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# **STRENGTHENING THE ROOTS OF HOPE: A data-driven, localized approach to investing in inclusive growth in Northern Central America**

*Insights from the Impact Metrics Dashboard*



SCHOOL OF PUBLIC HEALTH



GALLUP®



THE AMERICAS HUB  
Reform for Resilience Commission



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# FOREWORD

## The power of perspective

In just one year, the Partnership for Central America (PCA) has mobilized more than \$1.2 billion in investment and enabled 2 million people across the Northern Triangle to access an expanded range of opportunities, including new jobs, digital skills, access to formal banking, and more. Together, we are combining economic opportunity with a bold job creation strategy to rekindle hope in a region where optimism for the future has long been in short supply.

Even as we celebrate these investments, however, we recognize the urgency of tailoring our interventions to reflect conditions on the ground. Most economic impact analyses use statistics aggregated at the national level, but this broad perspective obscures important local nuances about both the actual problems facing these communities, and the programs that would best address those challenges. **To foster transformative change, job creation must be driven by a strategy of inclusive growth that recognizes, appreciates, and accommodates the individual needs of each community, with an emphasis on developing human capital and extending social services to improve the quality of life.**

We have drafted this perspective to demonstrate the power of taking a closer look at real-life conditions on the ground to better understand how to improve living conditions in hotspots of migration. The following report examines the root causes of migration at the local level, to an extraordinary degree made possible by the Impact Metrics Dashboard that our teams have collaboratively developed to support the PCA. Powered by artificial intelligence and machine learning (AI/ML), this novel Dashboard enables a highly granular analysis that correlates a wide array of quality-of-life variables and demographic data down to the level of 1km<sup>2</sup>, which corresponds with individual neighborhoods.

In addition to traditional metrics such as employment, access to banking, recent visits to healthcare providers, and educational attainment, we plan to introduce rolling surveys throughout the region to assess subjective measures of the quality of life and hope for the future — metrics that are essential to evaluating rootedness. Around the world, such measures have proven highly predictive of societal upheaval, as we will demonstrate in this perspective. We believe they will prove exceptionally useful in predicting future hotspots of migration in the Northern Triangle and identifying the key local drivers of this restlessness. This intelligence can then be used to develop highly targeted, rapid-response interventions to the communities most at risk of migration.



Importantly, we will also incorporate data from PCA partners' interventions into the Dashboard, to enable us to conduct robust impact evaluations at the community levels. These impact evaluations will ensure we are maximizing the return on PCA investment and allow for swift strategic adjustments where necessary to ensure each intervention is effective.

We also expect to be able to identify and delineate specific migrant personas, based on a rich array of metrics including demographics, socioeconomics, attitudes and beliefs, media consumption, and more. We then plan to map the concentration of each persona across the Northern Triangle. That would give us a heat map of potential migration hotspots — and, even more importantly, a window into the specific drivers within each community.

**Deploying the Dashboard in this way would take our understanding of, and our response to, migration to a new level, enabling data-driven, localized interventions at the community level. Even better, these responses could be rapidly evaluated for efficacy and adjusted as needed.**

The Impact Metrics Dashboard thus serves multiple goals:

- » **Generating insights that can help PCA members target their investments more strategically**
- » **Identifying communities vulnerable to mass migration and pinpointing the most effective interventions**
- » **Evaluating the impact of specific interventions**
- » **Tracking progress on the ground toward PCA's impact objectives of economic growth, jobs creation, and poverty reduction.**

We have only begun to leverage the full potential of the Impact Metrics Dashboard. The examples presented in this perspective paper are indications of what the Dashboard can achieve. While they do not constitute a complete investment strategy, they highlight the Dashboard's capacity to help policy makers and funders target investments and maximize the value of limited resources. In the last section of the report, we discuss our plans to further expand the functionality of the Dashboard and utilize its full capacity to deliver actionable, high-impact analysis for all PCA partners.

By approaching job creation in the Northern Triangle with a focus on inclusion, equity, and long-term social impact, we aim to nurture the sense of rootedness that only and always exists alongside hope.

Together, we can make a difference.



