

Giulia Jole Sechi, M.Sc., P.E.

ASSOCIATE

Giulia Jole Sechi is an Associate at Miyamoto International, and a Structural Engineer and Project Manager with 10 years of experience. She has worked in the private sector and for NGOs on new designs, retrofitting projects, emergency responses and disaster recoveries, funded by entities like The World Bank, the European Union and USAID.

RELEVANT PROJECT EXPERIENCE

Afghanistan Housing and Community Design (United Nations Office for Project Services)

Ensure adequate shelter and housing rehabilitation, with a strong emphasis on safety, earthquake resilience and community engagement, in response to 2023 seismic events in the Herat region. Assessment of existing housing and temporary shelters, design of retrofitting options and new builds, local capacity building and training. Activities performed include: project coordination and planning, client liaison, writing and review of reporting, creation of training material, client liaison.

The World Bank Global Offices Seismic Assessment

The buildings objects of this project are 9 structures hosting WB offices and located in 8 different countries (i.e. Morocco, Moldova, Egypt, Mexico, Kazakhstan, Pakistan, India and Bangladesh), which are prone to seismic hazard. The project's scope includes gathering available architectural and structural drawings, reviewing and analyzing them, conducting site visits to inspect building conditions, and comparing findings with the existing technical documentation. Additionally, the project involves conducting Tier 1 or Tier 3 seismic assessments in accordance with ASCE-41 standards to evaluate and report on the seismic resilience of these structures. Activities performed include: project management, coordination and planning, client liaison, stakeholders' coordination, procurement and contract management, writing and review of reporting, site visits and seismic assessments.

Tajikistan Resilient Housing (Asian Development Bank)

The main scope of the project was supporting the Government of Tajikistan to develop a roadmap to enhance the resilience to natural hazards of rural housing. The project includes: a background study to identify key natural hazards, building typologies, vulnerabilities, past disaster damage, strengths and gaps in current constructions; the development of a roadmap to resilience, the preparation of case studies and the organization of a workshop to collect feedback and share findings. Activities performed include: project management, coordination and planning, client liaison, stakeholders' coordination, procurement of external consultants, contract management, organization of a workshop, writing of reporting.

Gabon UN Buildings Seismic Assessment (United Nations Development Programme and United Nations Children's Funds)

EDUCATION

PhD candidate in Disaster Risk Reduction, Universitat Internacional de Catalunya, 2020-Present

Master of Science in Structural Engineering, Politecnico di Milano, 2013

Bachelor of Science in Civil Engineering, Politecnico di Milano, 2008

PROFESSIONAL LICENCES

Chartered Professional Civil Engineer, Italy, 2014

Knowledge Assessment, New Zealand Engineering 2017

PUBLICATIONS

G.J. Sechi, C. Chesi, L. Martinelli (2014). Numerical Modeling of the seismic response of Adobe houses reinforced with used car tyre straps. 9th Structural Analysis of Historical Constructions (SAHC) International Conference, Mexico City

G.J. Sechi, L. Venturelli (2015). Optimising the urban environment: proposal for the reduction of the air pollution. Research report for the Varese City Council

G.J. Sechi, L. Venturelli (2015). Construction details for safe earth dwellings. Guidelines for the Italian Consul in Chad, Ms Ermanna Favaretto

G.J. Sechi, M. Mazziotta, A. Bazzaro (2022). Improving Housing Conditions of Roma Communities in the Republic of North Macedonia through Circular Architecture Principles and the Capability approach. ICCROM Climate, Culture, Peace Conference

Existing documentation review, site visit, detailed seismic assessment and retrofitting recommendations of three buildings hosting UN offices in Libreville, Gabon. Activities performed include: project management, coordination and planning, client liaison, site visit, writing of reporting.

Morocco Earthquake Reconnaissance (International Federation of the Red Cross, World Central Kitchen)

Initial field reconnaissance and damage assessments immediately following the earthquake of September 8, 2023. Information of stakeholders on the technical situation, assessment of housing, infrastructure and critical services, also with the support of GIS technology.

