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Journalism to Raise Environmental Awareness

Grassroots Bulletin on Sustainable Development in Northwest Mexico

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After being trained as solar energy engineers to help their communities, they dream of forming an organization called *Zaah Eecla*, or Daughters of the Sun, in *cmiquii itom*, their native Comcaac language. See Page 11. (Foto: *Núria López Torres*).



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Editorial

Without pressure, the corrupt will kill off the Vaquita, the Totoaba, and how many more?

The Upper Gulf of California has apparently reached a dead end, with the only solution being the most difficult to resolve: the culture of corruption inherited and maintained by consecutive governments since Mexico first gained its independence.

A clear example is the ever increasing danger of extinction for the Vaquita Marina (*Phocoena sinus*) because of its inadvertent capture in nets used in the illegal fishing of Totoaba (*Totoaba macdonaldii*); both species are endemic to the region.

In the time between our first issue of Melóncoyote in 2009 and now, we have seen the population of Vaquita decline from 100 to just 30 individuals. We have always advocated the need for real law enforcement, together with a policy that offers a real source of income to fisher families from the Upper Gulf, given the worldwide collapse of the industry due to overfishing.

Today, the world's smallest cetacean is also the rarest, and scientists are frantic, trying to locate and capture live individuals, because projections show that within just a few months they will likely become extinct.

Totoaba fishing, which is carried out using gill nets, has been prohibited since June but nonetheless continues due to the high demand on the Asian black-market for the swim bladder, also known as buche, which brings thousands of dollars apiece. Just like the measures that haven't helped the Vaquita to recover, neither will the proposed legalization of this fishery.

In 2010, right at the beginning of the "buche" boom, the Center for Biological Investigations of the Northwest (CIBNOR) began a study of the Totoaba that had, among other objectives the estimation of the current population, with the idea of gathering scientific data about their abundance and population makeup that would help in the process of reclassifying them for the list of endangered species.

When they presented their conclusions in 2013, they had yet to reach a definitive answer. They said that while it showed signs of a healthy population it also showed signs of a vulnerable population. They recommended extending the study.

Now, without any more data, the government promises to legalize Totoaba fishing for the first months of 2018, giving false hopes to fishing families in trouble because of the economic decline.

But the legal commercialization of the Totoaba's swim bladder is not possible, as a number of conservation organizations have correctly maintained. The sale of the whole fish and any of its parts and products is clearly prohibited worldwide because it is a listed species in Appendix I of the Convention for the International Trade of Endangered Species of Flora and Fauna (CITES), of which Mexico is a signatory.

Appendix I authorizes commerce only under exceptional circumstances for these species. And no circumstance can be justified while the corruption of those in charge of monitoring continues unchecked.

The Program for Comprehensive Care for the Upper Gulf (*El Programa de Atención Integral al Alto Golfo*), which applies to waters off both Baja California and Sonora, is a complete failure. This program is run by a team called the Inter-institutional Operational Coordination Group (*Coordinación Operativa Interinstitucional*), which is made up of the federal Attorney General for the Environment (PROFEPA), the National Fishing Commission (CONAPESCA), the Secretariat of the Environment and Natural Resources (SEMARNAT), the Federal Preventive Police (PPF), the Secretary of the Navy (SEMAR), as well as other agencies. These are the people who agree on inspection and monitoring activities.

It is no secret that the operations are carried out on days when there is no illegal fishing and in places where there are no schools of fish for the poachers to target. At other times, the institutions allege that they can't go monitoring because "there is no gasoline". Could this be true? If they don't have gasoline, why is there a program of this magnitude outfitted with first-class boats and personnel, but no gas?

In 2016, international organizations proposed a program dedicated to collecting what was known as "ghost nets". In other words, they wanted to locate and remove nets that the poachers hide, suspended by floats in the middle of the ocean. The poachers can then carry out their activities in smaller boats leaving from different parts of the shore "without being detected", say authorities. The organizations were able to remove more than 260 nets. About 70% were for Totoaba fishing and were in good condition.

Simply put, if a monitoring program is not established that actually prevents illegal fishing in the upper Gulf, Totoaba fishing, legalized or not, will continue in an irrational manner, and the fish will be yet another species likely to disappear, just like the Vaquita Marina.

We invite you to read and share the details about this and other topics having to do with sustainability and resilience in Northwest Mexico here in Melóncoyote with the knowledge that it is a tool to encourage participation in citizen journalism and decision-making in the land of the Coyote Melon (*Cucurbita palmata*) for which this publication takes its name.

Mission

Why Melóncoyote?

Our project dates back to 1994, when "Journalism to Raise Environmental Awareness" (abbreviated PECE in Spanish) was formed. In 2004, PECE played a role in the founding of the national professional organization The Mexican Environmental Journalist's Network. In 2005, when we started the first grassroots journalism project in the Gulf of California, our team chose the name Melóncoyote because it is a species emblematic of the region at the heart of our mission.

The Coyote Melon, known in Spanish as melón coyote or calabacilla (which includes the species *Cucurbita palmata*, *C. cordata*, *C. digitata* and *C. foetidissima*) is a wild perennial gourd that is resistant, versatile, beautiful, useful and native to the sandy soils that characterize the Gulf of California zone. The coyote melon is found in the region's seven states: Baja California Sur, Baja California, California, Arizona, Sonora, Sinaloa, and Nayarit. A vine, Coyote Melon has an immense root that guarantees its survival against hard times while its long stems serve to anchor the soil in fragile areas.

The indigenous peoples of the area, bearers of the region's traditional wisdom, describe the plant and how it is used. As medicine, it is bitter, but effective. As a musical instrument, it makes a beautiful rattle. Its seeds provide oil and a flour which contains a high level of protein. Its shell is ideal as a container for all matter of things. Because of all of these traits, and because it is an integral part of the food chain and one of the principal foods of the coyote, they named it "Coyote Melon".

Our team of collaborators chose this name because it is a plant found throughout the region, and in doing so, we wanted to stress our intention to create a large-scale communications medium, capable of spreading (on a regional level) the news about efforts being made towards sustainability. With this symbolic name to represent our work, we are sending a clear message about our respect for the land and the sea, as well as for the ancestral cultures and customs of the region. We see the establishment of this medium for education and dissemination as something urgent, given the idiosyncrasies of the region. We have conceived this project as being an integral element of the environment, something positive like the Coyote Melon.

Faced with the challenges of growth in the region—a low population density, its recent political incorporation into the national government, a high degree of natural attraction and its proximity to the strong investment sector of the United States—we understand the implications of the pressures for development. Dealing with these challenges and pressures will require informed citizens who have the chance to participate in the decisions that affect their land, water, air, biodiversity and their future. We invite others to join with us, to participate in building this medium and to fight for a stable future for the region.

All work on behalf of Melóncoyote is voluntary.



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Grassroots Bulletin on Sustainable Development in Northwest Mexico

Kumiai apply traditional wisdom to climate change

*Text and photos by Talli Nauman**

ENSENADA

On the internationally advertised wine-country tour of Baja California, a well-known destination among dozens is the L.A. Cetto vineyards, a large-scale producer of table wines. Next-door is the rustic and charming family-run Casa de Doña Lupe winery, with quite a local following.

Yet not all is about the culture of wine-tasting during a visit to the Guadalupe Valley. On the same road is a gateway to an entirely different culture, ensconced here centuries before Europeans and Russians arrived to develop Mexico's first winemaking: the *Siñaw Kumatay* Eco-Tourism Center at the indigenous Kumiai village of San Antonio Necua.

Thanks to this project, a whole new generation of Kumiai is learning nearly lost traditions, central to which are the indigenous language and the knowledge it unlocks for protection of the native habitat necessary for subsistence.

