

# Grassroots Development

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**Building Resilience to Environmental Challenges**

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Cover and opposite page: An unidentified man swings a machete to clear a tree felled by Hurricane Matthew shortly after the storm in October in Les Cayes, in the Sud department of Haiti.

Photo: Courtesy of Keziah Jean of Glenglobe Productions in Haiti.

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## Contents

### Building Resilience to Environmental Challenges

When Resilience isn't Enough <i>David Einhorn</i> .....	2
Let's Talk Roya <i>Seth Jesse</i> .....	7
Tackling New Challenges with Old Practices in Rural Honduras <i>Sarah Stewart and Mary DeLorey</i> .....	12
Seeds for the Future <i>Luis Eduardo Merino</i> .....	16

### Photo Essay

Maguey Spinners of the Mezquital Valley <i>Bryon Wells and Keith Dannemiller</i> .....	22
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### At the IAF

An Eye for Beauty in Challenging Environments <i>Bryon Wells</i> .....	30
In the Field: Living with Drought <i>David Ivan Fleischer</i> .....	34
Book Review: Open Borders to a Revolution <i>Seth Jesse</i> .....	39
2016 IAF Fellows.....	40

# Building Resilience to Environmental Challenges

Climate change, and the environmental challenges it creates, is an issue for communities around the world. This is evident in many of the places in Latin America and the Caribbean where the IAF works. Environmental phenomena, including both persistent droughts and severe storms, represent an urgent, tangible threat to poor communities that bear the brunt of the impact.

In this issue of the Grassroots Development Journal, we explore how our grassroots partners are building resilience to cope with this ever present problem.

The risks from climate change are many and diverse. Some hazards develop rapidly. Others develop slowly over many years with effects that are not easily predictable. Rising sea levels contribute to flooding and population displacement along coastlines. Prolonged drought threatens food supply and increases the risk of wildfire. Fluctuating ocean temperatures provide an engine for more extreme weather events. Seasonal storms and massive hurricanes can wipe out entire towns — like we saw in October 2016 in Haiti.

The cover photo for this issue reflects the resolve of Haitians to respond to Hurricane Matthew. The article inside focuses on how our Haitian partners are working to rebuild their communities. For decades the IAF has collaborated with Haitians who have come together to improve their own communities through projects focused on food security, education, health, small business development and sustainable agriculture — all priorities that they identified. As we mourn the lives lost in several of those communities that were hit hardest by Matthew, the IAF will also continue to strengthen networks built over time to give local people more agency over their future.

Being prepared to respond quickly when disaster strikes can save lives. It is also important to work ahead of time to improve community resilience. World leaders recognized that disaster prevention and mitigation is a development issue when they met at the United

Nations in 2015 to endorse the sustainable development goals. They included it among the specific targets for 2030 that provide the basis for monitoring progress. According to World Bank estimates, climate change could push more than 100 million people into poverty by 2030 unless communities worldwide embrace effective mitigation measures.

We are proud to report that the *Finca Humana* approach to agriculture, the farmer-to-farmer methodology for sustainable practices championed by the late Elías Sánchez, is helping Honduran families weather prolonged drought while enhancing quality of life.





Sánchez's legacy, showcased in the article "Tackling New Challenges With Old Practices in Rural Honduras," showed these families how to increase and diversify production using organic and other technologies that are less invasive and conserve more water. Building community, they cultivate mind and spirit as much as the land.

The effects of climate change in Latin America and the Caribbean can have national and regional security implications for the United States when it forces people to leave home. For example, the U.S. Strategy for Engagement in Central America includes the drop in household income associated with the damage caused by coffee fungus among the root causes of migration from El Salvador, Guatemala and Honduras. In the article "Let's Talk Roya," we explore how grantee partners in the region are taking steps to counter pervasive coffee rust infestations that are increasing due to warmer, wetter weather. With the IAF's help, innovations to fight Roya, such as organic recipes for natural fertilizers and fungicides, have spread from Central America to Mexico and the Dominican Republic. Similarly, providing our grassroots partners an opportunity to share their experiences has helped smallholder farmers begin to reduce vulnerability by diversifying their agricultural production to include fruit, vegetables, tubers and livestock.

Resilience can also involve using traditional knowledge to bring ideas to the global market, as we see in a story in this issue from Mexico. A photographic essay tells how collective work is generating supplemental income for indigenous women based on the traditional

practice of cultivating agave in the Valle del Mezquital in Hidalgo state, transforming their crafts into popular cosmetic products sought by clients across the globe.

In Colombia, the onset of desertification in the Andean departments of Tolima and Cauca is complicated by invasive mining practices that divert precious water resources. Mono-agricultural practices that reduce diversity of plants and animals increase reliance on chemical fertilizers and may ultimately decrease yields. The story "Seeds for the Future" shows how an IAF grantee partner is bridging communities with different interests through model farm schools that promote environmentally friendly agricultural practices. In the process they have built understanding and cooperation among neighbors through the creation of seed banks for the recovery, conservation and management of native seeds.

The article "Living With Drought" describes how communities in the semiarid northeast of Brazil are adapting to cope with historic, lengthy periods of little or no precipitation. They are building water cisterns and rainwater catchment systems. They are planting agroecological gardens and switching to livestock that are more resilient to drought. Native beekeeping and honey production, and small enterprises have enabled them to improve rural livelihoods in spite of the drought.

Grassroots Development will continue to highlight grassroots perspectives on promoting resilience to environmental challenges in Latin America and the Caribbean. Working with local civil society organizations in the hemisphere for more than 45 years puts the IAF in a unique position because we work directly with the people who are most affected. They know firsthand what's at stake to lose. The stories in this issue catalogue some of the ways they are addressing those challenges to help their communities thrive.

Robert N. Kaplan  
President and CEO  
Inter-American Foundation



*Wilson Saint-Vil takes notes for a damage assessment near Cavallion, a region of southwestern Haiti on the road to Les Cayes.*



*A family dries belongings outside their home in the aftermath of Hurricane Matthew.*

# When resilience isn't enough

## Responding to disaster based on community needs

By David Einhorn for the IAF

Photos by Keziah Jean

**H**urricane Matthew needed only a few hours to level the village of Anadère. But it could take months before the government or any relief agency provides assistance to this isolated community in southwestern Haiti.

“No one has come here,” said resident Daniel Dieuveuille, six weeks after the hurricane ripped through Anadère on October 4, 2016. Dieuveuille said all 50 or so homes in the village were destroyed, including those where the 70-year old farmer, his wife and extended family have lived most of their lives.

“We’re surviving on what little we have,” he said. “Our hope is in God.”

Nestled in mountainous terrain bordering the Grand’Anse and Sud departments — the area hardest hit by the hurricane — Anadère is not easy to reach in the best of times. The storm made matters worse. The largest nearby road to the town of Maniche practically washed out, and the dirt swathes that wind through valleys and up mountainsides to Anadère became nearly impassable.

Still, Dieuveuille’s nephew Duquesne Dimanche managed to make it. He came all the way from Miami to bring at least a couple of weeks provisions of food and a few plastic tarps to serve as temporary roofs. That makes Daniel Dieuveuille and the village of Anadère, for all their hardships, among the luckier ones in the wake of Hurricane Matthew.

The hurricane caused more than 500 deaths, damaged 1,663 schools, displaced some 33,500 persons, and wiped out an estimated 90 percent of crops, according to the Haitian government and international sources. An estimated 840,000 people are still in need of humanitarian aid. Ninety percent of the

population has no access to safe water, and there were more than 6,000 suspected cases of cholera in the affected area in the six weeks following the storm. Finally, the disaster could weaken the food security not only of the affected departments but of the entire country, since Grand’Anse is a major domestic producer of staples such as corn, breadfruit and yucca.

Yet as weeks turn to months following the storm, there is growing concern across southern Haiti that the village of Anadère is no anomaly, that the relief effort has been slow and limited in scope, and that it has not been reaching those most in need. The government has yet to put in place a reconstruction plan for the region, and there was limited coordination in the immediate aftermath of the storm among the major aid agencies involved.

The Haiti Community Foundation (HCF), a local nongovernmental organization and former grantee partner of the Inter-American Foundation (IAF), summarized the relief effort following a survey of 240 residents and local leaders in all 12 communes in Grand’Anse. The HCF found that international aid agencies, often lacking local information and connections, were not sufficiently involving Haitian leaders and communities in prioritizing and planning the relief process, leading in some cases to disputes over distribution of food and supplies.

It also said that distribution has been too centralized — in this case prompting refugees from the countryside to flood the departmental capital of Jérémie. Training local people to put in place longer-term solutions has been, according to the HCF, “an afterthought, not a priority.”

“We obviously need aid because of the dimension and scope of the devastation. Crops are wiped out.



*A woman named Rosemonde rests while clearing debris in the commune in Les Cayes, in the Sud department of Haiti.*

People don't have food. The level of misery is unbelievable," explained HCF founder Marie-Rose Romain Murphy. "But the reality is that many areas don't have the contacts to access the aid. The people suffering most are the most vulnerable — the elderly, women with small children and the handicapped. People getting something are younger people with the strength to trek their way out of affected areas."

The HCF has been through this scenario before. It was developed by the Economic Stimulus Projects for Work and Action (ESPWA), a former IAF grantee partner and nonprofit in the department of Grand'Anse. ESPWA, whose acronym spells "hope" in Haitian Créole, was founded by members of the Haitian diaspora in the United States in the aftermath of the 2010 earthquake. A report issued by the Center for Global Development after that disaster indicated that only a small fraction of international economic aid was channeled directly to Haitian organizations and businesses following the earthquake. With IAF support, the ESPWA developed the HCF with a combined mission to support Haiti's reconstruction

efforts by developing the ability of Haitian organizations to further sustainable development.

