IMPACTS OF THE ESCOBAL SILVER MINE ON THE XINKA INDIGENOUS PEOPLE AND GUATEMALA'S OBLIGATION TO RESPECT THEIR SELF-DETERMINATION

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EARTHWORKS

On September 3, 2018, the Constitutional Court of Guatemala ordered the Guatemalan Ministry of Energy and MInes to carry out a consultation process with the Xinka People concerning the future of the Escobal silver mine, currently owned by Vancouver-based Pan American Silver. As outlined in the decision,[1] the Guatemalan government is obliged to seek the free, prior and informed consent (FPIC) of the Xinka People.

The decision cites the Inter American Human Rights system and the UN Declaration on the Rights of Indigenous People (UNDRIP), adopted by Guatemala in 2007, according to which FPIC is required when an investment or project:

- Involves the displacement of indigenous peoples or communities from their traditional territories, that is, their permanent relocation;
- Would deprive indigenous peoples of the ability to use and enjoy their lands and other natural resources necessary for their subsistence;
- Involves the deposit or storage of hazardous materials on indigenous lands or territories.

In order to examine the actual and potential impacts of the Escobal mine, as part of the nearly seven-year long consultation process, an independent study was carried out on the Xinka People's understandings of the cultural and spiritual impacts of the mine. In the stage that followed, government ministries and the company were obliged to share information available concerning the mine and its impacts for the Xinka to analyse. The court decision stated that the Xinka should have access to independent experts paid for by the government to help analyze the information gathered.[2] The government, however, did not fulfill its responsibility and instead the Xinka raised funds and hired a team of environmental experts to analyze and verify the information.

Although the Escobal mine only operated for three years, from 2014-2017, during this time residents were forcibly displaced from the community of La Cuchilla in the municipality of San Rafael Las Flores where the mine is located. The studies provide evidence of a likely connection between the mine operation and structural damages to homes, church and the community's main road that would worsen should the mine restart. In addition, as demonstrated by the cultural and spiritual impact study, restricted access to an important ceremonial site, water loss and concerns about water contamination have already had important implications for the local economy, food security, and cultural transmission.

Furthermore, the expert analysis raised concern about the serious risk of a tailings collapse at the mine. Notably, of the 22.6 million tons of material projected to be extracted from the Escobal mine, only a small percentage is commercially viable. More than 96 percent of the remaining toxic waste would remain forever on Xinka territory, an estimated third to be deposited on the tailings stack and the rest would refill the mine tunnels.[3]

Overall, the findings point to long-standing and ongoing institutional weaknesses that render environmental authorities unable and potentially unwilling to analyze, monitor and mitigate impacts, and protect communities and the environment.

What follows are highlights from the cultural and spiritual impact study and the analysis undertaken by the environmental experts, which informed the Xinka communities' decision over the future of the Escobal mine. These highlights demonstrate how the Escobal mine meets the conditions laid out by the court that oblige the Guatemalan government to respect Xinka self-determination over the future of the Escobal mine. The cultural and spiritual impact study also documented harms arising from having imposed the mine without Xinka consent, including psychological and social impacts as a result of the defamation, legal persecution, militarization and threats used to force the mine on the Xinka people, and social divisions.

The cultural and spiritual study and the environmental studies were presented to the Guatemalan government and Pan American Silver in May 2022 and February 2024 as part of the consultation process. Records of the meetings can be found on the Guatemalan Ministry of Energy and Mines' website.[4] The company's response to this summary can be found here.

INFORMATION GAPS AND LACK OF ADEQUATE GOVERNMENT OVERSIGHT

The Xinka's team of environmental experts underscored that the authorities responsible for overseeing the Escobal mine, the Ministry of Energy and Mines (MEM) and the Ministry of the Environment and Natural Resources (MARN), do not have sufficient capacity to fully understand or analyze the risks to people and the environment from the project given the lack of complete information and almost no independent environmental analysis. The available information has been almost exclusively generated by the mining companies involved, first Tahoe Resources and now Pan American Silver.

