

Date of Submission	April 30, 2026
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IPL Project 280 Annual Report Form

**Period of activity under report
from 1 January 2025 to 31 December 2025**

1. Project Number and Title:

IPL 280 "Landslide Alert: Co-Production of Knowledge Based on Community Participation"

2. Main Project Fields

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

(1) Technology Development

B. Hazard Mapping, Vulnerability and Risk Assessment

(2) Targeted Landslides: Mechanisms and Impacts

A. Catastrophic Landslides

(3) Capacity Building

B. Collating and Disseminating Information/ Knowledge

(4) Mitigation, Preparedness and Recovery

A. Preparedness

3. Name of Project Leader

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Core members of the Project:

Irasema Alcántara Ayala

Adán Montes de Jesús

Ricardo J. Garnica Peña

Gema Velásquez Espinoza

4. Objectives (5 lines maximum)

The Landslide Alert project aims to enhance disaster risk reduction (DRR) capacities through the co-production of knowledge, involving local communities in the landslide-prone Sierra Norte de Puebla, Mexico. Emphasising a participatory approach, the project focuses on education, early warning, and the dissemination of contextually appropriate preparedness strategies.

5. Study Area

The project was conducted in the municipalities of Teziutlán and Tlatlauquitepec in the Sierra Norte de Puebla, Puebla, Mexico.

6. Project Duration

4 years (2024-2027)

7. Report

1) Progress in the project (30 lines maximum)

Field-based activities were carried out in the Sierra Norte de Puebla, areas characterised by complex socio-environmental dynamics and a high propensity for landslides. These locations provided a suitable context for implementing community-oriented interventions to understand and address landslide disaster risk.

During field visits, engagement was established with households in high-risk areas, as well as with community representatives, civil protection staff, and local educators. Participatory mapping exercises were conducted with selected community groups, documenting local knowledge, risk perceptions, and historically affected zones. These efforts generated valuable insights that informed the development of context-specific awareness and preparedness strategies.

Institutional collaboration was also strengthened through coordination with recently appointed municipal education authorities and school directors. This facilitated the incorporation of landslide risk awareness into school-based activities, ensuring broader and more sustained outreach.

As part of capacity-building efforts, a series of educational sessions on landslides was delivered to students and teachers. These sessions addressed fundamental aspects of landslide processes, the nature of disaster risk, and practical approaches to risk reduction and preparedness, with an emphasis on interactive learning and locally relevant examples.

In addition, educational materials were developed to support learning among children and adolescents. These included visual and activity-based resources tailored to the regional context, designed to enhance understanding and encourage proactive engagement with risk-related issues.

A central element of the communication strategy was the use of the short popular science novel *Beneath the Shadow of the One Who Waits* (published in Spanish). This book, which focuses on a landslide disaster, introduces multiple dimensions of disaster risk and illustrates how such risk is socially constructed. Reading-based activities were designed to promote comprehension, discussion, and creative reflection, enabling students to engage with complex concepts in an accessible and meaningful way.

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

The work implemented during this reporting stage has created a robust platform for continued engagement among communities, schools, and disaster risk reduction (DRR) practitioners in the Sierra Norte de Puebla. Building upon these achievements, the next phase will reinforce participatory processes that foster shared learning and a locally grounded understanding of landslide risk.

Upcoming actions will prioritise consolidating community-led awareness initiatives and further incorporating landslide risk education into school curricula. Efforts will also aim to support the long-term adoption of risk-informed practices through collaboration with local authorities and educators, strengthening preparedness and collective response capacities. In addition, the project's outcomes will be disseminated at the World Landslide Forum 7, where a full paper presenting the methodology, findings, and key insights will be shared with the international scientific and practitioner community. These dissemination activities will help position the project within broader global discussions on landslide risk reduction and community-based approaches.