January 12, 2017 marks the seventh anniversary of the earthquake. Anticipating lessons observed in past disasters, in the wake of Matthew, Haiti's Ambassador to the United States, Paul Altidor, issued a statement immediately following the hurricane urging aid agencies to "work with the local organizations and institutions on the ground in order to gain their input on the actual needs of the affected communities." Indeed, some of the hurricane relief that is getting through has been channeled through smaller organizations, such as those funded by the IAF. Unlike the large-scale operations of international aid organizations, the work of IAF grantee partners is generally carried out by Haitian professionals who know the local area, have contacts on the ground, and employ a community-based approach to distribution that ensures assistance gets where it needs to go.

Though the IAF is not a disaster response agency, the scale of destruction left behind by this massive storm illustrates the importance of grassroots organizations and their ability to mobilize community resources. IAF grassroots partners have tailored their own emergency social and economic interventions in the wake of the disaster to address the needs of at least 10,000 storm survivors, according to early estimates. Six organizations<sup>1</sup> are providing urgently needed supplies such as water, hygiene kits and building materials, along with an array of services ranging from trauma counseling to technical assistance to replant farms and restart family enterprises.

The combined estimates for hurricane assistance among the six organizations totals less than \$200,000,

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<sup>1</sup> At the time of publication the IAF was identifying needs for reprogramming or adding funds for three grantee partners: Association Planteurs Jonc-Tiby (ASPJ) in Camp-Perrin in the Sud department; Organisation de Développement Durable et Solidaire D'Haiti (ODDSHA) in the first section of the Commune of Cavaillon in Haiti's Sud department; and L'Ecole de Fabrication Métallique pour les Démunis (EFAMED) based in Jérémie in department of Grand'Anse. New grants were being considered specifically for Hurricane Matthew survivors for former grantees: Konbit Fanm Kaskad-Dibrèy (KOFKAD) in rural Dubreuil and Mouvman Peyizan 3yèm Seksyon Kanperen (MP3K), in Camp Perrin, both near the southern city of Les Cayes in Haiti's Sud department; Union des Paysans 3ème Section Vieille-Hatte (UP3SV) in Northwest Haiti; and ESPWA/HCF.



*Hurricane Matthew blew the roofs off of homes in a community near the commune in Les Cayes, leaving rooms exposed to the elements.*

while estimates of the overall cost of the relief effort have already run into the hundreds of millions. However, as a grassroots development agency, the IAF's focus is less on the amount of aid and more on employing a participatory approach to problem-solving that builds community relationships. In that way, project benefits fan out to as many people in need as possible and facilitate sustainable results beyond the crisis period.

IAF Haiti liaison Dieusibon Pierre-Mérité recalls a meeting of the IAF-supported organization known as MP3K (Mouvman Peyizan 3yèm Seksyon Kanperen) in the Pic Macaya region just days after the hurricane devastated the community.

"What caught my attention was how much the participants focused on medium-term solutions. How to get seeds so they could plant before the rainy season and not have to depend on humanitarian aid. How to find chickens and other livestock to begin to recapitalize their family economies. If we don't address this now, they said, we'll all be starving in three months. They understood the problems completely and were quite capable of finding their own solutions to them."

The IAF's role, Pierre-Mérité explained, is to "let communities search for alternative solutions and

when they say 'this is what we want to do' we talk about what they propose." The dialogue not only forges consensus on how to proceed, it also instills mutual respect while keeping the community as the main actor in decision-making. That sense of community ownership in the aid process, Pierre-Mérité added, is not always present in communities' relations with larger donors with which they have limited contact. Or put another way, as HCF's Romain Murphy said, IAF grantee partners "are closer to communities because they believe in community-led solutions."

The plight of a village like Anadère certainly comes as no surprise to either Pierre-Mérité or Romain Murphy. Pierre-Mérité has traveled with several IAF partners and come upon communities with the same story: you're the first ones who've come here. Besides the formidable logistics challenges posed by getting relief to remote areas, the IAF liaison points to other complicating factors that can require localized, sometimes even personalized, attention. Examples can range from families traumatized by loss to the different dynamics and levels of initiative among communities. Some storm victims are too fearful or even embarrassed to ask for aid.



*Duquesne Dimanche of Miami distributes food and tarps after the hurricane.*

“There are issues of pride, distance, inaccessibility, relations with local officials — it’s a situation that can be extremely difficult to understand,” Pierre-Mérité explained.

Sometimes local leaders, marginalized from playing a role in the aid process, simply watch what’s going on in perplexed frustration. Romain Murphy cites the case of Renold François, a cacao producer and leader of an agricultural cooperative in Dame Marie, Grand’Anse, who lost everything in the storm. “They come every day with helicopters [but] I am not sure what they are doing,” François said. “The mayor, other leaders and I tried to tell them how to organize the distribution. . . It’s not adequate. There are various leaders who can ensure that the distribution can be done fairly . . . but they don’t want to listen.”

As for Anadère, Daniel Dieuveille said villagers are getting by for now on reserves of millet and corn, and by selling off livestock that survived the storm. Dieuveille himself lost 16 goats and a cow, practically his entire herd. The few trees still standing are so denuded from the winds that locals can’t find enough leaves to burn trees that fell in order to make charcoal to sell.

Even prior to the hurricane, Anadère had no electricity, running water or medical services, so its

residents are accustomed to the hardscrabble life of Haiti’s countryside. Still, resilience has its limits. Dieuveille said his village is in particularly desperate need of cement, galvanized roofing and cinder blocks to start rebuilding as soon as possible. The weather has been soggy than usual since the storm, and the tarps brought from Miami by Duquesne Dimanche are starting to wear thin.

“They stop the sun, but not the rain,” Dieuveille said.

Haiti’s rainy season starts in February, and communities like the one near Pic Macaya that have benefited from IAF partner interventions are already making plans for it. But as the clouds loom on the horizon, there are also plenty of ravaged villages like Anadère that continue to sit in wait.

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*David Einhorn is a regular contributor for the IAF. He was the Communications Director for Peace Dividend Trust in Haiti in 2011–12, and served in the U.S. Peace Corps in Paraguay.*

*Keziah Jean of Glenglobe Productions in Haiti is a student of former IAF grantee partner Ciné Institute.*

# Let's Talk Roya

## How to Cope with the Coffee Plague in Latin America and The Caribbean

By Seth Jesse

*Coffee rust came from the ground and we as farmers must find a solution in the soil. The answer is there.*

— Cristino Amaya, Las Marias Cooperative, San Miguel, El Salvador



*The coffee rust fungus is affecting plants across Latin America and the Caribbean.*

Winding his truck through the mountains and ravines that cradle the coffee groves of northern Chiapas, Mexico, Fernando Rodríguez of the *Unión de Productores Orgánicos Beneficio Majomut* (Majomut), an association of Tzeltal and Tsotsil<sup>1</sup> coffee farmers, summed up the dark period he and other growers had come through. Coffee production and farmers' income had "plummeted over the past two years," Rodríguez said, "and our organization had to let go of valuable staff that provided technical assistance to our member farmers and helped ensure coffee quality."

The shiny, pointed leaves characteristic of Arabica coffee plants, the backbone of coffee farms in Mexico, Central America and the Caribbean, had succumbed to a fungus known as coffee rust, which thrives in humidity and heat. The fungus attacks the leaves of the plant, impeding proper maturation of coffee cherries and thus the quantity and quality of yields. The impact was felt along the entire coffee value chain. Coffee pickers, farmers and their families as well as processors, buyers and roasters felt the pain. Rodríguez and the members of Majomut feared that the fungus would lead farmers — their livelihoods threatened — to raze their coffee groves and plant grains, resulting in deforestation, less carbon capture and even emigration outside their communities to seek other work.

Experts indicate that climate change is the primary cause of the coffee rust blight that spread quickly

<sup>1</sup> One of about 12 indigenous groups in the region including Chiapas, the Tzeltal and Tsotsil are of Mayan descent.

through Central America, southern Mexico and the Caribbean beginning in 2012, affecting coffee plants at higher altitudes than during prior bouts of the fungus. Aging coffee plants, lack of technical advice and poor grove management also aided the magnitude of the impact of the fungus.

### In search of an organic answer

For the 2014 and 2015 harvests, Inter-American Foundation (IAF) grantee partners from Dominican Republic, Mexico, El Salvador, Nicaragua and Guatemala reported losses in production of between 25 and 80 percent. The fungus devastated coffee trees and nurseries, and producers lamented that changes in climate facilitated the spread of the fungus. Hugo Lares is technical coordinator at Finca Triunfo Verde (FTV), a cooperative of 450 farmers from communities within the buffer zone of the cloud forest El Triunfo Biosphere Reserve in southern Chiapas. He says the organization has witnessed firsthand the effects of climate variation and the accompanying dramatic shifts in weather patterns. “The climate has been changing, without a doubt,” Lares notes, “and the normal periods of rain are different from before.”

Experts warn that weather patterns like El Niño and La Niña have been intensifying, bringing more precipitation to coffee growing regions. More rain gives the rust an environment to thrive, to the detriment of its host plants. If weather had become less predictable, so had coordinated national responses to threats like rust. Governments and providers of technical solutions struggled with the enormity of the coffee rust problem. Replacing affected coffee trees presented governments in the region with difficult financial and cultural obstacles: some offered new and untested coffee varieties and many promoted chemical herbicides as a quick fix. But for smallholder farmers engaged in certified production of organic, sustainable coffee, chemicals just wouldn't do. They needed effective organic practices anchored in agroecology to maintain their organic certification and to ensure sustainable production. But what organic methods exist?

By 2013, FTV and other grassroots organizations in the region had sounded the alarm on coffee rust and began mobilizing to find a way forward. Many began countering the fungus in various ways including through shade management, pruning and weed control,



Photo by Mark Carcedo

*Mexico's El Triunfo Biosphere Reserve in the Sierra Madre de Chiapas soars more than 6,000 feet above sea level.*

but the scope of the challenge overwhelmed capabilities, especially among small holder farmers. The question facing the IAF was how to enable grantee partners to develop the networks and technical expertise necessary to address such a tough problem. As a responsive funder that supports grassroots organizations to address challenges and find solutions themselves, the IAF settled on empowering its partners to better analyze the coffee rust threat, respond and develop networks to access resources and technical advice.

