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December 2014 E-Tech's New Strategy to Change Long-term Latin American Extractive Industry Environmental Best Practices

(E-Tech Director Dick Kamp's longer-than-normal December newsletter and **fundraising plea**) Below: How do we clean up hundreds of square miles of Peruvian Crude Oil Pollution??



Contaminated Wetlands in Pacaya Samiria, Marañón River, Peru



July 2014 Old Crude Oil in Rio Pastaza Watershed



Spill from 2013 in Pacaya Samiria (above)



July, 2014, Crude oil covered boys, Cuninico (above)

New Direction: As non-profit environmental technical professionals, E-Tech is allying with a number of universities and other professional institutions; a transparent shift in our modus operandi to realistically gain professional partners within the countries that we work. We are not slowing projects;

we are trying to implement strategies in a manner that fits and that lasts. This decision, made in early 2014, has been driven by several short and long-term realities:

- the desperate need for comprehensive and planned cleanup of huge amounts of oil pollution in Peru after decades of passivity—using regional resources
- the need to work effectively in politically volatile Ecuador
- in general: becoming an overt stronger participant in the political and educational system of these countries
- our strong belief that building up long-term academic relationships in which we both teach and simultaneously get dedicated graduate and post-doc students assisting us can help reduce social conflict.

(In many ways, this has been a leap for E-Tech and not a step. Teaching in most cases starts as academic barter that does not bring in an income yet. We hope to see this change in the coming year or two).

Extractive industry projects will continue to divide communities and violence can be the result. It is still uncertain what the motivation was behind the recent murder of Cordillera del Condor Shuar anti-Mirador mine activist and friend Jose Torres in December. Many fear that the Condor pro and anti-mining battle is taking a dark turn. We are gambling that bringing in credible scientific support from Ecuadoran universities for these communities (and Peruvian and others in Loreto) will shine a scientific spotlight on indigenous lands facing environmental and social risk.

E-Tech continues to literally wade through crude oil and to deal with mines and their owners to try and improve the lot of indigenous people we represent. However, having academic-professional allies is initially a means to receive outstanding consulting from professional colleagues with similar visions who know their countries and politics-- as well as strengthening curricula of universities to better address environmental contamination issues. We now have a few graduate students and post-doctorates that can assist us in the field.

Wholly unexpectedly, we are helping to catalyze a new team of partners to begin far reaching projects; for example expediting the development of a university-based public access environmental laboratory in Iquitos, Peru that can provide accurate data on oil contamination and cleanup and monitor bioremediation effectiveness.

In 2015 we hope that, while teaching budding Ecuadoran mining engineers potential disastrous impacts of large-scale mines such as the Chinese Mirador mine in the Cordillera del Condor, we'll gain access to costly laboratory analysis for monitoring that we have to date been unable to afford. Meanwhile, we will have young professional investigators joining us in the field.

Since April, partnerships have begun with the Peruvian (public) Universities of San Marcos and Cayetano Heredia in Lima, Universidad Amazonica in Iquitos, the regulatory arm OEFA of the environmental ministry, University of Texas, Austin, the French IRD-Hybam project, Escuela Politecnica de Ecuador and the Universidad de San Francisco Quito, University of Erasmus and most recently, hopefully, the University of Oslo, Norway advising on tropical crude oil remediation.

The idea of leaving an institutional legacy behind in Ecuador and Peru now seems realistic. Even in Ecuador where NGOs such as Pachamama and indigenous confederations like CONAIE are disenfranchised and environmental and indigenous rights protesters are facing prison.

In **Loreto, Peru** we continue to be the technical representatives of 4 indigenous federations in major tributaries to the Amazon River (Maranon, Pastaza, Tigre, and Corrientes) tasked to find strategies that will assist them in pressured negotiations to remediate 40 years of ongoing crude oil contamination.

Visually, if you look at the photos beginning this letter, it might remind one of the amazingly expensive contentious and damaging Chevron contamination case in northeastern Ecuador; one of E-Tech's sadder involvements in that when the muck settles it is hard to tell how the affected have found relief.

E-Tech staff was in the field in Peru in 2014 in Loreto addressing oil pollution and remediation strategies—and in Madre de Dios in the Manu Park region holding workshops with indigenous federation FENEMAD on impending Hunt Oil exploration.