They further observed that the information received from the government was unorganized and fragmented across institutions and platforms. This makes it impossible to ensure accountability or carry out meaningful environmental monitoring and analysis of the mine's impacts.

Additionally, they stated that Pan American Silver failed to provide full or timely access to information, especially raw data with which to verify how decisions are being made regarding mining operations, impacts and potential mitigation measures. The experts also noted that Pan American Silver shared information in formats that are difficult to use, which slowed down and complicated their work on issues such as the impacts on homes from detonations at the mine, water quality studies, and geological and hydrological data important to understand impacts on ground and surface water. Notably, the company provided only limited access to key studies related to the mine's impact on groundwater and access to water, and restricted the scope of studies that the team could carry out on the stability of the tailings facility. The experts add that the responsible government authorities did not have copies of key hydrogeological studies in their files.

EXISTING HARMS AND FUTURE RISKS FROM THE ESCOBAL MINE

Despite the limitations as a result of information gaps and inadequate government oversight, the expert team provided important evidence from their review of documents and field work to inform community concerns about current and future risks from the Escobal mine on their water, livelihoods, safety, and health.

Cracked homes and forced displacement at La Cuchilla

Many residents of the community of La Cuchilla, in the municipality of San Rafael Las Flores, which is located above the east entrance to the mine, were forcibly displaced in 2016. Damage to homes, the main road,

A billboard reads "The Consultation Process with the Xinka People: Good faith. It's the governments responsibility to fulfill the sentence." Photo by Cristina Chiquin

A cracked wall in La Cuchilla. Photo by Cristina Chiquin

and even the church began within a year after the mine went into operation. In response to a request from the company that owned the mine at the time, the National Coordinator for Disaster Reduction (CONRED) undertook a risk assessment and declared the area uninhabitable in 2016, but did not hold the mine responsible. The value of land in the community plummeted, as a result of which people lost needed access to credit, as well as public services, basic provisions and their church was closed, affecting an estimated 21 families. The municipality negotiated with the company to build some homes for the displaced families in the centre of San Rafael Las Flores, but they were considered culturally inappropriate for the community members' needs, due to lack of space for a large family and sufficient land on which to plant trees, plants, or to keep animals.[5]

Residents of La Cuchilla who chose to stay in their homes participated in the study on the Cultural and Spiritual impacts of the Escobal mine and reflected on the tremors they felt when the mine was operating: "...we started to notice that houses were cracking. It started out small, and we even thought, out of ignorance, that it was normal. But as the problem grew, the tremors grew. They were even on schedule. When an earthquake is natural, we say that it's God's will and they don't happen on schedule. At times you don't even feel it because it happens at night. But at that time, they happened at a fixed time, at 6 in the morning and 6 in the afternoon. The quakes got bigger, the cracks in the houses were also getting bigger, if that's not terrible enough. Although we knew it was coming, when it came time for the tremor, it was scary. Even the animals were scared, the chickens, the dogs, it was tremendous."[6]

The expert team also looked at the evidence of damage to the church and homes in La Cuchilla, as well as two other communities close to the mine, Los Planes and El Fucio. They found that while the company's studies show that the vibrations from the mine fall within U.S. norms, and just outside German standards, they consider that these norms are not appropriate for the type of construction in the area, principally made with adobe, rammed earth and low quality masonry. They conclude, "It is highly probable that some damage such as cracks and fissures recorded by the community and inventoried by this consultancy are related to the vibrations generated as a result of the detonations carried out for mining operations..."[7] They add that if the detonations and vibrations were to resume at similar levels with a restart of the mine, it is likely that structures will continue to deteriorate and that an eventual collapse is foreseeable.

Impacts on the use and enjoyment of Xinka lands and natural resources

The Escobal silver mine has already impacted the Xinka People's ability to use and enjoy their lands and other natural resources, especially water, necessary for their subsistence.

As described in the cultural and spiritual impact study, the municipality of San Rafael Las Flores where the mine is located has historically been an agricultural area specializing in the production of tomato, jalapeño chile, peppers, cucumber, onion, watermelon, coffee, corn and beans. Agricultural producers from San Rafael Las Flores report that local consumers have increasingly rejected their products since the mine went into operation, given concern that their onions and other goods are contaminated.

