

IPL Project Annual Report Form 2021

1 January 2019 to 31 December 2021

1. Project Title: **Low frequency, high damaging potential landslide events in “low risk” regions – challenges for hazard and risk management**

2. Main Project Fields

Select the suitable topics. If no suitable one, you may add new field.

(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

(4) Mitigation, Preparedness and Recovery

A. Preparedness, B. Mitigation, C. Recovery

3. Name of Project leader: Jan Klimeš, Ph.D.

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Core members of the Project:

Filip Hartvich, Ph.D. (IRSM CAS), Ing. Jan Balek (IRSM CAS), Petr Tábořík, Ph.D. (IRSM CAS)

4. Objectives: (5 lines maximum)

The main objective is to collect new data showing that it is important to manage landslide hazard and risk even in countries, which are not recognized as those suffering from frequent and catastrophic slope processes such as countries in high mountains or seismically active areas. We will specify the most effective hazard and risk management approaches to provide “best practice” instructions for decision makers and potentially affected population.

5. Study Area: (2 lines maximum)

Most of the field works will be done in the Czech Republic and Spitsbergen Islands, but published landslide research from similar “low risk” countries and regions will be reviewed and considered.

6. Project Duration (1 line maximum)

2015 – **the project is ongoing**

7. Report

1) Progress in the project: (30 lines maximum)

Research focused on describing and evaluating interactions between people and landslides focusing on sites where the local communities have long-term history of hazard and vulnerability mitigation. Very detailed insight into this complex problem brought interdisciplinary - history, law, geomorphology - research of small community in the Outer Western Carpathians, Czech Republic (Klimeš et al., 2020). It described bias between landslide hazard and vulnerability perceived by the local community and described by scientific research. Results stress high importance of indirect damage on the affected community, high effectivity of totalitarian communistic regime in landslide disaster remediation and high importance of active local memory for long-term reduction of the community vulnerability to landslides. Other examples of landslide risk management approaches of local communities in the Czech Republic were described in Klimeš and Lu (2021). In 2021, series of semi structured interviews was conducted with people living in high landslide hazard site (Outer Western Carpathians) to find out their lay knowledge about landslides and how do they perceive the existing hazard. Very low level of knowledge was found even with inhabitants settled there for several decades. It was found that the COVID-19 pandemic increased exposure of to the landslide hazard. Talk entitled “Landslides as specific disaster type, its actual effects on society and their interpretation in local legends and memories” was presented at workshop focusing on historical perspective of natural disasters in the Czech Republic.

Number of dissemination activities aimed on increasing public awareness was performed. Among the most important are two realizations of exhibition focused on different aspect of interactions between people and landslides (Prague, 2020; Ústí nad Labem, 2021/2022). The exhibitions have been accompanied by several talks (e.g. Prof. M. Calvello, Salerno University, Italy) and commented visits of the exhibition. Documents explaining how the NASA’s Landslide Reporter works and

Landslide Tracker, an application of the Amrita University, India, were translated to Czech. The landslide database from news reports covering Czech Republic (<https://www.irsm.cas.cz/ext/sesuvy/>) is regularly updated and the data are shared with the NASA's Global Landslide Catalogue. Several Earthcaching (Geocaching game) sites are maintained to educate public about landslide processes and risk in the Czech Republic.

2) Planned future activities or Statement of completion of the Project (15 lines maximum)

We plan to continue in research of the interactions of local communities with landslides focusing on the role of local administrative in vulnerability constructions. We will maintain and expand the Earthcaching sites as well as the landslide database compiled from news reports, which provides updated and reliable information about damage caused by landslides.

3) Results: (15 line maximum, e.g. publications)

Klimeš J, Müllerová H, Woitsch J, Bíl M, Křížová B (2020) Century-long history of rural community landslide risk reduction. *International Journal of Disaster Risk Reduction*, 51: 101756. <https://doi.org/10.1016/j.ijdr.2020.101756>

Klimeš J, Lu P (2021) Community-Based Landslide Risk Management in Contrasting Social Environments, Cases from the Czech Republic. In: Sassa K., Mikoš M., Sassa S., Bobrowsky P.T., Takara K., Dang K. (eds) *Understanding and Reducing Landslide Disaster Risk*. WLF 2020. ICL Contribution to Landslide Disaster Risk Reduction. Springer, Cham. https://doi.org/10.1007/978-3-030-60196-6_46

Note: If you will change items 1)-6) from the proposal, please write the revised content **in Red**.

2) Please fill and submit this form by **30 March 2022** to **ICL Network** <icl-network@iclhq.org>