### Beyond the coffee klatch — a community of practice

A first step for the IAF was support for the participation of 22 farmers and grantee staff from 10 organizations in the region at the 2013 Sustainable Harvest “Let's Talk Roya (Rust)” conference in El Salvador. The event provided an opportunity to gain insights on the fungus, share experiences, and make important contacts with roasters, importers, scientists and other farmers. For IAF partners the gathering was a chance to start to build a community of practice with each other.

Between the Sustainable Harvest daily event program and nightly IAF partner discussions, the conference provided a space to share experiences on reducing the effects of the rust and exchange best

practices among peers. The aim was that grantee partners would have more resources at their disposal to become more effective and feel like they are part of a community of support. The participants departed the conference determined to find solutions to the fungus on behalf of their respective farming communities.

### Engaging the network

Dynamic and engaged, grantee organizations continued to experiment and gather ideas and knowledge from multiple sources to address the issue. The organizations' roots in solidarity moved them to share what they learned with others. Two cases highlight how grassroots organizations can achieve impact at scale through low-cost actions.

Federación Comercializadora de Café Especial de Guatemala (FECCEG), an IAF grantee partner composed of eight coffee cooperatives in western Guatemala, had tinkered in the highlands with organic recipes for natural fertilizers and fungicide as well as methodologies for training its member farmers to implement the techniques. Reports as well as field visits by IAF personnel, congressional staff members and Guatemalan government agencies, confirmed initial successes against rust.<sup>2</sup> The IAF approached FECCEG about sharing its insights for combating rust and FECCEG set about providing technical assistance to a number of IAF grantee partners about how to prevent and treat the fungus. The idea was farmer-to-farmer sharing, a sort of learning hub in Quetzaltenango, and the results have been compelling.

In late May 2014, IAF grantee partners from Mexico, the Dominican Republic, Ecuador and El Salvador joined FECCEG in Quetzaltenango to learn about its techniques to combat coffee rust using organic methods and natural inputs (so as not to lose organic certification). Their work includes the application of an organic fungicide known as *caldo bordelés*, replacement of coffee plants with sturdier varieties, proper pruning and shade management. These actions weave into the on-going agroecological work that includes worm-composting and use of micro-organisms for better nutrient absorption in the soil. FECCEG's hands-on methodology facilitated

<sup>2</sup> The Guatemalan Coffee Association (ANACAFE) asked FECCEG to share its experience on this topic.

Photo by Mark Caicedo



*Coffee is a way of life for the 447 coffee farmers and families spread across 29 communities in the El Triunfo Biosphere Reserve.*

Photo by Mark Caicedo



*The farmers of Finca Triunfo Verde (FTV), an IAF grantee partner since 2013, produce coffee popular in world markets.*

learning and exchange. After returning to southern Chiapas, FTV adapted FECCEG's techniques to its own context and availability of local materials. FTV sought financing from allies such as international agricultural development investors Root Capital and Equal Exchange to expand anti-rust measures and used a supplemental grant from the IAF to implement a manufacturing plant for organic inputs (or *biofabrica*) based on FECCEG's model. It also hired an FECCEG technician to augment technical assistance and training for FTV staff and member farmers.



*A Triunfo Verde workshop to identify Roya in the field.*

Encouraged by the advances, FTV later traveled to Chenalhó in the Chiapas highlands to share with another ally, the Majomut cooperative. Leaders of Majomut, which received a grant from the IAF in 2016, recall the importance of the FTV event, which covered the contributing factors, effects and strategies to combat coffee rust. Sharing had gone well beyond what the IAF initially envisioned when it first approached FECCEG. And results are promising. FTV's new techniques to control rust helped them recover its yields: from five quintals per hectare in 2015 to nine in 2016 and an expected 10 quintals per hectare by 2018. Maintaining high quality, certified coffee through this crisis means that FTV's coffee will continue to command higher prices at market. Premiums benefit the farmers and communities and help maintain better prices for a volatile commodity in times of variable climate.

Meanwhile, the Salvadoran visitors to FECCEG's exchange event planned to share their knowledge with colleagues and local institutions in El Salvador. Asociación Coordinadora de Comunidades Unidas de Usulután (COMUS) partnered with the IAF on

an exchange among 30 people in Usulután, El Salvador in December 2014. The event, "Actions and Alternatives to Address the Effects of Coffee Rust," featured active participation and exchange, hands-on field work and demonstrations of how to produce natural fertilizers and pesticides effective in combating rust. According to Rolando Gutiérrez, the IAF's local liaison, the COMUS exchange<sup>3</sup> was very timely because coffee rust was wreaking havoc. The gathering "allowed farmers to learn new organic methods for dealing with it, and it brought our grantee partners closer together," he said. It also opened space for discussion of vulnerability of farming families and the importance of diversifying production, including through cacao. An editorial team of Gutiérrez and current and former grantees captured related lessons

<sup>3</sup> In addition to COMUS, the Marías 93 Cooperative, Asociación de Desarrollo Comunal Milagro de Dios (ADESCOMD), Cooperativa SAN Raymundo and Fundación para el Desarrollo Socioeconómico y Restauración Ambiental (FUNDESYRAM), representatives of Movimiento de Agricultura Orgánica de El Salvador (MAOES) and Confederación de Federaciones de la Reforma Agraria Salvadoreña (CONFRAS) participated in the event.



*A farmer picks coffee cherries in Mexico's El Triunfo Biosphere Reserve.*

and recommendations on coffee and rust in a newsletter that raises awareness on the disease and how farmers can respond to it.

### Flexible funding

The IAF supported two Dominican grantee partners to respond to coffee rust through supplemental grants. Instituto para la Autogestión y el Desarrollo de Base (INADEB) and Cooperativa de Servicios Múltiples San Rafael (SAN RAFAEL) received additional funds to address coffee rust, and each is implementing a version of FECCEG's manufacturing plant for organic inputs (the *biofabrica*) that they observed during the 2014 exchange. These organizations also are taking steps to diversify their production and income sources to reduce their vulnerability to blights and diseases. Coffee rust will likely resurge, and current coffee growing regions may become unsuitable for the crop as temperatures rise and weather patterns shift. For smallholder farmers and their grassroots organizations,



Photos by Mark Calcado

*Sacks of coffee from the Unión de Productores Orgánicos Beneficio Majomut in Chiapas.*

this latest coffee crisis has brought home the urgency of diversifying their agriculture to include fruit, vegetables, tubers and livestock. This expanded production will reduce vulnerability of farmers and their families during the development phase of replacing their coffee plants and during downturns in the commodity market and coffee prices in general.

This coffee rust crisis brought into relief the resilience and dynamism of grassroots organizations in Latin America and the Caribbean who are capable of responding to opportunities and challenges. It brought home the importance of linking the IAF's grassroots partners, sharing and building on lessons, and of being flexible enough as a funder to allow grantees to adapt to changes in context, including changes in climate.

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*Seth Jesse is the foundation representative for Mexico at the IAF, where he has also served as representative for El Salvador.*

# Tackling new challenges with old practices in rural Honduras

Story and Photographs by Sarah Stewart and Mary DeLorey

Today's widespread environmental challenges pose threats at different scales. Globally, warming oceans fuel superstorms of larger proportions and increased frequency. Locally, droughts limit production and increase vulnerability of crops and forests to pest outbreaks. Emerging new technologies address some of these challenges. However, in the case of Honduras, a 30-year-old, integrated and transformative approach to small scale farming called the *Finca Humana* (Human Farm) continues to show the best promise as a defense against these challenges at the microscale.

Over the last several years, Honduras has faced three particularly serious environmental issues assumed to be associated with a changing climate: a coffee rust<sup>1</sup> outbreak that devastated one of the most important export crops in the country; a sustained drought that required international humanitarian assistance to address growing hunger in the countryside; and a pine bark beetle infestation that is destroying forests throughout the country, the full impact of which is not yet known. These are likely just a taste of potentially more serious outbreaks to come in a country deemed a climate "hot spot." More importantly, these outbreaks and drought reveal both the impact such environmental events can have on the economy and the country's natural resource base, as well as what strategies are most effective in mitigating their impacts.

Before climate change was even a globally recognized term, the *Finca Humana* approach grew and spread across the country (but especially in western



IAF file photo

Elías Sánchez

Honduras). It continues to be a widely used methodology on the local scale, offering resilience to families during the 2015 drought and 2016 harsh dry season. Local and national government action is also necessary to address the protection of ecosystem services at the watershed, landscape and regional scales. At the family level or microscale, the *Finca Humana* approach continues to show particular promise as an effective strategy against climate-related events even after 30 years.

## The enduring legacy of Finca Humana

The founder of the *Finca Humana* approach in Honduras, Elías Sánchez, has been immortalized in books such as "Two Ears of Corn" by Roland Bunch and several articles<sup>2</sup> and videos, as well as in the hearts and minds of many Hondurans. The approach espouses a human-centered focus with a farmer-to-farmer, integrated methodology that promotes environmentally friendly agroecological techniques, optimal use of water and other resources, and a transformation of farmers as well as farm practices. Sánchez inspired the creation of many non-governmental organizations in

<sup>1</sup> Read more on how the IAF's grantee partners are confronting this outbreak in this issue on page 7.

<sup>2</sup> Including in the Grassroots Development Journal 2008, "The Agricultural Gospel of Elías Sánchez," by Patrick Breslin.

Honduras that use this approach to improve food security, protect the environment and strengthen family and community bonds.

The *Finca Humana* approach seeks to increase and diversify production on small plots of land using organic, plant-and animal-based fertilizers and biopesticides and by making low-cost structural changes to the topography. And it focuses on cultivating the mind and spirit as much as the land. It aims to manage waste and to capture, store and conserve water using simple, low-cost technologies. Small animals are housed in pens and fed a homemade, low-cost diet. A small number of committed producers slowly and organically convince neighbors by demonstrating successes in the quality and quantity of production (of crops and animals) and improved access to and quality of natural resources (water and soil). A focus on mutual assistance between farmers, and a willingness to pass on the information and techniques to others, complement the physical changes to the land. Over time, these changes together can lead to a better diet, stronger families and enhanced community relationships. But, as one farmer noted, “it doesn’t work without a deliberate, mindful and heartfelt effort.”