Turkey and Syria Rapid Damage and Repair Assessment (Catholic Relief Services, USAID Bureau of Humanitarian Assistance, Habitat for Humanity, Norwegian Refugee Council)

Emergency response and recovery in the aftermath of the deadliest earthquake of 2023. Four similar programs have been implemented jointly (three in Turkey and one in Syria with NRC). The scope was to assess the damage to residential buildings, identify rapidly repairable residential units and foster the return home of Internally Displaced Persons. The programs involved, local practitioners training, damage and repair assessments, elaboration of repair guidelines and key messages on safety and repairability. The programs in Turkey also involved community engagement events in community halls and universities, social media campaigns and rapid repairs demonstrations in 20 sites. Activities performed included: design of the data collection tool, training of local engineers, monitoring of progress on site, Quality Assurance and Quality Control, analysis and elaboration of the collected data, support in reporting, creation of dissemination material and social media content, GIS supervision and analysis.

Ukraine Rapid Repair of Residential Buildings (International Organization for Migration)

Assessment of the war-damage and rapid repair strategy of approximately 200 residential buildings. Activities performed include: design of the data collection tool, monitoring of progress on site, Quality Assurance and Quality Control, analysis and elaboration of the collected data, GIS supervision and analysis.

Ukraine Rapid Schools Repair (United Nations Office for Project Services)

Assessment of the war-damage and repair strategy of approximately 80 schools, including construction works' supervision. Activities performed include: design of the data collection tool, training of local engineers, monitoring of progress on site, Quality Assurance and Quality Control, analysis and elaboration of the collected data, review of monthly reports, project manuals and final report, GIS supervision and analysis.

Ukraine Kharkiv Winterization (United Nations Office for Project Services)

Assessment of the war-damage and repair strategy of approximately 3,000 residential units in multi-story buildings, including construction works' supervision. Activities performed include: Design of the data collection tool, training of local engineers, monitoring of progress on site, Quality Assurance and Quality Control, analysis and elaboration of the collected data, review of monthly reports, project manuals and final report, GIS supervision and analysis.

PUBLICATIONS (Continues)

A. Dutu, K. Miyamoto, G.J. Sechi, S. Kishiki (2022). Timber framed masonry houses: resilient or not? 3rd European Conference on Earthquake Engineering and Seismology, Bucharest

G.J. Sechi, F.D. Lopane, E. Hendriks (2022). Mapping seismic risk awareness among construction stakeholders: The case of Iringa (Tanzania). International Journal of Disaster Risk Reduction

G.J. Sechi E. Hendriks, M. Pregnotato (2023). Digitalisation in DRR: the use of smartphones to enhance the safety of informal settlements in Iringa (Tanzania). International Journal of Disaster Risk Science

H.K. Miyamoto, G.J. Sechi, G. Victor, B. St Come, M. Broughton, A.S.J. Gilani, A. Singh (2024). Haiti Earthquake 2021: Findings from the repair and damage assessment of 179,800 buildings. International Journal of Disaster Risk Reduction

H.K. Miyamoto, A.S.J. Gilani, M. Broughton, G. Victor, G.J. Sechi, C. Chesl, L. Martinelli, L. Abdulmawla, E. Brusa (2024). Accelerating post-disaster response: the Haiti (2021) experience. 18th World Conference on Earthquake Engineering, Milan

LECTURES & SEMINARS CONDUCTED

University of Hertfordshire, Bachelor in Architecture. 2020, Unbiased approach to design: trying to overcome colonial thinking while answering to low-income communities needs.

Universitat Internacional de Catalunya (UIC), Master in City Resilience Design and Management. 2022 and 2023, The use of digital tools to increase disaster resilience.

Politecnico di Milano, Earthquake Resistant Design in the Master of Civil Engineering. 2022, Overview on the Haiti earthquake and the typology of seismic damage. 2023, Overview on the Turkey-Syria earthquake. 2024, Turkey-Syria earthquake and Morocco earthquake: seismic damage overview.

University College of London (UCL), Centre of Advanced Spatial Analysis (CASA). 2023, Data Collection and Mapping in the Humanitarian Sector.