Cabins, campsites, horseback rides, hiking, biking, water sports, cooking classes, a museum, a gift shop, and a natural medicine cabinet provide tourist attractions that bring in money to help the community restore the balance of nature and develop pride in age-old wisdom.

Nurtured by the women's cooperative here since 2003, the project has received ample participation from the government, academia and non-governmental consultants. It won the National Merit Award for Forestry in 2009 and went on to serve as a sustainable development model for the other three Kumiai communities located in Baja California.

The National Forestry Commission has taken a special interest in the project because of its role in pointing the way for climate change mitigation, adaptation and resilience.

Living close to the land and depending on the weather for wildcrafting and raising livestock, the Kumiai are among the first to feel the destructive impacts of the global warming caused by mounting greenhouse-gas emissions.

"With extreme cold and extreme heat, trees are damaged by pests. Animals die from the cold. The citrus fruit have frozen. When it is autumn, it feels like we are in the middle of the summer. These are changes to be reckoned with," says project participant Leticia Arce.

Siñaw Kumatay means Big Acorn. The project logo is a drawing of an acorn. It is a staple food and a symbol of regeneration.

At the center of the village stands a giant oak with wide-reaching branches, a venerable member of the species that produces the nutty seed. The tree is the gathering point for annual ceremonies that draw visitors from both Mexico and the United States.

The festivities feature singing and dancing with gourd rattles to honor nature, as well as a hockey-like game called *piak*, and, of course, feasting and a crafts fair complete with jewelry carved from acorns.

According to community member Rosa Morales Domínguez, the grandfather tree that hosts all this has "its roots so deep that they survive the statewide drought," and, she adds:

"The oak is part of the culture. That is why it is a protected species. It provides food, shade and strength. We do not allow any damage. We try to protect it."

Although, San Antonio Necua offers scant diversity in tree species, the community never cuts down an oak tree for firewood, settling instead for fuel from a scraggly bush. "Only manzanita wood is used," says Morales.

The Kumiai can trace their origins in this area back 12,000 years. Every winter solstice, their culture recognizes the sun's share of the day beginning to grow and the return of its lifegiving energy to the wild foods and domestic crops that provide sustenance.

With only about 250 community members at San Antonio Necua and just 6,000 Kumiai between the entirety of the four Kumiai settlements in Baja California and the 13 in San Diego County, California, the Mexican government considers the tribe among the most in danger of extinction.

The promoters of *Siñaw Kumatay* are having none of that.

Only four Kumiai speakers remain in San Antonio Necua, the largest of the tribe's communities in this state. But language courses are offered Monday through Friday.

Some 200 years ago, the people stopped making pottery for cooking and storage vessels, but now they are reviving the craft for retail. Basketry has continued through the ages, now producing some of the most coveted works in the genre.

Foodways are being maintained. Acorns are ground by hand; their meal is sifted, washed, rinsed, drained, dried and then made into a nutritious porridge called atole. Jojoba produces another nut, eaten here like almonds. People also harvest pine nuts, yucca and wild honey. Palm seeds and squash are on the menu.

Plant and animal husbandry came with the missionaries, adding to the products of hunting and gathering in community life. "Ranching is very important," says Arce. Cattle and goat herds produce raw material for local cheesemaking.

A cookbook of traditional recipes is being compiled. A botanical garden, replete with medicinal plants, is the crowning glory of the *Siñaw Kumatay* complex.

"We reforest with local plants, which are used as medicine and food, to teach respect for them," explains Arce.

Guiding a tour of the living medicine chest, she points out natural remedies and edibles, such as mint, black tea, rue, root beer plant, islaya cactus (for headache), valerian and *chakpil* (an aromatic).

To promote the project, the National Forestry Commission provided training in business management, ecotourism, and guide services, as well as 12 barbeque grills, a group shelter, nature trail, campground and garden installations. Agency personnel helped draw up and register the organization's bylaws.

Around 400 visitors come every month. Because of the center's success, the project is being replicated in the indigenous Pai Pai Mission of Santa Catarina and the Kumiai village of La Huerta. [Click here \(https://www.facebook.com/Si%C3%B1aw-Kumatay-410140392475519/\)](https://www.facebook.com/Si%C3%B1aw-Kumatay-410140392475519/) for more information.

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Periodismo Para Elevar la Conciencia Ecológica

Boletín Ciudadano Sobre el Desarrollo Sustentable del Noroeste Mexicano

Revillagigedo, a monumental task on Mexico's Galapagos

*By Miguel Ángel Torres**

CABO SAN LUCAS

When Enrique Peña Nieto signed the decree on Nov. 24, 2017 that designated the Revillagigedo Islands as the country's largest national park, he kicked off the enormous task of strengthening conservation in one of the most biodiverse zones left in the world.

The challenge now is to better manage the area that, because of its importance to the world, was designated a Biosphere Reserve in 2008. The park encompasses more than 57,170 sq. miles of ocean and only 60 sq. miles of land that includes the islands of Clarión, San Benedicto, Socorro and Roca Partida.

Known as Mexico's Galapagos and located at the mouth of the Gulf of California, the isolated archipelago belongs to the state of Colima. A 24-hour boat ride from Cabo San Lucas, it is a favorite destination for divers.

Responsibility for the area's protection lies with the National Commission of Protected Natural Areas (Conanp), a division of the Secretariat of the Environment and Natural Resources (Semarnat), and of the Secretary of the Navy (Semar). Conanp is tasked with administration, day to day management, and the preservation and restoration of the park's ecosystems and features, while Semar handles inspections and carries out patrols, reconnaissance and supervision of the protected area.

Semarnat formulated the decree that was published in the Official Federal Journal on November 27th, and will coordinate inspection and supervision activities within the park, in which the Federal Attorney General's Office for Environmental Protection (PROFEPA) will also be involved, at the same time that it will reach out to other agencies for assistance as necessary.

The conservation world applauded the decision; environmental organizations and media outlets have spread the word about the wealth of marine life that characterizes the new park, and some of these materials are available on the Melóncoyote [Facebook page](https://www.facebook.com/meloncoyote/) (<https://www.facebook.com/meloncoyote/>).

Highlighting the area's marine life, scenic beauty and the federal authorities' lack of resources for carrying out their job – this leaves Revillagigedo National Park primarily at the mercy of tuna, shark, and aquarium fish poachers.

Both Semarnat and Conanp have had major budget reductions, and the amount allotted is not much to begin with. In 2017, Semarnat received 37.4 percent less than in 2016, which was 20 percent less than the previous year, when there was only a 1.1 percent decrease.

According to an analysis by Fundar, a non-governmental organization, Conanp saw its 2014 budget rise by 4.4 percent from the previous year; in 2015, it decreased 1.35 percent, and while it rose again by 10.9 percent in 2016, it was cut again by 21.7 percent in 2017.

The budget approved for Conanp in 2018 is about US\$1.98 million, about half of what was received in 2015, while the territory of all categories of Protected Natural Areas (ANPs) has increased, as have the threats from extractive activities within their borders.

Profepa's situation is similar in that it lacks sufficient money, human resources and materials to efficiently carry out monitoring across the country. "It's not that they are doing a bad job, it's that they lack the resources to confront the problem, they need more people, more resources and a strengthening of the laws and regulations", Julia Carabias Lilo, former director of Semarnat, told the newspaper *El Universal*.

The winner of the 2017 Belisario Domínguez Medal acknowledged that because Profepa has very little money and staff, it can't address all of the country's problems and what it needs is a strengthening of the regulations that will help with prosecutions.

The problem doesn't only stem from the lack of resources, but from its structural nature, which under the current circumstances puts environmental defenders and institutions at grave risk: organized crime has become involved in natural spaces, "communities are threatened, there is plundering and over-exploitation of the fisheries and they go around intimidating authorities and activists."

"If the rule of law was working, if we really had good monitoring, if it all led to the sanctions that the law permits, then we would all be much less vulnerable," Carabias stressed.