### Better livelihoods through improved techniques

In Central America livelihoods are directly tied to the natural environment. The International Center for Tropical Agriculture in Colombia conducts research aimed at increasing the eco-efficiency of agriculture in the region and notes that changing environmental conditions have the effect of keeping people trapped in poverty: “Their efforts to escape are thwarted by rapid degradation of soils, water and forests. In addition, the region’s agriculture, already hindered by erratic weather, faces a significant threat.”

Evidence of the success of the *Finca Humana* approach as a potential strategy to combat climate change while also improving the quality of life in rural areas can be found in Grupo Güinopeño Ambientalista (Grupo Guía). This IAF grantee partner located in the Guinope municipality of El Paraíso in eastern Honduras weathered severe drought, and the farmers they work with enthusiastically praise the approach for the improvement in vegetative cover, productive outputs, nutrition and even family and community relationships.

In the Picadero community of neighboring Yauyupe municipality, Dania Sierra and Osman Sánchez incorporated more than 20 varieties of crops, fruit trees, and medicinal and other plants into a small garden beside their house, ensuring food security throughout the year. The young couple separates organic waste for composting and keeps non-organic waste in a sack to prevent soil and water contamination. Their plants are heat and drought tolerant, and they now produce seeds to maintain their garden.

Seeing what neighbors were doing motivated Deisy Ávila and Rodolfo Fernández to set up the same agro-ecological system behind their house. Deisy is slowly building up the diversity of her garden. She captures water from the roof of her house and uses a gray water filtration system using successive compartments of stone, sand and charcoal, with the runoff flowing into a large tank she built. She planted shade trees around the tank to prevent evaporation. She and other women in the community learned to create a wide range of nutritious meals and drinks using new crops from their gardens. Deisy uses as much of the plants she grows as



*Deisy Ávila shares organic fertilizer she uses in her garden.*



*Simple water collection systems help catch rain.*

possible and her family's diet has become healthier. She is also more conscious about waste because of the effort they put in. "We don't discard anything, because it's hard work," she said.

Together with a group of 15 community members, she makes large batches of organic products to improve growing conditions in her garden, such as *Forefun*, a fertilizer, insect repellent and fungicide (made from chicken dung, molasses, lime, ash and water), and *Madrifol*, a fertilizer and insect repellent (made from the leaves of the Madreado tree *Gliricidia sepium*, lime, water, and sugar cane juice or molasses). The group then distributes the compound among themselves. She knows how important it is to learn and share from others. Her neighbors recognized her efforts with an award for the best garden. When asked about the sustainability of her garden, Deisy says, "I don't let it fall apart; the trees are like my children."

### Reaching a tipping point

Those who think someone over 50 would be unwilling to try out new farming methods should meet Santos Palma. We met Santos at his house in the Yauyupe town center. He admits that his generation moved away from implementing diverse plots like those of his grandfather, but with Grupo Guía's guidance and the support of some neighbors, Santos transformed his small backyard space. At initial glance, his garden looks overgrown and unwieldy, but he proudly pointed out the diversity of plants, including yucca, which he used to buy in the market. He was so committed to making the most of his garden that he asked a neighbor if he could expand in



*Waste collection and management.*



*Tanks store captured water, and shade trees help reduce evaporation.*

that direction. Santos even does experiments to test production levels of using organic versus a popular agrochemical treatment. He concluded that the agrochemical yielded greener plants, but the organic treatment coupled with manual manipulation yielded better overall production. In addition to adopting organic techniques in his garden, Santos changed the way he manages his small plot of land outside of town. He uses organic products and no longer burns before planting.

Santos is so convinced of his transition to organic that he is now trying to influence the local community



*Compartments of stone, sand and charcoal filter “gray water” for watering gardens.*

bank to end investment in chemical pesticides and fertilizers. He notes the biggest problem is water availability, which bottoms out in the drier months. Using the *Finca Humana* water conservation techniques, Santos stores water, treats gray water and irrigates his garden with a small bucket, allowing edible and other plants to survive all year. In response to the challenge of working with so little land, he cited one of the tenets of the *Finca Humana* approach: the importance of cultivating the mind as much as the land. “Someone can have a lot of land, but their mind is not cultivated,” Santos says.

Santos’s neighbors Miguel Palma and Helen Ordóñez recently started a garden with the same characteristics and techniques. Beyond efforts in his own garden, Miguel’s talents extend to the community: he is the coordinator of the 14 members who are participating with Grupo Guía on this project in his community. They have reforested some water catchment areas in the surrounding hillsides. Both Santos’s and Miguel’s efforts demonstrate that people’s interest in environmental and family health can scale up from the personal to the community level.

An interesting note to the sustainability of the *Finca Humana* approach is the adoption rate in communities over time. “Two Ears of Corn” indicates a



*Osman Sánchez incorporated more than 20 varieties of crops, fruit trees, and medicinal and other plants into a small garden beside his house.*

tipping point of 25 percent. This suggests that if an organization supports training and accompaniment in a community, and 25 percent of the families adopt the practices and principles, then further adoption will occur spontaneously and will be self-sustaining. Grupo Guía has already surpassed the tipping point in the Picadero community by 50 percent, and these families will be better equipped to deal with any current or future climate-related challenge they face.

Whether or not other methodologies can lead to a similar result, or whether the conditions that led to adoption of these technologies are isolated are valid questions. However, seeing how the *Finca Humana* methodology worked in these Honduran communities is an argument in favor of supporting others to implement this approach and aim for that tipping point in areas particularly vulnerable to climate change. The tried and tested 30-year-old *Finca Humana* approach seems not only like a successful strategy, but common sense.

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*Sarah Stewart and Mary DeLorey are IAF Foundation Representatives for Honduras. IAF local liaison for Honduras Norman Sagastume contributed to this article.*



*Native seeds traded by native Colombians.*

# Seeds for the Future

Story by Luis Eduardo Merino and Juan Fernando Merino for the IAF

Photos by Luis Carlos Echeverri

Since before recorded time the practice of preserving and trading native seeds among communities has been a fundamental way of life for indigenous peoples in Latin America. This not only ensured food security but also served as an opportunity to strengthen communal ties and share practices that helped them continue to endure.

The seed, for indigenous Colombians, has represented the miracle of life and is symbolic to their connection to the earth. In the spirit of this tradition, Grupo Semillas — or the Seeds Group — a Colombian nongovernmental organization (NGO) founded in 1994, supports indigenous Afro-descendants and *campesino* (farmer) communities in the preservation and exchange of native seeds and agroecological practices. In the process it also promotes the protection of traditional, indigenous territories or *resguardos*,<sup>1</sup> natural resources, biodiversity and sustainable systems for food security.

Faced with a clear and present threat posed by increasing desertification and the effects of climate change, Semillas and its partners have proposed more environmentally-friendly traditional agriculture practices to replace conventional models.

With support from the Inter-American Foundation (IAF), Semillas shows how these ideas of agroecological methods and defense of territory operate on the ground — and at the grassroots level — in the departments of Tolima and Cauca. Semillas together with indigenous

and Afro-descendant communities created model farm schools to address food security challenges in both departments, through the exchange of technical skills and traditional knowledge. The group continues to organize exchanges, where participants visit the model farms in order to carry out seed bartering and other activities. These include sharing agroecological best practices and techniques, and the creation of seed banks for the recovery, conservation and management of native seeds.

## Native seeds bridging communities together in Tolima

As the sun passes over the Avechucos Mountains in the Andean department of Tolima, shadows spread across foothills full of legends and history of indigenous struggles in Colombia. It is in this area where the remains rest of indigenous leader Manuel Quintin Lame, who fought for the unity, territory, culture and autonomy of indigenous communities 100 years ago. In October 2016 a group of about 40 people gathered at an agroecological field farm school named after Quintin Lame, in the *Pocará resguardo* in the heart of the ancestral lands of the Pijao people. These men and women, mostly *campesinos* and indigenous people, came from different villages in the region to participate in a training workshop organized by Semillas with emphasis on sustainable ecological practices that will benefit their families and their environment. The workshop cycles last up to two years and are conducted every two months in two-day modules.

The Pijaos, dispersed in 77 distinct communities, are fragmented organizationally, compared to other indigenous communities in Colombia, into four organizations with some collective land rights. The region is characterized by high levels of erosion, salinity and limited availability of water, largely caused by poor management from large landholders for use as cotton plantations and extensive cattle-raising. Semillas works

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<sup>1</sup> In Colombia both indigenous and Afro-descendants have constitutional rights that guarantee their cultural, linguistic, political and territorial rights, although in the context of the ongoing civil conflict, communities have claimed these rights to varying degrees. The most organized indigenous communities live in “*resguardos*,” a legal and sociopolitical institution, of colonial origin, where they are given autonomy to administer according to their needs and customs. These communities have communal land titles and political autonomy. Afro-descendant communities, particularly those living in the Colombian Pacific Region, have benefitted from a law which determines ethnic and cultural rights and collective land ownership.

with several indigenous organizations engaged in agricultural production with a focus on food security.

Upon entering the *resguardo*, one is struck by a natural curtain of green made up of trees and plants native to the region planted by local inhabitants. “Before this was a very arid zone suitable only for livestock,” said Rosa Aleyda Leal Tapiero, governor of the *resguardo*. The transformation of this space into fertile land is the result of a collective effort since all the families living there work together with the common goal of affirming our identity and food sovereignty.”

The transformation is thanks to the work of Semillas and its partner organizations. They have focused on promoting productive environmental conditions through the model farm system, and fostering exchanges between communities leading to an alliance between grassroots organizations and other stakeholders. A key activity, for example, is the work done to preserve original, native seeds, such as corn, which has many uses and is deeply steeped in the ancestral memory of many peoples throughout the American continents. Apart from maize, there are the seeds of cassava, bean and others. Communities have sown these for generations, but now many are at risk of being altered or disappearing due to the spread of commercial or modified varieties.

