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Coffee cherries. Photo by Jake Liefer

Agroecology Saves the Farm (Where Fair Trade Failed): Surviving the Coffee Crisis in Costa Rica

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In July of 1989, the International Coffee Agreement (ICA)—an agreement between coffee producing and consuming countries—collapsed. The ICA had set a target price and managed supplies to temper the impact of free market fluctuations on coffee production and rural stability in many countries of the developing world.[1] In 2000, following a decade of price volatility, prices fell to their lowest levels in over 100 years.[2] The 2000–2008 global coffee crisis resulted in hunger, homelessness, school dropouts, increased outmigration, and the conversion of ecologically friendly agroforestry systems to damaging pasture systems in coffee-producing communities throughout the world.[3] With coffee providing a livelihood to over 100 million farmers worldwide, the coffee crisis became one of the biggest development disasters of the neoliberal era.

This Backgrounder is based on research that examined land use change in Costa Rica as a result of the global coffee crisis, posing the following questions: Why did some areas abandon coffee production while other areas were able to maintain production despite the collapse of coffee prices? How important were higher prices from Fair Trade in helping some farmers to continue producing coffee? What was the role of government support in helping farmers to remain in coffee

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Farmer Noemí Jiménez-Herrera harvests coffee in Agua Buena, Costa Rica. Photo by Ian Bailey

production? And, lastly, what was the effect of agroecological practices in supporting small farmer persistence in the face of crisis? This research shows that, in this case, Fair Trade premiums did little to foster small farmer resilience. In contrast, the adoption of agroecology—supported by the state—played a significant role in helping farmers to keep their land in coffee production.

The Coffee Crisis in Agua Buena, Costa Rica

In the year 2000, coffee production costs hovered around $1.00 per pound while the price per pound received by farmers was only $0.48. This translated to an average loss of over $1,100 per hectare for Costa Rican farmers during the 2001 harvest.[4] Just as international coffee prices began to slightly rebound in 2005, fertilizer prices jumped to 4.5 times their year 2000 prices.[5] This price squeeze caused the number of coffee producers to drop by 35 percent between 2000 and 2009 in Costa Rica—from 73,707 to 48,256.[6] Additionally, coffee volumes declined by over 30 percent between 1999 and 2008, making Costa Rica the Latin American country hardest hit by the global coffee crisis.[7]

The coffee sector in Agua Buena, Costa Rica, was hit especially hard. The district of Agua Buena, in Coto Brus County in the province of Puntarenas on the border with Panama, is one of seven major recognized coffee producing zones in Costa Rica. In the early 1960s, The Costa Rican Coffee Institute (ICAFE) introduced a Green Revolution coffee package—of high-yielding varieties, agrochemicals and no shade—to the region, and by the early 1990s, Coto Brus became the nation's highest-yielding coffee growing region.[8] Local livelihoods were completely dependent on coffee production, with more than 82 percent of the county's 3,179 farms producing coffee.[9]

When the coffee crisis hit in 1999, smallholders in the area were producing high yields, but were heavily dependent on external inputs, especially agrochemicals.[10] The record low farm-gate prices between 2001 and 2005, combined with a 2005 spike in agrochemical prices, created the perfect storm of outmigration and land-use change out of coffee production in the district. Between 1998 and 2010, Agua Buena lost 34 percent of its population[11] and the amount of land dedicated to coffee decreased by 73 percent between 2000 and 2012—a colossal reduction.[12]

Pasture was by far the most popular replacement for coffee agroecosystems in places like Agua Buena. This land-use decision is a critical one because, once converted, the soil structure often becomes damaged enough that subsequent conversion to another cropping system is difficult, if not impossible. The ecological ramifications of this widespread shift to pasture call attention to the need to identify those strategies that incentivize the persistence of coffee.

Post-Crisis Agroecological Transformations

As coffee prices dropped and input costs increased, many Agua Buena producers were forced to minimize their use of agrochemical inputs, especially fertilizers. This was the inspiration for the formation, in 1999, of the "Sustainable Group"—a group of 61 farmers who were members of the CoopaBuena cooperative in Agua Buena. The group joined a new program launched by the Costa Rican Ministry of Agriculture and Livestock (MAG).

The free government program—*Caficultura Sostenible en Pequeñas Fincas* (Sustainable Coffee Production in Small Farms)—provided training and resources to organized producer groups to help them transition to sustainable coffee production.[13] The 61 members of the Sustainable Group signed voluntary agreements committing themselves to the MAG's Sustainable Coffee program and the transformation of their coffee agroecosystems such that by 2005 they would meet the following five core principles:

1. Maintenance of between 30 and 50 percent agroforestry shade level
2. Erosion control and soil conservation measures established throughout the farm
3. Minimum of ten different species of shade tree per hectare of coffee
4. Protection of natural water sources
5. At least 50 percent reduction of chemical fertilizer use[14]

Abiding by these principles entailed a widespread and rapid transformation of agroecosystems among farmers in the Sustainable Group. Immediately following the Group's written commitment, MAG organizers began an 11-day orientation course outlining the main principles of the program and creating action plans with each farmer. Subsequently, courses in organic production, farm accounting, agricultural best practices, organic

composting, agroforestry design, shade management, and soil conservation took place between 2001 and 2008.

