

Perspectives.

Issue No. 26

Community-based monitoring to end oil contamination in the Peruvian Amazon

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Traditional knowledge has been used by generations of indigenous peoples and local communities to monitor their communities' well-being and the state of their territories and natural resources. More recently, these skills have been used alongside new technologies to keep track of external pressures on their lands and the potential threats these represent.

In Peru, indigenous Amazonian peoples including the Achuar and Wampis are using different tools, including participatory video, community radio, smartphones and tablets, to monitor the damage caused by oil exploitation on their territories, as well as pollution and its effects on their health. The evidence gathered through community-based monitoring is used to hold authorities and companies to account and to advocate against further pollution.

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Oil contamination and indigenous peoples

When they heard there had been another oil spill, people from the Wampis indigenous community of Mayuriaga, in the Peruvian Amazon, quickly converged on the bank of the Cashacaño river and looked down at the water stream. It was completely covered by a dense, pitch black layer of petroleum. The extent of the damage is visible from the hundreds of pictures taken over the following days, showing thickets of jungle covered in black sludge and clean-up crews wearing white jumpsuits lifting buckets of crude from the river.

The oil spill, from the Norperuano pipeline, came on 3 February 2016, less than ten days after another leak in the same duct poured 2,000 barrels of oil into the Chiriaco river, in the same Amazon region. After the leak was reported by a member of the Achuar indigenous community through the local radio, workers from Peruvian

state-owned company PetroPeru arrived on site and tried to reach the pipeline, which is five metres underground, by digging around it with shovels. The next day excavators were sent by PetroPeru to speed up the process, but when they reached the pipeline the pressure had irretrievably breached the walls of the duct and

the oil was already pouring into the nearby river.

Since the country opened up to oil exploration in the 1970s, over 80% of the Peruvian Amazon has been covered by oil and gas concessions. Indigenous peoples have been the most affected by the oil boom, with concessions overlapping 66% of recognised indigenous territories.

Once extracted, the oil is transported through pipelines or by boat, but with most installations being antiquated and poorly maintained, leaks and oil spills tend to be frequent with irreparable consequences for the environment and for the health and well-being of local communities.



© Oil spill in Mayuriaga, Peru. Jacob Loov

Community-based monitoring and traditional knowledge



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Given the gravity of the situation and the denial of any contamination and responsibility by the oil companies and relevant authorities, indigenous communities, including the Wampis, living along the Norperuano pipeline, took the matter into their own hands.¹ With support from some local human rights organisations they established a series of community-based monitoring programmes aimed at tracking and documenting the impact of oil pollution on their territory and health by applying a mix of traditional knowledge and innovative tools and technologies.

Community-based monitoring is a relatively new term, but its practice has been carried out by generations of indigenous peoples and local communities as part of the custodianship of their land; they would regularly check the health of their traditional territories, such as the abundance or scarcity of species vital for their livelihoods and culture, in order to quickly identify and thereby address

problems and changes. Indigenous peoples and local communities, such as the Wampis, have been living off the same area of land for generations, and information and skills to observe nature have been transferred from generation to generation for the survival of the community. “The historic and cultural origin of the Wampis nation is tightly linked to nature, to the trees and the territory,” explains

Shapiom Noningo, a member of the Wampis people and delegate of the recently formed Autonomous Territorial Government of the Wampis (Gobierno Territorial Autónomo or GTA-Wampis). “The Wampis learn from nature and from nature get their nourishment; this is how, over time, we have developed our way of living, our culture and knowledge”. By observing the behaviour of the animals, for instance, communities found that game species are attracted by the salts that accompany oil spills and tend to visit oil-polluted areas to ingest the soil. Observing this phenomenon has allowed communities living within oil concessions to study the effects of oil spills on the local human populations, which rely on subsistence hunting, and on the whole ecosystem.



© Oil spill in Mayuriaga, Peru. Jacob Loov

Traditional knowledge tends to be collectively owned and takes the form of stories, songs, folklore proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices. International bodies and mechanisms have increasingly recognised the vital role of traditional knowledge and indigenous' perspectives. Article 8(j) of the Convention on Biological Diversity acknowledges the importance of traditional knowledge by advocating for the respect and preservation of knowledge, innovations and practices of indigenous and local communities.

