



LATIN AMERICA'S ENVIRONMENTAL POLICIES IN GLOBAL PERSPECTIVE

This series explores the international dimensions of Latin America's environmental challenges and the role of environmental issues in shaping the region's most important diplomatic and economic relationships.

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Food Insecurity in the Northern Triangle: Leveraging Agricultural Policies and Programs for the Benefit of Smallholders

By Carrie Seay-Fleming

INTRODUCTION

Following historic droughts and two hurricanes in 2020, food insecurity has received growing attention as a primary driver of migration from Central America's Northern Triangle. US Vice President Kamala Harris, who is leading a task force on Central American migration, has said that the leading causes of migration are a lack of climate resiliency and food insecurity.¹ There is good reason for this newfound emphasis. Across the Northern Triangle of Guatemala, Honduras, and El Salvador, the number of people

facing hunger has increased fourfold between 2018 and 2021.² The severity of the situation reflects consecutive years of drought and erratic rainfall, losses of staple and cash crops from hurricanes, and the COVID-19 pandemic. There is evidence that these compounding calamities and the subsequent effects on food insecurity are important drivers of increased out-migration from the region.

It is shortsighted, however, to attribute too many of the causes of regional food insecurity to climactic events, the recent pandemic, or any other acute

Photo credit: Irrigated maize grown during Honduras' intense dry season: Neil Palmer/CIAT (International Center for Tropical Agriculture), Flickr, March 2012



Photo credit: Lettuce field on Caoba Farms, an organic farm in Antigua, Guatemala: Charlie Marchant (charlieontravel.com), Flickr, September 2016

event. Food insecurity in the region has been a long-standing problem, and its influence in driving migration differs within and between countries. Since at least 2000, Guatemala has had the highest rates of chronic childhood malnutrition (according to stunting rates) in Latin America.³ Honduras has also historically suffered high levels of food insecurity, but it has seen improved undernourishment rates, even during the recent period of irregular out-migration. El Salvador, in contrast, has consistently outperformed other lower- and middle-income countries on key measures of food security.⁴ Given these enduring dynamics, the relationship between climate events, food insecurity, and irregular out-migration merits further analysis.

This paper demonstrates how land access, trade agreements, and other structural factors have created a situation of rural underdevelopment that is increasingly untenable for Honduran and Guatemalan smallholder farmers. Though El Salvador has many commonalities with the other two Northern Triangle nations, it is outside the scope of this paper; El Salvador has a much smaller rural population (as a percentage of total population) and significantly less of its population is employed in agriculture.⁵ Consequently, international partners such as the United States Agency for International Development

(USAID) have not prioritized agriculture as a development strategy in El Salvador. For that same reason, this paper focuses on Guatemala and Honduras. Narrowing in on these countries enhances our understanding of food insecurity in the region and how efforts to improve food security might be developed.

Rural Food Security and Livelihoods in the Northern Triangle

Rural communities throughout the region experience higher rates of food insecurity than urban populations.⁶ In Guatemala, rural areas have roughly twice the poverty rate of urban areas. Extreme poverty, defined as living on less than US \$1.90 a day, increased in rural areas from 15.7 to 23.4 percent between 2000 and 2014.⁷ In Honduras, the government estimates that 58.8 percent of rural people live in extreme poverty.⁸ While Guatemala's hunger index is "serious," as opposed to Honduras's "moderate" score, rural areas perform worse than urban areas in both countries.⁹

While rural poverty appears to be getting worse, rural underdevelopment has long been a problem in the region. Both countries suffer from a high level of land concentration (where land ownership is controlled by a few people or organizations). In Guatemala, only

2.5 percent of farms own approximately two-thirds of agricultural land, while 90 percent of the farms account for one-sixth of the country's agricultural land.¹⁰ The problem has a historical basis in the latifundia system of colonial times and the United Fruit Company era, when the US-based company owned almost half the land in Guatemala.¹¹ Land distribution continues to be inequitable, with the average smallholder farmer in Guatemala owning 0.8 hectares. Honduran smallholders have slightly more land, at an average of 1.5 hectares.¹² Land concentration processes continue, often resulting from oil palm and sugar cane expansion.