Furthermore, land in this area was not only used by local producers, but by residents from mountainous villages in the municipality and surrounding municipalities who would work the land or rent land there, given its high productivity and abundant water supplies. "Where the mine is, that's where the village they called Escobal is, then there's [the village of La] Cuchilla and Los Planes nearby and all that. We used to grow corn and beans there, but then they took over. For many of us who worked the land there, there were no longer opportunities to grow corn, beans, and such."[8]

Knowledge linked to cultural traditions and complementary food sources previously harvested from rivers and streams, such as the Escobal, are also being lost. Local residents observe that the production of shrimp, crab and fish has diminished and they no longer trust the water quality. "My dad would say, may he rest in peace, 'I'm going to go and get some soup' and he would take his fishing net and go to the river. He would catch crabs, he would catch fish, we would even eat shrimp if necessary. Today there is nothing, it is no use having projects or having a mining company for a couple of years if it is destroying the environment."[9] For the estimated 300 families who used to sell their river catch in city centres, this source of subsistence has also been lost. Meanwhile, since the mine arrived, the cost of living has risen for residents of San Rafael Las Flores and those who make their purchases there.

An additional impact concerns restrictions placed on access to a sacred site, particularly the archaeological site in San Rafael Las Flores, which is within the mine property, under supervision of private security, and only accessible to the Xinka upon special permission from the company. This has led the Xinka to limit their visits to the site, considered one of the most important in southeastern Guatemala.[10]

Water Contamination: The environmental expert team found that the company lacks baseline water data from prior to exploration activities. They also note a limited number of water monitoring stations, an arbitrarily limited range of parameters being monitored, and missing studies between 2008 and 2010. These gaps allow the company to deny responsibility for changes observed in water quality. They further underscore the danger this poses, particularly as it relates to potential impacts from the tailings facility, which is constructed on top of a geotextile, or permeable lining, that could allow water to filter through and contaminate groundwater in the short and long term.

The Ministry of the Environment, for its part, did not do any independent water testing until it was ordered to do so by the Constitutional Court in 2019. However, even after the court order, it did not do so quarterly, as required, and left out data on arsenic, cadmium, mercury, and lead levels. The Ministry of the Environment failed to carry out any evaluation of groundwater quality nor has it studied, alone or in coordination with the Ministry of Health, the bioaccumulation of heavy metals in aquatic organisms, crops, livestock, or residents.

Despite the limitations in available information, the experts' evaluation found an increase in the concentration of arsenic, magnesium, lead, and selenium in surface water downstream from the mine. They also identified an increase in aluminum, arsenic, iron, and selenium in groundwater below the tailings dam. They noted the presence, albeit below permissible levels, of metals such as strontium, which are not naturally available in the environment. While the concentrations are still within allowable limits, they raise concern about how the mine

Testing water pH at Lago Ayarza

operations are affecting water quality and could worsen should the mine reopen. Notably, the experts also reviewed studies that have found high levels of arsenic in municipal wells used for drinking water in San Rafael Los Flores and others in the surrounding area, which is a source of considerable concern to the population.[11] The dewatering of the mine, dropping water table, and greater exposure of waste rock to air and water as a result of mining activities could be a contributing factor.

The expert team also carried out a study of heavy metal in aquatic organisms near the mine and found concentrations near or above the UN Food and Agriculture Organization's allowable limits of cadmium and lead in tissue samples from the El Escobal stream downstream of the mine and at the confluence of the Escobal stream with the Dorado River. Samples taken just downstream of the mine also showed the presence of antimony, which is rarely found in the environment, except as a by-product of industrial processes and under other specific circumstances. These metals are of concern due to potential biodiversity loss from toxicity, as well as possible impacts on crops and human health.

