada.

Special attention was paid to weather conditions in urban areas, with a focus on the problems posed by heat waves and severe storms. Presentations addressing such issues were given by:

- Elwira Żmudzka and Krzysztof Piasecki (Faculty of Geography and Regional Studies, University of Warsaw, Poland): Severe storms as an example of a natural hazard in an urban area. Case studies in the area of Warsaw, Poland;
- Rafael Gonçalves Santos (Institute of Geography and Spatial Planning, University of Lisbon, Portugal): The impact of land-use and land-cover changes on the urban climate of the City of São Paulo;

- Krzysztof Jarzyna (Institute of Geography, Jan Kochanowski University in Kielce, Poland): Hot and cold weather extremes – urban-rural differences in thermal stress in the Świętokrzyskie region over the 2009–2016 period;
- Mirosław Grochowski and Sylwia Dudek-Mańkowska (Faculty of Geography and Regional Studies, University of Warsaw, Poland): Planning for urban resilience. governance approaches to natural hazards;
- Kamil Leziak (Faculty of Geography and Regional Studies, University of Warsaw, Poland): The influence of horizontal atmospheric circulation on convection and on convection-dependent severe weather phenomena over Poland;
- Anna Barcz and Kamil Bembnista (Institute of Literary Research, Polish Academy of Sciences, Warsaw, Poland; Leibniz Institute for Research on Society and Space, Erkner/Berlin): Cultural Constructions of Floods and Climate Change in Poland and Germany. Literary, Media and Agents Knowledge in the Odra River Regions.

Climate change is expressed, not only in air temperature rises, but also in more-intense water circulation and the dynamics of hydrological processes. These aspects were addressed in the context of urbanisation in presentations by:

- Piotr Kuształ (Institute of Geography, Jan Kochanowski University in Kielce, Poland): Anthropogenic flash floods on rivers in the Holy Cross Mts. region in the 20<sup>th</sup> century – origin and effects;
- Paweł Franczak (Jagiellonian University, Cracow, Poland): The flash flood hazard in small towns of the Sudety Foothills in the years 2010–2016;
- Krzysztof Jarzyna (Institute of Geography, Jan Kochanowski University in Kielce, Poland): Spatial and temporal distribution of damage caused by heavy rainfall in Świętokrzyskie Province (Voivodship). A 2013 case study;
- Abhay Shankar Prasad (Department of Geography, Delhi School of Economics, University of Delhi, India): ecological challenges and extreme climatic events assessment for disaster risk reduction in a high-altitude region of the Himalaya ecosystem. A case study of the Alaknanda River Basin, Uttarakhand, India;
- Artur Magnuszewski (Faculty of Geography and Regional Studies, University of Warsaw, Poland): A map of the contemporary hydrological hazards in the city of Warsaw.

Extreme phenomena are rare and can be observed where a very long time series of measurements is present. Another approach is numerical modelling to offer possible simulations of low-frequency extreme natural phenomena. This approach was discussed in the presentations by:

- Ewelina Siwiec (Institute of Environmental Protection – National Research Institute, Warsaw, Poland): Extreme events results' estimation based on the Polish method and Post-Disaster Needs Assessment PDNA;
- Beata Weintrit (Astri Polska Sp. z o.o., Warsaw, Poland): A feasibility study of flood-risk monitoring based on optical satellite data;

- Halina Kowalewska-Kalkowska (Faculty of Geosciences, University of Szczecin, Poland): The high-resolution PM3D model for flood risk management along the southern Baltic coast;
- Renata J. Romanowicz and Joanna Doroszkiewicz (Institute of Geophysics, Polish Academy of Sciences, Poland): Flood-risk projection in the 21<sup>st</sup> century. The Biala Tarnowska case study.

The Conference enjoys wide interest among young scientists, who participated in large numbers when it came to the presentation of posters. The subject matter of these included: *Flood hazard mapping by Using GIS and Remote Sensing* (Cagla Melisa Kaya, Leyla Derin and Oguz Gungor); *Aerial photogrammetric data in a gully erosion hazard study – an example from the Dzierzkowice area – Lublin Upland, Poland* (Mirosław Kamiński); *Using raster and vector data to identify objects for flood risk reduction. A Raciborz case study* (Mariusz Porczek, Dorota Rucińska and Stanisław Lewiński). Social aspects were also addressed in the posters: *The role of memorialisation in disaster risk preparedness and post disaster recovery* (Paola Fontanella Pisa); *Community-based interventions in Hei He Village, YingJiang County* (Li Karen K.Y, Chan Y.Y Emily and Chan K.P Carol). The poster session ended with voting to determine the best such presentation at the 3<sup>rd</sup> Disaster Risk Reduction Conference. This year's winner was Paola Fontanella PISA from Italy.

The Conference Closing Ceremony took place in the late afternoon of October 13<sup>th</sup>. The atmosphere and opinions expressed by participants offer hope for continuation in the coming years. The Conference has managed to serve as a meeting ground for scientists, those working in public administration, and crisis management officers. Selected papers from the conference will be published in the peer-reviewed journal *Miscellanea Geographica*. Additionally, the Conference promoted the International Day for Disaster Risk Reduction, a celebration declared by the United Nations Organisation and taking place on October 11<sup>th</sup>, 2017.

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