Revillagigedo's distance from Mexico's mainland makes it even more difficult to care for, protect, and preserve its natural resources. Activities prohibited in the zone are:

- Construction of infrastructure for any tourism activities as well as their support services;
- Dumping or discharging contaminants on land or into the water, or developing activities that produce contaminants;
- Changes to land use;
- Disrupting, filling, transplanting, pruning or engaging in any other work or activity that would affect the integral nature of any water course or source, including its natural productivity and capacity to replenish ecosystems;
- Interrupting, filling, draining, redirecting or otherwise modifying runoff watersheds and water flow;
- Hunting marine mammals;
- Harvesting any species or populations of wild flora and fauna;
- The introduction of exotic and invasive species or populations of plants and animals, soil from other islands or the mainland, and genetically modified organisms in order to carry out any type of activity within the protected area;
- Disturbing or destroying the feeding, refuge or nesting grounds of any wild species;
- Removal of, or damage to, the chimneys and rocks of the hydrothermal vents and hydrothermal areas;
- Trawling or use of any other invasive technique that disturbs the sea floor;
- Use of temporary or permanent night-time lighting that impacts the natural behavior of any wildlife;
- Use of any sound source that impacts wildlife behavior;
- Use of explosives;
- Campfires or any type of fire on the islands;
- Creating paths, openings or roads;
- Dredging or disturbing the sea floor in any way that results in suspended sediments or creates muddy areas;
- Mining exploration or extraction;
- Any other activities as prohibited by the General Law of Ecological Balance and Protection of the Environment.

The task is monumental, and it's only just begun.

**Codirector of Journalism to Raise Environmental Awareness*



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Jaguar: Challenge for the Americas

*By Agustín del Castillo**

TEPIC

There could still be about 100,000 jaguars in all of the Americas, says Dr. Alan Rabinovitz, one of the world's most renowned experts on big cat conservation. But he warns: "we can't be complacent; a hundred years ago there was a similar number of tigers in southeast Asia, and in just a few generations they have almost disappeared. This mustn't be the story of the jaguar."

Rabinovitz is cofounder of *Panthera*, an NGO that proposes to work with governments to carry out ambitious conservation projects for big cats around the world. The organization's premise is that predators are indicator species, and are responsible for sustaining ecosystems.

Panthera is just one genus in the family Felidae (according to Linnean nomenclature) and includes just a few species of big cats, all of which are capable of roaring: lions (*Panthera leo*), tigers (*P. tigris*), leopards (*P. pardus*), snow leopards (*P. uncial*) and jaguars (*P. onca*).

But the organization's mission goes beyond these charismatic beasts, recognizing as well that it is vital to protect Africa and Asia's cheetahs, the world's fastest terrestrial animal, and mountain lions (pumas), a dominant American feline that, according to scientists, is the big cat best adapted to a wide range of climates and ecosystems.

Rabinovitz is a legend. His name is connected to both Hukaung Valley Tiger Reserve in Myanmar (formerly Burma), the world's largest natural reserve for the endangered Bengal tiger, and Cockscomb Basin Wildlife Sanctuary and Jaguar Preserve in Belize, the first preserve dedicated to saving jaguars in the Americas. He has also proposed the idea of jaguar corridors, a concept that is now the backbone of all Mesoamerican efforts to protect the only *Panthera* in the New World.

According to the National Geographic documentary about Rabinowitz' life, struggle has been the leitmotif: for big cats, and against a stutter, cancer, and the social hardships faced in his native New York. Time called him the "Indiana Jones" of wildlife protection.

In May 2017, he was in Mexico, where Rodrigo Núñez Pérez, president of the country's Jaguar Conservation Committee, took him to visit the mountains between Jalisco and Nayarit, one of the most important boreal locations and ranges for the ancient Mexicas' mythical *tecuaní*.

Between meetings, he had time for a telephone conversation, and with the translation assistance of Diana Friedeberg, *Panthera*'s Mexican director, this is part of the conversation:

- What is *Panthera* hoping to accomplish with this visit to Mexico?

- We are starting a large-scale initiative called Journey of the Jaguar (*Viaje del Jaguar*) that entails traveling along the jaguar's trajectory from Mexico to Argentina in order to assess the conditions of the corridors, highlight the importance of *Panthera onca* in these zones, and to witness the collaboration of other groups working on conservation of the species. We have realized that in Mexico there are many NGOs working on efforts, rescuing individual animals, as well as *ejidatarios* and land owners who want to use their land for conservation. Then there are governmental efforts. But these are all isolated efforts that need to be coordinated, so that together they will all help us achieve real jaguar conservation.

- We live in times with a lot of "green" political rhetoric, but public budgets not only are not increasing, but are actually being reduced and it doesn't look like there are enough resources for long term conservation.

- Yes, this true and not only in Mexico; this is happening with the other 18 governments we work on jaguar conservation. Many make promises, but then always complain that there aren't enough funds to follow through. We believe that there *are* the resources but that they just don't prioritize

conservation projects; they don't place much importance on priority species like the jaguar. It seems that they see the importance of conserving green areas and beautiful landscapes, but they don't see the rest as being necessary for our future, for human health and well-being. The reality is that natural protected areas have an essential function. We depend on them for their ecosystem services: water, air, and everything that we extract from the earth; and for climate change mitigation. All of this, both conservation and ecology has to be prioritized by governments.

- How did the health of the jaguar seem, given data from the monitoring projects and the species' widespread distribution, especially when compared to the vulnerability of other worldwide *Panthera* species?

- Compared to other big cat species, the jaguar actually looks to be in good shape; its population numbers are good. On the other hand, the tiger and lion are close to extinction. I have to point out something though about the 100,000 jaguars that still remain in the world: 100 years ago, we had the same number of tigers and in that same amount of time we have lost most of their populations. This is what we want to avoid with the jaguar, because in three or four generations we could have just half that number.

- What threats to the species have you identified?

- Among the threats are poaching, of the jaguar itself and of its food prey. Another problem is that while there are numerous populations, they are isolated from each other. At least there are these biological corridors that we can use to connect the populations, because isolated populations lead to the extinction of a species. They need a strong genetic bank, and this can be achieved if corridors from Mexico all the way to Argentina are maintained (see map), and if the populations remain related to each other. That will mean we have jaguars into the future.

- Would a local economy that is sustained by the survival of jaguars be possible?

- Yes, definitely, using it as a charismatic species. Every Mexican has a jaguar in his or her heart, so it might be the *ejidos* that could work with them to develop some type of ecotourism, where adventure seekers would pay for a trip and could also learn all about the culture surrounding the jaguar. This culture isn't just relevant to the biological and genetic corridors in Mexico: this is where the jaguar's cultural path began. It is from the pre-Hispanic cultures in the region that the cosmic view of the jaguar arose, especially among the Olmecs, and all aspects of their lives revolved around this species. This is a precious legacy that could be drawn upon to promote conservation.

**Winner of the 2015 National Prize for Investigative Reporting on Sustainability from the Carlos Septién García School of Journalism and the Coca Cola Foundation, and the Environmental Merit Prize in Environmental Journalism from the Municipality of Guadalajara*

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Vallarta, lesson in environmental justice for Riviera Nayarit

*By Kent Paterson**

PUERTA VALLARTA

Tumbling down from the jungle-canopied hills of the Sierra Madres, the Cuale River cuts through Puerto Vallarta, Jalisco, on its way to Banderas Bay. Iguanas, squirrels and aquatic birds find shelter and sustenance in the riparian habitat. One year, this reporter was fortunate to observe two rare river otters frolicking in the river.

Next to the Cuale River stands Colonia Emiliano Zapata, which evolved as a neighborhood of cobblestone streets, tiled roofs and white-walled family homes. In the first months of 2017, however, locals nervously eyed new, multi-story condominiums- designed above traditional height limits- under construction where none had previously existed. Because few *Vallartenses* can afford condos with starting prices of \$115,000 and up, foreigners and/or wealthy Mexicans will constitute the market for the new residences.