Beneficiaries of Project for Science, Education and/or Society (15 lines maximum)

The project has engaged a diverse range of stakeholders across institutional, academic, and community levels. Key beneficiaries include Civil Protection personnel from multiple municipalities in the Sierra Norte de Puebla, as well as representatives from the National Centre for Disaster Prevention and the Civil Protection Coordination Unit of the State of Puebla. Local residents living in areas exposed to landslide risk have been central participants, contributing their knowledge and directly benefiting from awareness and preparedness activities.

In addition, students from the National Autonomous University of Mexico have been actively involved in both fieldwork and knowledge exchange processes, strengthening their academic and practical training. More broadly, the initiative has reached educators, community groups, and other sectors of society involved in the project, fostering a more informed and engaged approach to landslide disaster risk reduction.

2) Results (15 line maximum, e.g. publications)

Research articles

Alcántara-Ayala, I. (2025) Landslides in a changing world. *Landslides*, 22(9), 2851-2865.

<https://doi.org/10.1007/s10346-024-02451-1>

Hernández-Cadena, K.M.* & Alcántara-Ayala, I. (2025). Landslide Disaster Risk Perception in times of COVID-19: a student's perspective, *AUC Geographica* 60(1),

<https://doi.org/10.14712/23361980.2025.1>

Velásquez-Espinoza, G., Garnica-Peña, R. J., & Alcántara-Ayala, I. (2025). Understanding children's exposure to landslides in Nicaragua. *AUC Geographica*, e23361980

Alcántara-Ayala, I. (2025) Mountains of Hope: Contributing to the Sustainable Development Goals through Integrated Landslide Disaster Risk Management, *Journal of Mountain Science*, <https://doi.org/10.1007/s11629-025-9536-0>

Book Chapters

Alcántara-Ayala, I. (2025). Interweaving Systems of Knowledge: Leveraging Transdisciplinary Research to Strengthen Landslide Disaster Risk Reduction. In: Abolmasov, B., et al. *Progress in Landslide Research and Technology*, Volume 4 Issue 1, 2025. Progress in Landslide Research and Technology. Springer, Cham. 53-71pp. ISBN: 978-3-031-89838-9, https://doi.org/10.1007/978-3-031-89836-5_3

Sánchez-Rojo, M., Garnica-Peña, R.J., Alcántara-Ayala, I. (2025). From Sky to Safety: Unmanned Aerial Vehicles and Geomorphological Insights to Local-Scale Household Landslide Exposure. In: Abolmasov, B., et al. *Progress in Landslide Research and Technology*, Volume 4 Issue 1, 2025. Progress in Landslide Research and Technology. Springer, Cham. 41-52 pp. ISBN: 978-3-031-89838-9, https://doi.org/10.1007/978-3-031-89836-5_2

Books

Abolmasov, B. Alcántara-Ayala, I., Arbanas, Ž., Huntley, D., Konagai, K., Mikoš, M., Sassa, K., Sassa, S., Tiwari, B. (Editors) (2025) *Progress in Landslide Research and Technology*, Volume 3 Issue 2, 2024, Springer Cham, ISBN: 978-3-031-72735-1, 559 pp.

Wisner, B., Alcántara-Ayala, I., Gaillard, J.C., Kelman, I., Victor Marchezini (2025), *Understanding and Addressing Disaster Risk Who Speaks? Who Suffers?* Routledge, New York, USA, ISBN: 978-1-032-27444-7

Abolmasov, B. Alcántara-Ayala, I., Arbanas, Ž., Konagai, K., Mikoš, M., Sassa, K., Sassa, S., Tiwari, B., Tofani, V. (Editors) (2025), *Progress in Landslide Research and Technology*, Volume 4 Issue 1, 2025, Springer Cham, ISBN: 978-3-031-89838-9

Popular Science Book

Alcántara-Ayala, I. 2025. *Beneath the shadow of the one who waits (Bajo la sombra de aquel que espera)*, Instituto de Geografía, UNAM. ISBN 978-607-642-082-9 In Spanish