Fair Trade and Direct Marketing

In 2003, the Sustainable Group established a direct marketing partnership with a US NGO, the Community Agroecology Network (CAN), which returned over US$3 per pound to the CoopaBuena cooperative instead of the conventional market's average $0.53 per pound. CAN also provided technical assistance in the agroecological conversion process. The additional profit from the direct market was generated with the intention of supporting the Sustainable Group's agroecological transition. However, the drop in global coffee prices, combined with a processing accident, hindered CoopaBuena's ability to repay outstanding loans and, by the first months of 2004, its debt ballooned to approximately US$3 million.[15]

The cooperative declared bankruptcy and ceased operations in May of 2004. As the community searched for viable alternatives, the farm families in the Sustainable Group formed their own cooperative, the *Cooperativa Agroecológica CoopePueblos* (CoopePueblos Agroecological Cooperative). The new cooperative sold over three quarters of its coffee to value-added markets during the five harvests between 2005 and 2009—ten percent of which was realized through the direct-market program managed with CAN, while 66 percent occurred through certified Fair Trade markets.

A major finding of this research was that in not one single year between 2004 and 2009 was the price premium from Fair Trade and direct marketing large enough to realistically impact the Sustainable Group members' persistence in coffee compared to their conventional counterparts. The failure of this market to deliver on its promises can be attributed to the high administrative costs and lower-than-promised profit structures inherent to each alternative market; usurious lending practices by the second-level Costa Rican Fair Trade exporting cooperative; cooperative mismanagement; and questionable business practices.

While this is just one case study, it is one of the first published evaluations of farm-gate prices paid in Costa Rica. As such, it supports a much more cautious view of Fair Trade as an effective intervention and calls into question the purported benefits of Fair Trade. The results of this study also corroborate other Central American research that finds average annual Fair Trade coffee sales—and the proportion of that total annual volume sold through alternative markets—are too low for certification alone to adequately relieve the vulnerability of smallholder coffee farmers.[16]

The Role of Agroecology in Coffee Farmer Persistence

This research also found that coffee shade-tree diversity was far greater among the Sustainable Group farmers than their conventional counterparts. Further, the increased diversity—which replaced formerly-purchased agrochemical inputs—helps explain why farm households were able to persist in coffee at a higher rate than conventional farmers, even when the prices they received (e.g. through Fair Trade markets) were not significantly higher. This intensification of diversity facilitated internal nutrient cycling and energy usage, which contributed to lower input costs and increased farm-household stability.

This research confirms that the Sustainable Group's diversification of coffee agroecosystems helped maintain production while heavily reducing or eliminating costly external inputs, thus explaining their ability to continue producing coffee. Distinct differences in the overall amount and type of diversity found within their respective coffee systems explain why there were such high levels of persistence in coffee among Sustainable Group farmers—with fully 82 percent of their coffee lands preserved between 2000 and 2009 versus 24 percent among conventional farmers. This is due, in part, to the government's program of agroecological transformation, which emphasized diversification almost exclusively to reduce external inputs and thus bolster farm-household resilience in the face of future economic shocks.

The Data at a Glance

- 73 percent of Coto Brus County coffee lands were converted to pasture between 2001 and 2012. This resulted in a loss of plant, bird, and wildlife biodiversity.
- The county of Coto Brus lost one third of its population to outmigration between 1998 and 2009.
- Immediately following the coffee crisis, the Costa Rican government sent technicians to train farmers in agroecological practices. Farmers who adopted these sustainable methods early on still had 82 percent of their land in coffee by 2009. Conventional (control group) farmers, however, kept only 24 percent.
- In 2009, despite selling 88 percent of their coffee in Fair Trade markets, farmers in the Sustainable Group received no price premium whatsoever. In no year studied did access to Fair Trade markets result in a price premium large enough to impact whether farmers were able to stay in business and keep their land in coffee.

Conclusion

This research complements a growing body of findings concerning the impacts of economic liberalization on peasant and small-farm agriculture. In many countries of the developing world, smallholders have managed to stay on the land despite chronic agrarian crises characterized by food riots, rural displacement, and rising income inequalities. Researchers and activists have long pointed out key vulnerabilities in the conventional paradigm of neoliberal agricultural development, questioning its validity as a model for the millions of poor farming households in the Global South.

This has dovetailed with efforts by social movements of rural workers and farmers, food justice and food sovereignty advocates, informed consumers, and progressive NGOs to revive, adapt, and create new models of agricultural development that challenge the conventional, historical relations between capital, nature, and agriculture. Increasingly, sustainable agriculture and access to alternative, value-added food networks like Fair Trade have been promoted as measures that can reduce producer vulnerability to increasingly common shocks like natural disasters and price crises.

Identifying the factors that explained the Sustainable Group's persistence in coffee contributes to our understanding of the conditions under which landscape conservation and rural development are compatible in the coffee highlands of the world. This research finds that Costa Rican governmental institutions were pivotal in a successful agroecological transition that reduced external input costs and increased agro-biodiversity. Significantly, the process took place against a neoliberal backdrop of privatization and declining

Coffee seedlings. Photo by Jake Liefer

state involvement in the provision of services. Nevertheless, the state stepped in to successfully provide training and resources to smallholders in the coffee sector, where markets alone—even "alternative" markets—were not able to solve the problem.

Consequently, this study argues for the creation or strengthening of state-led institutions that support agroecological research and training, especially to help farmers transition to low-external-input agriculture. Finally, this research points to the fact that, when thinking about solutions to agrarian crises, agroecological practices that cut costs may be more effective—or perhaps a precondition—for other approaches focused on price premiums or enhancing yields.

NOTES

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