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# INTRODUCTION

The latest waves of migrants arriving at the U.S. border from El Salvador, Honduras, and Guatemala are just the most recent manifestation of an exodus from the Northern Triangle that started more than three decades ago. The number of migrants from Central America jumped 137% between 1990 and 2020.<sup>1</sup> Within the region, migration has increased most dramatically in Honduras (+530%) and Guatemala (+293%).

In response, the White House put forward a U.S. Strategy for Addressing the Root Causes of Migration in Central America in the summer of 2021.<sup>2</sup> That strategy led to the creation of the largest public-private-academic partnership for international development ever assembled by the U.S. Government, the Partnership for Central America (PCA). Members committed to working across sectors to improve the lives of residents of the Northern Triangle through investment, diplomacy, and support for local governments.

The PCA has set forth many goals, but they all contribute to one central objective: Strengthening the sense of “rootedness,” the connection that residents feel to their communities and their countries. Much has been accomplished to date,<sup>3</sup> but much more work is still to be done to build this sense of rootedness.

When Gallup surveyed adults in the region in 2021, 56% of respondents in Honduras said they wanted to leave their country permanently—a new record high. In El Salvador, 40% dreamed of migrating. By contrast, the global average for this question is 16%. The majority of potential migrants across the Northern Triangle named the U.S. as their destination of choice.

While this type of national-level analysis has important advantages it can also be somewhat misleading, as it fails to distinguish both inequality within regions and variance across regions, which can obscure important implications of migration.

To give the PCA another perspective, the Harvard Chan School, Fraym, Gallup, and the Reform for Resilience Commission have developed a novel tool, the Impact Metrics Dashboard. This interactive Dashboard enables a detailed analysis of data at the subnational level in Guatemala and Honduras. Data for El Salvador will be added during the next phase of work.

The insights highlighted throughout this report represent early findings of our analytical work, in which we mined the Dashboard to identify highly vulnerable communities and urgent needs for intervention. We then explain how these insights might be deployed to shape targeted, high-impact strategies for increasing rootedness in individual communities.



<sup>1</sup> <https://www.un.org/development/desa/pd/content/international-migrant-stock>

<sup>2</sup> <https://www.whitehouse.gov/wp-content/uploads/2021/07/Root-Causes-Strategy.pdf>

<sup>3</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/19/report-on-the-u-s-strategy-for-addressing-the-root-causes-of-migration-in-central-america/>

# EXPANDING JOB CREATION



The search for economic opportunity drives migration, so accelerating local job creation is vital to strengthen the sense of rootedness. The Partnership for Central America has already begun to create jobs across the Northern Triangle, starting with investments to support farmers and rural businesses.<sup>4</sup>

As a next step, the PCA is developing a comprehensive job creation strategy, with a focus on bolstering the sectors with the capacity to make quick and durable impact, including manufacturing, tourism, agribusiness, and professional/business services. Investments in these sectors could be transformative: the World Bank has found that the manufacturing sector has the greatest potential for productivity growth across Central America and the service sector is the region's largest employer.<sup>5</sup>

## Identifying vulnerable communities

**While job creation is an essential element of rootedness, easing migration pressures requires more than just an increase in local employment opportunities. It requires inclusive growth.<sup>6</sup>**

In wealthy and poor nations alike, inequality has soared in recent decades, with highly detrimental effects on the economic prosperity and civic participation among marginalized groups. The rise of social media has contributed to a growing awareness of these disparities, undermining rootedness and exacerbating migration pressures.

Meanwhile, little has been done to ameliorate poverty or vulnerability among low-income workers in Central America. The Northern Triangle is a particularly stark example. Pre-pandemic, the World Bank estimated that more than 80% of the workforce in Guatemala derived their income from the informal sector<sup>7</sup>, a tenuous employment status that left them with no safety net—no social security, no healthcare coverage, and no wage stability.

