

Sahar Safaie, M. Eng

Disaster Risk Management Specialist

Founder and Principal Consultant
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Objective Building a resilient future by supporting communities, cities, and countries in strengthening their governance system and effective use of risk information and decision making for disaster risk reduction and climate change adaptation.

Skills Equipped with a strong technical background and years of exposure to policy and governance challenges of disaster risk management at various levels, Sahar Safaie has a solid and broad understanding of multi-hazard disaster risk assessment and disaster risk management. Her talent in strategic analysis of complex systems and developing consensus-based solutions has always been recognized and utilized by various employers and clients.

She has an in-depth understanding of the Sendai Framework for Disaster Risk Reduction vision, guiding principals, and recommended approach for its implementing and monitoring progress.

She is a strong communicator with passion for people and a natural in building relationships based on trust and harmony.

Professional Experiences

Sage On Earth Consulting Ltd.- Vancouver, Canada, October 2017- Present

Founded Sage On Earth Consulting to provide hybrid expertise on understanding disaster risk, climate change impact and disaster risk management. Her expertise include providing advise to technical bodies or public entities on how to use risk information for DRR policy design; managing large team of experts for developing technical reports, policy notes, strategies and guidelines; capacity development; project and program design in the field of DRR.

The past and ongoing projects of Sage Consulting are listed below. In almost all of these projects Ms. Sahar Safaie has acted as the lead.

- [*DRR Pathways: Incentives for mitigation and adaptation investments in Canada*](#): Acting as the lead contractor for this project for National Resources Canada. The \$1.5Million project spanning over 2.5years is funded by Canada Safety and Security Program (CSSP). SAGE Consulting works with variety of research and academic institutions on technical components such as systemic critical infrastructure risk assessment and use of probabilistic risk modeling metrics for “risk based” monitoring of the Sendai Framework implementation. SAGE consulting collaborates with many policy making institutions on components related to risk governance and risk communication (webpage: www.DRRPathways.ca).
- *Designing UNDRR Country Support Program for Integration of Climate and Disaster Risk Management*: Ms. Safaie joined UNDRR on a temporary assignment to provide advice on designing this program.
- *City of Vancouver Earthquake Risk Mitigation Policy Design Using Detailed Earthquake Risk Information*: As part of a strong team of experts, state of the art methods were developed to use refined earthquake risk and socio-economic vulnerability information to develop a range of policy options for retrofitting policies in the City of Vancouver. This project is a component of DRR Pathways project.
- [*2020 Understanding Risk BC \(URBC\) Symposium*](#): Member of organizing committee for the symposium and organizer and speaker at few sessions
- [*Conceptual design of BC DRR Hub*](#): A comprehensive framework for establishing an entity to convene and collaborate with academic, public and private stakeholders to integrate risk

Professional Experiences

assessments into Disaster Risk Reduction and Climate Change Adaptation policy and practice. This work is a component of DRR Pathways project.

- [Regional Baseline Assessment and Strategic Scoping for Disaster Risk Information and Data Platforms in Asia and Pacific Region](#), Commissioned by Asian and Pacific Centre for the Development of Disaster Information Management (APDIM) which is part of United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP).
- [British Columbia Dikes Failure Consequence Framework and estimation](#): Sage Consulting joined a consortium led by Northwest Hydraulic Consultants (NHC) to design a dikes failure consequence framework for Ministry of Forests, Lands and Natural Resources Operation. Sage played a critical role with innovative design of the framework.
- [Tofino Tsunami Risk Reduction Plan](#): As part of the consortium led by Northwest Hydraulic Consultants (NHC), Sage Consulting provided strategic advice at the different stages of the work.
- [A Path Forward for the Earthquake National risk Profile](#): Commissioned by Natural Resources Canada to develop a framework and workplan for a series of practitioners' guidelines on the use of earthquake risk information for various risk management efforts. This contract also included a communication strategy for release of Canada Earthquake Risk Model.
- Advising North Shore Emergency Management (NSEM) on the way forward for developing North Shore Resilience Strategy including development of the Terms of Reference for the first phase of the project.
- Advising Emergency Management BC (EMBC) in Emergency Program Act Modernization (update to emergency management legislation). The contributions were acknowledged in [What we heard report \(page 8\)](#).
- Developing [UNDRR Words into Action Guidelines on National Disaster Risk Reduction Strategies](#): Sahar Safaie led the consultations and authored the core content of these guidelines.
- [Promoting synergy and alignment between climate change adaptation and disaster reduction in the context of National Adaptation Plans](#): Sahar Safaie led the consultations and authored these guidelines.
- Supporting Geological Survey of Canada- Natural Resources Canada (NRCAN) team in developing the Risk Profiler platform to present multi-hazard risk information in simple and digestible format for general public and emergency managers at neighborhood level.