Worries about impacts on water supplies among the population were also highlighted prominently in the cultural and spiritual impact study, "In addition to taking the minerals, they are going to leave us without water. And if the water is contaminated with how many deficiencies and how many diseases. This is why we must have a clear vision, the Municipality of San Rafael las Flores with adequate orientation can live a long time without the need for mining exploitation."[12]

Water Loss: Water loss is also an issue of deep concern to the Xinka People with corresponding impacts, as expressed in the cultural and spiritual impact study: "The water crisis is something already happening in most of the communities visited. This is a new phenomenon because, as evidenced in the cultural and spiritual history [of the Xinka], the territory has had large water reservoirs and many springs, wetlands and rivers. Today, water reaches most houses for only a few hours a day, and women have had to adopt the task of looking for containers to store as much water as they can and managing it so that it lasts."[13]

The hydrogeological expert who examined the available information from the government and company, found that the company's studies are based on a "poor" hydrogeological model that limits the area of study to one immediately around the mine and fails to consider its connection to the wider watershed. It is also based on the presumption that there is no connection between the superficial and deep aquifer present, while minimizing the study and importance of springs that local communities rely on. Guatemalan authorities did not have a copy of the company's 2016 and 2021 hydrogeological studies in their files, and the experts report restrictions in the information the company allowed them access to. Given these limitations and weak government oversight, the expert report states, "It is a fact that the environmental authority, and potentially the mining company itself, have no record of the affected water sources, making it impossible to measure or estimate potential impacts."[14]

Nonetheless, the hydrogeological expert review provided evidence through their own field work of potential impacts from constant dewatering at the mine, including substantial water loss from springs and wells, as well as an accelerated drop in the water table.

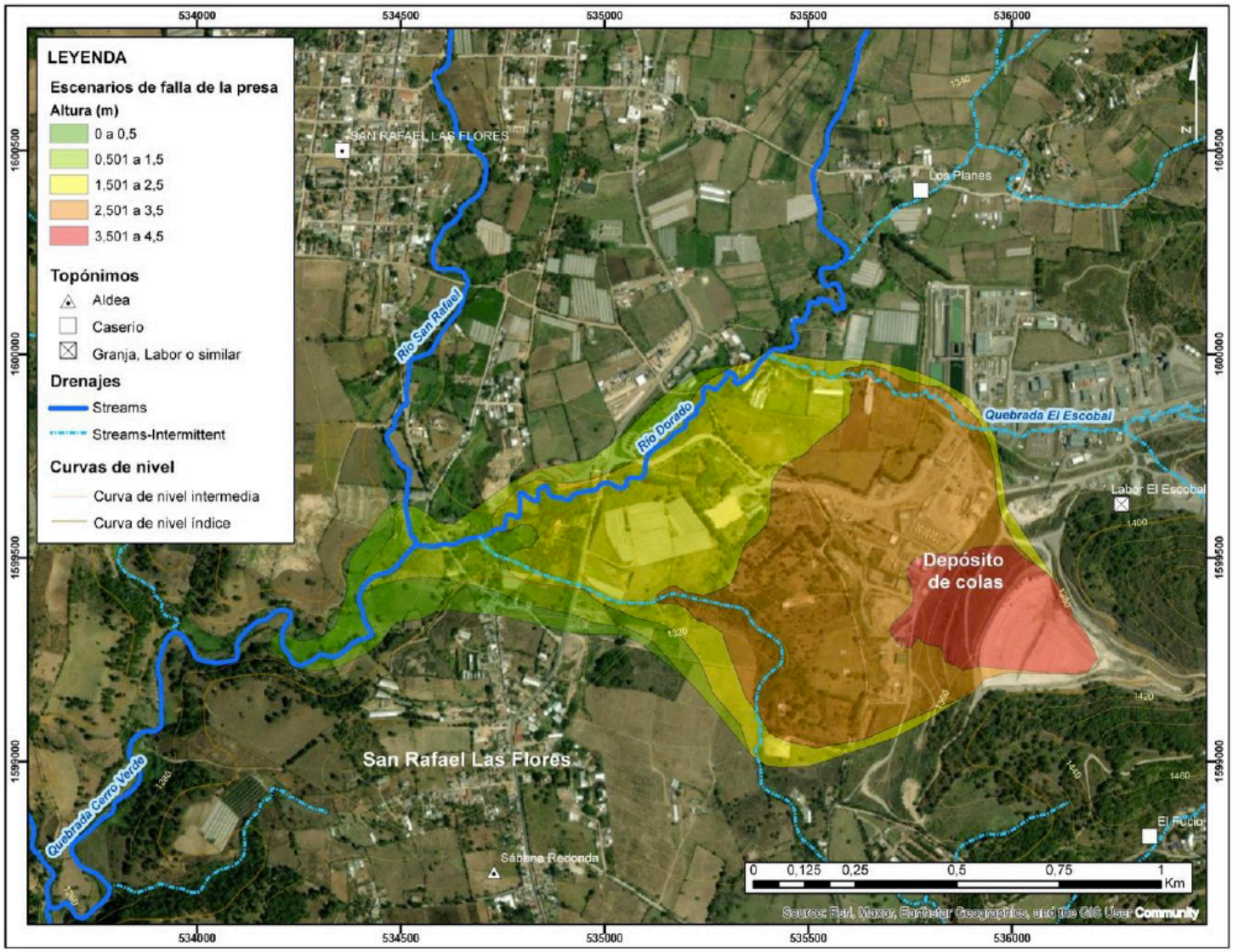
They mapped and analyzed data from 147 groundwater sources in communities surrounding the mine. The experts found that 75% of the communities studied rely on spring water for domestic use and economic activities. In San Rafael las Flores, where the mine is located, they recorded a worrisome drop in the water table in all 49 springs analyzed. The experts also found a drastic decrease in the springwater and some streams in the surrounding municipalities of San Carlos Alzatate, Mataquescuintla, Nueva Santa Rosa, and Casillas.
In the municipality of San Rafael Las Flores, "From 2014 onwards, the construction of both mechanical and artisanal wells has had to take place due to the drop in water levels in the springs, and it is even reported that several have dried up completely. In addition, people have started to collect rainwater for household use. In general terms, there is great concern about the progressive scarcity of water and the possible relationship of this with the mining project."[15]

