

IPL Project number 273

International Panel of Experts on Landslide Risk for Cultural Heritage Sites (NICHE)

Reporting Period: November 2022 – August 2024

1. Project Title:

International Panel of Experts on Landslide Risk for Cultural Heritage Sites (NICHE)

2. Main Project Fields

(1) Technology Development

A. Monitoring and Early Warning, B. Hazard Mapping, Vulnerability and Risk Assessment

(2) Targeted Landslides: Mechanisms and Impacts

A. Catastrophic Landslides, B. Landslides Threatening Heritage Sites

(3) Capacity Building

A. Enhancing Human and Institutional Capacities

B. Collating and Disseminating Information/ Knowledge

3. Name of Project leader

Yasser Elshayeb

Affiliation: The American University in Cairo, Professor of Engineering

Contact: Petroleum and Energy Engineering Department, School of Sciences and Engineering, AUC Avenue, New Cairo – Egypt, Phone: +20 100 1399914, email: yasser.elshayeb@aucegypt.edu (postal address, fax, phone, email)

Core members of the Project

Names/Affiliations:

- Claudio Margottini / Adjunct Professor on UNESCO Chair on prevention and sustainable management of geo-hydrological hazards, University of Florence
- Daniele Spizzichino / The Italian Institute for Environmental Protection and Research– ISPRA, Rome, Italy

4. Objectives:

- Create a Voluntary Consultative body of Cultural Heritage Landslides Professionals
- Help governments / contractors to assess Landslide Hazards at Cultural Heritage Sites
- Share knowledge about Landslide Hazards for Cultural Heritage Sites
- Build Capacities for Cultural Heritage Landslides Hazards assessment and mitigation

5. Project Description (as per the proposal)

Cultural Heritage sites that are exposed to adverse environmental effects are many, as we witness a lot of deterioration and loss of value of cultural heritage sites due to landslides, block movements, geological and hydrological deterioration, etc. where several cultural heritage sites are built of natural materials (Sphinx statute in Egypt, Buddha statutes in Afghanistan, etc.), is being carved or built in

rocks (Petra in Jordan, Rock-Hewn Churches of Ivanovo in Bulgaria, etc.), or being built on natural cliffs and slopes (Machu Picchu in Peru, Eldeir Elbahari in Egypt, etc.). Those cultural heritage sites are heavily affected by their natural environment and the deterioration of constitutive rocks.

Governments and municipalities concerned with maintenance, safeguarding and conservation of those cultural heritage sites spend huge amount of money and resources to keep those sites in a good condition, as they constitute part of the country's wealth and heritage (in addition to Tourism).

The main aim of this project is to bring the vast expertise and knowledge of the ICL members voluntarily to the service of the government / communities in charge of cultural heritage sites, and to give advice on tools and techniques of restoration and safeguarding against landslide and block movements risks.

We believe that by building the capacity of local government and municipalities, in addition to guiding local populations in countries that are not wealthy enough to pay for high fees consultation, would lead to raising awareness of problems facing cultural heritage sites and raising funds necessary for the safeguarding and conservation of those sites.

This initiative would depend heavily on the networking effect that exist already within the ICL and its international intergovernmental supporting organizations but will also call on the expertise available in various members of the ICL.

We aim to start small with a voluntary consultation and advise given to two chosen sites (one of them will be in Egypt), in addition to hosting a technical school on Geo Engineering tools for cultural heritage conservation and preservation, as to show case the capacities and the influence that the ICL personnel may raise, then we would be moving towards more structured voluntary consultations around the world in subsequent years.

The criteria for choosing intervention to other sites will depend on the following set of criteria: 1. Relevance of the cultural Heritage Site to Landslides Risks, 2. Registration of the Cultural Heritage Site on UNESCO cultural heritage lists (especially the red list), 3. Current efforts and measures taken by local authorities / projects already into action for the preservation or assessment of risks for the cultural heritage site under consideration, and 4. Availability of experts to conduct the voluntary consultation.

The three experts that are proposing this project are considered as the core team of expertise. A call for expertise will be sent to all ICL members, to express their willingness to join the larger pool of expertise and enrich its membership.

While the sustainability of the funding for the activities of the project is a potential problem, but the members of the core team, and eventually the larger pool of expert will work on applying for other projects and funding, under the label of IPL.

The final objective of the project, is to create a pool of expertise and a portfolio of voluntary interventions from ICL members that are able to help and give consultations for governments and municipalities / Capacity Building workshops and trainings about how to safeguard Cultural heritage Sites against adverse natural effects of landslides and other Geo Environmental hazards.

6. Work Plan/Expected Results (As per the proposal):

Phase	Activity	Results
Phase I	Building the NICHE	Experts are identified in various categories, and accepted to participate in the NICHE
Phase II	Ramping up	Holding two voluntary consultations to two different site managers (year 1) / holding one capacity building workshop in one site of choice
Phase III	Cruising speed	After Assessment of activities of the first year (Phase I and Phase II), the NICHE will be participating in regular consultation and voluntary work for various Cultural Heritage sites around the world. The NICHE experts will also work on capacity building for local workers and stakeholders through regular workshops and trainings

7. Project achievements / Outputs

During the reporting period from August 2024 to July 2025, the IPL project 247 was able to achieve the following:

1. Presentations

- a. Presentation about the project and its activities for staff of the Egyptian Museum in Cairo. September 2024.
- b. Presentation about the project at the UNESCO DRR and cultural Heritage sites held on 18 - 20 November 2024 in Cairo.
- c. Presentation about the project at the “Italian Egyptian Workshop on Advances in Documentation, Digitization and Information technology”. 23-25 November 2024.
- d. Presentation about the project at the International Museum Day. May 2025
- e. Presentation about the project at the “Expert Group Meeting on Managing Groundwater and Dependent Ecosystems in Drylands (Oases)”, June 2025.

2. Publications

- a. ABDELHADY, R. ELSHAYEB, Y. AHMED, S. “(GIS) applications for Hazard Assessment: the case of Maritime Cultural Heritage Management and Conservation at El-Max Maritime Area in Alexandria”, Opportunities for Heritage: Fostering Innovation, Conservation and Sustainable Development, Muscat – Oman, 24-27 February 2024

3. Projects

- a. Old Cairo Site Management Plans. We participated in the UNESCO project titled “University Heritage Forum”, aiming at creating site management plans and risk management for various areas of old Cairo. The project was finalized in May 2025.

4. Training

- a. Training for staff of the Underwater Archeology Department of the Ministry of Tourism and Antiquities (GIS for management of underwater Historical sites and their susceptibility to Landslides) August 2024
- b. Training course on the usage of GIS for Heritage Risk Management, including Landslides Risks for Historical sites and buildings. September – October 2024.