Participants in the October farm school met with their neighbors to share products from their gardens. Some made sweets and fruit jams while others showed off their hatchlings of *gallina criolla* (free-ranged chickens), which forage on natural plants and derivatives instead of chemical feed. A group of women found alo



Rosa Aleyda Leal Tapiero, governor of the Pocar  *resguardo*.

vera as a source of natural wealth as an ingredient in facial cleansing products currently popular in local markets in the region.

For Fernando Castrill n, an agricultural engineer and project coordinator of Semillas, seeing these community interactions is one of the highlights of the training workshops. “Friendships are woven here — but other kinds of purposes are woven: people are building new alternatives,” he said. “It gives us satisfaction to understand that new leadership is emerging, with new ways of understanding a territory, and very concrete knowledge to tackle the problems of hunger and desertification.”

But perhaps the most emblematic case of resilience to environmental challenges occurs in the *Ilarquito resguardo* in the municipality of Ortega. Where once the lands were parched and did not produce much, crops and gardens now thrive. Technical support from Semillas and professionals from several universities and institutions, coupled with communal ancestral knowledge, resulted in a culmination of best practices. Residents built circular vegetable gardens as a strategy to adapt to changing environments. These allow them to not only produce food such as beans, maize and a variety of fruits, but also to plant more trees to protect the ecosystem. In the process they replenish forests, help the soil to better retain water and contribute to all-around improvement of the



A group of about 40 people at the agroecological field farm school Manuel Quintin Lame, in the Pocar  *resguardo*.



*A young girl holds an ear of corn, a staple food of the Americas for centuries.*

conditions in the region. In the future they hope the nurseries they are now planting will grow into more than 10,000 trees.

For Olga Consuelo Vargas of the Organization of Indigenous Councils of Tolima, the key to sustainability has always rested within the heart of these communities.

“Ancestral knowledge is very important for our people,” she said. “We need to rebuild this identity that has been dormant within us. In these workshops we are building peace, building orchards, seedlings, and becoming guardians of seeds and all that knowledge.”

### **The “green monster” of sugar cane and the Afro-Colombian experience in Cauca**

In the department of Cauca to the west of Tolima, fields of sugarcane are abundant in Villa Rica, one of the seven municipalities in the north that are part of the agroecological field schools promoted by Semillas. These multi-hectare plots were supposed to bring prosperity to the people who devoted themselves to their planting. However, as a monoculture that has spread throughout the area for several years, sugarcane has actually caused more damage than good.



*Saplings in a nursery in the municipality of Ortega, Illarquito resguardo.*

Perhaps most lamentable among local residents is the loss of traditional farms, which bore a variety of basic vegetables, as well as fruit trees, timber, and plants used for medicinal and other purposes such as forage for livestock. This supported food security and sovereignty for families in the region. Amidst the boom in sugarcane cultivation that took force in the 1980s, a good part of these farms were bought by sugar plantations.

Semillas works with Afro-descendent and Nasa indigenous communities who belong to the Unidad de Organizaciones Afrocaucanas (UOAFROC) and the Asociación de Cabildos Indígenas del Norte de Cauca (ACIN). Historically these communities have faced pressure from industrial sugarcane production as their lands are encroached on by the use of rental contracts that diminish land’s productivity and water availability. They also face pressure from mining and in some municipalities the presence of illegal actors such as guerrillas and paramilitaries.

Territorial pressures from third parties have in turn aggravated tensions between Afro-descendants and indigenous communities. In order to address some of



*Building circular gardens and incorporating trees helps soils retain water.*

the challenges that these communities face, Semillas' activities include a regional assessment on the productive and environmental conditions and availability of food, leading to trainings that address any challenges at model farms. Further exchanges between communities, for example, through regional forums, lead to the strengthening of an inter-ethnic dialogue.

### **Back to the basics**

In Villa Rica residents become nostalgic when they talk about how their *fincas* (small plots of land) once produced a great variety of native fruit trees and other vegetation. Heberto Usuriaga, an Afro-Colombian *campesino*, said these traditional processes were lost when their *fincas* were bought out or planted over. "A lot of people left when the wave of sugarcane came," he said. "But people were not accustomed to such temporary crops. These *campesinos* were deceived and they lost a lot."

Usuriaga and his family were introduced to Semillas in about 2012 when the organization began to carry out the agroecological project "Afronortecaucana Formation School" in Villa Rica and in the municipalities of Caloto, Miranda, Guachené, Padilla, Corinto and Santander de Quilichao. They realized they were not alone, that there were other *campesinos* and organizations reluctant to lose their lands and customs — also affected by the economic model that prevailed in the region. Organized, residents recognized the sum of their efforts to strengthen themselves as a community in the defense and management of their territory and to resolve differences among themselves.

Through Semillas' model farms, community exchanges and regional forums, families continued to embark on a unique path. They shared knowledge, ideas and technical practices defined by themselves and based on their needs. Through this process arose solutions.



*The Illarquito countryside.*

And many of those solutions are now bearing fruit. Betsabé Álvarez, owner of *Finca La Estrella*, along with her children has formed a company that will make the most of her cacao crops, thanks to participation in Semillas' activities. Her family operation transforms derivatives of this crop into a booming industry, bringing to market traditional delights such as *chokula* (rolled balls of chocolate), sweets and cacao liquor, which are being marketed regionally, and soon, nationally.

Deyanira Gonzalías Rodallega, a community leader and member of Semillas' partner UOAFROC, said the exchanges have been beneficial, but challenges remain. "We have problems of land grabbing, extinction of seeds and loss of water," she said. "With Semillas we were given the opportunity to look at our problems, like how to deal with the green monster of the cane,

which has forced out many native species. This school allows us to exchange seeds, knowledge and experiences with other organizations."

The problem of "land grabbing" from the sugar mills is compounded by mining activities that damage land and dry up water sources. Then there are social problems such as "machismo" or young people looking down on the field work done by their parents and grandparents. However, Gonzalías Rodallega, like other leaders in the region, believes that women and young people should be empowered to participate in management of their communities and lands.

The work is arduous and will require a lot of effort, but there is the awareness that unity is strength. And these empowered residents know that the seeds of action and hard work that are being sown now, will grow into more opportunities and a better future.

# Maguey Spinners of the Mezquital Valley

By Bryon Wells

Photographs by Keith Dannemiller



*A field of maguey cactus in the community of Boxaxni.*

The indigenous peoples in the semi-arid highlands of Mexico for centuries have known the secrets held by the *maguey* or agave plant. Believed to have been domesticated about 3,500 years ago, this native plant of Mexico has not only provided the main ingredient for the country's most famous intoxicating beverage but also the raw materials used in daily life.

Fibers from the agave, or century plant, as it is known, are spun into threads and fabrics for clothing, bags, paper, nets, brushes and other uses. Its fruits and saps are used in concoctions for nourishment, sweeteners and for medicinal purposes. And of course the heart of the agave is used to distill Tequila or Mezcal — the modern cousins of the fermented *pulque* beverage made from the spiny succulent in the times of the Aztecs.

Fast forward to 2016, and the importance of the agave to Mexico's cultural heritage and identity has not changed. For a group of women of Otomi descent in the Mezquital Valley in the rural highlands of Hidalgo State, they are taking their traditional knowledge of the agave's benefits to the next level: the global cosmetics market.

Since 2012 the Inter-American Foundation (IAF) has supported the non-profit Ñepi Behña (Women of Dignity) to organize networks of artisan women of indigenous descent to reach niche markets and receive fair trade prices for products made from agave. One of these partner networks is Ya Muntsi Behña (YMB) or Women Gathering, a cooperative of 250 women of native descent in the region, some 50 miles north of Mexico City.

Cooperative members are transforming its fiber, fruits and herbs into value-added products such as bath sponges, jams, jellies and soaps for sale in domestic and international markets. The Body Shop, a British company known for its natural products and fair trade principles, is a major client.

Before these products reach international clients, there is so much work involved. The women cut the leaves from the plants in their fields. They then tenderize the leaves in ovens or over open flames. When the leaves are soft, the women pound the long spindles to loosen the fibers and then scrape away at them to obtain the threads necessary to spin and weave fabrics.

The accompanying photographs demonstrate the labor-intensive steps in this process to reach the finished product.

In an area where many of the men leave to seek work outside the community, working of the agave is largely done by women.

Adriana Welsh, one of the founding members of Ñepi Behña, has written on the effects of climate change in the region in terms of causing a food crisis and outward migration to larger cities like Mexico City, Guadalajara and even north of the U.S. - Mexico border. "For women, the situation is complicated by not being recognized as producers or titled landowners," Welsh said. "It is they who have managed their homes and taken responsibility for production when their companions migrate."



Ya Montsi Behña cooperative member Juana Bautista Santiago uses a long-handled, curved blade to prune the spiny stalks of the agave to be removed to improve the plant's growth.

Organized, the women are better suited to market the products they make from the century plant to generate income aside from the basic crops they plant for consumption.

And the IAF is supporting them to receive a fair price for their labors. Ñepi Behña and YMB formed the private enterprise *Corazón Verde*, which has now grown with IAF support into an alternative domestic market for 520 women artisan suppliers in the states of Chiapas, Puebla, Mexico State, the Federal District and Hidalgo. They receive a fair price for their work through a more direct link between producers and consumers.

Involvement has empowered these women, and they are now thinking on a larger scale. "Through this organization, we have learned and we have grown through work that is supported by ecologically sound techniques that benefit us and our families," said YMB cooperative member Anastasia Pedro Bautista.

The IAF is supporting these cooperatives to diversify more into domestic markets and to develop a participatory certification process for products to represent standards consistent with their own vision of fair trade and equitable treatment.

Or, as Welsh puts it, "We want fair trade with equity, because women are often invisible behind the handicrafts they make."

"We have everything to achieve with our label," she said.



In the community of Boxaxni, in the fields behind her house, Juana Vaquero Palma harvests magüey stalks in preparation for extracting fibers.



