

<b>Date</b>	Friday, June 21 2019.
<b>Communities</b>	Yucales, Santa Sofía, and Morelia, Chimaltenango.
<b>Participants</b>	OGG Team: Lhess Leiva, Helena Murphy and Suyapa Velásquez Leaders from the Communities
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• To Initial Contact with Community Leaders</li> <li>• To Gain an understanding of the needs of the communities</li> <li>• To Learn about the main risks in the area</li> <li>• To Determine whether the communities would agree to participate in OGG's Vigilia Volcánica Project.</li> </ul>

## Background Information

Yucales and Santa Sofia are situated side by side and Morelia is approximately two kilometres from these communities. After leaving the main paved road at the entrance to Panteleon factory, we travelled by pickup truck for nine km before reaching Santa Sofia. It is a dirt road, in very poor condition, crossing through three rivers and four streams, and takes one hour and fifteen minutes to reach the communities from the main road.

These communities are very poor. We learned that many people find work as farm labourers, such as cutting sugar cane. They work in harsh conditions, long days, and earn about £9 per day. Others choose to leave their communities to seek work in Guatemala City or they make the attempt to cross overland through Mexico into the United States.

We visited each community and met with their presidents and leaders. During each meeting we shared information about Oxford Geology Group (OGG), the project, and showed videos of the alarms working in other communities. The community leaders explained to us the main risks they face, their plan and routes of evacuation and contact with *Conred* (the national disaster management organisation for Guatemala) and their thoughts on how Vigilia Volcánica would benefit them.

In the event that evacuation is needed because of Lahars, the Leaders from all three communities advised that they would not attempt to use the road that connects them to Santa Lucia Cotzumalguapa to avoid the risks from lahars as most of the population would need to cross the rivers and streams by foot as there are no bridges in place. However, it is the only road that connects directly to the communities, and the only way in which emergency vehicles or buses for transportation can reach them.

## Yucales

**Population:** 115 families (approximately 600 people). It is the smallest of the three communities we visited.

The President of Yucales shared that during previous large eruptions and earthquakes over the past 40 years, the community have tended to not evacuate. However, since the eruption on the June 3 2018, they do now have a planned route of evacuation that takes them in the direction of Yepocapa. Yucales seemed more confident of their plans if an evacuation is needed. *CONRED* has visited twice in the past year to organise an evacuation simulation. Yucales has a siren that was installed by *CONRED*, however it is situated at one end of the town and is not audible to all in certain wind conditions.

In regards to whether Vigilia Volcánica would benefit the community, the Leaders confirmed that it would, as it would allow them to broadcast to all residents and organise evacuation if necessary. However, for this to work effectively it would need careful positioning to guarantee optimum effectiveness.

## Santa Sofia

**Population:** 640 families (approximately 2 300 people).

The Leaders advised that there are five rivers in the area Taniluya, Tampaiscal, el Gobernador, Mineral, and Santa Emilia.

★ A river passes at the entrance to the town, in order to exit the town you need to cross the river. We were told that a child tragically died when trying to cross the river (there is no bridge) and was found 20 km away.

Santa Sofia advised that their route of evacuation is the same as Yucales. However, based on the information provided by the leaders, most of the people are not aware of the route of evacuation.

The leaders were adamant that Vigilia Volcánica would allow them to communicate and prepare people in the event of an emergency, particularly considering the size of their community.

The Leaders advised us that the siren installed in January by *CONRED* does not reach the whole community as it is situated on one end of the town.

## Morelia

**Population:** 685 families (approximately 3 000 people).

The main route of evacuation is through the community of Porvenir. The main concern, voiced by the leaders, is that there are no bridges crossing the river to get to Porvenir. In the 1970s rope bridges were installed, however these have subsequently deteriorated and no longer available. An additional problem for using this route is that the private landowner does not want people on the land.

When we enquired how they currently receive alerts the leaders advised that they do not receive updates from *CONRED* or *Insimuveh*. They explained that *Insimuveh* (national agency for monitoring volcanic activity and lahars) have a station in Panimache and they depend on the community of Panimache to hear about whether evacuation is necessary.

The Leaders were in strong agreement that having a system in place to alert and aid communications in the event of evacuation would really help their community in the event of an emergency.

### Additional Information

The Leaders from Morelia advised, in their view that Palo Verde (a private farm) is at the highest risk in the area. There are approximately 10 families living here. The farm is surrounded by two rivers. If there are lahars they would be trapped. As we have also learned, depending on how much debris is being pushed down the rivers, the lahars can flood the surrounding areas. This is the main threat to Palo Verde.

Other communities we wish to visit and meet with their Leaders are El Porvenir, Panimache I, Panimache II, and Sangre de Cristo.

## Conclusions

- All three communities agreed that Vigilia Volcánica would give them the means to prepare and organise the people as quickly and efficiently as possible in the event of an emergency and help reduce the risk of panic. Right now they have no way in which to issue warnings, announce where to go or what people need to do in an emergency.
- If the risk is from lahars, the routes of evacuation are limited to one route and further slowed as people would need to evacuate on foot as they first need to cross footbridges. Although for Morelia there are currently no footbridges in place.
- Morelia´s route of evacuation concerns us most. From our meeting with the Leaders their main route of evacuation is via Porvenir. This is problematic as they do not have bridges to cross the rivers or permission to cross the private land. If they go via Santa Sofia they also have to cross through a river.
- The communities seemed less certain about evacuation route options if the risk is from pyroclastic flows.
- The sirens installed by *Conred* do not sound in all parts of the communities and neither are they a way to warn people of the dangers and what to do if they need to evacuate.
- Communication with National agencies is variable, only Yucales seemed content with the level of input from the agencies.
- Leaders from all the communities expressed their gratitude for the visit.