Despite limited land access, Honduras and Guatemala have had some of the highest rates of agricultural employment in Latin America.¹³ Roughly 30 percent of total employment is in the agricultural sector, and households employed in agriculture typically face higher rates of poverty.¹⁴ Farming households have accounted for 66.6 percent of the total population living under the poverty line.¹⁵ In rural areas especially, agriculture has been the main livelihood activity and the main source of food. Insufficient land access has increasingly pushed farming families to subsidize their farming activities with wage labor and other forms of market income. Since the 1990s, rural livelihood strategies have become increasingly dependent on off-farm wages and a portfolio of other income sources. Ryan Isakson (2014) found that in Guatemala, off-farm income made up an average of 80 to 90 percent of smallholder farming households' total economic activity—a result of small landholdings and limited economic opportunities from farming activities. Despite these household-level efforts to diversify livelihood sources, poverty rates in Guatemala were highest among marginal, small, and medium farmers—significantly higher than even rural non-farmer households.¹⁶

Climate change and natural disasters are further compounding these challenging baseline conditions. Indeed, 2019 marked the fifth consecutive year that extreme weather events led to low-yield harvests.¹⁷ The same year, a state of emergency was declared in

Honduras because roughly 75 percent of maize and beans—essential crops for local consumption—were lost in some areas. The loss of staple crops was coupled with growing threats to cash crops in other regions, such as coffee rust (a fungus that can destroy coffee farms and is thriving as the climate changes). For these reasons, President Joe Biden's promise of \$4 billion in aid is welcome news to many Northern Triangle residents—especially farmers.

HISTORY OF AGRICULTURAL DEVELOPMENT IN THE NORTHERN TRIANGLE

Leveraging aid to address the rural crisis in the Northern Triangle is not a new task. USAID has been working in the region for 60 years. Rural and agricultural development have always been part of USAID's regional strategy and were at times central to their work. In 1970, USAID invested USD\$143 million in a Rural Development Plan for Guatemala—roughly a billion dollars in today's currency.¹⁸ The rich history of rural and agricultural development initiatives in the region offers an opportunity to capture lessons learned and achieve a different outcome with future initiatives in the Northern Triangle's agricultural areas.

Basic Premise of Agricultural Development Programs: The Economic Growth Approach

Since at least the 1970s, there has been a broad consensus that “without progress in smallholder agriculture, there is little hope in reducing poverty or increasing economic growth,” as Robert McNamara, former president of the World Bank, said in a speech in Nairobi, Kenya, in 1973.¹⁹ The economic growth approach for agricultural development premises that by adopting new technologies or practices, farmers will increase productivity, increased productivity will lead to economic growth, and economic growth will solve a range of development problems.²⁰ Over time, there have been shifting technological trends within this approach, but this basic logic has fairly consistently



Photo credit: Remains of the 2011 Honduras maize crop, destroyed during the country's intense dry season: Neil Palmer/CIAT (International Center for Tropical Agriculture), Flickr, March 2012

“The economic growth approach for agricultural development premises that by adopting new technologies or practices, farmers will increase productivity, increased productivity will lead to economic growth, and economic growth will solve a range of development problems.”

guided agricultural development programs overall. The approach has permeated agricultural development programs throughout Central America. Since the 1980s, it has been coupled with a belief that economic growth in agriculture is best advanced through leveraging comparative advantages and trade liberalization. Proponents maintain that environmental conditions and the surplus of low-skilled laborers give the region a comparative advantage in the production of tropical fruits, temperate vegetables, and coffee that can be sold in US and European markets.²¹ The promotion of export-oriented agriculture worked in tandem with structural adjustment reforms, enacted throughout the Global South in the 1980s and 1990s. Rolled out in all three Northern Triangle countries,

these reforms led to the privatization of public services and a deepened commitment to trade liberalization.²²

Under relaxed trade restrictions, equipment for producing nontraditional export (NTX) crops could be imported duty-free, and import tariffs were often reduced for the fertilizers and pesticides that were necessary to create a suitable growing environment.²³ USAID also took an active role in promoting the switch to NTX crops through conditional credit opportunities, small-scale irrigation projects, and technical assistance. As a result, Guatemalan agricultural exports rose significantly. For example, exports of winter vegetables grew by 541 percent between 1999 and 2008.²⁴

