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Case report

An association of rural villagers leading by example at the landscape scale in Honduras

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This case examines a promising multi-stakeholder forest governance effort in Northern Honduras, where local communities have exhibited resilience and resolve despite persistent lack of government funding or attention. They have helped conserve and restore over 7500 hectares of tropical forest. This success is due to the combination of four key factors: (1) the focus on bridging disparate stakeholder groups to expand options rather than viewing natural resource management as a zero sum game; (2) the intentional project team design, where there has been an extraordinary amount of attention and design for equity between paid project staff and community level project participants; (3) the inherent cultural durability of locally created incentive mechanisms; and (4) the pride generated from recognition of extremely remote households by generally more powerful and better resourced institutions such as the municipal government seat, particularly in a society known to be quite hierarchical and biased in favor of urban elites while condescending toward rural inhabitants.

As is too common elsewhere, Honduras' national policies related to water, agriculture, forestry, and conservation are often at cross-purposes with one another. This case is particularly notable because, together with strong support from an international NGO, communities have generated the will and found the means to sustain the commons. Not only have they earned the respect of urban citizens and politicians, they've found themselves thrust into an important role as trusted advisor and teacher. This has happened in spite of the substantial political and social turmoil that Honduras has endured over the past several years. And the strong social fabric that has been forged, with a broad landscape scale outlook, is especially critical today in the face of an explosion of pine bark beetle outbreaks that are threatening forest health across wide swaths of Honduran countryside.

1. Beginnings of a community-driven effort

The Cambridge, MA-based NGO, EcoLogic Development Fund first became involved here in 1998 due to its role in recovery efforts tied to Hurricane Mitch. EcoLogic helped establish a local association of water committees and has been an integral partner ever since, co-designing and co-managing conservation and restoration efforts. The association is known formally as the Association of Water Boards of Pico Bonito National Park's Southern Sector (AJAASSPIB). Their collaboration has earned a reputation for local innovation and persistence based on a track record of helping communities secure their own water sources and manage microwatersheds. Microwatersheds typically include the land and vegetation that shades and protects streams and drinking water sources most critical to specific villages.

The communities inhabit the Pico Bonito landscape of Northern Honduras, one of the most biodiverse areas in Central America. The area, in and around a national park by the same name, is internationally recognized for its biodiversity, especially because of its role as a critical wintering and stopover habitat for ~200 neotropical migratory bird species and as a corridor for jaguar populations. It contains dozens of rivers. The area south of the park sits in a rain shadow, making it particularly vulnerable to climate variation and prolonged drought. It harbors several unique and threatened species and faces numerous pressures tied to deforestation, including drought and forest fires, cattle ranching, and low-yield slash-and-burn agriculture. Its forests feature pine, Acacia, cactus, and thorny scrub vegetation and harbors unique fauna - the Black-chested Spiny-tailed Iguana (*Ctenosaura melanosterna*), the emerald hummingbird (*Amazalia luciae*), and, a rare palm pitviper (*Bothriechis guifarroi*).

2. Collaboration between stakeholder groups

AJAASSPIB has worked community-by-community to promote a comprehensive management approach that goes beyond the singular aim of water provision and addresses ecosystem health and the needs of local people within and between villages. The Association started with four villages. It has grown to 28 member villages that draw water from 14 microwatersheds and now plays a central role in facilitating a coalition of community members, municipal authorities, ranchers, and students.

Local villagers have taken a leadership role over the course of nearly two decades to help align interests around water resource management and forest restoration and have inspired larger, more powerful interests (e.g. cattle ranchers and municipal authorities) not only to join them but to actively seek their advice in replicating their homegrown, grassroots approach to sustainable natural resource management. Together, they address some of the key

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drivers of deforestation in this region – unsustainable agriculture (primarily small-scale slash and burn) and low-density free range cattle ranching.

Each community addresses microwatershed management in a highly participatory manner, with project teams composed of local villagers, local technical staff shared between AJAASSPIB and EcoLogic, and EcoLogic professional oversight. Together, they decide how to design local environmental funds that are financed through village household payments. Local funds are earmarked for watershed conservation and restoration in the area that drains directly to water sources. To help decide how to use funds, they build two 3D topographic models: (a) a first to capture a snapshot of current microwatershed status and facilitate community-level discussions of ecological threats, and (b) a second model that literally visualizes an ideal future and helps locals reach consensus, resolving conflicts and confusion that have often been brewing for years without resolution. AJAASSPIB helps ensure communities can learn from one another and leads reforestation and monitoring campaigns, along with the help of local students (4000+ college and high schoolers, with it linked to graduation requirements via agreements with the education ministry).

Water committees collect funds for water system maintenance but are careful to maintain separation between the system infrastructure and land conservation funds so that costs are covered for activities that range from land use planning, demarcation, regulating and enforcing livestock grazing changes, especially along streambanks; to reforestation; to meetings and negotiations. If an individual household is not up-to-date with water payments, both they and their village are placed at the end of the line for development projects (e.g. as recipients of fuel-efficient stoves) – a particularly effective incentive for keeping the water funds cash flow positive. This rule was devised by local women in one member village that then became general policy across AJAASSPIB and may be quite useful at the municipal scale as a monitoring and sanctions process.

