

Date of Submission	March 31, 2018
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## **IPL Project (IPL - 208) Annual Report Form 2017**

**1 January 2017 to 31 December 2017**

1. Project Number (approved year) and Title,

208 (2016) Landslide disaster risk communication in mountain areas

2. Main Project Fields

Enhancing Human and Institutional Capacities

Collating and Disseminating Information/ Knowledge

Preparedness

3. Name of Project leader: Irasema Alcántara-Ayala

Affiliation: Institute of Geography, National Autonomous University of Mexico (UNAM), Full Professor

Core members of the Project:

Ana Rosa Moreno, Faculty of Medicine, National Autonomous University of Mexico (UNAM) (expert on risk communication)

Ricardo Garnica-Peña, Institute of Geography, National Autonomous University of Mexico (UNAM)

4. Objectives: (5 lines maximum)

- Developing a landslide risk communication strategy that can be applied at local level.
- Helping to induce landslide capacity building in the municipality of Teziutlán by incorporating landslide risk awareness and preparedness.
- Merging the efforts and capabilities of Civil Protection authorities and the community to implement a successful strategy of landslide risk communication.

5. Study Area: (2 lines maximum)

The municipality of Teziutlán, Puebla, México.

6. Project Duration (1 line maximum)

2 years (this was the second and final year)

## 7. Report

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

Our investigations were directed to understand the spatial-temporal distribution of landslides in Teziutlán, Puebla, a municipality historically affected by landslides. Within this project, during the last two years several landslide research and educational activities have been carried out in collaboration with Civil Protection authorities of Teziutlán, Puebla, at municipal and local levels, as well as with the Centre for Command, Control, Communications and Computing of Teziutlán; this centre is responsible for coordinating and supervising security plans and programmes, including those related to civil protection. The latest initiative involved the publication of a book of Atlas type comprising a collection of 142 maps and their corresponding explanatory texts that included a context analysis of landslide disaster risk drivers at various scales, from regional to local. These maps and texts targeting different aspects of landslide disaster risk in Teziutlán were presented during a community workshop to the population living in the most critical areas at risk. The book was formally presented in the municipal auditorium with the support of the local authorities. Large printed maps were also made available, explained and discussed with the public, who included school teachers, community leaders, local civil protection committees and neighbourhood elders. These materials are being used by the members of each neighbourhood in collaboration with the corresponding Civil Protection authorities in order to identify specific actions to be undertaken in the short and medium terms.

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

The project has been finished

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

The authorities of Civil Protection of the municipality and the inhabitants of municipality and the region.

### 4) Results: (15-line maximum, e.g. publications)

- Murillo-García, F.G., Alcántara-Ayala, I. (2017), Landslide inventory map of the municipality of Teziutlán, Puebla, México (1942-2015), *Journal of Maps*, 13:2, 767-776.
- Garnica Peña R.J., Alcántara Ayala, I., 2017, Landslide synchronic evaluation by using Unmanned Aerial Vehicles (UAV): some insights on disaster risk in Teziutlán, Puebla, México, In: Mikos M., Tiwari B., Yin Y., Sassa K., and Advancing Culture of Living with Landslides, Vol. 2. *Advances in Landslide Science*, 209-218, Springer.
- Alcántara Ayala, I., Garnica Peña R.J., Murillo-García, F.G., Salazar-Oropeza, M.O., Méndez-Martínez, A., Coll-Hurtado, A., (Submitted) Landslide disaster risk awareness in Mexico: community access to mapping at local scale, *Landslides* (in review).
- Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.)

2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM, 223 pp. ISBN: 978-607-02-9136-4 (In Spanish).

- Garnica Peña R.J., Coll-Hurtado A., Maldonado Martínez A, Murillo-García F.G., Alcántara Ayala I., 2017, II The regional context: Sierra Norte de Puebla. 1a. Nature I. In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Garnica Peña R.J., Coll-Hurtado A., Maldonado Martínez A, Alcántara Ayala I., 2017, II. The regional context: Sierra Norte de Puebla. 2a. Nature II, In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Murillo-García F.G., Garnica Peña R.J., Alcántara Ayala I., 2017, III. The municipality of Teziutlán (maps at 1: 62,000 scale) 3a. Factors determining the susceptibility to landslides. In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Murillo-García F.G., Garnica Peña R.J., Alcántara Ayala I., Ruiz Cortés N.S., 2017, V. The municipality of Teziutlán (maps at 1: 62,000 scale) 5a. Factors determining the susceptibility to landslides. In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- González Sánchez J., Gutiérrez de MacGregor M.T., Coll-Hurtado A., Garnica Peña R.J., Maldonado Martínez A., Alcántara Ayala I. 2017, III. The municipality of Teziutlán (maps at 1: 62,000 scale) 3b. Inducers of vulnerability. In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Alcántara Ayala I., Garnica Peña R.J., Urbina Soria J., Moreno A.R., Landeros Mugica K., 2017, III. The municipality of Teziutlán (maps at 1: 62,000 scale) 3c. Landslide disaster risk perception. In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Ramos Hernández S., Murillo García F.G., Garnica Peña R., Cossío Pérez I., Hernández Moreno M.A., Ruiz Meneses Y.E., Ruiz Cortés S.N., Alcántara Ayala I., 2017, IV. Urban space of Teziutlán (Maps at scale1: 30,000) 4a. Factors determining the susceptibility to landslides, In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Coll-Hurtado A., Garnica Peña R.J., Maldonado Martínez A., Alcántara Ayala I. 2017, IV.

Urban space of Teziutlán (Maps at 1: 30,000 scale) 4b. Vulnerability-inducing factors, In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).

- Alcántara Ayala I. Suárez Lastra M., Garza Merodio G.G, Ruiz Rivera N., Garnica Peña R.J., Murillo García F.G, Salazar Oropeza M.O., Méndez Martínez A., Delgado Campos G.J., 2017, IV. Teziutlán urban space (1: 30,000 scale maps) 4c. Factors inducing disaster risk due to landslides, In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Murillo-García F.G., Alcántara Ayala I., Garnica Peña R.J., 2017, V. Urban spaces at a local scale in Teziutlán 5a. Factors determining the susceptibility to landslides. In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Alcántara Ayala I., Garnica Peña R.J., Urbina Soria J., Moreno A.R., Landeros Mugica K., 2017, V. Urban spaces at a local scale in Teziutlán 5b. Perception and communication of disaster risk. In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Alcántara Ayala I., Coll-Hurtado A., 2017, Conclusions: the social construction of disaster risk, In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).
- Alcántara Ayala I., Maldonado Martínez A., 2017, General guidelines for the application of public policy for the reduction of disaster risk associated with landslides in Teziutlán, Puebla, In: Alcántara Ayala, I., Garnica Peña R.J., Coll-Hurtado, A., Gutiérrez de MacGregor M.T. (Eds.) 2017, Landslides in Teziutlán, Puebla. Disaster Risk Drivers, Institute of Geography, UNAM (In Spanish).

Note:

- 1) 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 2018** to **ICL Network** <[icl-network@iclhq.org](mailto:icl-network@iclhq.org)>