Evidence suggests that the rise of NTX crops corresponded with a decline in maize and bean self-sufficiency because in many cases NTX crops displaced staple crops.²⁵ While many smallholders continue to produce maize and other crops for household consumption, most farming households in Guatemala—even large farmers—now purchase a large amount of the staple crops they consume. This trend has become more salient since 2006 when the Dominican Republic–Central America Free Trade Agreement (DR-CAFTA) took effect. As a part of the agreement,

US Agricultural Exports to Central America's Northern Triangle			
Commodity	Product Group	Growth Since 2006	Average Exports 2014–2016 (Millions USD)
Corn	Bulk	97%	\$360.6
Soybean Meal	Intermediate	114%	\$324.3
Wheat	Bulk	24%	\$256.5
Poultry Meat and Products (e.g., eggs)	Consumer-Oriented	248%	\$137.3
Rice	Bulk	63%	\$124.0
Prepared Food	Consumer-Oriented	216%	\$109.5
Pork and Pork Products	Consumer-Oriented	241%	\$97.7
Cotton	Bulk	3%	\$96.4
Dairy Products	Consumer-Oriented	122%	\$74.9
Fresh Fruit	Consumer-Oriented	48%	\$53.8
Processed Vegetables	Consumer-Oriented	200%	\$53.3
Soybean Oil	Intermediate	111%	\$38.4
Beef and Beef Products	Consumer-Oriented	641%	\$38.3
Chocolate and Cocoa Products	Consumer-Oriented	365%	\$35.3
Distillers Grains	Intermediate	1,321%	\$33.9
All Other Agricultural Exports	N/A	69%	\$394.7
Total Agricultural Exports		95%	\$2,228.9

Figure 2: United States Agricultural Exports to Central America's Northern Triangle (in Millions USD). Source: USDA-FAS (2018).

Central American signatories reduced import caps and tariffs on US agricultural goods, including maize. Between 1961 and 1990, Guatemala imported less than 4 percent of the maize consumed domestically.²⁶

“Given the significance of maize and bean production in terms of household food security, cultural heritage, and biodiversity preservation in the region, this trend is concerning.”

It now imports 50 percent of its total maize consumption.²⁷ Since the passage of DR-CAFTA, US

exports of maize to the three Northern Triangle countries have grown by 97 percent. Despite being a net exporter of agricultural products, import dependency on staple foods is on the rise. Given the significance of maize and bean production in terms of household food security, cultural heritage, and biodiversity preservation in the region, this trend is concerning.^{28, 29, 30}

Climate change and related phenomenon have impacted domestic agricultural production in recent years.³¹ However, there are other structural forces, such as DR-CAFTA, that have contributed to drastically restructuring agricultural markets and opportunities in the region. Agricultural policy and development programs are enacted within these broader trends and policy contexts.

Feeding the Future: The Market-Led, Capacity Development Approach

Prior to the 2000s, USAID recognized that access to land and other resources were significant “barriers to growth.”³² A significant portion of USAID’s work was intended to secure land, water, and other property rights for smallholders. In the 1980s, for example, USAID helped title 2.86 million hectares of farmland to smallholder farmers in Honduras. In Guatemala, USAID’s 1970 Rural Development Plan included the development of an agrarian reform plan that allowed for modest land reform. USAID also funded infrastructure projects for irrigation, drainage, roads, and other resources deemed necessary for agricultural development.

Since the initial push for NTX production, agricultural development programs have undergone important changes. Public foreign assistance has decreased in importance relative to private direct foreign investment (donations from corporations and foundations, international bank loans, etc.). Recognizing this new reality, USAID has pursued the development of public-private partnerships and increased investments in business interests.³³ Damning congressional appraisals of the foreign aid system in the mid-2000s also led to a host of reforms attempting to “modernize” USAID.³⁴ Reforms included whittling down its portfolio to focus on a few core competencies and demonstrating greater accountability for results.