*Juana Vaquero Palma carries a bundle of maguey back to her home in the community of Boxaxni.*



*Outside her home in the community of El Dadho, Cristina San Juan San Pedro scrapes the plants to remove all of the green vegetable material and expose fibers.*



*In the community of El Bethi, Rosalia Dominguez Martín roasts the spiny stalks to aid in exposing the fibrous material used for knitting the cooperative's products.*



*After the fibrous material has been washed and thoroughly cleaned, Rosalia Dominguez Martín hangs it on a line outside her home in the community of El Bethi.*



*Cristina San Juan San Pedro's hands work the maguety fibers.*



*Juana Vaquero Palma winds treated fibers of the maguety cactus into a single thread using an electric spindle at her home in the community of Boxaxni.*



*In the small town of El Alberto, Marcelina Agustin Pedro winds agave fibers into a single thread using a hand spindle.*



Women coop members, waiting to deliver their finished product for quality control approval, knit bath sponges outside the group's headquarters in El Alberto, Hidalgo.



Rosalía Dominguez Martín (red striped jacket), the head of shipping for the Ya Montsi Behña cooperative, supervises other members in the bagging, labelling and packing in boxes of the finished bath sponges that are ready for shipping to Europe via the Mexican port of Veracruz.



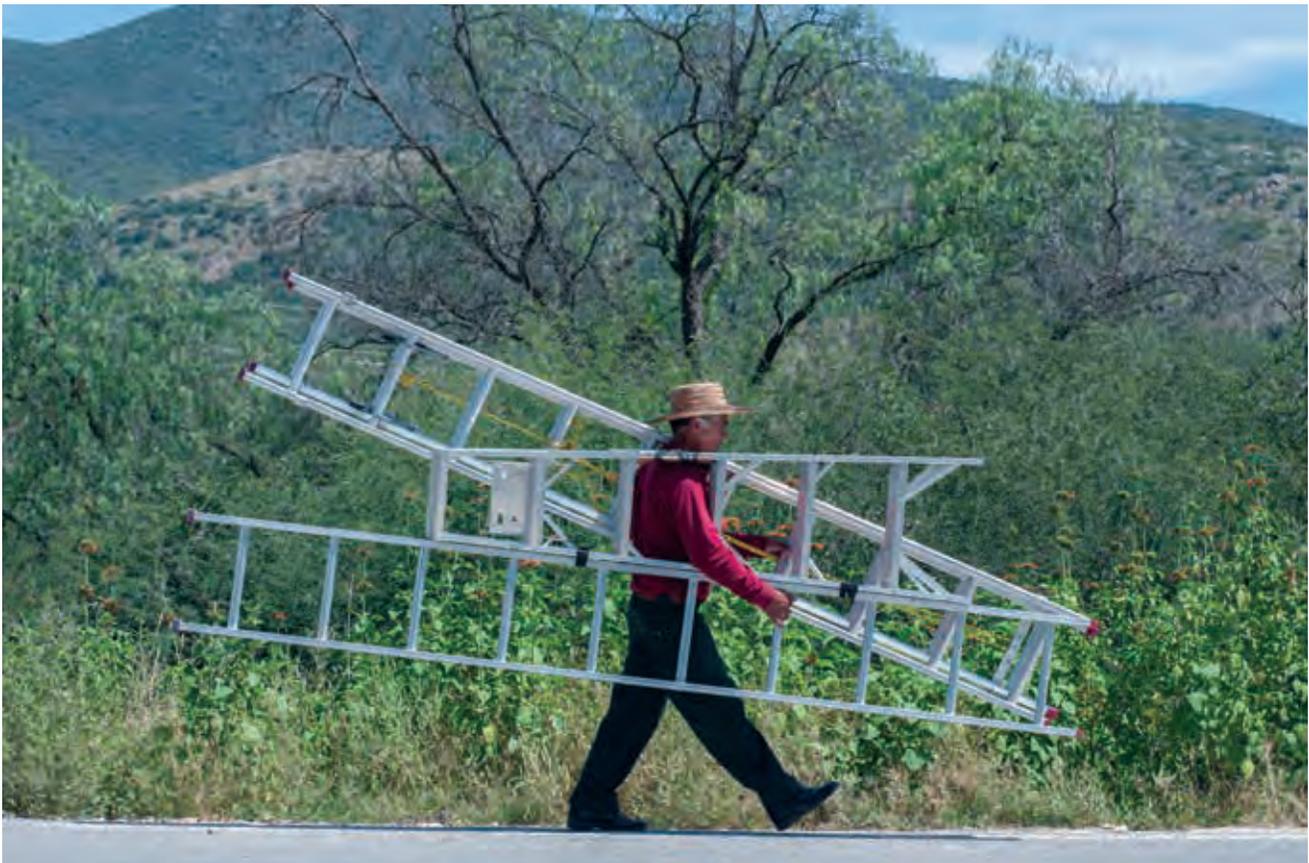
Finished bath sponges ready for shipping.



*In a dedicated area of her small farm, Rosalia Dominguez Martín inspects some cactus pads (nopal) that serve as a host for the small insects that produce the cochineal dye.*



*Woman walking along the highway outside the small town of El Alberto.*



*An itinerant ladder salesman walks along the main road passing through El Alberto, Hidalgo.*



*Cooperative member María San Pedro Álvarez outside her house in the community of El Dahdo.*



*The local Catholic parish church in El Alberto, Hidalgo.*

# An eye for beauty in challenging environments

By Bryon Wells

The earliest photo ever taken was a crude, grainy image of a rooftop in a Paris neighborhood, believed to be in 1828. Since then an estimated 3.5 trillion pictures have been taken. In the digital age, people are uploading 350 million photos per day of their surroundings on Facebook.

Some argue that the deluge of “snapshots” circulating the Internet has diminished the power photographs traditionally have held in the arts, journalism and culture in general.

However, for young residents of *Ciudad Oculta*, or “hidden city,” on the outskirts of Buenos Aires in Argentina, photography as an expression has become

more important to them than taking selfies or pre-dining snapshots of meals to join those found in abundance throughout social media.

Through *Fundación ph15 para las Artes* (PH15), a nonprofit started in 2000 and supported for four years by the Inter-American Foundation (IAF), young people from *Ciudad Oculta* have learned to use photography and art as a means to not only express themselves, but to open up doors of opportunity. Even 16 years later the organization has been keeping busy.

From Nov. 15 to Dec. 2, an exhibit of PH15 photographers’ works was included in FotoWeekDC 2016, organized by a nonprofit in partnership with National



Photo by Bryon Wells

From left to right, Miriam Priotti, former U.S. Ambassador to Argentina Earl Anthony Wayne, Maria Gonzalez, Moira Rubio Brennan, IAF President Robert Kaplan and Argentine Deputy Chief of Mission Sergio Perez Gunella.



*Young photographers of PH15 express themselves through images.*

Geographic as a citywide celebration of the craft. This year the event featured more than 150 exhibitions, programs and events highlighting world-class photography and providing exposure for amateurs working locally and worldwide.

The Embassy of Argentina in Washington, D.C., opened its doors to PH15 for a reception and panel discussion with the IAF, which was streamed live on video through Facebook. The group also received recognition from former U.S. Ambassador to Argentina, Earl Anthony Wayne and from Argentine Deputy Chief of Mission, Sergio Perez Gunella.

IAF President Robert Kaplan said after the panel discussion that the fact that PH15 is still active today is a testimony to the agency's core principle of supporting self-sustaining, grassroots movements that will continue long after IAF involvement. The IAF's funding for PH15 ended in 2010, and by that time the group reached about 400 young photography students and indirectly benefitted 1,500 in their communities. Five graduates of the program were hired by PH15 as teaching assistants. Two others became professional photographers. The students' photography has been featured in successful exhibitions in Argentina, Germany, Spain, the United Kingdom, and the United States.



*Fotografos — difusión (A collage of young Photographers).*

Visiting PH15 photographer Maria Gonzalez said the group taught her and her neighbors to use the camera to see the world with a different awareness, as well as to depict their community and its residents with dignity.

“Life is a photograph,” said Gonzalez, who became a dancer and dance instructor for youth in *Ciudad Oculta*. “I learned how to express myself through photography. It captured my mood. Through my photographs you could see whether I was happy or sad.”

While it’s regrettable that more couldn’t pursue careers in professional photography, the opportunity helped these young Argentinians see beyond walls — like the one once built around their neighborhood by authorities to hide their poverty from the world. The wall has since been removed, but the estimated 10,000 residents of *Ciudad Oculta* continue to face harsh conditions such as poverty and dangerous crime.

But PH15, rising from the rough and mean streets of the Hidden City, has flowered into an enduring opportunity for young people to discover how to express themselves through art, to open doors — and to dream. Moira Rubio Brennan, a director of PH15, said the young photographers will also continue to show the world what happens on their streets.

“They are no longer the kids of the hidden city,” she said. “They now have a way for their voices to be heard. They want to show there are other things going on in the hidden city.”



*Brenda Albornoz.*



*Ayelen Duarte.*



*Pamela del Bueno.*



*Victor Gonzalez.*



*Eugenio Alfonso.*



*Nahuel Alfonso.*

# Living with drought how grassroots groups are transforming livelihoods in the Brazilian Sertão

By David Ivan Fleischer

The people in Brazil's northeast are accustomed to living with drought. This semi-arid zone, the largest in Latin America, is known as the Sertão — which loosely translates to “backwoods” or “out-back.” It is one of the country's poorest and most often ignored regions. Despite the harsh conditions, its people rely heavily on smallholder agriculture and raising livestock to survive.

Scholars report that climate change is affecting semi-arid regions across the world, characterized by “increased rainfall variability and longer droughts in the coming decades.” This is evident in the Sertão, which is undergoing the most severe drought in 60 years even as other parts of the country are inundated. Even communities that have adapted to the Sertão's harsh conditions are taxed.<sup>1</sup>

Three Inter-American Foundation (IAF) grantee partners in the Brazilian states of Paraíba, Alagoas and Ceará are implementing strategies to help communities develop

<sup>1</sup> “Climate change adaptation strategies for smallholder farmers in the Brazilian Sertão,” Burney, J., Cesano, D., Russell, J. et al. *Climatic Change* (2014) 126: 45. doi:10.1007/s10584-014-1186-0.