The COVID-19 pandemic has further eroded the economic security of households across the Northern Triangle. The disruptions caused by the pandemic tipped the region into a deep contraction in 2020, with the economies in El Salvador and Honduras each shrinking up to 9%.<sup>8</sup>

<sup>4</sup> <https://www.centampartnership.org/casestudies>

<sup>5</sup> World Bank, "Unleashing Central America's Potential," 2020

<sup>6</sup> <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-case-for-inclusive-growth>

<sup>7</sup> World Bank Group, Guatemala: Closing Gaps to Generate More Inclusive Growth, 2015

<sup>8</sup> World Bank, "Unleashing Central America's Potential," 2020

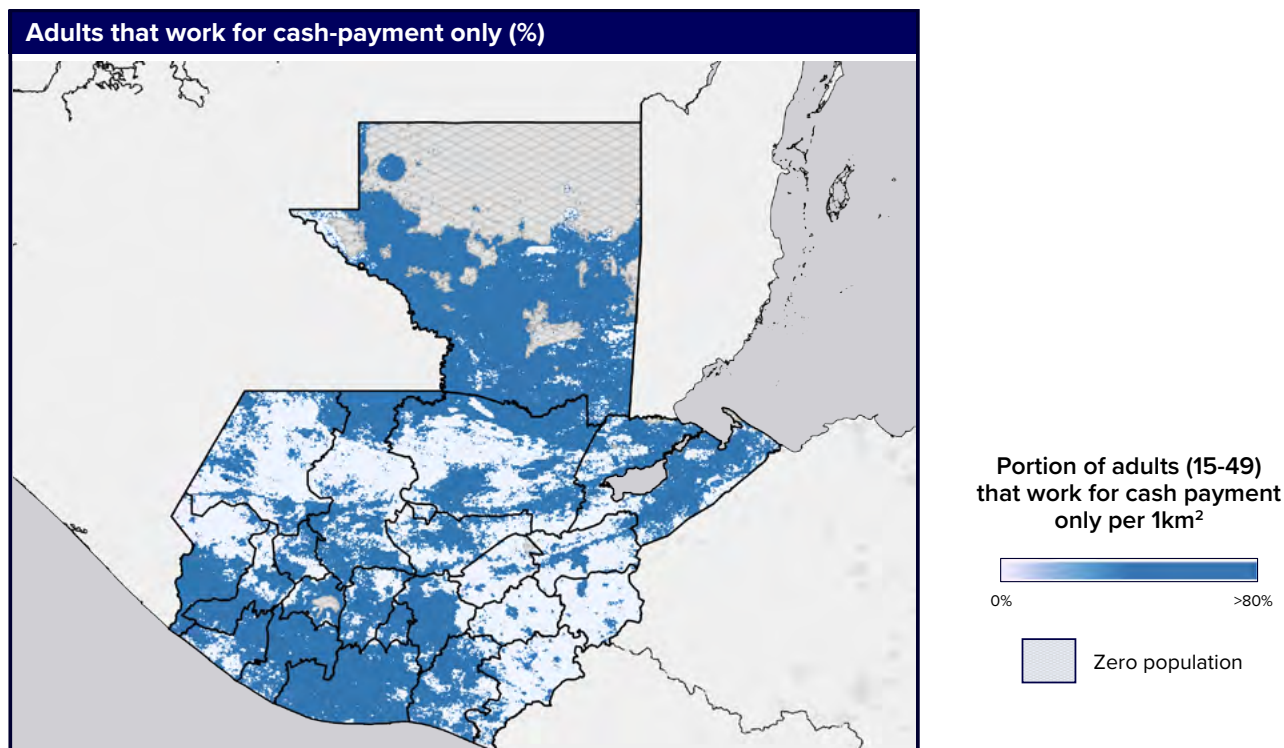


The Impact Metric Dashboard shows exactly which Guatemalan communities are home to the largest percentage of adults working exclusively for cash payments. In addition to the vivid bands across the north and south of the country, the analysis identifies smaller pockets of high vulnerability stretched across central Guatemala.