Approaches to community-based monitoring range from those using the simplest technology like a notch in a tree to those using some of the latest cutting edge innovations. Many communities use simpler, more accessible survey methods such as forms and questionnaires, recording oral testimonies, making hand-drawn maps of their resources, forests and lands, calendars representing seasonal ecological knowledge, and completing biodiversity registers. Community radio is widely used to communicate monitoring results to scattered communities. For pollution monitoring, communities are using

dedicated soil and water test kits, often in conjunction with laboratory facilities to obtain independently verified results. At the cutting edge of community-based monitoring, recent mapping and web-based innovations such as hand-held GPS, smartphone and GIS platforms have made it possible for communities to generate their own digital, spatial representations of their territories and of the threats to their resources, and to embed these community-generated maps in websites and field reports. These can be backed up with georeferenced photo, video and audio evidence captured on smartphones or even from community-operated drones. Software developers and NGOs are actively supporting communities to develop open-source GIS software, backed up with open data layers becoming available from e.g. the World Resources Institute. These developments are now allowing the results of monitoring to be visualised in the forest on a tablet or smartphone as they are being collected. This data is then encrypted and uploaded to a web-based application for use in a communications campaign or to support a legal case.

The information gathered through community-based monitoring can serve a range of purposes,

including the management of communities' resources, but it is particularly effective in cases of environmental pollution and land degradation to hold authorities and companies to account and seek remediation.

Only recently, the scientific community has begun to understand the effects of crude oil on different environments, including the Amazon rainforest. Because of their composition and concentration, crude oil and refined petroleum products can accumulate in food chains where they disrupt biochemical or physiological activities of many organisms, causing the development of cancers and mutations, impairment in reproductive capacity, and haemorrhage in exposed population.² The extent of the damage and the impact on biodiversity isn't necessarily linked to the amount of oil spilled. A smaller spill at the wrong time or in the wrong season may prove much more harmful than a bigger one at another time of the year in the same environment.³ Contamination of soil arising from spills is also one of the most limiting factors to soil fertility and hence crop productivity.

Proving responsibility

The Mayuriaga spill in February 2016 was only one of many. Despite the frequency of the spills, however, Shapiom says the state company has always refused to acknowledge responsibility for the disasters, blaming the spills on sabotage from the communities. "The aim of the monitoring programmes is to report destructive agents and notify their presence to local and national authorities, so that the relevant actions can be taken," Shapiom explains. In the case of the oil spill in Mayuriaga, community members reported the damage to local and national authorities describing contamination of swamps, streams, rivers and soil around the leak. On 2 March – with nearly a month of data following the spill - the Wampis autonomous territorial government submitted a formal complaint to Peru's regulatory body for the environment (OEFA). In it, they accused PetroPeru of gross negligence for its failure to prevent and contain the oil spill in Mayuriaga. In coordination with other communities and indigenous organisations, the Wampis autonomous territorial government sent a letter to the Inter-American Commission on Human Rights (IACHR) on 7 March, asking for precautionary measures to be declared as a result of human rights violations. Such measures have been frequently used by the Commission and require the state to move immediately to protect rights seen as under threat.

The 20-page letter summarises data collected through different community-based monitoring activities over the last three years, with details on all the oil spills associated with the Norperuano pipeline. It also provides evidence of inadequate responses in the form of personal testimonies. Thirteen of these are directly quoted, several from children suffering health problems from working on clean-up operations. It was also found that the spilled crude affected cacao plantations in

had warned PetroPeru multiple times about the state of its pipeline, but the company had not done anything to avoid the disaster. PetroPeru's representative at the hearing acknowledged the company's responsibility and invited the IACHR to visit the affected areas to verify the situation on the ground where, they claimed, clean-up work was being carried out and communities had received compensation.

In July 2017, the IACHR conducted

taste. As a result, inhabitants of the area had been suffering health effects such as colic, diarrhoea, skin problems, allergies, bleeding, and dizziness, as well as high levels of malnutrition.⁵

Despite the hardship of the situation, the visit of the IACHR is seen as a step forward by the indigenous communities living in the area; their efforts to prove the extent of the damage and the company's responsibility may finally be bearing fruits. "There's a political message here," commented Juan Carlos Ruiz, from the Instituto de Defensa Legal, an organisation that offers legal support to the indigenous communities affected by the oil spill. "This is no longer only a local or regional problem. This issue is now in the Commission's radar – which means the IACHR is checking what the government is doing about the case."⁶

The next step is to seek remediation. While the IACHR urged the state to provide water, food and adequate health services to the communities affected by the oil spills and to redouble its efforts to prevent these from happening again, far greater commitment from the state is needed if the environmental damage is to be repaired. In the meantime, indigenous and local communities living along the Norperuano pipeline continue to monitor their

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