Although one new condo project billed ecological living, pumps noisily chugged away day and night extracting water from the construction site and discharging it into the Cuale River.

A proprietor of a small neighborhood stationary store, Rosa Limon said the changes sweeping her city signal nothing less than "the deterioration and destruction of the essence of Puerto Vallarta and its history."

Besides obstructing views, the condos interrupt ocean breezes, Limon said. "There's no impact study on all this growth. There's growth for a handful but no development for the neighborhood.

Limon, a teacher by profession, filed a complaint in 2016 with the official Jalisco State Human Rights Commission over a new seven-story building consisting of 46 condo units and assorted storefronts located just down the street from her store, alleging a sidewalk was expanded without the proper authorization. In response, Puerto Vallarta Mayor Arturo Davalos sent documents to the state commission attesting to the project's legality and its conditional approval by a neighborhood association, a grouping Limon contended did not represent all residents or have standing in the matter.

In the bigger picture, Puerto Vallarta and its environs represent a case study in tourism-fueled rapid growth versus environmental sustainability, public interests against the profits of developers, and the privatization of public spaces.

In 1970, the Pacific Coast port was home to 35,911 people, counted 1,310 hotel rooms and received 157,541 visitations, according to a study by José Lués López and José Alfonso Baños contained in the 2012 book *Desarrollo Local y Turismo*, published by the University of Guadalajara.

Nowadays, more than 300,000 people are estimated as residing in Puerto Vallarta. According to the Jalisco State Tourism Secretariat (Secturjal), today's Vallarta counts 22,000 hotel rooms with another 15,300 in the contiguous Riviera Nayarit, an area extending from the big hotels of Nuevo Vallarta over to the luxurious properties of Punta Mita, up the Pacific coast and into the towns of San Pancho and Sayulita. The Riviera Nayarit's development was promoted by a Mexican federal agency, Fonatur.

For 2016, Secturjal reported that Puerto Vallarta welcomed 4,000,000 visitors while the Riviera Nayarit captured 2,624,000. What the state tourism agency applauded as the new tourism "bonanza" continued in 2017. True to spirit, a new upscale shopping center, La Isla, has opened in Puerto Vallarta.

As Puerto Vallarta grew, big hotels such as the Fiesta Americana and Holiday Inn, flanked by towering condo developments, were constructed in a special zone removed from Colonia Emiliano

Zapata and the historic downtown core. Completed in 1993, the Marina Vallarta chipped away at El Salado wetland, habitat for crocodiles and migratory birds.

In the historic peak year of 2008, international cruise ships ferried 589,000 passengers on 276 ships to Puerto Vallarta's docks, according to the now defunct New Mexico-based publication *Frontera NorteSur*.

The midday jam of cruise ship visitors parading through the narrow streets of downtown Vallarta was-and still is- a ritualistic spectacle during the season.

Similar to Acapulco, Cancun and Zihuatanejo, Puerto Vallarta's economic and population boom times brought with them the proliferation of underdeveloped settlements on the city's periphery where low-income residents lacked basic utility services and garbage collection and disposal proved troublesome.

Writing in *Desarrollo Local y Turismo*, Baños, Muñóz and Rodrigo Tovar analyze in detail the official development plans for Puerto Vallarta since 1953, concluding they fell far short. Further, the researchers contend, the de-facto development pattern that emerged facilitated "chaos and disorder", aggravating the "urban inequality" between tourist and working-class neighborhoods.

Environmental issues have come to the fore in recent years. In 2005 and 2006, activists waged an unsuccessful battle against municipal authorities who transformed four parks largely into private parking garages and concrete plazas. Meanwhile, as condos spread, the Puerto Vallarta Ecology Group's Ron Walker warned of the "Acapulcoization" of Puerto Vallarta.

In 2007 Greenpeace Mexico reported that discharges from Puerto Vallarta contaminated Banderas Bay with 49,248 cubic meters of wastewater every day, based on numbers from the National Water Commission. Charging that the enterococci detected in the waters of Puerto Vallarta's popular Los Muertos Beach exceeded World Health Organization standards by 16 times, Greenpeace activists briefly closed down the beach that summer in a symbolic protest.

Environmental controversies familiar to *Vallartenses* have also cropped up in the Riviera Nayarit. For instance, residents of Sayulita protested earlier this year against wastewater contamination, according to local press accounts.

In interviews this year, Limon and a colleague, environmental lawyer Flor Alejandra Arce Romero, outlined other environmental challenges including halting turtle egg poaching, promoting garbage recycling and separation as mandated by Jalisco state law, and protecting the humpback whales that spend every winter breeding and calving in Banderas Bay but encounter hazards from careless whale watching boats and larger, passing vessels such as cruise ships.

Additionally, Arce is concerned about the survival of regional jaguars, climate change resiliency and protecting the lowland jungle hills known as *La Montana* from developers. "I'm worried about the mountain zone," she said. "If we protect it, we won't lack water here."

Public participation-or the lack thereof- in community planning and development, as well as environmental protection, is a critical component of Puerto Vallarta's future. Yet, prioritizing the environment while conserving local cultural tradition has been an uphill struggle.

For her part, Rosa Limon is clear about the identity, character and form her city should present. The 43-year resident of Puerto Vallarta recalls visiting Acapulco in addition to meeting people from that city who visited Vallarta and warned her about repeating the history of Mexico's old international tourist hot spot, a place currently besieged by simultaneous environmental, economic, public safety and social crises.

"The same direction in which the entire Riviera Nayarit is headed if *Vallartenses* don't act," Limon warned. "It's losing its image and quality and could lose its human warmth, cordiality. There's still time, and there are authorities who want (to preserve Puerto Vallarta) but effort is lacking..."

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Grassroots Bulletin on Sustainable Development in Northwest Mexico

In the Culiacán Valley, Big Ag serves up deadly brew of chemicals

*By Miguel Ángel Torres**

CULIACÁN

As phytosanitary requirements for large-scale commercial agriculture increase, so does the use of pesticides, insecticides, fungicides and other chemical substances that prevent the presence of bugs, improve the appearance of the goods and raise their prices.

In the Valley of Culiacán, 63, or more than half of the 118 agricultural pesticides that were used in 2011-2012, classified as Highly Hazardous Pesticides (HHPs), according to the Pesticide Action Network (PAN). They constituted approximately 69.92 tons of active ingredient for the period.

Amounts have accumulated over the years, according to an HHP study by researchers José Belisario Leyva Morales, Irma E. Martínez Rodríguez, Pedro de Jesús Bastidas-Bastidas and Miguel Betancourt Lozano.

The use of pesticides is widespread in the state of Sinaloa. Endosulfan, imidacloprid, abamectin, zineb, mancozeb, methomyl and chlorothalonil, applied in the centrally located Culiacán Valley, also are used in the agricultural areas in the southern part of the state.

Other HPPs reported in the Culiacan Valley include methamidophos, zeta-cypermethrin, lambda cyalotrine, chlorpyrifos ethyl and pymetrozine, which also are used in the northern part of the state around Guasave (Irrigation District 063), where benomyl and atrazine was traced, possibly to corn, which is the predominant crop there.

In the Carrizo Valley, also in the northern part of the state, the use of deltamethrin, endosulfan, fluazifop-p-butyl, methomyl, chlorpyrifos ethyl, methyl parathion, dimethoate, carbaryl, cypermethrin and methamidophos was recorded in 1997-1998, all coinciding with HHPs identified in the Culiacán Valley.

The agricultural district around the city of Culiacán is the most economically important and is considered the engine of growth in the northwestern region of Mexico, due to mechanization on 217,461 hectares of irrigated land and 115,653 hectares of dryland, producing around 800,000 tons of vegetables for export, as well as grains.