FIGURE 1

## GUATEMALA: NATIONAL VIEW

### Informal, cash-only employment dominates the north and south



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

### A window of opportunity

These immense challenges notwithstanding, this is also a moment of unrivaled potential for the Northern Triangle. The pandemic has underscored the risks of far-flung global supply chains, prompting manufacturers in the U.S. and Canada to consider options for consolidating production closer to home. The PCA has also mobilized an unprecedented amount of private and public investment in the region, and the countries of the Northern Triangle have a large workforce eager to take advantage of new opportunities. In Guatemala, for example, 40% of the population is under the age of 30.<sup>9</sup>

**Beyond job creation, successful economic development will require that domestic policies and international cooperation be organized around an inclusive vision that encompasses the social aspirations of potential migrants as well as their economic needs.** To accomplish their objectives, policymakers must be able to accurately identify local and regional barriers to impact, design well-targeted interventions, and scale up successful initiatives through rigorous monitoring and evaluation.<sup>10</sup>

Inclusive growth has the potential to transform economies and reshape migration incentives. The World Bank recently estimated that increasing women's participation in the labor force in Guatemala to reach even half the participation level of men would boost GDP by a whopping 6.4 percent by 2030.<sup>11</sup> Traditional labor-intensive industries, such as textiles and apparel, as well as the service sector, would benefit the most from expanding the economic participation of women.

<sup>9</sup> McKinsey Market Analysis, Northern Triangle, April 2021

<sup>10</sup> <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-case-for-inclusive-growth>

<sup>11</sup> <https://openknowledge.worldbank.org/bitstream/handle/10986/36440/Guatemala-Unleashing-Central-America-s-Growth-Potential.pdf?sequence=1&isAllowed=y>

## Paving the way for inclusive growth

To date, labor markets have played only a limited role in improving household welfare, especially in Guatemala. The number of jobs has increased at the same pace as GDP, which has helped to reduce poverty, but the quality of these jobs has not improved. Earnings are stagnant, especially in the sectors most likely to employ the poor.<sup>12</sup>

Across the Northern Triangle, creating inclusive, high-quality jobs at scale will require several interrelated strategies.

### STRUCTURAL REFORMS

First are the structural reforms required to effectively support international investment. These include:

- » **Upgrading infrastructure**, including modernizing ports and highways and strengthening regional electricity generation and transmission
- » **Improving tax administration** to broaden the tax base and encourage formalization
- » **Cracking down on corruption**, including both petty corruption and the undue influence of powerful private interests
- » **Improving the rule of law** around intellectual property, land ownership, and other critical elements of the business landscape
- » **Removing obstacles that limit the success of small enterprises**, including crime, violence, and lack of access to financial services

### HUMAN CAPITAL INVESTMENTS

Human capital investments are also urgently needed to build a capable and committed workforce. However, these investments must be closely linked to employment opportunities in the local labor market. Investing in human capital in isolation can intensify migration pressure if it provides weakly rooted individuals with a skillset that cannot effectively be utilized by employers in their home country. The reverse is also true: **Job creation in isolation, without investment in human capital, can backfire if it simply provides rootless individuals with enough income to pursue long-held dreams of migration.**<sup>13</sup>

Successful economic development requires a workforce made up of both men and women who have the skills to take on emerging jobs within the local labor market, who are also deeply rooted to their home countries, and who are connected to the social services their families need to flourish. Key investments in human capital include:

- » **Investing in lifelong learning** to build a more educated, productive, nimble, and innovative workforce
- » **Enabling innovation and entrepreneurship** through policies designed to support investment in R&D
- » **Improving education across all age groups** and developing new programs for skills training, including among non-school aged adults
- » **Encouraging more women to enter the workforce** by expanding access to high-quality childcare and reducing food insecurity<sup>14</sup>
- » **Improving public safety**, eliminating corruption, and reducing street violence and insecurity
- » **Connecting households to the internet** and enabling their participation in mobile banking, telehealth, distance education, and other online services



<sup>12</sup> World Bank, Understanding Guatemala's Development Challenges

<sup>13</sup> [https://www.migrationpolicy.org/sites/default/files/publications/mpi-wfp-mit\\_migration-motivations-costs\\_final.pdf](https://www.migrationpolicy.org/sites/default/files/publications/mpi-wfp-mit_migration-motivations-costs_final.pdf)

<sup>14</sup> World Bank, "Unleashing Central America's Potential," 2020



## Strategic analysis at the subnational level

This long list of priorities may seem daunting, but investment needs are not uniform across an entire region or even a single country. Analyzing data at the subnational level, down to the level of individual communities, reveals a much more nuanced picture. A report issued in November 2021 by the Inter-American Development Bank (IADB), the Organization of American States (OAS) and other partners made this point eloquently. After face-to-face interviews with 5,000 households in select departments across the Northern Triangle, the team found “notable differences across municipalities” and concluded that initiatives and investments designed to address the root causes of migration “will be most effective if tailored to these local circumstances.”<sup>15</sup>

The Impact Metrics Dashboard is designed to do exactly that.