Map courtesy of the Brazilian National Agency for Water, Ministry of Integration.

sustainable livelihoods and become more resilient to the prolonged drought. These involve different approaches to agroecology, for example promoting water collection, storage and management; working with beekeepers and youth to organize production of agroecological honey; and creating numerous small rural enterprises, such as finance and support for agroecological gardens for vegetable, fruit and livestock production.

## “Drought Industry” and other challenges

Geography contributes to this semi-arid region's vulnerability. Situated between a mountain range to the east along the Atlantic coast and a plateau to west, the resulting natural barriers prevent humidity and precipitation moving into the area.

Even in good times, rainfall in the Sertão has averaged about 500 millimeters (about 19.6 inches) per year.<sup>2</sup> Recently the brief seasonal rains that allowed smallholder farmers to harvest one small crop per year

<sup>2</sup> In contrast, the Brazilian Savannah has annual rainfall of 1,200 millimeters (about 47 inches), and the Brazilian Amazon gets a massive 3,500 millimeters (about 138 inches).



*Benedito Marques with one of his chickens from his poultry business.*

have been disappearing, and the region has gone more than 24 months without significant precipitation.

Smallholder farmers who eke out a living in the Sertão historically relied on natural reservoirs and the few rivers that cut through the territory. However, large urban centers on the Northeast coast that concentrate about 80 percent of the population of the region have stressed these water sources. The recent diminishing rainfall that experts attribute to climate change, combined with the external demand for water, restrains the natural replenishment of local rivers and reservoirs.

Beginning in the 1960s, federal and state governments carried out several programs aimed at addressing vulnerability to drought in the Northeast. Special interests grew to exploit the situation, according to Maria Carmen De Mello Lemos, professor and associate dean for research at the University of Michigan's School of Natural Resources and Management. "Most of these programs met little or no success. Much of the policy failure can be traced to 'the drought industry,' as the drought-relief public policy-making apparatus is known

in Brazil. Early on, powerful local groups captured the drought-relief policy apparatus, which mostly benefited large landowners and local political bosses."<sup>3</sup>

When rains fail, it is smallholder farmers and their families who suffer most. As a result, young people have historically abandoned the region in large numbers in search of better opportunities elsewhere.

### Engaging youth for advancement in Ceará and Alagoas

In Ceará, Agência de Desenvolvimento Econômico Local (ADEL) is supporting youth entrepreneurship as a way of making communities more resilient to drought. ADEL helped create community centers to disseminate knowledge and a revolving fund for small loans to young entrepreneurs to start rural small businesses. They are using this support for ventures that are less vulnerable to drought conditions,

<sup>3</sup> Lemos, Maria Carmen De Mello. (2003) A tale of two policies: The politics of climate forecasting and drought relief in Ceara, Brazil. Policy Sciences No 36, pp. 101-123. Netherlands: Kluwer Academic Publishers.

such as raising goats and chickens, beekeeping and agroecological gardening.

A participant in one of ADEL's young rural entrepreneur courses, Benedito Marques in the community of Carnaúba, Umirim found through market research that investing in poultry farming could be a great opportunity. With adequate access to water for raising chickens, and space for coops, his family's property was ideal for the enterprise.

Marques obtained financial support from the Veredas Fund, built a shed and organized a space in his backyard, and bought 150 chickens to start a business. In 2015 he began selling chicks to his neighbors. Marques raises a local variety of chickens — called *galinha caipira* — that are well-adapted to the local weather conditions. They forage on local vegetation, are less susceptible to disease and are more resilient than the chickens produced in large commercial farms. The meat and eggs have more flavor, which results in better prices at the market, fetching about three times the price of chicken from large poultry farms.

After a year and a half, Marques is already producing his fourth stock of chickens, and his monthly income is now four times more than when he started. His success with the business enticed two of his siblings to migrate back to the community to help him with the enterprise.

Marques said starting the business has given him a sense of purpose. "At the beginning of the course I did not have a clear idea of the business," he said. "Now I am making money. I have more autonomy, and I am more involved in my community."

In Alagoas, Centro de Capacitação Zumbi dos Palmares (CCZP) has been working with young people to improve native beekeeping and marketing, with a focus on preserving local biodiversity. Techniques adapted to the local climate have allowed honey production to remain steady even during the extended drought. Engaging young people has increased their interest in their communities and their desire to stay.

Speaking of bees, ADEL also helped create enterprise networks like Rede Nectar, a collective of young native honey producers. About 10 different producers are now using a shared facility to produce honey from native bees. The network has increased exchanges of best

practices among producers, and allowed them to start marketing collectively. Native honey is labor intensive, but its medicinal properties give it a market value of 30 times that of conventional honey, which represents an important supplement to household incomes.

### Making every drop of water count in Paraiba

In the state of Paraiba, Centro de Educação Popular e Formação Social (CEPFS) is promoting agroecological gardens and improving water collection, storage and management. It created small revolving community funds — called *Fundo Rotativo Solidario* — to benefit 26 communities in three municipalities.

The community-managed loans have helped 229 families with funding to build water cisterns, seed banks, agro-ecological gardens and ecological toilets. The money also helps to purchase equipment for small businesses (such as laptop computers and sewing machines) and to invest in community infrastructure.

Cisterns connected to rainwater or roadside drainage catchment systems help store the little water that does fall for use in dry spells. Composting toilets solve sanitation problems where flush lavatories were never appropriate and where people relieved themselves in fields or dry latrines. Instead of spreading sickness, these bathrooms provide safe composting for fruit trees.

Raimundo Arruda, from the community of Catolé da Pista in Teixeira, once left the area because of lack of work. Wanting to return to his home, Arruda was encouraged when he learned of CEPFS and its efforts to improve rural livelihoods.

"I came back and looked for a way to stay here working, and I realized that in even on a small piece of land we can live quite well," he said. "Then came the opportunity with support from CEPFS to build a cistern. I built the cistern on the highest rock for water to flow down by gravity through pipes. Today we plant lettuce, coriander, kale, and chives. This has been important for my family because now we have quality food, which we can also provide to neighboring families."

The largest of the three funds began in 2014, with about \$5,000 in Teixeira and \$2,900 in Cacimbas. Loan repayments go back into the funds, and the communities have also contributed money to increase the pot. These funds have kept their value through 2016 and proved to be self-sustaining.



*Construction of a cistern in the community of Riacho Verde, Teixeira, Paraíba state.*



*Raimundo Arruda with lettuce from his garden in the community of Catolé, Teixeira, Paraíba state.*



Photo courtesy of CEPFS

Local resident Maria Alves stands outside a composting bathroom provided by CEPFS at Teixeira, Paraíba state.

**Lessons learned on sustainable climate adaptations in the Sertão**

In the Sertão, adapting to drought has always been a fact of life for human beings, plants and animals alike. In the face of prolonged drought, this persistent ability to cope has been instrumental in using scarce resources more efficiently. Long-term resilience is defined by farmers’ adaptive capacity to adjust and thrive in these harsh conditions.<sup>4</sup> In true grassroots spirit, the IAF works with residents who identify their own needs and how best to respond to challenges at the local level in order to prosper.

<sup>4</sup> The role of institutions in the transformation of coping capacity to sustainable adaptive capacity. / Berman, Rachel; Paavola, Jouni; Quinn, Claire. In: Environmental Development, Vol. 2, 04.2012, p. 86-100.

The strategies presented here are producing results. Improved water management and sanitation technologies are giving families more control of resources to improve livelihoods. Organizing communities for honey production has also been a success, and including young people has given them a sense of belonging. The honey now has a brand — Arajuba — and is selling well in local farmers markets.

Access and control of water will continue to be the basis for survival and subsistence in the Sertão. These grassroots initiatives are contributing to stronger and more resilient communities, enabling them to thrive in this semi-arid region.

*David Ivan Fleischer, PhD, is the IAF’s Foundation Representative for Brazil and Uruguay.*



**Open Borders to a Revolution:  
Culture, Politics, and Migration**

by Jaime Marroquín Arredondo,  
Adela Pineda Franco and  
Magdalena Mieri (eds.)

Washington, D.C. Smithsonian  
Institution Scholarly Press, 2013,  
275 pp., ISBN 978-1-935623-12-0.

*Open Borders to a Revolution* is a compelling collection of essays that brings new perspective to the Mexican Revolution and offers the reader a nuanced understanding of the revolution's legacy. The work helps create a break with traditional analysis of the Mexican Revolution from a nation-centric approach in which narratives in Mexico and the U.S. precluded consideration of cross-border or transnational influence. Here, contributors from a variety of disciplines enhance the lens we use to consider how Mexican and U.S. histories affect one another.

The editors divide the volume into "Traveling Borders" and "Living Borders," two sections that address the idea of national frontiers in distinct ways. Contributors to the first section take on the considerable cross-border interaction among journalists, intellectuals, authors, artists and musicians, which occurred in a number of ways during and after the Mexican Revolution. John Britton's piece, "From Antagonism to Accord," examines how private property issues included in the 1917 constitution elicited reactions from the private sector and the U.S. State Department, becoming acute in the wake of the Bolshevik revolution and fears of spreading communist ideals. This alarm over communist influence in the region in many ways mirrors the U.S. position vis-à-vis revolutionary foment in the latter part of the 1900s. As Britton notes, anti-interventionists, drawn to the ideals of the revolution, reacted to the aggressive U.S. position in the print media of the day.