In the wake of these reforms and the 2007-2008 food crisis, a renewed emphasis on global hunger and food insecurity emerged. In 2009, the United States announced the Feed the Future (FTF) Initiative, a global food security strategy to be rolled out in priority countries, with specific goals for reducing poverty, reducing stunting in children, generating agricultural gross domestic product (GDP), and linking smallholders to viable market opportunities. USAID leads the interagency

coordination and in-country implementation efforts. Two of the FTF priority countries are Guatemala and Honduras—the only two Latin American countries selected for implementation of the initiative.

While FTF encompasses many different programs and types of interventions, there are some key generalizations that can be made about the hunger and agricultural policies of the era in which the FTF was created. In its modernization efforts, USAID’s former types of investments, which tended to emphasize direct material benefits, have been deprioritized. USAID has reoriented its strategy toward “locally-sustained results,” “enterprise-driven development,” and host-country “self-reliance.”³⁵ Thus, food security programming—with either an agricultural or nutritional focus—is largely aimed at local capacity-building, such as training farmers, providing technical assistance, teaching women how to cook healthy recipes, and generally disseminating information. USAID tracks intermediary and longer-term indicators (e.g., poverty reduction), though there are several challenges in doing so. Program staff most often track output and outcome indicators, such as the number of trainings held or the number of participants trained in a particular activity. Such indicators have become important benchmarks in modern food security programs.

In some cases, infrastructure or other direct benefits have been funded, but still for capacity-building purposes. For example, FTF recently funded the construction of an agricultural training center in the Western Highlands of Guatemala.³⁶ A small initial investment, such as the distribution of hens, may also be justified for the purpose of training farmers in a new enterprise opportunity that holds the potential for sustainability following the initial investment. Generally, the major shift toward capacity-building has become a hallmark of USAID’s food security efforts. This trend, notable since the mid-2000s, has solidified under USAID’s new banner, “Journey to Self-Reliance,”



Photo credit: A maize farmer in Honduras working on the land: Neil Palmer/CIAT (International Center for Tropical Agriculture), Flickr, March 2012

which redoubles the capacity-building, market-led approach to development.³⁷

Although the approach is a significant reorientation in many ways, it remains largely unchanged in its baseline assumptions about productivity and incomes. It continues to uphold the theory of agricultural development that by adopting new technologies, farmers will increase productivity, increased productivity will lead to economic growth, and economic growth will solve a range of development problems. The only slight changes to the approach are, first, that it relies heavily and sometimes solely on training or other capacity-building measures as the means of increasing productivity. Second, it adds an assumption that, along with productivity, increasing market connectivity is a necessary condition in the positive chain of events leading to development. In sum, the theory of change has substantially narrowed, excluding important barriers to development.

ASSESSING THE PRO-POOR BENEFITS OF AGRO-EXPORTS

FTF has contributed to several prominent

successes. From 2015 to 2016, Guatemalan horticultural sales increased by 150 percent.³⁸ In fiscal year 2019, annual agricultural sales generated by FTF-supported Guatemalan farms and firms topped out at \$52.2 million.³⁹ USAID Guatemala estimates that expanded agricultural production and commercialization has led to the creation of more than 20,000 new jobs.

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In context, however, these gains are not astonishing. Aside from the negative impacts of the COVID-19 pandemic, economic growth is high in the region. Agricultural exports to the United States have more than doubled since the inception of DR-CAFTA.⁴⁰ Guatemala has the largest economy in Central America and has benefitted from regular economic growth and stability.⁴¹ Honduras likewise has a high-performing

economy, with the second-fastest growth rate in Central America.⁴² Poverty, food insecurity, and out-migration occur despite strong economic growth. The dynamics show how agro-export growth does not automatically nor necessarily benefit rural or poverty-affected populations.

Development practitioners and economists should reflect on who has benefited from agricultural economic growth, and how the distribution of benefits could be better calibrated to the needs of the most vulnerable populations.

“Even in this exceptionally supportive environment, the pro-poor benefits of NTX production were unsustainable over the long term.”

Mixed Results of NTXs

A component of FTF’s strategy in both Guatemala and Honduras has been export-oriented horticulture production. While peer reviewed research on this aspect of FTF programming is not yet available, there is some evidence that this type of production has advantages over traditional crops. Out of seven studies carried out between 1989 and 2016 that evaluated the effects of NTX production in Guatemala, six found that NTX production led to an increase in household incomes.⁴³ Additionally, three of the eight studies demonstrated that the increase in income was related to an increase in household expenditures on food.

