UR

Technical Sessions

Understanding Risk Europe

Assessing and addressing the fiscal and economic impacts of natural disasters: recent experiences and innovations on country financial resilience

Sustainable economic development can be curtailed by the negative impact of natural disasters. One of the World Bank's strategic priorities is to assist countries in their efforts to reduce the negative fiscal impacts of natural disasters. In line with this, the World Bank and the IMF are working on improving the quantification of budgetary impacts and impacts on debt sustainability to minimize the macro-fiscal impacts in advance of an event. Analytics has guided the development and subsequent adoption of pre-arranged financial instruments to provide finance when its needed urgently most, which is immediately after a disaster hits. Supporting the accessibility of such instruments, the World Bank has developed a flexible platform for its clients to access international markets for risk transfer schemes. Over the past years, a range of countries, including Mexico, Colombia, Chile, Peru, Philippines, Jamaica have partnered with the World Bank in bringing to market sizeable, innovative transactions in recent years.

This session will showcase some of this collaboration sharing country experience from a number of countries.

Managing earthquake risk at a national scale: from strategic planning to on-the-ground actions

The Europe and Central Asia region is vulnerable to a range of hazards, including earthquakes. Over time, close to 30 percent of the capitals of countries in the region have been at one time or another devastated by earthquakes and floods. This session focuses on the management of earthquake risk at a national scale, both at strategic as well as operational level. Bringing together experts from different earthquake-prone countries, this session will present various country approaches adopted, including main principles, strategic planning at a national-level, as well as challenges and opportunities in translating national strategies into on-the-ground action and investments at scale.
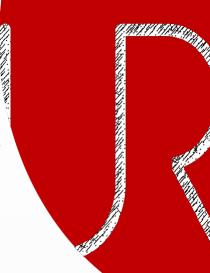
Panelists from four countries will share their countries' experience on managing earthquake risk, and discuss their insights with peers and the audience. The design, implementation, and monitoring of national approaches to assessing and reducing earthquake risk will be discussed from an institutional, technical, financial and communication perspectives.

Leveraging regional systems to improve national forecasting and early warning of weather-related hazards

The impact of natural disasters goes beyond national boundaries. Recognizing the transboundary nature of weather hazards, in particular storms, floods, droughts and wildfires, this session will explore the works of regional monitoring and forecasting systems available in Europe. These systems exist to provide timely warning and sufficient technical data on impending hazards to inform national- and regional-level decision makers for planning and executing domestic actions. European systems are considered global leaders in good practice, owing much of their success to the cooperation and established data-sharing mechanisms across borders, as well as leveraging modern ICT and remote sensing.

The session will focus on the aspects of delivering services, starting with how European monitoring and forecasting systems produce and ensure that national authorities receive the information they need to fulfil their institutional responsibilities. Looking at also the national level, session speakers will explore how the Romanian forecasting and disaster management authorities leverage this information for national services to protect their country and its citizens. In doing so, methods for verification and quality control of regional and national warning service delivery will be highlighted.

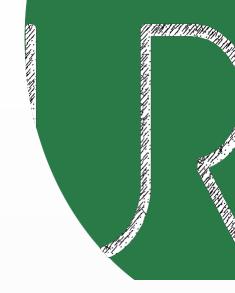## Community engagement, raising awareness and driving action

Communities often bear the brunt of disaster impacts. In line with the need for a more coordinated and pro-active disaster risk management, the need to strengthen community engagement in all aspects of disaster risk management is now widely recognized. Experience shows that there is a high dependence on local capacity and response immediately after disaster strike. The Sendai Framework for Disaster Risk Reduction 2015–2030 also recommends broader community engagement in the development of international, national and local policy on risk management and emergency response. Understanding population vulnerabilities, raising awareness and driving action to ensure effective disaster mitigation is critical to ensure better preparedness and better response. Better understanding of the community risk is a shared responsibility which requires strong collaboration between public and private stakeholders.

This session will highlight community engagement initiatives that seek to increase public awareness and catalyze citizen engagement to drive commitment to action and improve disaster preparedness at the community level.

Challenges and opportunities for assessing flood risks

Floods pose a serious challenge for many European countries which have seen increasing costs and negative impacts. In the past decade, important progress has been made to advance sustainable management of flood risk in Europe. In line with the European Union's Floods Directive, the first set of Flood Risk Management Plans were developed by 2015, which are currently under implementation, with a second set of Flood Risk Management Plans under preparation to be completed by 2021.

This session takes stock of the lessons learnt from the implementation of the first set Flood Risk Management Plans and their specific programs of measures. Speakers from several European countries will share their experiences in advancing flood risk management at different scales and levels. Sharing experiences and information about new developments and improvements, this session will provide an opportunity to inform the second set of the Flood Risk Management Plans.

Private Sector and Business Continuity: Preparing for and Managing Disasters

When disasters strike, they can disrupt services, production, and functioning of businesses, affecting the local economy as well as regional and global patterns. With increasing disaster exposure, businesses need to develop forward-looking preparedness and mitigation arrangements, including detailed contingency planning. To facilitate this, a range of tools are already available, such as assessments, continuity plans, policy directions, and investments.