United Nations Office for Disaster Risk Reduction (UNISDR)- Geneva, Switzerland

April 2014-Sep 2017

With Focus on risk assessment and DRR strategies, the key responsibilities and achievements as a Programme Officer include:

- Managing development and co-authoring Words into Action Guidelines on National Disaster Risk Assessment. More than 40 technical institutions and 100 technical experts contributed to various sections of the guideline.
- Managing UNISDR GAR 15 global multi-hazard probabilistic risk assessment with 14 technical partner institutions.
- Drafting the risk chapter of Global Assessment Report (GAR 15) and Technical Annex I.
- Facilitating the organizing team for the session on Risk Identification (HFA priority 3) at the World Conference for Disaster Risk Reduction (WCARR). The team constitute of member states and stakeholder representatives.
- Working with senior management in designing UNISDR Sendai Framework National Implementation Initiative.
- Facilitating the organizing team for the session on National and Local DRR strategies for the Global Platform 2017 and leading development of papers in support of this session.
- Supporting technical consultations for developing monitoring indicators for Target f (National and local DRR strategies) and Target g (Early warning system and risk information) of the Sendai Framework; design of risk assessment session at UNISDR Science and Technology conference; Global meeting of World Initiative on School Safety in Tehran; Initial steps of

Professional Experiences

establishing the Tehran Disaster Resilience Center including initiatives such as the Private sector in DRR and Iran resilient cities as part of UNISDR Resilient Cities Campaign.

Global Earthquake Model (GEM)- June 2013-April 2014

Key responsibilities as a Regional Partnerships Manager include:

- Initiating and establishing new partnerships with public institutions including countries' technical representative institutions, either as donors or as strategic partners
- Developing GEM strategy for enhancing public partnerships in consultation with governing board members
- Influencing GEM's strategy to align the upcoming Work Plan with how earthquake risk information can be used in disaster risk management
- Enhancing relationship with the World Bank for use of GEM products in national risk assessment projects
- Initiating and scoping the city level risk assessment for City Resilient Master Plan of Beirut

Global Facility for Disaster Risk Reduction (GFDRR) and The World Bank

Washington DC, USA, May 2010- March 2013

Key responsibilities as a Disaster Risk Management Specialist include:

- Working with the GFDRR Labs and Latin America region team in design and implementation of probabilistic risk assessment projects including a multi-hazard risk assessment in three Caribbean states (Caribbean Risk Atlas project with University of West Indies.)
- Leading needs assessment, development of a strategic plan and three years capacity development plan of Regional Center for DRR (RCDRR) in Cairo
- Designing scope and terms of reference for a multi-hazard national risk assessment of Kyrgyzstan
- Supporting preparation of Yemen PPCR (Pilot Project for Climate Resilience).
- As a member of Open Risk Data Initiative (Open DRI) team, promoting opening risk data and effective data management, and use of open-source tools for sharing, and mapping risk and disaster related data.
- Presenting at various forums and conferences including an internal capacity building session on probabilistic risk assessment for the World Bank DRM staff
- Supporting Learning from Mega Disaster: Developing knowledge Notes after the Great earthquake and tsunami of March 11, Japan.
- Supporting preparation of the Eastern Caribbean PPCR (Pilot Project for Climate Resilience) and DVRP (Disaster Vulnerability Reduction Project)
- Designing Tanzania urban climate risk profiling

Risk Management Solutions (RMS) - California, USA, May 2007- October 2009

Key responsibilities as a Product Manager for earthquake risk models of Mexico, Central and South America include:

- Supporting technical model development team with specifications and design of the Latin America earthquake models for use in insurance market based on market research
- Supporting the sales team with Go To Market Strategy and technical back up
- Presenting at various conferences including RMS client conference and AON client conference
- Contributing to a short guideline on catastrophe modeling with the write up on earthquake risk modeling

Klohn Crippen Berger Consulting - Vancouver, Canada, Jan 2006- March 2007

Key responsibilities as an earthquake engineer in training include:

- Assisting project manager to manage the technical team in development of Environmental Impact Assessment (EIA) of mining projects, mostly the Ruby Creek Molybdenum Mine north of British Columbia
- Under supervision of a senior engineer conduct site-specific earthquake hazard assessment using EZ-FRISK
- Supporting development of the Social Impact Assessment

Supervising drilling missions for water sampling in proximity of mining projects

Pomeroy Engineering - Vancouver, Canada, Sep 2004- Aug2005

As Engineer in Training used Canada and BC building codes to design concrete, steel, and wooden structures

Earthquake Resistance Housing Reconstruction after Tsunami in Sumatra- Vancouver, Canada, April-Dec 2005