Rick Lopez offers an intriguing look at feminist and Jewish themes in his piece on Anita Brenner and her role in highlighting Mexican cultural contributions and the country's indigeneity in the wake of the revolution. Helen Depar explores the "Friendly Invasion" of Mexican revolutionary art in the U.S. and its role in stoking interest in Mexico's artistic "renaissance." Artists such as Jose Clemente Orozco, Diego Rivera and David Alfaro Siqueiros in the 1920s and 1930s influenced American

art through their travel, and shows, and through the fact that much of their work ended up on murals for public consumption. The forays of these artists into the U.S. generated interest in Mexican art, easing to some degree the U.S.-Mexico tension in the post Mexican Revolution period. The exchange fostered better relations while engendering an appreciation of Mexican indigenous themes and popular culture.

Contributors to the second section of the volume address the varied ways that Mexican identity has developed on the U.S.-Mexico border and within the Chicano and transnational community.

Readers seeking a fresh look at the forgotten corners of the revolution will enjoy David Dorado Romo's micro-historical look into El Paso's role as a launching pad for the conflict. The treatment reveals El Paso's unique impact on the revolution during and after the revolution: from urban structures that housed refugees and rooftop terraces offering gawkers a peek at the battles across the border, to the press offices that served as space for Mariano Azuela to ponder and pen "Los de Abajo." The collection is redolent with such insight that advances our understanding of transnational thinking and influence.

For a volume dealing with transnationalism and "traveling" and "living" borders, however, the lack of a migrant perspective is conspicuous. Alma Martinez Carranza's contribution, "Pancho Villa's Head: the Mexican Revolution in the Chicano Theatrical Imagination," hints at the complications faced by 1960s-era migrants as their children disconnected from their Mexican roots. But what of those Mexicans in the U.S. today, and their continued impact on their communities of origin? Transnational communities themselves challenge our concept of borders; Mexicans concurrently influence the places they leave and the places they live. The legacy of the revolution affects migration to the U.S. and the lives that Mexicans returning hope to lead once back in their home communities — perhaps grist for further investigation. In sum, "Open Borders to a Revolution" offers an engaging and nuanced look at the Mexican Revolution that challenges our assumptions and piques our interest.

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*Seth Jesse is the Foundation Representative for Mexico.*

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# 2016 Grassroots Development Fellowships

The Inter-American Foundation's (IAF) support for academic research on grassroots development initiatives and the work of the organized poor in Latin America and the Caribbean date as far back as the agency's beginnings. Spanning over four decades, more than 1,000 graduate level researchers have worked in over 35 countries thanks to support from the IAF. The IAF is pleased to announce its Grassroots Fellowship awards for 16 Ph.D. candidates from U.S. universities who will join the ranks of those pioneers and conduct dissertation research in Latin America during 2016–2017.

The Fellowship Program, launched in 1974, has supported doctoral students, postdoctoral researchers and master's degree candidates from throughout the hemisphere. The program supports and prepares students in the social sciences, physical sciences, technical fields and their professions as they relate to grassroots development issues.

The Fellows, selected on the strength of their academic records, their proposals and their potential contribution to grassroots development, will focus their research on the following topics:

- **Valentina Abufhele Milad, (Chile), The New School, New York: Poverty and the persistence of informal settlements in Chile's democracy 1990–2015.** Between 1990 and 2015, the Chilean State has been committed to eliminating informal settlements. These are occupations of land by poor urban residents, who organize to negotiate housing solutions with the State. This multi-method investigation will contribute to understanding poor people's actions, the role of grassroots organizations, and the relationship between disadvantaged citizens and the political system within Chile's recent democracy.
- **Maria Baiocchi, (Argentina, Italy), University of Pittsburgh: labor laws and domestic workers' empowerment in Argentina.** The aim of this research is to investigate the extent to which recent changes in the law that regulates paid domestic work in Argentina have provided organizations of domestic workers with new opportunities for the empowerment of their constituencies, as well as whether it provides them new leverage to negotiate their relationships with their employers, and therefore positive changes in the social and economic conditions of domestic workers.
- **Martha Balaguera Cuervo, (Colombia), University of Massachusetts: Citizenship in transit, and the perils and promises of crossing Mexico from Central America.** Dire stories of Central American unaccompanied minors, women and families arriving at the U.S. border after perilous journeys through Mexico vividly capture how the global refugee crisis extends into the Americas, and challenge our contemporary understanding of citizenship. By collecting ethnographic data at key points of encounter along the migrant trail, this research will advance knowledge of transnational citizenship.
- **Katherine Brownson, University of Georgia: Socioecological impacts of payment for ecosystem services programs in the Bellbird Biological Corridor, Costa Rica.** The efficacy of payment for ecosystem services (PES) programs in incentivizing the provisioning of ecosystem services and their impacts on the rural poor has been heavily debated in the literature. This research will directly inform the development of a new community-driven PES mechanism in the Corridor.
- **Isabella Chan, University of South Florida: Ethnographic exploration of intimate partner violence among indigenous women in the rural Peruvian Andes.** According to a World Health Organization multi-country study on intimate partner violence (IPV), in Peru, a high percentage of women reported lifetime experience of IPV, especially in rural communities. Ultimately, this research aims to contribute to the advancement and diversification of awareness, prevention, and advocacy programming and service provision worldwide to better meet the diverse needs of women suffering from IPV.
- **Juan Delgado, University of California: Ethno-racial categories of afro descendent populations in Mexico.** In 2015 the Mexican National Institute of



Statistics and Geography recognized “población afro-mexicana” as an official demographic category. This immersive investigation will contribute to increase collective capacities of Afro-descendent communities to participate in a political dialogue oriented towards the constitutional recognition of their rights.

- **Anthony Dest, University of Texas: Politics and conditions of interethnic solidarity in Colombia.** This is an analysis of divergent forms of identity politics as signs of a potential rupture in the multicultural rights regime. By researching a group of mestizos and indigenous peoples that identify as black in the Afro-Colombian Community Council of Meseta, this dissertation will explore emerging and potentially contradictory mobilizations of identity politics.
- **Sarah Kelly-Richards, University of Arizona: Ethnographic and legal study of hydropower governance in Chile.** This project responds to pressing concerns regarding the impact of Chilean hydropower development on rural livelihoods and landscapes, especially indigenous territory.

- **Frances Kvietok, University of Pennsylvania: Youth, language policy and Quechua maintenance in the urban Peruvian Andes.** Indigenous people in Latin America have long faced historical oppression and discrimination, which is the case of Quechua speakers in Peru. Nevertheless, Indigenous social movements have engaged in efforts to resist assimilationist projects and transform societal inequalities. This research seeks to understand Indigenous youth bilingualism and identity in an urban provincial capital of Cusco, Peru.
- **Oscar Pedraza Vargas, (Colombia), City University of New York: Investigation of human rights violations associated with mining (Colombia, Costa Rica).** The research will investigate human rights violations associated with mining and the processes through which human rights cases become (or fail to become) emblematic. It will analyze the interactions of key actors and institutions, such as human rights activists, grassroots movements, corporations, scholars, courts, documents, mining infrastructure,

judges, aid agencies, government representatives and multilateral organizations.

- **Daniel Perera, (Guatemala), University of Texas: Examination of the shift of international development aid from the grassroots to corporate social responsibility sector in Guatemala.** In Guatemala, international development aid increasingly gets channeled away from grassroots organizations and toward the corporate social responsibility sector. In the wake of protests in 2015, Guatemalans continue to demand greater transparency and accountability from those in power, including the economic elite. This emergent scenario raises a series of unexamined and urgent questions which this research seeks to address.
- **Laura Sauls, Clark University: Regional coalitions, natural resource governance and the quest for grassroots development alternatives in El Salvador, Honduras and Nicaragua.** This research seeks to explain how indigenous and forest dependent communities promote grassroots development in Central America through engagement in international environmental governance regimes.
- **Angela Tapia Arce, (Peru), University of Texas: How women affirm their identity and reject foreign norms of feminine beauty in Peru and Bolivia.** This project explores how Quechua women negotiate power relations through the wearing of polleras—the long, full skirt that is marked as “Indian” in the Andes. This study will contribute to three areas of inquiry — sexuality, aesthetics and agency — opening differing perspectives on social process and meaning.
- **Fiorella Vera Adrianzen, University of New Mexico: Political, social and economic implications of reparations for victims of Peru’s civil conflict (1980–2000).** This study emphasizes the micro-politics of reparative justice by examining the political, social and economic implications of the implementation of reparations for victims of Peru’s civil conflict. This research has potential to guide the future design and implementation of post-conflict reparations in Peru and across Latin America.
- **Julie Weaver, Harvard University: Explaining citizen engagement in local-level political accountability in Peru.** Peru has a host of legal mechanisms that could facilitate political accountability at the most local level of government. While citizens and

grassroots groups in some municipalities are successfully holding their mayors accountable, many others are not. This dissertation project seeks to explain this variation to understand how best to support citizens and civil society organizations to begin engaging in the political process and holding their local public officials accountable for the crucial public services they provide.

- **Dustin Welch, University of Washington: Comparative case studies on rural energy governance and access to energy in Peru.** About 1.4 billion people on earth have no access to electricity. This study will explore how success to bring these populations to the grid depends on NGOs’ abilities to successfully navigate policy environments and rural organizational and cultural ecologies in the provision of energy.

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*For more information, visit [www.iaf.gov/our-work/fellowships](http://www.iaf.gov/our-work/fellowships).*



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[www.iaf.gov](http://www.iaf.gov)

# Contents

## **BUILDING RESILIENCE TO ENVIRONMENTAL CHALLENGES**

### **When Resilience isn't Enough**

*David Einhorn*

### **Let's Talk Roya**

*Seth Jesse*

### **Tackling New Challenges with Old Practices in Honduras**

*Sarah Stewart and Mary DeLorey*

### **Seeds for the Future**

*Luis Eduardo Merino*

## **PHOTO ESSAY**

### **Maguay Spinners of the Mezquital Valley**

*Bryon Wells and Keith Dannemiller*

## **AT THE IAF**

### **An Eye for Beauty in Challenging Environments**

*Bryon Wells*

### **In the Field: Living with Drought**

*David Ivan Fleischer*

### **Book Review: Open Borders to a Revolution**

*Seth Jesse*

## **2016 IAF Fellows**