With speakers from the private and public sectors, this session will share insights and examples of disaster preparedness activities from Romania, Turkey, and other countries. For example, in the Romanian banking sector, contingency plans have been developed by a number of institutions. In Turkey, with support of the World Bank, the Istanbul Chamber of Industry and Tuzla Industrial Zone Management conducted a lifeline utility risk assessment and developed a business continuity plan. Globally, risk management companies, such as FM Global, have been providing technical services to consider disaster risk as part of portfolio management, including linking risk assessment, disaster risk reduction, and improved response planning

Determining disaster and climate impacts on the poorest and most vulnerable and optimizing solutions for resilience
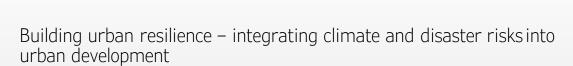
Natural disasters affect not only households' assets but also their incomes and their consumption. Disaster effects can persist long after the physical hazards recede, forcing households to make difficult tradeoffs between food, education, and healthcare expenditures on the one hand, and replacement or reconstruction of assets on the other. Effects of severe or successive disasters can be seen in reduced educational attainment, stunting, transient and even chronic poverty, and depressed macroeconomic growth. These multidimensional impacts depend not only on the physical event, but also on socioeconomic characteristics of affected populations. For example, wealthy households generally have access to a wide variety of coping mechanisms, which are not easily accessible to many poor households. Critically, such differences affect not only the severity of shocks on household consumption and welfare, but also on the duration of recovery. Socio-economic characteristics may also help predict in advance which households are likely to recover on their own, and which are in need of external assistance to facilitate recovery.

This session explores the links between natural disaster exposure and chronic poverty, how floods and earthquakes affect the Europe and Central Asia region, and how new methodologies can help to identify the most vulnerable groups, quantify and build resilience, as well as develop modern, inclusive, and cost-effective resilience solutions. The session will feature examples from Romania and other countries in the region to better understand wellbeing losses and poverty counts due to natural disasters, complimentary to the more traditional asset losses as metrics of disaster impacts. Examples will demonstrate how these approaches can help to quantify the benefits of integrating disaster risk management into poverty reduction strategies, and vice-versa, including investments and programs outside the conventional disaster risk management instruments, such as adaptive social protection, financial inclusion, and formal risk pooling.

Scaling Up Safer and Quality Learning Environments

Natural disasters and climate change can have a devastating effect on children's education, affecting students, teachers, school communities as well as destroying infrastructure. In addition, disasters can have long-lasting impacts on the learning environment and development opportunities for children. This session focuses on the key drivers to improve the safety and quality of school infrastructure at a large scale, highlighting some of the key challenges but also opportunities in merging safety and quality priorities. Providing safer schools environment cannot be seen as stand-alone priority. While safety is required, it is not sufficient to ensure a quality learning environment which depends also on other functions. Interventions at scale aim to articulate and prioritize interventions to progressively meet the safety and functional targets in a large portfolio of existing school facilities, in order to maximize benefits for children.

This session will bring together global experience from different countries to showcase examples in improving the safety of school infrastructure to natural disasters and climate change, in conjunction with upgrades on functional conditions.

Building urban resilience – integrating climate and disaster risks into urban development
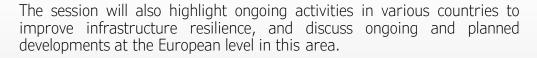
In cities around the world, rapid urbanization and climate change are increasing disaster and climate change risks and new risks are emerging due to technological, biological and other exogenous threats. For example, globally, by 2030 climate change and natural disasters may cost cities worldwide $314 billion annually and push 77 million urban residents into poverty. However, it is possible to guide development into safer areas, ensure resilience of buildings and critical infrastructure, strengthen response functions and improve governance and institutional capacity. Access to information about which assets and geographical areas are at highest risk from different threats is key to prioritizing actions that have the greatest potential to reduce risk as well as leading to cost savings and increased efficiency in public spending. There is a range of innovative tools and approaches available to cities to use spatial planning to improve their decision-making and planning, and many cities are already taking critical steps forward to build their resilience.

This session will feature examples from across the European region to demonstrate recent experience and insights into how city planners and decision makers are being empowered through access to spatial data and technologies. The session will also highlight some of the challenges faced and how these have been overcome.

