



NECTANDRA INSTITUTE

Jul 2016, Vol. 16 No. 2

New Culture of Water

*....the life of this world depends on water. But if the water itself feels thirsty, from what well can one quench its thirst?—Somali nomad, quoted in *Simply Living: the Spirit of the Indigenous People**

Future generations inhabiting this drying planet might find resonance with a single question, a word, directed at those of us living now: Did we overcome our isolation, our focus on self and our fear, to enter a deeper *solidarity*? As rivers and aquifers, soil and land, everywhere empty and become sterile, restoring waters made thirsty depends not only on the outer work of change—re-foresting, re-building infrastructure—but also on an essential inner shift in human awareness, a willingness to quietly uphold others, which Nectandra Institute is becoming known for.

The Térraba River Basin in Costa Rica's south is home, since 1979, to the Pineapple Development Corporation, a subsidiary of Del Monte (one of the world's largest pineapple exporters). It is a land of hardening red-clay soil and muddying waters. Rivers clogged with red sediment mirror a lack of clarity about what our true priorities should be. For several years, beginning in the 1990s, a handful of stubborn farmers and activists living in and between the southern cities of San Isidro and Buenos Aires tried calling public attention to the scope and severity of pineapple cultivation problems (toxic agrochemicals, deforestation, poisoning of rivers, deteriorating air quality, soil erosion, workers' health issues, as well as that harder-to-document yet essential loss of connection to the land) sweeping through the region and ultimately the country. No one in an official position — not government agencies or non-profits made a firm commitment to help resolve profoundly complex problems. Institutional silence created an existential crisis for those involved in the movement, which slowly ebbed.

One quirky determined individual, however, did respond to our appeal: Alvaro Ugalde, a Nectandra Institute founder and one of Costa Rica's leading environmentalists. In keeping with what has become the Institute's trademark generosity of nurturing those who seek guidance, providing a kind of spiritual watering hole, he offered advice to those of us struggling to address damage in the south with a few seemingly simple elements: trust within communities, transparent communication, and sufficient funding. Alvaro's mentorship (and later, that of Nectandra chief operating officer, Luis Villa) ushered a slow transfer of knowledge about Nectandra's model, with the hope of

replicating it in the south, for over a decade through a steady flow of letters, phone calls and occasional meetings.

Some of us supporting this water movement live outside of Costa Rica, in the Colorado River Basin, where for the first time a shortage on the once-mighty river is about to be declared. The Colorado has long been over-allocated, and now, in the grips of climate change, the situation is becoming severe. Forty million people, seven states and most of the agriculture in the U.S. depend on its waters, now draining to new lows. This May and June, along with students from the University of Arizona, we spent three days with Nectandra staff and community partners traveling Costa Rica's Balsa River Basin with people who'd counseled us from afar.

Coming from Arizona where temperatures were inching towards record high 120 F in the last three week, the verdure and mists engulfing us as we stepped from the car our first day in the upper watershed were a balm. We visited three sites: Finca Ocotea, 247 acres purchased in 2009 by AFAMAAR, a local conservation group working to conserve and restore forest cover in the upper watershed; Finca Verde Esperanza, ten acres bought in 2008 by the community water management association of Tapezco; and a 27-acre former cow pasture owned by the water management association of the communities of Angeles Norte and Alto Villegas. For all their differences, these areas have a lot in common--dark lushness of trees planted by community members contrast with adjacent lime pastured slopes, forming havens for birds, wildlife and springs in need of shade, ever more essential in a warming world. Mora, figs and other fruit are bountiful. These lands were financed through Nectandra's eco-loans—interest paid through carefully tallied volunteer hours invested by communities: tree-planting and monitoring, environmental education, water-themed soccer tournaments and ecologically-themed beauty pageants teaching, perhaps above all, fierce allegiance to place.