One well-studied, positive example of winter vegetable adoption is the case of snow pea production by smallholder members of the Cuatro Pinos agricultural cooperative in Guatemala. In 1985, the returns per hectare of snow peas averaged 15 times greater than returns

for maize and 60 percent higher than returns from traditional vegetables produced for local markets.⁴⁴ Improvements in household incomes led to an increase in household food expenditure. Researchers also found positive spillover effects, such as an increase in staple production. This finding was significant because—at least temporally—it seemed to disprove assumptions that export crops would displace traditional staple crops. Importantly, the Cuatro Pinos case showed that these benefits were possible for nearly all types of farmers, except for the very smallest.⁴⁵

However, there are important caveats to the Cuatro Pinos example. First, the municipality being studied was relatively close to Guatemala City and conveniently located on the Pan American Highway. The cooperative provided substantial technical and financial supports to farmers, including some price support mechanisms and insurance schemes to reduce the risk to farmers. The cooperative was also heavily invested in social services, directing 10 percent of its earnings to education and health services.

Even in this exceptionally supportive environment, the pro-poor benefits of NTX production were unsustainable over the long term. Six of the seven studies previously mentioned measured only the short-term effects of NTX production. In the sole longitudinal study of the group, Calogero Carletto et al. (2011) showed how the profitability of snow pea production began to taper off over the course of 25 years, causing a large number of Cuatro Pinos farmers to withdraw from NTX production. Households that withdrew in the 1990s fared better in terms of per-capita food consumption than those who maintained production, as profitability continued to decline with increased regional competition and market saturation. Market deterioration was compounded by worsened agronomic conditions. Excessive agrochemical use led to increased soil degradation and pesticide resistance that required more

pesticide applications, leading to a substantial increase in the cost of production.⁴⁶

Supply chain interactions have also decreased benefits for smallholder NTX farmers, many of whom (even those who are part of cooperatives) rely on coyotes, or intermediaries, to buy their products, because coyotes generally have lower quality standards than large exporters. They also pay farmers up to one-third less than export companies.⁴⁷ As competition increases, large export companies can choose to work with better-resourced farmers who can adhere to strict production controls. For smallholder farmers, this increases reliance on coyotes.

“Eventually, increasing export opportunities hurt local food security more than it helped.”

Increased monitoring of food imports by the United States Department of Agriculture (USDA) shows that these interactions, along with high price-fluctuation in international markets, have decreased the pro-poor benefits of horticulture crops over time.⁴⁸

Despite substantial evidence that NTX crop production can increase household incomes in the short term, there remains significant doubt and a dearth of evidence about how these gains translate to improved household food security. Of seven studies from Guatemala, only one showed improved incomes from NTX production having a positive effect on household food availability.⁴⁹ Two studies have shown negative effects; the rest were inconclusive or neutral. The most recent study found that, in the long term, the expansion of NTX crops reduced household food security and worsened diets. NTX production displaced subsistence crops, increasing dependence on food purchasing. Low returns on investment from NTX production constrained available cash for food purchasing, and because open-air markets are

less frequent in rural areas, most of the available food was low cost, low quality, and processed.⁵⁰ Eventually, increasing export opportunities hurt local food security more than it helped.

The Coffee Game: Well-Funded but Producing at a Loss

There are similar limitations on coffee production in the Northern Triangle. As with horticultural exports, coffee is largely produced by smallholders. In Guatemala, small coffee farmers represent 96.8 percent of producers, and 85 percent of Honduran coffee is produced by small and medium producers.^{51, 52} Coffee production was historically concentrated on large estates, but preferences for higher-quality coffee shifted production to lands above 4,500 feet, which are more likely to be owned by smallholders. For this reason, coffee production has been considered an opportunity for pro-poor and market-led economic growth.