Reforestation utilizes the Maya Maya (*Pithecelobium longifolium*) and Guayacán (*Guaiacum sanctum*) trees. Maya maya is common, useful for riparian restoration, nitrogen fixing, and suitable for agroforestry. Guayacan flowers are important for birds, but the tree has become scarcer in Olanchito, and the city has promoted a program of reforestation. Guayacan is a particularly good shade tree and valuable wood, especially prized by cattle ranchers as they make concessions, calculating the tradeoffs related to limiting movement of their herds to protect water sources.

3. Scaling beyond small communities and microwatersheds

AJAASSPIB's reputation for local innovation and persistence is based on its track record of helping communities secure their own water sources. In 2011, the Municipality of Olanchito reached out to AJAASSPIB and its community leaders, seeking to leverage villagers' experience and replicate a similar feat on a larger scale – transferring rural innovation and know-how back to the urban area such that the city could ensure water for its citizens. Olanchito asked AJAASSPIB to help figure out how best to motivate urban citizens and devise incentive mechanisms to protect and restore the Uchapa-Pimienta subwatershed, a 6500-hectare forest. The Uchapa and Pimienta rivers drain into the Aguan River, providing the vast majority of the City of Olanchito's water resources. Olanchito is now establishing environmental funds for conservation of the 6500-ha Uchapa-Pimienta subwatershed, which supplies water to its 40,000 residents, through the Agreement on Joint Environmental Management of the Municipality of Olanchito (MACO). Modeling its social approach to problem solving directly after AJAASSPIB's work, the MACO team has also undertaken an innovative process of collecting household payments from water users to buy out private owners of large tracts of upland forest, transforming it into community common properties and areas for forest protection and restoration in the upper watershed (Bray, 2015). These activities have permitted rural communities to share learning, advising on a project extending beyond the boundaries of their communities and microwatersheds, having influence at scale, in a larger neighboring landscape.

Workshops in Olanchito focus on rules and requirements for setting up and administering environmental funds and for monitoring of ecosystem health, water quality, and biodiversity. Training for the Mayor of Olanchito and the Municipal Water and Sanitation Commission office are part of an ongoing process to replicate the environmental fund model on a larger scale in the Municipality of Olanchito. They often coincide with general environmentally themed events and outreach campaigns (e.g. World Water Day, World Biodiversity Day), with thousands of residents of the city exposed to messages regarding endangered species and water conservation (e.g. with 3D models of Uchapa-Pimienta placed in parks and plazas across the city).

This level of municipal effort and engagement demonstrates AJAASSPIB's broad influence and legitimacy, bolstered by professional support from MACO and EcoLogic. Above and beyond the professionally trained staff working for MACO and EcoLogic, two local community leaders have proven indispensable to this effort's success – a former schoolteacher who has organized countless communities to make the case for long-term water conservation, and a cattle rancher who has organized his fellow cattlemen to respect and prioritize the sustainability of water resources. For example, they have helped reach agreements to move livestock from sensitive lands and explore alternative production systems such as silvopastoral pilots in a somewhat risk averse environment. Both have served as presidents of AJAASSPIB, making it an exceptionally diverse and strong grassroots coalition.

4. Confronting climate risks and invasive species

Honduras is now being put to the test, facing one of its biggest challenges ever in the form of the Southern Pine Beetle infestation – *Dendroctonus frontalis*. While this beetle has long been present in Honduran forests, climate change and its effects are causing more frequent and severe outbreaks. As of 2016, the Honduran government has declared the situation a national emergency, given the beetle's dramatic destruction of primary forest and the associated risk of wildfire. According to recent press reports, the pine beetle plague has destroyed about 1 million acres of pine forest, equivalent to one quarter of Honduras' primary forest cover. Together with communities and government officials at various levels, EcoLogic has identified critical areas within our project sites that require immediate reforestation, particularly in key watersheds and surrounding buffer zones. To protect restored areas from pine beetle infestation, EcoLogic and AJAASSPIB plan to reforest with a variety of native tree species. All stakeholders are hopeful that the years of trust building and confidence from past successes will pay off once again.

5. Conclusion

None of the project's success factors was planned in advance. They were arrived at by years of trial and error characterized by patience, careful listening, adaptive management, creative deal brokering, and much luck. Teams or organizations that wish to recreate these conditions might work to build the four factors into their project operating system, but trust is rarely earned quickly, especially in rural areas that have suffered indignities for decades

or centuries. We advise approaching such community-driven efforts with a readiness to seize upon challenges for opportunity creation. Project personnel and community leaders need to have sufficient agility to respond and adapt plans over time, often in real-time. And they need related support from funders for changing course, with a clear agreement that flexibility, especially when working with communities, is a necessity, as long as team members maintain a goal focus. The tension between committing to goals and adapting strategies and activities must be managed intentionally. Overall, teams need to conceive of projects and restoration efforts not as linear plans but as a holding tank to create just enough space for participatory design work that allows creative, locally owned ideas to take root over time, from local to landscape scale.

Reference

Bray, D. B. 2015. Facing Future Storms: Poor Honduran Communities Unite to Protect Watersheds and Nature. May 5. Mongabay.com. https://news.mongabay.com/2015/05/facing-future-storms-poor-honduran-communities-unite-to-protect-watersheds-and-nature/ (accessed 10.15.16).