Article co-author Oscar Beita takes a refreshing handful of water from the Alvaro Ugalde Spring located inside 27-acres of land being restored by the communities of Angeles Norte and Alto Villegas

The Nectandra staff and partners guiding us displayed an awareness of the enormity of these times met by unfussy resolve to take small steps for change. Time and again, as we stood in

the white fog roadside, straining to see where Nectandra representatives Luis Villa and Manrique Esquivel were pointing, climate change was mentioned. Unstinting with their time, Jorge Paniagua, president of the Tapezco water association, and Gerardo Villalobos, who maintains the area's water tanks and pipes, spoke of the emerging unpredictability of seasons--joltingly unfamiliar rhythms of life defying historical knowledge of the land. There was something, however, about their tone, a shared optimism and mutual fellowship, that remains profoundly soothing now that we are home in the blazing desert on the cusp of a major shift in water policy: a glimpse of that often slow, invisible, metrics-defying infrastructure of building trust in communities.

We found this same spirit in the south, the weeks we were living there. Adding to the lack of transparency about Del Monte's long-run use of water, mixed with that of large-scale sugar cane growers and cattle ranchers, in the past three years 15 small dams have been proposed on rivers long defended by activists in the Térraba Basin. Transparent is the last word applicable to dialogue here. A good deal of money, for a few prominent families, stands to be made. Plans meanwhile for Central America's largest dam, the Diquís, which will double Costa Rica's energy production, though stalled in ways are still proceeding—for this same nucleus of rivers. So much remains unclear, most notably the question of the collective impact of all projects envisioned. In response to this increasingly confusing moment (climate change isn't meaningfully addressed in any of the planning) a growing movement, Ríos Vivos, has formed. Including multiple communities who've shaped a vibrant network, it aims to halt unnecessary dams and create a water planning process that's transparent, inclusive, and scientifically sound. Most movement leaders are in their 20's and 30's. With few exceptions, all donate their time. Many express fear of losing their jobs and other threats. They place their efforts within the larger context of citizen-led water activism taking place unsponsored and organically throughout Latin America and around the world, animated by a love of what's local and debt to future generations.

The courage, integrity and vision of this work bring to mind Pedro Arrojo, one of Nectandra founder Alvaro Ugalde's favorite role models. Alvaro liked to circulate Pedro's speeches. A Spaniard who founded the New Culture of Water Foundation (and the winner of the prestigious Goldman Prize, known as the environmental Nobel), Pedro is celebrated for ushering in non-violent movement to support holistic water planning in Spain in the 1990s. Alvaro gravitated to Pedro's awareness of the connections between sound water planning and strong democracies, and to his ethical management of natural resources infused with lessons learned from surviving fascism.

After almost a month in the south, a mix of young and older movement leaders, and those of us visiting from Arizona, traveled north for a final meeting at the lush Nectandra Cloud Forest Garden and Preserve, the Institute's sister organization. Directors Evelynne Lennette and Arturo Jarquin, along with Luis Villa, led us to the almost all-glass meeting room at the end of a stone path winding through the silent trees, splashed with what feels like primordial light. It felt as if both Pedro, and Alvaro (who died sixteen months prior) were present also, with their passion and eye for seeing conservation's essential but often

invisible core. The serene space became our incubator for the day, to strengthen ideas received over a decade of letters and calls, and to extract from the difficult stories we shared — on Del Monte losing fruit to record heat, on other possibilities beside pineapple, on restoring rivers while strengthening civil society — a few next steps.

— Madeline Kiser & Oscar Beita —

Oscar Beita was born and raised in Volcán de Buenos Aires, where many of Del Monte's pineapple fields are located. He directs a number of initiatives at the University of Arizona's College of Medicine. Madeline Kiser is a Tucson-based poet and water activist. They've collaborated with water leaders in Costa Rica's south for 30 years.