According to the study published in the book *Highly Hazardous Pesticides in Mexico*, coordinated by Fernando Bejarano, of the Mexican Action Network on Pesticides and its Alternatives in Mexico (Rapam), the Culiacán Valley is composed of eight municipalities with a population of more than 1.25 million people in the year 2010.

The municipalities are Salvador Alvarado, with a population of 79, 085, Angostura with 44,993 people, Mocorito with 45,847, Badiraguato made up of 29,999 residents, Navolato with 135, 603 inhabitants , Culiacán with 858, 639, Elota with 42,907, and Cosalá with 16,697.

These people face not only the application of agrochemicals in the Sinaloa fields, but also the inadequate handling of used chemical containers. A collection center covering an area of 280,000 hectares receives some 66 percent of the containers, the research established. The rest end up littered across the land or in the rivers.

The compilation of works, published in 2017, explains that the general term agrochemicals includes toxic substances that are called insecticides when aimed at insect control, fungicides when dealing with fungi, or herbicides in the case of undesirable plants -- among the most widespread uses.

On content and coverage, it states: "In this report we refer to chemically synthesized agrochemicals that, due to their particularly dangerous characteristics, can cause damage to health and the environment, in the short or long term, for which some are part of international environmental agreements and many are prohibited in other countries, although they are authorized in Mexico".

The authors recommend establishing strategies aimed at substituting this type of compounds for pest control alternatives less harmful to both the environment and human health.

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Arsenic present in the capital's drinking water

By Talli Nauman*

HERMOSILLO

Recent test results of drinking water in the Sonoran capital show significant quantities of arsenic in all of the samples taken from the Rio Sonora basin while the heavy metal and carcinogen was absent in all samples collected from the Rio Yaqui basin.

Specialists from the University of Sonora conducted the study after the public expressed concern about the effects of the August 6, 2014 toxic chemical spill from the Buena Vista del Cobre Mine into the Río Sonora. It is considered the worst environmental mining disaster in Mexico's history.

Because both Grupo México (the mining company) and the Secretariat of the Environment and Natural Resources refused to provide data about the levels of contaminants released, even from the leach pools near the river, a US judge from Arizona ruled in favor of a public request for court assistance in obtaining the necessary information.

The US judicial ruling against Southern Copper Corp. was possible because while it is a subsidiary of Grupo México, which owns 75% of the company, it is based in Phoenix, Arizona.

Risk analysis and water quality tests were carried out immediately in response to the advocacy of 150 Hermosillo residents. Their municipality had originally been excluded from the compensation fund created by the federal government and the company.

The levels of aluminum, arsenic, copper, iron, manganese, mercury, and fluoride, all toxins reported to have been present in the spill, were tested.

Samples were taken from the following purification plants: Water Treatment Plant No. 2, located across from the Abelardo L. Rodríguez Dam; Water Treatment Plant No. 3 located near La Saucedá; and Water Treatment Plant No. 4, located in Las Lomas but fed directly from the Acueducto Independencia.

Water samples also were taken from the surface of the water behind the dam, collection points in the central neighborhood of El Mariachi, and well and tap outlets in the town of La Victoria north of Hermosillo.

Química Analítica del Noroeste, a certified laboratory in Hermosillo, analyzed the samples, according to Reyna Castro Longoria, researcher from the University of Sonora and author of the technical report *Hermosillo Sonora City Water: the Study of Heavy Metals in Potable Water. (Agua de la ciudad de Hermosillo, Sonora: Estudio de metales pesados en agua de consumo humano)*.

The author thanks the citizens who made the analysis possible with their support.

With the exception of Treatment Plant No. 4, arsenic was the only heavy metal detected in all of the samples. The absence of any heavy metals in the samples from No. 4, which supplies the southern part of the city, was quite notable.

In one of the wells in La Victoria, the arsenic levels measured 60 µg/L (micro-grams per liter), far exceeding the 25 µg/L maximum value permitted by Mexican law, and marking it as the area of highest vulnerability.

International standards on the maximum values acceptable for human consumption are stricter than Mexican standards.

According to Canadian experts in this field, arsenic can cause lung, bladder, liver, and skin cancer. It can also cause neurological disorders, numbness, and tremors in the extremities.

At all sites where it was detected, arsenic levels exceeded the EPA and Canadian maximum allowable limits.

The study's results and the toxin's known associated health risks point to the need for remediation as well as the installation and modernization of water treatment plants across the city. Meanwhile, residents on the outskirts of Hermosillo also affected by the spill are demanding the same.

Los Comités de Cuenca Río Sonora (CCRS), a coalition uniting spill victims in the Río Sonora basin, won an amparo [1] (#amparo) related to the contamination of water in two other wells. They have also sued three agencies for their failure to help those harmed by the spill.

They point to another judgment, one made by the 1st District Court of Sonora, which recognizes that the Sinoquipe and La Labor wells have been contaminated by arsenic and manganese at levels that exceed those established by the World Health Organization.

Up until the ruling in mid 2017, Grupo México maintained that the Río Sonora was no longer contaminated, leading to the installation of drinking fountains to provide untreated river water in public schools.

Consequently, CCRS and the civil organization Project on Organizing Development, Education and Research (PODER (<https://www.projectpoder.org>)) lodged a complaint against the Sonoran Institute for Security and Social Services of State Workers (ISSSTESON), the Secretary of Health (which runs the public health insurance program, *Seguro Popular*), and the Mexican Social Security Institute (IMSS) for not having responded to the many requests for information about the health of residents, and for not having dealt with their complaints.

The complaint points out that in the current state of uncertainty resulting when the well contamination was confirmed, "it has become urgent to adequately assess our state of health. This should include at a minimum the appropriate and necessary tests to confirm if we are suffering from exposure to, or poisoning by, heavy metals".

It is estimated that up until now, three years after the disaster that also contaminated the Río Bacánuchi, at least 22,000 people have been directly affected, and another 250,000 indirectly impacted in the seven municipalities along the shores of the Río Sonora which include: Arizpe, Banámichi, Huepac, Aconchi, San Felipe, Baviácora, Ures, as well as Hermosillo.

In April 2017, Grupo México announced that it would be building nine water treatment plants, and had so far installed one. PODER complained that the company had promised to build thirty-six.

When questioned by the United Nations Working Group on Business and Human Rights about the lack of water purification plants, company officials argued that "it would be irresponsible to build them" because the municipal authorities "did not have the capacity to make use of them."

According to PODER, Grupo México's cleanup and remediation work has also been inadequate. The majority of the leach ponds that should have been relocated remain, and many continue to be used in spite of their location just a few meters from the river bank.

A series of independent analyses of drinking water has shown, year after year, the presence of heavy metals in quantities well above international standards. These toxins are bioaccumulative and, as such, the effects on health can take months or even years to manifest.

Grupo México committed to building a medical center and while it had not yet completed the work, the Epidemiological and Environmental Monitoring Unit (*Uveas*, for its acronym in Spanish) said in July 2017 that 381 residents of the Río Sonora basin require treatment because blood and urine tests showed toxic residues.

Compensation for losses to growers and ranchers has been another point of contention and criticism. The technical committee of the Río Sonora Trust did not study how best to distribute the 2 million pesos earmarked for compensation of economic losses caused by the spill. According to PODER, this has resulted in negligible amounts being dispersed compared to the degree of damages suffered.

The amount in the trust equaled 0.013% of the gross income of Grupo México in 2014, and the 24 million peso fine (US\$1.26 million) that was imposed by the Federal Attorney General's Office for

Environmental Protection (PROFEPA) equaled 0.00016% of that year's gross income.