Critical Infrastructure risks and why investing in resilience makes financial sense

Infrastructure services are essential for raising and maintaining people's quality of life. Yet millions of people are facing the consequences of unreliable electricity grids, inadequate water and sanitation systems, and overstrained transport networks. Natural hazards magnify the challenges faced by these fragile systems. A new report lays out a framework for understanding infrastructure resilience—the ability of infrastructure systems to function and meet users' needs during and after a natural shock—and it makes an economic case for building more resilient infrastructure. It identifies the key obstacles to resilient infrastructure and offers concrete recommendations and specific actions that can be taken to improve the quality and resilience of these essential services, and thereby contribute to more resilient and prosperous societies. This session will discuss the impact of disruptions as well as opportunities in improving the resilience of infrastructure. It will share the key findings and recommendations of a World Bank flagship report "Lifelines: The Resilient Infrastructure Opportunity", which considers resilience at various levels of interventions including asset, system, network and user perspective, which can bring substantial benefits to people and economies.

The session will also highlight ongoing activities in various countries to improve infrastructure resilience, and discuss ongoing and planned developments at the European level in this area.

Assessing and Managing Risk to Cultural Heritage: Preserving the Past for the Future

Cultural heritage can be highly vulnerable to the impacts of natural disasters and climate change. This session focuses on innovative tools to improve the understanding of disaster risks, and how can this information be used in disaster recovery and reconstruction, as well as in better preparedness. Bringing together experts from UNESCO a well as non-governmental organizations and initiatives, the session will showcase innovative risk identification processes which use technologies such as 3D-modeling for digitization of cultural heritage assets prior to a disaster, and artificial intelligence following disasters to support reconstruction efforts. Experiences from Nepal and other countries, which have been recently affected by disasters, will be showcased including their efforts in the preservation and restoration of intangible social and communal heritage, as an integral part of the reconstruction process.

The session will also show efforts in Romania to engage communities in historical neighborhoods of Bucharest to better prepare for the next disaster and safeguard the rich cultural heritage for the next generation. Experiences will be shared in the creation and implementation of community-oriented seismic preparedness programs in this historical neighborhood of District 40, Bucharest.

Innovations in Geospatial Data Collection and Analytics:
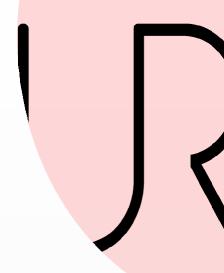## Shaping the Future of Understanding the Built Environment

In the last decade, the number of satellites orbiting the earth has increased significantly and high-resolution satellite imagery has become more accessible and affordable. At the same time, a wealth of location-based information is being generated on platforms such as OpenStreetMap. These developments are critical for urban planners, disaster risk management practitioners, and emergency responders. Satellite imagery combined with other sources of geospatial data can provide reliable insights to allow for risk-informed decision-making, while in the aftermath of a disaster, these sources can be critical for a near real-time understanding of the extent of damage and emergency response. At the same time, the computing power of the cloud increased exponentially, allowing larger datasets to be accessed and shared much more easily. Applying innovations in various technologies, the analysis of satellite imagery and other geospatial data sources can be automated to reach scale.

This session will demonstrate how innovations in geospatial data collection and analytics can be leveraged to improve our understanding of the built environment before and after disasters. The session will feature case studies from Europe showing how developments in data resolution, quality and collection capabilities, and advances in computer vision are improving the development technical models and how the underlying datasets are being used for geospatial applications for risk management. The session will also demonstrate how satellite imagery, computer vision, and predictive analytics are being used to rapidly map the built environment. This innovative approach has been used for example to rapidly determine risk attributes of all buildings in the San Francisco Bay Area.

Assessing and managing emerging disaster threats

European countries are exposed to a range of natural and man-made risks, including floods, earthquakes, or terrorists' attacks. However, in addition to these more well-known perils, risks such as epidemics, cyber-attacks or extreme heat events, are increasingly manifesting, facilitated by higher interconnectivity and population mobility, and in some cases by climate change. There is a need to better understand and anticipate these emerging risks, as well as to reflect on early actions and preparedness measures relative to their impact. For example, these threats may not confined to one place, may not progress in an easily predictable way and have long-developing effects. These kinds of traits have made it difficult to apply traditional risk management tools.

The session will discuss their different nature from more traditional hazards, and applied strategies in the management of these perils. Experts from various fields will share knowledge on the latest advancements and applications of their work in measuring and preparing against these "atypical" catastrophes. Today's improving data technologies, and the robust models they are enabling should allow better informed business and political leaders to mitigate and contain the disruption and losses triggered by emerging risks.

An urgent matter in our homes: tackling challenges of earthquake risk reduction in the housing sector at scale

Our homes play a central role in our lives: they shelter our families, give us a sense of security and belonging, and are often the most highly priced asset that we own. But today, residents around the world are facing many challenges associated with rapidly aging building infrastructure, where better management, maintenance, and capital improvements including energy efficiency are urgently needed. In addition, the housing sector is the most vulnerable sector, particularly during large earthquakes, as it typically concentrates the majority of financial losses leaving many families reliant on shelter and financial support from the government or friends and family. Addressing seismic risk in residential buildings has become a priority in earthquake-prone countries, however, how can this be achieved at scale given the limited resources and multiple priorities associated with aging buildings?

This session will bring together experts from different countries to discuss challenges and opportunities in strengthening seismic resilience of the residential sector.