Improving coffee value chains has been a long-term development priority for USAID in the Northern Triangle, and it remains one of the top investment priorities of FTF in both Honduras and Guatemala.^{53, 54} In Guatemala, the Coffee Value Chains Project (formerly known as the Rural Value Chains Project), has received an overwhelming share of FTF’s Guatemala budget since 2012.⁵⁵ Much like efforts in Honduras, project activities include training farmers in techniques to produce specialty and higher value (e.g., certified) coffee, subsidizing or training farmers to renovate plantations, grouping small producers in cooperatives, and training farmers in business administration.

Through their work, an evaluation of FTF says they “have improved the livelihoods of tens of thousands of coffee farmers in Guatemala.”⁵⁶ In support of this, they cite a 24 percent increase in the value of total sales in the coffee sector (in the FTF area of implementation) between 2015 and

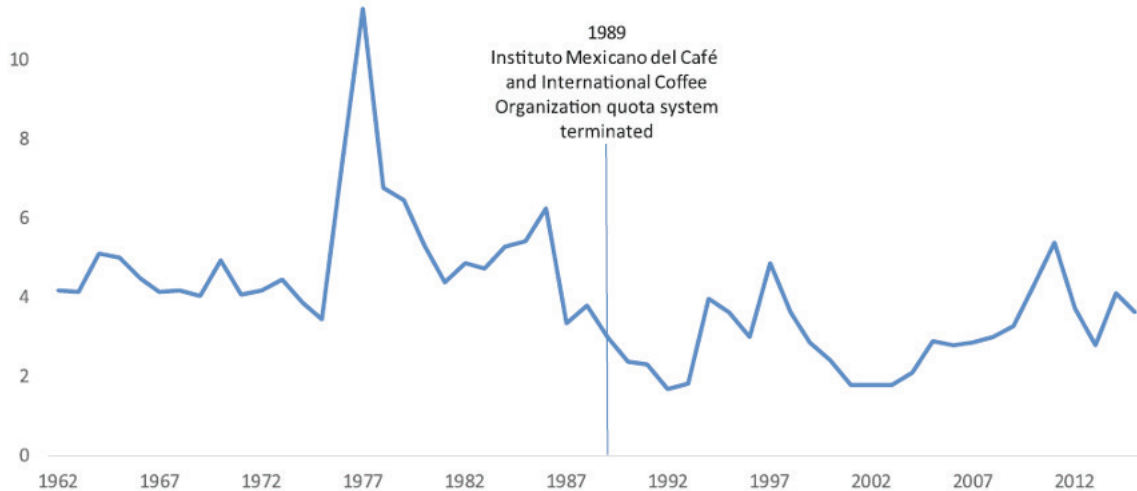


Figure 3: World arabica coffee (real) prices, 1962–2015 (USD/kg). Data source: World Bank 2016. Published in Thomas Paul Henderson (2017): “Struggles for autonomy from and within the market of southeast Mexico’s small coffee producers,” *The Journal of Peasant Studies*, DOI: 10.1080/03066150.2017.1382478.

2016. Like NTX production, however, the extent to which increases in the value of total coffee sales translates to food security for smallholders remains unclear.

Unfortunately, many coffee producers in the Northern Triangle produce at a loss, even during a relatively good year such as 2016. International prices in 2019 were around US \$170 to \$190 per bag (130 pounds). Coffee production costs for 2019 varied between \$190 and \$230 per bag. Although Guatemalan coffee continues to be recognized for its superior quality and earns average premiums of \$30 above the international base price per bag (often for participation in certification schemes), the differential has not been enough to cover costs.⁵⁷

As Figure 3 shows, the fluctuating price of coffee has trended downward over the last decade. Under the International Coffee Agreement, more than half of the total income from coffee went to producer countries.⁵⁸ The end of the agreement and price crash of 1989 resulted in a rise in income for consumer countries—of about three-quarters the total retail price—while the income of producer countries fell to about 15 percent. In producer countries, actors sell green coffee beans according to the quality evaluated at the

export point, with reference to the futures market. As expensive non-coffee components, such as wages, packaging, and marketing, constitute an increasing share of the total retail price, roasters and retailers in consumer countries increasingly capture more of the total profits.^{59, 60}

Alongside other long-term challenges, changes to the coffee market have further constrained livelihoods to the point where many coffee farmers are weighing their decision to continue producing. Anecdotal reports suggest that low prices, lost harvests from climate change, and coffee rust have motivated around a quarter of producers to stop producing. Further, 10 percent of coffee farmers in some parts of Honduras have migrated to the United States.⁶¹ In other cases, coffee farmers continue to produce with the help of development programs like FTF, but in combination with other livelihood strategies.