Ukraine Asbestos Guidelines for Emergency Repairs (Center for Disaster Philanthropy)

Writing of a manual designed to provide practical advice to the Ukrainian construction actors that are exposed to asbestos containing material, with the scope to minimize health risk during asbestos removal procedures and propose mitigation strategies pursuable in war circumstances.

Haiti Earthquake Damage and Repair Program (United Nations Office for Project Services, Proche)

emergency response and recovery in the aftermath of the deadliest earthquake of 2021. The mandate from the Haitian government was to assess the damage and provide support to facilitate build back safer and self-recovery within 6 months. In less than 5 months we have evaluated almost 180k buildings, providing information to households on the level of damage, the safety of the structure and potential repair strategies. In the following months, we have evaluated 105 schools and 581 religious buildings (for Proche). Activities performed include: Design of the data collection tool, training of local engineers, monitoring of progress on site, Quality Assurance and Quality Control, analysis and elaboration of the collected data, writing of monthly reports, project manuals and final report, GIS supervision and analysis.

Christchurch Earthquake Damage and Repair Program (Insurance Australia Group and Sothern Response)

Seismic and repair assessments in the aftermath of the 2010 and 2011 seismic events in Christchurch and the 2016 Kaikoura earthquake. Activities performed include: site inspections, seismic assessments reports including design to repair seismic damage.

Christ College and Wairakei School Design and Construction, New Zealand

Seismic structural design and monitoring during construction. Activities performed include: structural design, drafters coordination and supervision, site inspections, Quality Assurance and Quality Control.

Countdown Supermarket, New Zealand

Detailed seismic assessment and seismic restraints peer review. Activities performed include: structural design, drafters coordination and supervision, site inspections, Quality Assurance and Quality Control.

PROJECT EXPERIENCE COMPLETED WITH PREVIOUS EMPLOYERS

- NEEV smartphone application to offer architectural and structural advice, mHS CityLab, India
- Design and construction of a dormitory for 80 children with disability, IBO Italia, Tanzania
- Nepal Housing Reconstruction Project after Gorkha 2015 Earthquake, UNDP/ODR/SEEDS, Nepal
- Enhancement of the accessibility of 10 existing schools for children with disability, including WASH aspects, IBO Italia, Tanzania
- Rimutaka Prison New Modular Build for the Department of Corrections, RCP, New Zealand
- Stadium Upgrade, RCP, New Zealand
- ANZ, ASB and BNZ banks seismic fit out and seismic strengthening programmes, RCP, New Zealand
- Unreinforced Masonry Seismic Resilience Programme for the Wellington City Council, RCP, New Zealand
- 2016 Kaikoura Earthquake rapid and detailed seismic assessments of residential and commercial buildings, including retrofitting design, Silvester Clark, New Zealand
- Structural seismic design of a retirement village in Kerikeri, Silvester Clark, New Zealand
- Peer review and pushover analysis of the Nokia Building in Wellington, Silvester Clark, New Zealand
- Seismic restraints design and construction monitoring for the new Acute Services Hospital in Christchurch, Silvester Clark, New Zealand

ADDITIONAL TRAINING RECEIVED

KlimaHaus, Energy Efficient Buildings and Passive Houses, Bolzano, Italy (2014)

SiteSafe, Safety in Design, Wellington, New Zealand (2016)

DELFT University, Communicating Effectively: How to Inspire and Convince, online (2018)

EPFL University, A University of Queensland, Climate Change and Carbon Economy, online (2018)

SiteSafe, Safety on Construction Sites, Wellington, New Zealand (2018)

Resilient Future: Science and Technology for Disaster Risk Reduction, online (2019)

Institute for Housing and Urban Development Studies, How technology can enable resilience in incremental housing production, online (2021)

IFRC, Logistics in Emergencies, online (2021)

Harvard Humanitarian Initiative, Forecast-based Financing: an Uncertain Future?, online (2021)

Disaster Ready NGO, Humanitarian Context, Systems and Standards, online (2021)

LANGUAGES

English: Excellent
French and Spanish: Fair
Italian: Native speaker

- New Grand Hotel & Meeting Centre construction management, TAU, Chad
- New Ministry of Finance building construction management, TAU, Chad
- New Presidential Palace construction management, TAU, Chad
- Seismic design of residential buildings, AEI, Italy