"The Mexican government has demonstrated little or no interest in seeing that Grupo Mexico fulfills its commitment to remediating the damages caused. It has abandoned the legal actions it had initiated against the business, an attitude that was highlighted by the United Nations Work Group in their final report released in June 2017," said PODER.

The CCRS, along with PODER, has sought protection and taken legal actions more than 12 times against the company and a variety of governmental agencies, "but this still has not been sufficient to achieve justice and the restitution for damages", commented PODER in a document released in August.

"Access to justice begins with assuring that this type of disaster doesn't occur in the first place, and having laws that focus on safety is the only way to avoid unfortunate accidents like the spill in Sonora and the consequent effects on people and the environment," maintains PODER.

"At the same time we must strive to have adequate standards as well as monitoring systems and sufficiently strong penalties in order to better control spills into waterways," they added.

The CCRS unites those who live in the municipalities of Arizpe, Banámichi, Huepac, San Felipe de Jesús, Aconchi, Baviácora y Ures and were affected by the copper sulfate acid spill from the Buenavista del Cobre mine.

PODER is a regional nonprofit, nongovernmental organization. It works to improve corporate transparency and accountability in Latin America, from the perspective of protecting human rights and strengthening civil society stakeholders.

[\[1\] \(#1\)](#) A Mexican legal proceeding that serves to guarantee constitutional rights.

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Though it reeks of gas, it *will* smell like flowers

By Raquel Padilla Ramos*

“He has a mind of metal and wheels; and he does not care for growing things, except as far as they serve him for the moment.”

- Treebeard, about the evil sorcerer Saruman in *Lord of the Rings* (J.R.R. Tolkien).

LOMA DE BÁCUM

Let's call things by their real name. What is happening on Yaqui lands is a prolonged and systematic theft, occurring in phases that at times are slow, at others accelerated, sometimes subtle, sometimes violent, and is a theft that is favored by liberalism as the State's economic policy. This is liberalism without the *neo-*, and we have to go back to the 19th century to find the origins of its dark intent. The Yaquis have continually had the land—land that was, according to their ancient truths, placed in their care by divine mandate— grabbed, wrested, seized and stolen from them.

In the last decade two megaprojects have contributed to this dispossession: the Independencia Aqueduct and the Agua Prieta Natural Gas Pipeline [1 (#1)]. Both abuses have been carried out, as in past centuries, with private capital that has had at its disposal the State as a shield. It is because of this that José Luis Moreno speaks of *institutionalized theft* [2 (#2)] when referring to the process through which the aqueduct has continued to operate.

Equally institutionalized is the land theft to build the gas pipeline. In spite of a judicial order to halt work on the project, construction has continued intermittently with support of the Sonora state government and its police forces.

The author of the *Lord of the Rings*, J.R.R Tolkien, wrote an epic scene in which the *ent* Treebeard, a tree-herder of Middle Earth, leads a general uprising in protest of the devastation of a forest by the armies of Saruman, a wizard who had fallen under the influence of the evil character Sauron.

Today in Yaqui territory, the tribal members of Loma de BÁCUM have assumed the role of Treebeard, defending their environment—their very being— and looking for ways to guarantee the survival of future generations in the face of an evil force.

It was the Lomabaqueños, or Baqueños, who filed a judicial complaint against the company *Gasoducto de Punta Prieta* in defense of their living environment, and they are the ones who have been criminalized, persecuted and harassed. It is in this atmosphere that Fidencio Aldama has been imprisoned since October after having been charged, without evidence, in a process that clearly points to him being a political prisoner.

In Loma de BÁCUM, the Yaquis know themselves to be bound to Nature because of the livelihood she has granted them and because of the gifts they have received from her. In order to understand why the Yaqui so fiercely defend their land, following is an ethno-historical summary of the Yaqui's knowledge of their surroundings.

In the second decade of the 17th century, through a process known as a “reduction”, the Jesuit missionaries decreased the eighty Rancherías that they had encountered along the Rio Yaqui to eleven towns, and then to eight [3 (#3)]: the eight mystic, historic, and foundational Yaqui Pueblos. Under this new territorial reorganization, or more appropriately the restructuring of settlement patterns, the priests negotiated with the tribe, agreeing to respect most of the elements of the Yaqui culture in exchange for their religious conversion and acquiescence to life under Jesuit control [4 (#4)].

Living in a reduction meant that the people had to settle in a town, form a single family unit (not several), and accept the new urban design. They would also recognize both the missionary and the new governing bodies created by the Spaniards as the ultimate authority. It meant living with certain order, security, and certainty, far from the perilous and rugged life of the outdoors.

In this way, the Yaqui people re-created their social imagination in order to recognize the church (*teopo*) as the center of their liturgical practices while never completely abandoning the intense relationship they maintained with the Wilderness World, *juya ania*, which was seen as sacred and divine, a place of inspiration sent by extrasensory forces [[5 \(#5\)](#)].

Of course, Wilderness World was also that vast place that provided food, water, building materials, weapons, and folk medicines.

It goes without saying that within the outdoor dimension of the Yaquis, there were other sacred universes like the Ocean World or *bawe ania*, and the River World or *batwe ania*; these encompass all of life that in one way or another is linked to them, akin to an ecosystem. Within *juya ania*, there is also a dimension of the past, the *yo'o ania* or Ancient World, that connects the Yaquis with their most ancient ancestors and with mythic times and events. It is this world that not all of the Yaqui can enter.

The Celestial World (firmament) or *choki ania* also forms part of the Wilderness World, as does *tenku anai* or the Dream World (linked to *yo'o anai*). The existence of these worlds is a palpable demonstration that for the Yaqui everything is related and it is not possible to dismantle their nest (*Toosa*) piece by piece, neither for its exploitation nor sale.

Another possible Yaqui world exists within the sacred Wilderness World, its presence being related to the death of a person. It is a possible world in that it motivates good Yaqui to reach paradise (*Looria*). Only those that are able to faithfully achieve the *yo'o lutu'uria* (ancient truth) are capable of reaching there. This universe is known in *jiak noki* (Yaqui) as *sewa ania*, or the Flower World, and it is in this place where everything is in harmony and Little Brother Deer never stops dancing. Hence the title of this article.

Invariably, within the political structure of any Yaqui pueblo there is a figure that is in charge of guarding and protecting the territory. The Commander combines his authority with that of the Captain (a vestige of war times) to safeguard the Nest and protect the *yoemia* (the families, also known as the troop). The commander is assigned a troop (here in a military sense) made up of soldiers under his command and chosen according to the tasks that they are to carry out, as well as the weapons necessary in case there are problems [[6 \(#6\)](#)]. Not only do the tribal authorities watch over what is tangible but also over all of the immaterial worlds that occur within the material world.

As we see, in the order of things, the Yaquis have a very different way of looking at their territory. For them it is not only a model of agricultural prosperity and a geographic area with economic potential. It is that space that the Yaqui culture inhabits and where everything that is Yaqui converges. It is the wilderness, the towns, the agricultural fields, the river, the coast and all of the dimensions that the *yorí* (white man) is incapable of seeing. On losing a piece of themselves, the Yaqui run the risk of losing sight of their connection with the natural world, with their deities, and with their ancestors.

[1 \(#1R\)](#) *Bacatete, donde se oye la guerra*. Documental dirigido por Mónica Luna, Canal 22, Año 2010.

[2 \(#2R\)](#) José Luis Moreno. *Despojo de agua en la cuenca del Río Yaqui*, Hermosillo, El Colegio de Sonora, 2014.

[3 \(#3R\)](#) Andrés Pérez de Ribas, *Triunfos de la santa fe*, Hermosillo, Gobierno del estado de Sonora, 1985 [1645].

[4 \(#4R\)](#) Raquel Padilla Ramos. *Narrativas de la guerra y la deportación yaquis* (libro en proceso de publicación), México, INAH, s/a.