In my research in Guatemala, I frequently encountered coffee farmers who use remittances from other family members to sustain coffee operations. In other cases, after working for a decade or longer in the United States, some return to invest in land for coffee production—one of the few ways to acquire enough capital for coffee production. One farmer in Guatemala, an



Photo credit: María Vilma Méndez picks coffee beans on her family's property in Intibucá, Honduras: Maren Barbee, Flickr, January 2017

“One farmer in Guatemala, an administrator at a local coffee cooperative funded by USAID, told me flatly that 'coffee is a game,' not a real profession.”

administrator at a local coffee cooperative funded by USAID, told me flatly that “coffee is a game,” not a real profession. He said that is why he and many other coffee farmers push their children to seek opportunities elsewhere, including through migration.

Yet, USAID continues to invest heavily in coffee production because it fits well within their current theory of development—the belief that better training and market integration will allow smallholders to grow their businesses and that direct income gains will improve household food security. Aggregate economic data, such as the increase in value of coffee sales, preserve confidence in these investments. Much like NTX crops, however, there is even less evidence about if or how the coffee game yields food security outcomes that matter for the region’s most vulnerable—but the benefits are unlikely given how many coffee farmers produce at a loss.

CONCLUSION: RESTRUCTURING POLICIES AND PROGRAMS FOR THE BENEFITS OF SMALLHOLDERS

Capacity-building activities focused on coffee and horticulture export crops have demonstrated success in raising total export sales and even household incomes in the short term. However, they do not allow rural beneficiaries to overcome extreme poverty or necessarily improve household food security. Capacity-building activities come up short as a strategy to end food insecurity and curb migration.

Most US food security programming in the Northern Triangle continues to be directed toward strengthening horticulture and coffee value chains through a market-based, capacity building approach. USAID has, in other contexts, used monitoring and evaluation activities to quickly learn and adapt to shifting dynamics. For instance, there are three recent, positive shifts that have taken place as a result of institutional learning.

1.) Nutrition-sensitive agriculture

Based on results from early FTF program activities, USAID has come to terms with the

fact that “increased incomes are necessary but not sufficient for household access to a diverse, nutritious diet.”⁶² This understanding is slowly being incorporated into FTF programming.⁶³ In the Northern Triangle, FTF activities have integrated nutrition-sensitive elements into work on value chains. Such activities include the integration of homestead animal source food production, social behavior change approaches that teach about nutrition, water and sanitation activities, and home gardens. Such efforts attempt to maintain subsistence production and encourage program beneficiaries to use the income generated from export agriculture to directly support household food security.

2.) Revalorizing traditional crops

Another change emanating from the turn to nutrition-sensitive agriculture is to revalorize traditional crops and encourage their production and consumption. For example, in Guatemala, FTF program implementers realized that not all farmers had suitable land or other resources (e.g., irrigation) for commercial crops.⁶⁴ Rather than exclude the most vulnerable farmer groups, programs incorporated the improvement of maize and bean production for subsistence production and domestic markets. A program in Guatemala called Buena Milpa helped farmers improve production of traditional maize varieties, increase maize productivity, improve maize plant architecture, and build soil quality. Similarly, a program in Honduras called Mas Frijol worked to distribute improved bean varieties, teach farmers how to reproduce high-quality seeds, improve post-harvest technologies, and teach alternative cooking methods for beans to encourage greater consumption. Both programs helped to mitigate losses caused by climate change and decreasing maize and bean reserves.

