DRR Project Stories: learn from your peers

April 2022

Country / Region:

Guatemala, Central America

Main theme:

Disaster preparedness

Project title:

Early warning system for volcanic eruptions established in Guatemala, and disseminated in Central America

Implemented by:

Vivamos Mejor Guatemala, 2019-2023

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Project Factsheet (Spanish)

About 40 active volcanoes are located in Central America. The eruption of the El Fuego volcano in 2018 highlighted the weaknesses of the governing bodies to monitor, warn and set-up response measures to protect the population in Guatemala and the region.

With support from the SDC, an Early Warning System (EWS) for volcanic eruptions is developed reaching 35,000 people in the highest risk areas in Guatemala and some two million people in the region. Government bodies are supported to set up efficient monitoring and warning systems and procedures to communicate warnings and disseminate them to the population. Specialised personnel is also trained to analyse and interpret volcanic processes while vulnerable communities and local governments acquire knowledge and skills to respond to volcanic hazards. Other countries in Central America are expected to benefit from the experience in Guatemala and will be guided to set up similar EWS.

MIRIAM DOWNS,
SDC National Programme Officer, Nicaragua, has been part of the project design and is sharing her **KNOWLEDGE PEARLS:**

I felt proud to be part of the project …

… when the technicians of the National Institute of Seismology, Volcanology, Meteorology and Hydrology (INSIVUMEH) confided to me that this project is a premiere for them. They have never been participating in a project where they could take an active role in the planning phase, research and in the design of the warning system for volcanic eruptions. They also learned from international experts during the process. It had been only the SDC and no other donor that facilitated this continuous exchange focusing on learning and capacity strengthening. I said to myself, the strategy is right, and I am proud to work with the SDC, because we make a difference.

I felt stuck when …

… the COVID-19 pandemic began and practically paralysed all project activities. After about 3 months, together with the project team we decided to adapt the project strategy, its operational plans and activities. For example, the curricula of the courses for the technicians at the institutions and universities were adapted and moved to online modalities and webinars. Surprisingly, this resulted in an improvement of the quality of the trainings. We could rely on the online participation of renowned scientists in volcanic hazards and warning systems who took part in 15 webinars and trained 200 people. In addition, community leaders and local committees in 30 communities gained trust in the use of the Information and Communication Technologies.

If I would have to start again ...

... I would duplicate successful elements of our approach such as

- **Participatory project formulation** because it creates ownership among actors and empowers communities. It also ensures that the project responds to the needs and problems of the institutions, the communities and the target population. We integrated a conflict sensitive project management component after community members informed us that some indigenous communities did not allow government institutions to enter their territories because they still suffer from the trauma of the war where they were almost annihilated in the 1980s.
- **Selection of a local organisation as implementing partner** with strong expertise in risk management to ensure coherence and comprehensiveness. The local organisation functions as facilitator and coordinator of the whole intervention and ensures the coherence of this complex project. It accompanies the work of INSIVUMEH responsible for the design of the warning system and supports the National Emergency Coordinator, CONRED, in charge of the community and municipal organisation for preparedness and response to volcanic eruptions.

What I would do differently ...

... is instead of hiring an independent consultant to support the design of the warning system and the project formulation, invest in having ETH Zurich on board from the beginning to ensure a lasting alliance with the INSIVUMEH. They could have given us very valuable technical inputs to guide the design of the warning system. In the end, we made an additional credit to ensure quality and a lasting collaboration between ETHZ and the project/INSIVUMEH.

An anecdote I would like to share with you ...

... In one of the visits to a volcanic observatory installed by INSIVUMEH, very close to the top of the Santiaguito volcano, we met a community member who observes the volcano directly. When the volcano began to spew ash and make noises, we wanted to run away, but he told us: "Don't worry. At least 3 times a day it has these bad habits, if it does not, I worry. When the ash plume rises higher, then I warn the community leaders on the radio and we get ready to evacuate". These people live with the risk, they observe it, and they are ready to act!

Technical team of Vivamos Mejor Guatemala and the Local Emergency Committee in San Marcos Palajunoj, El Palmar Municipality © SDC

Installation of monitoring equipment for the Santiaguito volcano © Vivamos Mejor Guatemala

Santa María volcano with the Santiaguito lava dome complex in the foreground, view from San Marcos Palajunoj, El Palmar Municipality © SDC

Stories from the people at the forefront

Diego Bernardo Ajtujal Damian is a technician of the Municipal Authority for Integrated Disaster Risk Management - IMGIRD. *Santiago Atitlán Municipality*

"No risk management unit existed in our municipality. Today it is functioning and institutionalised in the Mayor's Office. Through training and equipment, we now know how to plan actions and how to coordinate with different actors and bodies in case of disaster events in the municipality. We have maps and plans, and trained staff. We support and advise the mayor in making decisions to address risks. The project will have a long lasting impact: The IMGIRD will replicate the training received and strengthen the capacities of the actors involved in risk management processes, so that the inhabitants of the municipality are safer and the risks in our municipality are reduced."

Mirna Elizabeth Martinez López, Director of the Local Committee for Disaster Reduction – COLRED. *Las Marías community, El Palmar Municipality, Quetzaltenango*

"We are close to the Santiaguito volcano, which is one of the most dangerous volcanoes in the region. I am convinced that you can't lead a community if you don't have the right knowledge. For a very long time, we didn't understand what could happen to our community. I have now acquired a lot of knowledge on issues I did not know about such as hazards, vulnerability and risks. Our community has now the knowledge of the risks we are exposed to, and we also know what to do to protect our lives if the volcano erupts. We not only have the knowledge, but also the tools and material necessary to support possible evacuations. What is also crucial is that our community is now organised to lead and guide in case of a disaster."

Amilcar Elías Roca Palma is the coordinator of the volcanology group at the Department of Research and Geophysical Services at INSIVUMEH.

"The opportunity of building a surveillance and alert system for one of the most active, youngest and dangerous volcanic dome complexes of the region – the Santa María – Santiaguito volcanic complex – from scratch has been important for me. Any positive outcome of this project will serve as a good example to be replicated in other volcanic systems in Guatemala and the region.

The capacity building on monitoring of the Atitlán Volcano, with much less eruptive activity but with a high social, economic, cultural and tourist impact, allowed me to understand the connection between the volcanic edifice and its environment in a level where tourism is one of the principal incomes for people living around this volcano.

I will keep the good practices developed during the project. There are many external (international) people working with us which has lead us to improve our knowledge and techniques for understanding the volcanic activity and how this should be addressed. Among other good practices, planning for the long-term seems to be one of the most important things to do in order to develop reliable volcanic surveillance systems, along with developing strategies to communicate the technical and scientific aspects of these to the risk management institutions and the population."