[5 \(#5R\)](#) Enriqueta Lerma. *El nido heredado: estudio etnográfico sobre cosmovisión, espacio y ciclo ritual de la tribu Yaqui*, IPN, México, 2014.

[6 \(#6R\)](#) José Luis Moctezuma. *Yaquis*, México, CDI, 2007.

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Violence against environmental activists increases

*By Miguel Ángel Torres**

VICAM

Family members of Mario Luna Romero, a Yaqui tribal spokesman, were attacked in their own home by unidentified persons who entered their patio and set fire to a car in the early morning hours of June 27, 2017.

For Luna Romero, the attack follows the pattern of constant pressure that is being exerted against the Yaqui tribe and its members because of their continued defense of their lands and the progress they have made in their struggle against the looting of Yaqui River water for the city of Hermosillo by means of the *Independencia* Aqueduct.

In spite of requests for help, authorities did not respond, indicating a passivity by officials that raises suspicion about the origin of the attack. Additionally, Luna Romero and his family are beneficiaries of the [Mechanism to Protect Human Rights Defenders and Journalists \(http://pbi-mexico.org/field-projects/pbi-mexico/what-we-do/protection-mechanisms/governmental-protection-mechanism/\)](http://pbi-mexico.org/field-projects/pbi-mexico/what-we-do/protection-mechanisms/governmental-protection-mechanism/), which in this and many other instances did not function.

Luna Romero was imprisoned for a little more than a year on trumped up charges during the administration of ex-governor Guillermo Padrés (who is now imprisoned himself). Once again in his role as spokesman, Luna Romero has continued to defend his people, both in international forums and public offices of the federal government.

A number of organizations have come to the defense of the tribe's representative. *Servicios y Asesoría para la Paz* (Serapaz), a Mexican NGO working for peace and social conflict resolution, demanded that the Ministry of the Interior, the state government of Sonora and the Ministry of Foreign Affairs take immediate and effective measures to adequately protect and guarantee the safety of Mario Luna and his family, in accordance with the precautionary measures required by the [Inter-American Commission on Human Rights \(http://www.oas.org/en/iachr/\)](http://www.oas.org/en/iachr/) (IACHR).

Recommendations being considered by the National Indigenous Congress (CNI) include: a complete and independent investigation of the June 27 incident as well as all prior acts against Mario Luna and his family; assuring that all those responsible for the acts are held accountable; and public recognition of the legitimate and valuable work that Mario Luna and the Vicam tribal authorities have accomplished. The CNI made it clear that they will not tolerate any new attacks against them.

CNI came to Luna Romero's defense when it repudiated the attack against the Vicam tribal authority secretary and member of the Indigenous Governing Council. CNI recognized the attack as part of the ongoing harassment against the tribe and its fight to halt operation of the *Independencia* Aqueduct which is stealing water from the Rio Yaqui and threatening the existence of the tribe.

In order to understand the timing of the most recent violence against Luna Romero and his family, CNI pointed to several recent events. First, it notes that on June 23rd, just four days before the attack, Luna Romero and the Vicam tribal authorities sent their written response to a notice from the National Water Commission (Conagua) regarding compliance with an [amparo \(#1\)](#) ruling on the aqueduct's operation.

The document is an important step since it is evidence that Conagua wants to hold an alleged indigenous consultation far from the Yaqui territory, as well as other irregularities that violate the right to a consultation and informed consent.

Secondly, Luna Romero participated and spoke out in front of the [United Nations Permanent Forum on Indigenous Issues \(https://www.un.org/development/desa/indigenouspeoples/unpfii-sessions-2.html\)](https://www.un.org/development/desa/indigenouspeoples/unpfii-sessions-2.html) in New York in May. Since May, he has also been a member of the Indigenous Governing Council of the National Indigenous Congress (CNI), and has registered an independent candidate to run for the presidential elections in 2018.

In January 2017, his wife Anahí Ochoa was involved in an automobile incident while driving home in which an unknown car tried to cut her off. Terrified, she ran off the road, which is where her husband found her. When they got home, they found the front door open in spite of her having locked it. They entered with a police escort but found nothing amiss.

In February 2016, Luna Romero son Carlos was thrown off his motorcycle by men driving a pickup truck. He suffered injuries to his face and body. The investigation went nowhere. As a result of this incident Luna Romero decided to join the Mechanism for Protection and the IACHR asked the Mexican government to implement preventative measures.

The year 2016 has been the worst for environmental activists/land defenders, according to an [annual report \(https://www.globalwitness.org/en-gb/campaigns/environmental-activists/defenders-earth/\)](https://www.globalwitness.org/en-gb/campaigns/environmental-activists/defenders-earth/) by [Global Witness \(https://www.globalwitness.org/en/\)](https://www.globalwitness.org/en/), with almost 4 people murdered every week for protecting their lands, forests, and rivers from mining, lumber, and agriculture companies.

At least 200 people were murdered in 2016, which is more than twice the number of journalists killed. The trend is growing (from 185 in 2015) and expanding, with murders now reported in 24 countries, which is up from 16 countries in 2015. Latin America continues to be the most affected region, with 60 percent of the total deaths.

Because there are major limitations on access to information, the global total is probably much higher, the organization estimates. The murders represent the extreme of a series of tactics utilized to silence defenders that include death threats, arrests, sexual assault, kidnapping, and aggressive legal attacks.

"The facts paint a bleak picture...The battle to protect the planet is rapidly intensifying and the cost can be counted in human lives. More people in more countries are being left with no option but to take a stand against the theft of their land or the trashing of their environment...Too often they are brutally silenced by political and business elites, while the investors that bankroll them do nothing," says Ben Leather, member of the Defenders of the Earth Campaign at Global Witness.

Almost 40 percent of the people murdered were from indigenous communities, since the land that they've inhabited for generations is being stolen by companies, landowners, and state actors. Usually the projects are imposed on the communities without free, prior and informed consent, and backed by force, since it is suspected that police and soldiers are the authors of at least 43 assassinations.

Protest is usually the only recourse left to communities who exercise their right to weigh in on the use of their land and natural resources, pitting them against those who are looking to profit at any cost.

Among the key findings of [the report \(https://www.globalwitness.org/en-gb/campaigns/environmental-activists/defenders-earth/\)](https://www.globalwitness.org/en-gb/campaigns/environmental-activists/defenders-earth/) were:

- Mining is the bloodiest industry, with at least 33 assassinations linked to this sector. The murders connected to logging companies increased from 15 to 23 in one year, while there were 23 murders related to agribusiness projects.
- Brazil remains the most deadly country in terms of numbers of deaths (49) while Nicaragua (11) is the worst per capita. During the last decade, Honduras has been the most dangerous per capita (127 since 2007).

- Registered homicides reached a historic maximum in Columbia (37). Areas previously controlled by the guerrillas are now viewed greedily by extractive companies and paramilitaries. Displaced communities that return are being attacked when they try to reclaim the lands that were stolen from them during the long, armed conflict that the country lived through.

The murders in India have tripled while police brutality and State repression of peaceful protesters has gotten worse. In 2016, 16 murders were recorded, primarily linked to mining projects.

The report also points to the growing criminalization of activists around the world, including the United States. They are usually depicted as criminals and face trumped up charges and aggressive civil suits mounted by governments and businesses attempting to silence them.

"States are breaking their own laws and failing their citizens in the worst possible way...Brave activists are being murdered, attacked and criminalized by the very people who are supposed to protect them. Governments, companies and investors have a duty to guarantee that communities are consulted about the projects that affect them, that activists are protected from violence, and that perpetrators are brought to justice," says Leather.

[1] ([#amparo](#)) A Mexican legal proceeding that serves to guarantee constitutional rights.

Translation references:

[Global Witness report: 2016 'deadliest year yet for environmental activists'. Annette Gartland, July 14, 2017 \(https://changingtimes.media/2017/07/14/global-witness-report-2016-deadliest-year-yet-for-environmental-activists/\)](https://changingtimes.media/2017/07/14/global-witness-report-2016-deadliest-year-yet-for-environmental-activists/).