3.) Deputizing the state

State agricultural programs, most of which strengthened domestic production, were dismantled or severely condensed under the structural adjustment policies of the 1980s and 1990s. Seeking to reinvigorate the region’s struggling economies, USAID and multilateral partners eagerly promoted NTX crops by providing credit and technical assistance. Inadvertently, USAID replaced state agricultural programs by functioning as a parallel state.⁶⁵ Over the past couple of decades, US foreign aid has been reoriented toward the goal of “helping countries solve their own development challenges.”⁶⁶ In some cases, this reorientation is only rhetorical, but there are examples in which it has materialized in important ways for regional food security. First, the USDA’s (one of USAID’s implementing partners for the FTF) McGovern-Dole program, which has been feeding schoolchildren with US-produced commodities in the Northern Triangle since 2003, successfully supported the governments of Guatemala and Honduras in establishing national school feeding laws. Since 2017, the United States has been able to transition most school feeding responsibilities to the national governments. In Guatemala’s case, the new law requires that 50 percent of the food purchased for school feeding programs come from local farmers. These efforts demonstrate some success in giving back control and responsibility to national governments to shape agricultural policy for the benefit of smallholders.

These recent trends in agricultural development offer significant advantages over a singular focus on export value chains. To date, however, these efforts make up only a small fraction of US agricultural development funding in the region. They do not address the structural barriers that prevent agricultural livelihoods from truly being sustainable. In addition to scaling up these efforts, here are a few steps US foreign aid could take to deepen its impact on the Northern Triangle’s rural,

agricultural households:

1.) Reevaluate DR-CAFTA to maximize benefits to Central American signatories.

It is extremely important to invest food security dollars in maize and bean production. The resilience of farmers in the Northern Triangle is underpinned by their participation in multiple economic and agricultural activities, including subsistence production. Subsistence production is a key part of cultural heritage, it serves a protective function for more risky market activities, and it is essential for preserving genetic diversity.^{67, 68} It is wise of US decision-makers to finally integrate these crops into the food security portfolio under the FTF. However, DR-CAFTA has negatively affected the self-sufficiency of Guatemalan and Honduran maize producers to the benefit of US maize producers. This is just one example of how well-intentioned capacity-building efforts may be undermined by larger, structural factors such as trade policy. It is time to seriously evaluate the ways in which DR-CAFTA has failed to benefit Central America's most vulnerable populations during its 15 years of being in effect.

2.) Take land seriously. No farming type can be successful without sufficient land access. Economists and development practitioners often think land reforms are too expensive, politically untenable, or beyond the purview of the United States. In reality, the US government and US corporations have been heavily involved in shaping how land is distributed in the region, and at times USAID has been actively engaged in land reform and redistribution processes. Avoiding the "land issue" has dire consequences that may prove to be equally as untenable. Studies show that a diverse range of farming types, including export crop production, can support household food security if the farmers have adequate access to land.⁶⁹ USAID and other development agencies should support additional research to determine the most effective policies and practices for engaging with land ownership challenges, so

that their programs can most directly benefit smallholders and improve food security.

3.) Reconsider the underlying theory of change.

The FTF's investment in the export value chains (especially of coffee and horticulture products) has an underlying theory of change that relies on assumptions about a market-based, capacity-building, economic growth approach to development. FTF brands itself as an "outside-the box" solution to food insecurity, yet its fundamental theory of change is indistinct from the NTX and coffee promotion activities of the 1980s and 1990s. FTF has lofty goals of reducing poverty and childhood stunting in Guatemala and Honduras, yet it displays some ambiguity about the ways value chain activities should be expected to contribute to these outcomes, and there remains significant doubt about the past performance of such activities. There are a number of other blind spots in this theory of change, including a failure to address some of the fundamental causes of rural poverty: landlessness or near landlessness, insufficient non-farm wage-earning opportunities, rollbacks in state support for agriculture, increasing market competition, and global market volatility.⁷⁰ USAID and other development partners in the Northern Triangle must develop a more targeted theory of change that has robust monitoring and evaluation mechanisms to track its impact in the short and long term.

In isolation, these changes cannot solve all of the problems of rural underdevelopment in the Northern Triangle. Anthropogenic climate change and violence perpetrated by drug cartels remain clear and present threats in the region—challenges that are outside the scope of this article's research. Even with perfect formulation, a surge of new, more evidence-based aid is unlikely to resolve the long-standing, intractable problems in the region on a short time frame. Lessons learned in the last 60 years of development efforts, however, offer a solid foundation to build

upon for improving the food security outcomes of rural smallholders. The Biden administration's renewed commitment to the region offers an important opportunity to work toward getting it right.

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NOTES

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