The study finds a drastic decline in water levels in two important mechanical wells in San Rafael las Flores. The Las Piscinas well dropped by 122.4 meters since it was built in 2011 and the El Cementerio well dropped 70 meters in just four years, from 2019 to 2023.[16] The experts state, "This situation seriously jeopardizes the [water] supply of communities in the medium term."[17]

Risks from the deposit or storage of hazardous materials

In addition to the evidence that tailings waste deposited on Xinka territory may be contaminating water supplies, the expert team found considerable risk of an eventual tailings collapse. This is not the first time that such a risk has been identified. In 2019, MSCI included the Escobal mine in its study of tailings risks and raised concern given "high risks for both flood and seismic events", as well as a history of community opposition and regulatory suspensions.[18]

After only three years in operation of a projected 25-year mine life, the Escobal filtered tailings facility is currently at 25% capacity. Of the 22.6 million tons of material projected to be extracted from the Escobal mine, more than 96 percent is waste that would stay on Xinka territory. The company estimates that 66 percent of this toxic mine waste would be used to refill the tunnels and



A visualization of the estimated distance and depth that the tailings could reach in the case of a tailings facility failure. This projects the average results found from modeling different scenarios at which time the tailings facility is at its maximum projected height. The colors indicate the depth of the tailings along the course of the spill: red (3.501 to 4.5 meters), orange (2.501 to 3.5 meters), yellow (1.501 to 2.5 meters), light green (0.501 to 1.5 meters), green (0 to 0.5 meters).

34 percent would be stored in a filtered tailings facility estimated to eventually be 160 meters (524.9 feet) or roughly the height of a 40-floor skyscraper.[19]

The expert study determined that the water content of the tailings was higher than the optimal value according to the company's own analysis, with significant safety implications. According to the expert team, this points to a lack of effectiveness in the process for drying the mine waste, as well as in the company's monitoring protocol to ensure the stability of the mine waste.