Alvaro's Drop of Water

A couple hundred yards or so down a steep, muddy trail through Costa Rican riparian rain forest is a wall of rock and earth punctured by a crystal clear spring. This freshwater spring today bears the name *Alvaro Ugalde*, in honor of one of the founding fathers of Costa Rica's system of national parks and protected areas (see photo in previous article). Alvaro visited the spring ten years ago with representatives of the water management association serving Angeles Norte and Alto Villegas, two rural communities that since 2000 had been drawing on potable water from the property housing the spring. The land at the time was used as a dairy cattle ranch. Alvaro was the president and executive director of Nectandra Institute when it first began its eco-loan program. After that fruitful visit, those two communities became the first of many successful loan applicants, who used the loan proceeds to purchase private land for community-watershed restoration and conservation. Today, that cow pasture is under active ecological restoration, fulfilling the two communities' desire to restore the forest and protect their sources of drinking water. Thanks in large part to Alvaro and to his belief in local communities as effective conservation partners, Angeles Norte, Alto Villegas and subsequently, several other communities were able to own and care for the lands that house their water resources.

Alvaro Ugalde dedicated his life to conservation of national land. His conservation work with rural communities to restore forest ecosystems on important watersheds was the icing on the cake. In March of this year, Alvaro's friends, family and colleagues gathered within the lush, green Nectandra Cloud Forest Preserve to celebrate his life, his passionate 45-year defense of nature, and his characteristic warmth and selflessness that inspired many to rally to him. Gathered that day in the cloud forest, with its awe-inspiring biological diversity, was a diverse group of people representing key periods of Alvaro's life. His siblings' spoke of his formative years, during which Alvaro's mother and father taught him compassion and integrity, two important values that later served him well as he maneuvered through the oftentimes tricky socio-political mine field associated with setting aside large conservation areas for parks while dealing with displaced residents.

Also in attendance was his best friend Pedro Leon from university days, who successfully encouraged Alvaro, a biology undergraduate, to participate in an international seminar on national parks hosted by the U.S. National Parks Service for a few months in the summer of 1969. This experience was perhaps Alvaro's first concrete step towards a career in conservation. Pedro movingly serenaded Alvaro's parting spirit. Close colleagues from Alvaro's time as head of Costa Rica's park service voiced their respect and admiration for him, with some expressing what an important mentor and father figure Alvaro had been for them. And of course, Alvaro's Nectandra family joined the celebration, with Institute co-founder Evelyne Lennette unveiling a water drop sculpture representing nature's hydrological cycle and paying tribute to the privileged relationship we were fortunate to enjoy with Alvaro.



Alvaro's drop of water at the Nectandra Cloud Forest Preserve

In a moment of collaborative homage, guests at Alvaro's memorial celebration took turns reading lines from his poem "La Costa Rica de Mis Sueños" (The Costa Rica of My Dreams). In it, Alvaro describes with hope and optimism a Costa Rica with an abundance of clean, life-giving water originating from within its national parks and flowing all throughout the country. Prior to the reading of the poem, some of Alvaro's ashes were placed in a small stream that traverses the Nectandra Cloud Forest Preserve, joins the Balsa River, and eventually merges with other rivers to the Caribbean Sea. Alvaro's ashes were also interred earlier in other parts of the country, including some national parks and preserves — an appropriate way of honoring a giant whose relentless passion

and commitment resulted in the creation of many protected areas. In the process, he inspired people all over the world to follow his lead and to put our own drop of water into a river on behalf of nature and conservation.

— Luis Villa —

La Costa Rica de Mis Sueños

(with English translation)

Sueño con una Costa Rica,
Por cuyos ríos y riachuelos fluye agua
Agua abundante, agua limpia, agua viva.

(I dream of a Costa Rica,
Through which rivers and streams flows water
Abundant, clean, living water.)

Agua que nace en los Parques Nacionales,
Agua que surge por doquier.

(Water that is born inside the National Parks,
Water that surges from all around.)

Agua que pasa por hogares, industrias y plantíos,
Agua que nutre nuestro cuerpo.

(Water that passes through homes, industry and farmland,
Water that nourishes our body.)

Agua que siempre abundante, limpia y viva,
Es recibida con regocijo por las criaturas del mar.