Key activities as the Project Leader for this research project, include:

- Defined the project scope, developed the project budget and proposal, fundraised and lead the team of six for a two weeks reconnaissance trip in Sumatra, Indonesia
- Co-authored a paper on the research findings on reconstruction process including the role of local governments and international entities
- Initiated phase 2 of the project collecting and assessing the existing guidelines on confined masonry construction

Integral Enjiniering, Banja Luka, Bosnia and Herzegovina, May – Aug 2004

As Engineer in Training worked on material estimation of steel structures

Education

Certificate in Public Policy Analysis, Fall 2020

London School of Economics, UK

Master of Engineering in Earthquake Engineering - With Engineering Management Sub-specialty 2004-2005

University of British Columbia, Vancouver, Canada

Bachelor of Applied Science in Civil Engineering, 1999-2004

University of British Columbia, Vancouver, Canada

Country Experiences

Past projects have given Ms. Safaie exposure to institutional mechanisms, culture, disaster risk profile, and disaster risk management challenges in various countries:

- North America: Canada and US
- Latin America and the Caribbean: Mexico, Colombia, St. Lucia, St. Vincent, Grenada, Jamaica, Trinidad and Tobago, Sint Maarten, and Guatemala (post disaster research)
- Middle East and North Africa: Egypt, Iran, Lebanon, and Yemen
- Central Asia: Kyrgyz Republic
- East Asia: Indonesia (post disaster research), and Japan (post disaster research)
- Africa: Tanzania

Professional Memberships and Contributions

Member of City of Vancouver Seismic Policy Advisory Committee (2018-ongoing)

- Providing ongoing inputs and advice on the scope of the earthquake risk assessment and its linkages to upcoming policies for managing seismic risk

Earthquake Engineering Research Institute (EERI) (2004-2017):

- Member of World Housing Encyclopedia Editorial Board including strategizing for a more effective role for EERI in global earthquake risk mitigation
- Member of Learning From Earthquakes Committee and International Activities Committee
- Founding Member of the National Capital Region Chapter (Washington DC)
- Contributed to planning and fundraising for Confined Masonry Network (www.confinedmasonry.org). The objective of this network is to promote confined masonry as a cost effective earthquake resistance construction globally through education of various stakeholders and policy change

Member of Technical Committee for Tehran Disaster Resilience Center at Tehran Disaster Management and Mitigation Organization (TDMMO) (2015-2017):

- Advising on initial concept note for the center
- Liaising and coordinating exchange of knowledge between Tehran and Istanbul Municipality
- Supporting Private Sector in DRR initiative in Iran

Member of Technical Advisory Committee for GFDRR-DFID Challenge Fund project (2014-2016):

- Reviewing and ranking proposals for the challenge funds; Contributing to the risk data platform scoping report with a paper on required capacity building for use of risk information in DRR; Advising on selection of pilot projects

Publications

- ["Regional Baseline Assessment and Strategic Scoping for Disaster Risk Information and Data Platforms in Asia and Pacific Region"](#), Prepared by Sage On Earth Consulting for APDIM-UNESCAP, January 2021
- ["BC Dikes Consequence Classification Study"](#), Prepared by North West Hydraulics and Sage On Earth Consulting for the Ministry of Forests, Lands, Natural Resources, and Rural Development, May 2019
- ["Words into Action Guideline on National Disaster Risk Reduction Strategy"](#), UNDRR, 2019
- ["Promoting synergy and alignment between climate change adaptation and disaster reduction in the context of National Adaptation Plans"](#), UNDRR, 2021
- "Impacts and implications of climatic extremes for resilience planning of transportation energy: A case study of New York city", 2018, Journal of Cleaner Production, A. Beheshtian, K. Donaghy, H. Gao, S. Safaie, and R. Geddes
- ["Words into Action Guideline on National Disaster Risk Assessment"](#), UNISDR, October 2017
- The Need for Mapping, Modeling, and Predicting Flood Hazard and Risk at the Global Scale: Applications in Modeling, Mapping, and Forecasting, P. Ward, E. Coughlan de Perez, F. Dottori, B. Jogman, T. Luo, S. Safaie, S. Uhlemann-Elmer, 2017
- ["Issue Brief for Global Platform Plenary 1 on National and Local DRR Strategies"](#), UNISDR, 2017
- ["GAR Global risk Assessment: Data, Methodology, Sources and Usage"](#), Annex I, UNISDR, 2015
- "Housing Reconstruction in Northern Sumatra after the December 2004 Great Sumatra Earthquake and Tsunami". Christopher S. Meisl, Sahar Safaie, Kenneth J. Elwood, Rishi Gupta, and Reza Kowsari, Earthquake Spectra: June 2006, Vol. 22, No. S3, pp. 777-802.