Despite company assurances that the tailings deposit could withstand a strong seismic event, the experts found that the company has not appropriately analyzed the effects of seismic activity on the tailings facility.[20] The experts state that, "...it is possible to affirm that the seismic risk conditions in Guatemala and this region specifically are high"[21] and that it is "highly probable that liquefaction will occur"[22] at the Escobal tailings deposit.

Liquefaction occurs as a result of loose (poorly compacted) tailings and the saturation of water between the pores of the tailings particles. The saturated tailings instantly lose their strength and stiffness and begin to act more like a liquid than a solid. So instead of a material like sand or soil, tailings begin to move like water. Dynamic liquefaction occurs when a shaking, like an earthquake, increases the pore pressure.

Based on their own modelling and the information analyzed from the company's own reports, the expert team categorizes the threat of a tailings collapse, under static or normal conditions, to be between medium and high risk and under pseudo static, or earthquake conditions, to be very high.[23]

The team's study estimated that if all tailings deposits collapsed at full height due to seismic activity or saturation from heavy rains, the affected area would cover approximately 108 hectares downstream, with toxic

waste 0.5 to 4.5 meters deep. The experts predict direct and serious damage to the Escobal stream, the Dorado River, and other streams, as well as indirect damage to the San Rafael River and its tributaries, in addition to the total loss of homes, crops, water sources, and other infrastructure.

Harms from imposing the mine without the Xinka People's consent

Without having obtained the consent of the Xinka people to operate the mine and in the context of broad opposition, then mine owner Tahoe Resources in collaboration with the government of Guatemala used a militarized security strategy to put the Escobal mine into operation from 2014 until mid 2017.[24] The cultural and spiritual impact study finds that the repression has had enduring psychosocial effects and that the project has led to social divisions at multiple levels.

The cultural and spiritual impact study estimates that over 200 people faced legal persecution for their opposition to the mine, including a former mayor of Mataquescuintla, and a past mayor of Nueva Santa Rosa who denounced having received threats.[25] The legal persecution, together with threats and stigmatization created fear, anxiety and depression within affected families.

Furthermore, a state of siege instilled fear when it was declared in mid 2013 in four municipalities (San Rafael Las Flores, Casillas, Mataquescuintla and Jalapa), shortly after the government approved the company's operating permit, dismissing without consideration over 200 individual complaints against the decision. "People had never seen tanks or [experienced] a large contingent of soldiers stationed in their communities for several months. This situation affected them emotionally and also made them feel singled out as "troublemakers" by residents from other municipalities."[26] Such emotional impact, including a sense of indignation and sadness, still persists from police repression in 2017 and the indiscriminate use of tear gas against the resistance camp in the municipality of Casillas, where children were also present.

The cultural and spiritual impact study documents how social divisions emerged after the mine went into operation. Local residents grew upset with municipal governments that agreed to accept the company's voluntary royalty payments (notably some refused) and their decisions about how to use the income. In cases where royalty payments were used to cover school teacher salaries, teachers and students would bully children from families opposed to the mine. Some people perceive that local development councils became co-opted through company contributions and which played a role to try to influence local populations in favour of the mine. Family divisions also arose between youth that accepted jobs at the mine and relatives concerned about the impacts from the mine on farming and fishing activities.

As a result, the mine has become the source of persistent conflict. Notably, there have been several assassinations over the years, including 16-year old youth leader Topacio Reynoso in 2014[27] and Noé Gómez Barrera in 2023.[28] In another shooting incident, Tahoe Resources' private security opened fire on peaceful protesters in April 2013, seriously injuring six.[29] The victims sued the company in British Columbia civil court, achieving a landmark settlement in 2019 in which Pan American Silver took responsibility for the shooting and human rights violations.[30] During the consultation process, harassment, threats, attacks, and defamation against Xinka leaders and community members have also persisted.[31] Several families, including that of the former President of the Xinka Parliament, have had to flee and are living outside the country.[32]

The May 8, 2025 press conference announcing that the Xinka People do not consent to the Escobal mine

ENDNOTES

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22 Erika Cuida López & Cesar Santiago Ramirez Rodríguez, p.273.

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