(Ever abundant water, clean and alive,
Is joyfully received by the creatures of the sea.)

Sueño que en todos los confines de esta patria,
Sus habitantes cuidan sin descanso sus ríos y riachuelos,
Porque el agua que corre por ellos,
Es la misma que fluye en sus venas.

(I dream that within all the confines of this land,
Its inhabitants tirelessly care for its rivers and streams,
Because the water that flows within them,
Is the same water that flows through their veins.)

Sueño que visitantes de otros países,
Cuentan de una tierra llamada Costa Rica,
Cuyos habitantes dicen que el agua de sus ríos y riachuelos,
Es la misma que fluye en sus venas.

(I dream that visitors from other countries,
Talk about a land called Costa Rica,
Whose inhabitants say that the water from its rivers and streams,
Is the same water flowing through their veins.)

— Alvaro Ugalde —

Nectandra Institute (NI) Recent News Highlights

*** Reported by Luis Villa ***

January Young local volunteers worked with NI staff to [collect aquatic macroinvertebrates](#) along streams and rivers in the upper [Balsa River Watershed](#). We have been monitoring these organisms semiannually since 2009 in over 20 stream locations. Some of these organisms are known to be tolerant to organic pollution, while others are not. By analyzing the mix of insects found at each site, we can infer something about the quality of the water at that stream location.

February Nectandra Institute welcomed Lona Daniels, Yajaira Dominguez, and Corin Flynn, our newest student volunteers from University Studies Abroad Consortium. The young volunteers began their four-month stint with Nectandra by learning to [classify the macroinvertebrates](#) obtained the previous month from various points along streams and rivers in the upper Balsa River Watershed. They sorted the specimens by family. A water quality score for each stream sampling site was then calculated using a formula that takes into account the level of tolerance to contamination of each type of organism.

Students from the University of Costa Rica visited a 150-acre property, the home of water for the community of Pueblo Nuevo. The property was purchased a few years ago by Pueblo Nuevo's community-run water management association with [eco-loan](#) assistance from Nectandra Institute, and it has been undergoing restoration since then. Nectandra staff along with local representatives hosted the students and talked to them about the land acquisition efforts as well as the [restoration process](#) that has been taking place since.

March Representatives from the water management association for the community of Lajas participated in a free [workshop](#) provided by Nectandra Institute. Participants attended weekly sessions on conservation, watershed protection and water resources management. Lajas' association is one of the newest members of [Liga CUENCA](#), the consortium of community water management associations that Nectandra Institute helped found in order to consolidate protection efforts for the upper Balsa River Watershed and surrounding areas.

April Community water management associations completed the [semi-annual freshwater spring flow measurements](#) that Nectandra Institute asks of our eco-loan beneficiaries. The flow volume from springs or just downslope from eco-loan properties is measured twice a year once forest restoration has gotten underway. We hope to collect long term data of spring flows and flow stability after forest regeneration.

May As they complete their internship (see above in Feb) US students Yajaira, Lona, and Corin helped [document the progress of the emerging forest](#) on eco-loan financed properties. During the past three and a half years, approximately two dozen young volunteers, including nine through USAC, have provided invaluable support in advancing the Institute's mission of cloud

forest conservation through education, scientific research, and watershed stewardship.

June Tree measuring season kicked off this year on restoration land purchased in 2007 by the water management association serving the communities of Angeles Norte and Alto Villegas. Nectandra staff, community representatives, visiting volunteers from the University of Arizona as well as from the southern Costa Rican communities of Volcan and Longo Mai worked [to measure fig and other trees](#) planted on the upper third of the steeply sloping 27-acre property. Samples of planted and naturally occurring trees are measured annually on lands purchased with eco-loan assistance. This tree growth data helps improve restoration strategies by providing information on the suitability of trees species at specific sites.

Did you know that you can support our work by making a U.S. tax-deductible donation on-line? For more info go to:
<http://www.nectandra.org/org/support.php>

Visit us at: www.nectandra.org