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Zaah Eecla, Daughters of the Sun, want to light up Comcaac community

By Griselda Franco Piedra*

PUNTA CHUECA AND
EL DESEMBOQUE
DE LOS SERIS

On September 21, 2017 a year had passed since four indigenous *Comcaac* women from these two Sonoran communities set off on an adventure to Tilonia, a district of Rajasthan, India.

Cecy, Vero, Mina, and Fran spent six months there, the trip sponsored by the National Commission for Protected Natural Areas, in conjunction with the Indian government and the *Gurudev Tagore* Indian Cultural Center of the Indian Embassy, Mexico.

Along with 35 other international students from a variety of countries including Botswana, Cape Verde, Kiribati, Madagascar, Mali, Micronesia, Myanmar, Syria, Senegal, Somalia, and Tonga, they were trained as solar engineers in order to assemble, install, and maintain solar arrays in their hometowns.

The *Comcaac* women were the only Latinas at the training session held from September 2016 to March 2017 on the Barefoot College campus, although to date, four women from Oaxaca and two others from Yucatán, as well as a total of 70 women from 17 countries in Latin America have graduated from the course.

The *Comcaac* of Punta Chueca and El Desemboque live in socially vulnerable conditions, which include: their isolation and distance from urban centers; the lack of communications and of media outlets; extreme weather events; and a dependency on fishing, their principal source of income, which is being affected by the decline in commercial species.

One constant in both communities is the lack of water and electricity. An estimated 80 percent of the houses do not have power because they cannot afford the bill. This has a direct impact on fishing, as well as on people's health, education, and safety.

The lack of stable power and fresh water supplies makes fishing and the processing of the catch impossible during days or even weeks at a time. Development in the communities has also been limited, with different impacts seen for men and women.

Women are affected more by limited access to services because of established gender roles. Women invest a large portion of their time carrying water, suffer more health problems due to their exposure to smoke from wood stoves, and suffer from the lack of energy and adequate technologies for food preparation. Consequently, they have much less time for other activities such as attending school.

These solar engineers dream of forming an organization named *Zaah Eecla*, or Daughters of the Sun in their native *cmiquii itom*. In the medium term, they hope to bring light to around 250 homes in their communities for a small, symbolic fee that will allow them to set up a community fund to improve the residents' quality of life, especially of the elderly (both men and women), widows and single mothers.

The Daughters of the Sun are looking for the opportunity to improve both their own lives and their people's. Being able to fulfill their dream of lighting their communities with solar power will not only allow them access to modern forms of energy and the health and educational benefits that come with it, but it will also allow them to earn a living and gain economic independence.

Miriam Cecilia Moreno López (Cecy) is a fisher and artisan from Desemboque de los Seris. Miriam is 48 and she has eight children between the ages of nine and 27.

"I agreed to participate in the project because it meant I could help improve life in the community when it comes to lighting...The worst part for me was being away from my family for six months, and the best was when we completed the course and returned home to our families with new skills and having traveled to a beautiful, distant place. "I dream of seeing my community powered by solar panels. I imagine that they will be very happy to only have to pay a very small amount compared to what they are now paying. I would say to other women that they should study while they have the opportunity so that they too can fulfill their dreams, that it's never too late. While there is life, there is hope."

Verónica Molina Morales (Vero) is an artisan and housewife from El Desemboque de los Seris. She is 42 years old and has a 24-year-old son.

"I thought that I didn't have the ability to learn something that I had never even imagined existed or to be so far from my family... Because, you know, in our town there are still men that say a woman doesn't have any reason to study, that she should just stay in here home but it wasn't like that with me; my husband always supported me... I always say that if I have to travel, although it might be risky, if it were for the good of my family and my town I would make the trip..."

"Most difficult was being so far from my family...and well, what is also difficult are the comments in town that perhaps we didn't really learn what they taught us in India, and therefore we aren't doing anything, and that the six months that we were there was a waste of time. But for me, the best thing is that language was not a barrier to being able to learn what they were teaching us. I would say to other women that it's never too late to learn something and to achieve what you set out to do. I want to see that the community benefits from the training project we completed and, that in part, we too will benefit from what we learned there."

Imelda Guillermina Barnett Díaz (Mina) is an artisan and cultural affairs representative from Punta Chueca. She is 41 years old, has an 18-year-old daughter and two sons, ages 11 and 16.

"This has been a very important step for me in my growth as a person, learning more things, although it was difficult to make the decision to be so far from home, to leave my children, and not see them for such a long time. But the best moment was when we finished the training full of new skills, a new project, and the reception from our people. They all organized a party for us.... Oh! And now I have friends from the other side of the world, my teachers and our classmates..."

"People are always asking me when we are going to start work and that means that they are expecting something from us. They feel confident that we're going to accomplish something. My children, my parents, my husband and my sisters: I've had their support and confidence from the beginning. While I was there, they talked with me always to encourage me. My children have said many times that they are very proud of me and that makes me feel very good, and my youngest son wants to study solar engineering."

"I'm getting good feedback.... I know that what we learned is not going to be in vain. Sooner or later we're going to get what we need to carry out our project and it will be for the good of both our community and ourselves...."

Francisca Barnett Díaz (Fran) is an artisan and housewife from Punta Chueca. She is 47, and has 2 daughters and 2 sons between the ages of nine and 19.

"I agreed to go to India so that I could help my community. There are many people without electricity in their homes because they cannot pay the bill. Sick people suffer the most for not having power. To have the opportunity to participate in this project has helped me to see that I have the ability to do things that I never thought myself capable of doing. My main driving force has always been my children."

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Journalism to Raise Environmental Awareness

Grassroots Bulletin on Sustainable Development in Northwest Mexico

National Geographic Society announces contest to combat illegal fishing

Society's Marine Protection Prize will award \$450,000 for innovative solutions and technologies that protect and sustain fisheries in coastal communities

WASHINGTON

December 5, 2017 - The [National Geographic Society \(https://www.nationalgeographic.org/\)](https://www.nationalgeographic.org/) today announced the opening of registration for the [2017 Marine Protection Prize \(http://www.marineprotectionprize.com/\)](http://www.marineprotectionprize.com/). The competition will source the best uses of technology and data collection to help combat illegal, unreported and unregulated (IUU) fishing affecting island nations and coastal communities. In May 2018, the Society will award a share of \$450,000 to up to three teams of experts employing the most innovative solutions to halt the growing, global overfishing challenge. Scientists, environmental leaders and students are encouraged to apply.

"Across the globe, oceans, marine ecosystems and global fishing economies are severely impacted by overfishing and illegal fishing," said Gary E. Knell, president and CEO of the National Geographic Society. "National Geographic is pleased to launch this competition to identify and elevate solutions that help ensure healthy fisheries and, more broadly, a planet in balance."

Overfishing and illegal fishing threaten our oceans, food security and the livelihood of island nations and coastal communities. The Marine Protection Prize competition seeks to identify a range of solutions that offer low-cost and easy-to-maintain technologies that address the needs of local communities.

Applications for the Marine Protection Prize must include an overview of the team members, a detailed explanation of the proposed solution, a project plan and anticipated budget, among other items. Submissions will be reviewed by a panel of judges carefully chosen for their expertise and experience. The panel consists of evaluation members, expert members and selection committee members.

Registration for the competition is open until Feb. 8, 2018, at 5 p.m. Eastern Time. Applications must then be submitted by March 8, 2018, at 5 p.m. Eastern Time. Interested individuals or teams must register online to submit an application.

Learn more about the Marine Protection Prize or register to apply, visit [this page \(http://www.marineprotectionprize.com/\)](http://www.marineprotectionprize.com/).

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