

Food Security and Illness Among Nicaraguan Coffee Growers and Laborers

#CoffeeLives Brief 2017-2

Arctic and Mountain Regions Development Institute



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As part of its ongoing #CoffeeLives program, AMRDI initiated Phase I of its research component to better determine persistent barriers to health, well-being and climate resilience of coffee farmers under conditions of climate change.

We are beginning with an in-depth look at Central America, and Nicaragua specifically, where mean annual temperatures are projected to increase by between 1 and 2 degrees Celsius by 2050, with some models predicting an increase as high as 2.5 degrees in Nicaragua's coffee-producing regions, directly threatening the viability of coffee and the sustainability of coffee communities.

Each of four Policy Briefs underscores new empirical research results that are crucial and often overlooked factors affecting sustainability. Though presented in isolation initially, these themes interact and complicate coffee community sustainability from a holistic perspective. This Brief explores the role of food security and illness in creating downward pressure on the resilience of coffee farming families.

Food Insecurity and Illness

In spring of 2017, AMRDI conducted a cross-sectional survey on a convenience sample of 28 male and 24 (n=52) female coffee farmers in the Matagalpa and Jinotega departments of Nicaragua.

- 50% of respondents had skipped work due to illness during the past year.
- 40% of respondents had skipped a meal during the past year because they were unable to afford food.
- 33% of respondents noted that hunger was the first or second largest factor impacting their health.
- 29% of respondents reported having received some kind of official assistance (health assistance, technical assistance, etc.).
[NB: 55% of landowners had received assistance of some kind, but only 23% of non-landowners had.]

Analysis

Coffee farmers often refer to periods of food insecurity as *meses flacos*, or the “lean months,” which stem from the seasonal nature of coffee farming, and crucially, the seasonality of incomes.¹ A survey of Nicaraguan coffee growers in 2014 found that the mean number of lean months, annually, is 3.1.²

Recurring food insecurity has many negative health effects. The prevalence of undernourishment in Nicaragua in 2010, for instance, was 20.1%.³ Food insecurity has significant implications for development more broadly as well. Mental health disorders⁴ and other physical health problems including reduced immunity to diseases,⁵ which reduce productivity, are associated with food insecurity. In combination, these factors put downward pressure on household resilience – whether long-term in the face of climate change, or more acutely in the event of a household crisis, storm or severe drought.

Additionally, but more anecdotally, many of the coffee growers we surveyed dedicated part of their land to growing crops other than coffee, partially for their own consumption, but primarily for the purpose of selling them for profit. This suggests that farmers are coping with food insecurity by seeking more reliable, and diverse sources of income, rather than growing food for sustenance. Myriad development programs currently encourage small gardens in order to address food insecurity, but our initial research suggests that this is both insufficient, and perhaps more importantly, does not comport with farmer wants.

Survey data also reveal major *disparities in access to resources* among the sample. Although 55% of landowners reported that they had received some form of official assistance, only 23% of non-landowners had. This could create a feedback loop in which those who are in a more advantaged position see their positions improve, while those who are more vulnerable see theirs deteriorate. Although access to clinics and hospitals was fairly high in our sample (approximately half of respondents were employed on a large plantation that made schooling and medical care available to employees), many respondents noted that, even if they were sick, they often did not visit a clinic because they would lose that day's income.



Recommendations

A randomized controlled trial (RCT) conducted in Kenya found that individuals who contributed to a health savings account (HSA) were less likely to report having been unable to afford medical treatment for an illness.⁶ Other studies show similar results in Bolivia, Benin, and Burkina Faso, suggesting their applicability across borders.⁷ However, as Leatherman et al. (2012) note, effective implementation of HSAs in developing countries requires careful design. Other components of a development program to improve food security and public health in coffee communities might include:

- Provision of transportation to clinics.⁸
- Inclusion of conditional terms for coffee purchases, such as provided sick days for employees.
- Wellness certifications that audit overall health and well-being, rather than income alone.
- Making food available to employees at a free or discounted rate, similar to subsidized lunches offered at many workplace cafeterias in developed countries.⁹
- Distributing incomes more evenly across the calendar year, through myriad financial mechanisms.
- More basically, auditing the total workforce itself, so that buyers and importers have a more complete sense of the number of individuals and households directly affected by operations (landowners will employ seasonal, “invisible” labor who rely on cash from picking but who are otherwise sidestepped by coffee development programs because of their “unregistered” status).

Conclusions

The coffee sector has largely viewed development through the prism of income generation. This AMRDI #CoffeeLives Policy Brief, and others to follow, underscores the interaction between social, political, and environmental factors that continue to inhibit a more robust return on development investment.

Coffee farmers are rural farmers, highly susceptible to climate change, and will require robust health, education, social networks, and access to decision-making in order to adequately prepare for and adapt to changes. Food insecurity and resulting malnutrition and illness are major impeding factors that will require specific and detailed responses by existing donors and the coffee industry writ large.

References

¹ Morris et al., 2013 (see: http://food4farmers.org/wp-content/uploads/2013/05/LosMesesFlacosElSalvador_13.pdf)

² Bacon et al., 2017 (see: <http://www.sciencedirect.com/science/article/pii/S0305750X15303582>)

³ Bacon et al., 2017 (see: <http://www.sciencedirect.com/science/article/pii/S0305750X15303582>)

⁴ Hadley et al., 2008 (see: <http://jtech.bmj.com/content/jtech/62/11/980.full.pdf>)

⁵ Bhaskaram 2002 (see: <http://onlinelibrary.wiley.com/doi/10.1301/00296640260130722/full>)

⁶ Dupas et al., 2013: https://web.stanford.edu/~pdupas/DupasRobinson_HealthSavings.pdf

⁷ Leatherman et al., 2012: <http://onlinelibrary.wiley.com/doi/10.1002/jid.2829/full>

⁸ Tuller et al., 2009 (in a survey of Ugandans, many noted that transportation costs were a major impediment to receiving medical treatment): <https://link.springer.com/article/10.1007/s10461-009-9533-2>

⁹ We draw inferences from literature examining school lunch programs both in the U.S. and abroad, which may or may not be a best comparison to this situation: <https://academic.oup.com/wbro/article-abstract/27/2/204/1676435> (evidence that school feeding programs can improve the nutrition of families of beneficiaries); <http://onlinelibrary.wiley.com/doi/10.1111/1468-0297.0j679/full> (evidence that school feeding programs benefit only the beneficiary)