Diana Papoulias (below left in Cuninico, Peru in August with Ricardo Segovia and fishermen in a Lupita Heredia photo), our amazing fish-toxicologist board member has been volunteering endless hours out of love and for expenses. She has literally dived into the polluted waters of Loreto. Faced with a massive oil spill in a tributary to the Rio Maranon at Cuninico, Diana began cutting open polluted indigenous fish catches to teach them what “monitoring” contaminated fish with no lab support means—discolored organs and flesh. The Kukama people depend on the water and fish for food and livelihood—her lessons could mean the difference between consumption of high toxicity fish and hopefully more edible and



Diana and Ricardo Segovia took three different trips into Pluspetrol/Petroperu polluted areas of the Pastaza, Tigre, and Maranon rivers on behalf of the indigenous federations. New technical tools were applied in 2014 including experimenting with combining satellite photo-remote sensing analysis from the Universidad San Marcos with indigenous monitor on the ground observations of oil contamination. In the past few weeks, we have been developing long term geographical information system tools to record all information for posterity that will allow anybody to add information on oil pollution sites in Loreto for the long term-whether they are sites under remediation or polluted sites. Simpler “citizen science” very basic monitoring meters, cameras and gps units were left with trained indigenous

monitors. Strengthening the capacity of these monitors and providing sophisticated scientific training are a key element of E-Tech and partner plans that would include integrating laboratory analysis of indigenous monitoring in the region. We are applying, with universities and environmental regulators, for funding to make such plans a reality in 2015-16.

Our understanding of the historical and current pollution has grown in preparation of our report with recommendations on remediation for the region to be presented in early 2015. On the other hand, the legal negotiations for remediation of the historical concessions Block 1ab and Block 8 seem very limited, and the former will be settled and reconcessioned to Pluspetrol or another oil company, most likely by summer, 2015. Presuming we can find funding, we believe that our role as the technical representative of indigenous federations is to develop the long-range technical tools and capacity to cleanup no matter what inadequate settlement is imposed.

Work in **Ecuador** ranged from Bill Powers joining oil industry executives who discussed their version of South American best practices, conducting ongoing mining analyses (including Intag as well as the Mirador mine), with several visits with the Prefects (elected governors) of the provinces of Zamora Chinchipe and Morona Santiago and with Shuar indigenous allies, meetings with Kinross Gold who has sold their interest in the Cordillera Condor Fruta del Norte underground gold-silver mine to the Swedish consortium Lundin. In November we met with two universities to draw up teaching and cooperation agreements and to plan seminars in early 2015 at the public Politecnica in Quito as well as a future forum on mining disaster potential later in the year. Lupita de Heredia has continued to coordinate our work in Ecuador.

In one joining of parallel universes: E-Tech is now working closely with Dr. Erich Grundlach's 30 year old for-profit E-Tech International whose reputation has been for mega-disaster oil emergency response (Exxon Valdez, BP Gulf). Erich is advising us in remote sensing and oil remediation.

In August the Cananea, Sonora, Mexico mine discharged at least 60 million gallons of sulfuric acid pregnant leach heavy metal solution into the Rio Sonora. More spills came later with more rain and E-Tech is in negotiations with local mayors and residents to assist in developing long-term Sonoran monitoring and mine oversight strategies. Stay tuned during 2015.

Thank you as always, Ricardo, Ann, Bill, Lupita, Laurie, Diana our brave and brilliant staff. To Beth for the video work, Seri for the books, Michael for the accounting.

Thanks to our new partner in Peru: quantum physicist and Universidad San Marcos professor Bram Willems. To our brave Ecuadoran clients and partners—the Shuar people of the Cordillera del Condor, Zamora Chinchipe Prefect Salvador Quishpe, our colleagues at the Escuela Politecnica Nacional: Pablo Duque, Eliana Jimenez, and Carolina Michel and Dr. Carlos Mena at Universidad San Francisco de Quito. To board member Holly Dressel and her devotion to sending our wonderful McGill University interns off to Ecuador : Elana Evans, Maddie Berrang and Brent Scowen (Elana and Maddie continue on as E-Tech supporters). To Puinamudt (Tami now replacing Wendy) and Alianza Arkana in Iquitos. Goodbye to Steve Cornelius our great friend at the Macarthur foundation and thanks to Jen Astone at Swift Foundation and Tom Bewick at Rainforest NY; to the Wick Family Foundation. Thanks John Caulkins for supporting Ecuador video production. Our thanks to the collaborative Moore Foundation-funded DAR

Loreto regional project for support. To board member Peter Kostishack who is our guru to all things and to Chris, John, Patricia and Laurie. To Betó Barandarian who continues to guide us, and to those who keep helping: Tony and Denise Bebbington at Clark College, Rafael de Grenade and Bob Varady at University of Arizona. To Evelyn Arce and IFIP. Thanks to all of you who continue to donate.

Friends: we still run on peanuts and although we are prestigious international faculty members, much of this so far is sweat equity and joint proposals for funding. Please donate by going to the website www.etechninternational.org or send a check to 231 Las Mananitas, Santa Fe, NM 87501. We love what we do and won't quit.

Abrazos Dick



Fishermen on Marañon River

Lupita de Heredia 2014