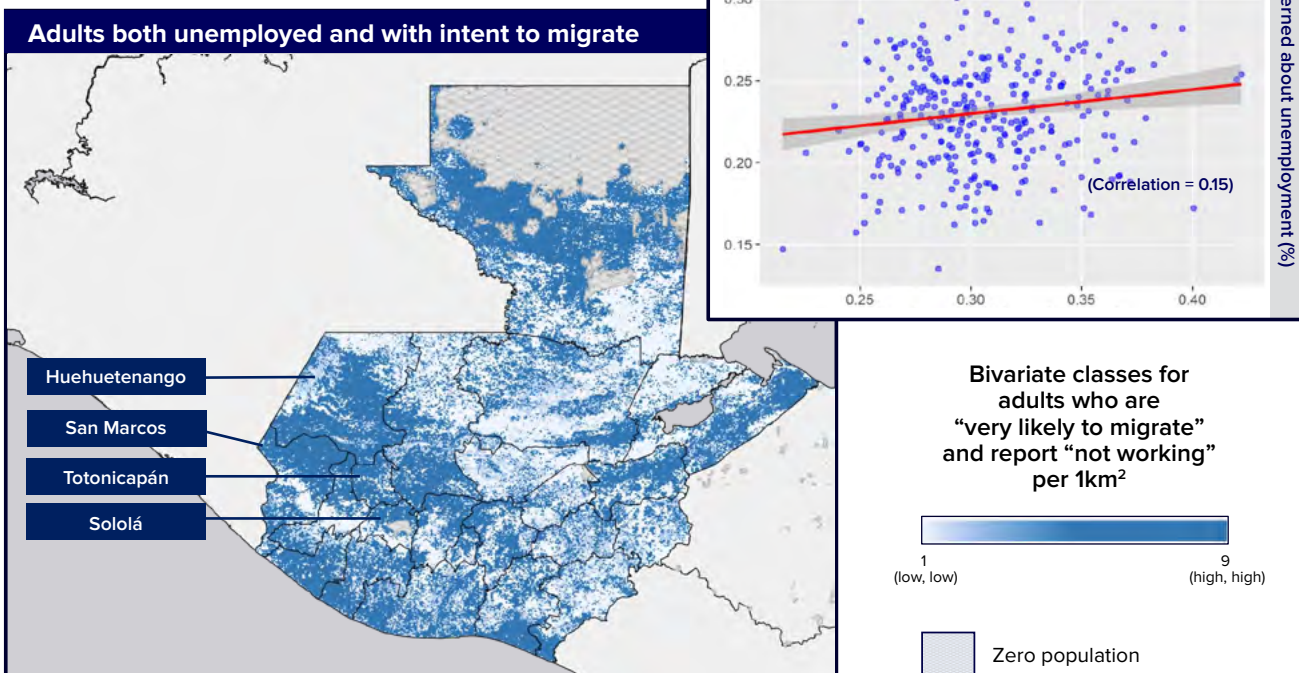
Going far deeper than the IADB and OAS report, which focused on just a handful of departments in the Northern Triangle, the Dashboard uses AI/ML to identify the key characteristics of communities down to the community, or 1km<sup>2</sup>, level. **This highly granular analysis allows users to surface critical insights into the location of the most vulnerable and marginalized communities across dozens of key metrics, which can be correlated with other data that reflect hope for the future, rootedness in the community, and intent to migrate.**

Together, these subnational analyses become a critical input for strategic decision-making about where and how to invest in building human capital to achieve the dual goals of spurring economic growth and increasing rootedness to curb irregular migration. In Guatemala, for instance, we can see that concerns about unemployment are only modestly correlated with intent to migrate at the national level.

FIGURE 2

### GUATEMALA: NATIONAL VIEW

Unemployment weakly correlated with migration intent



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

<sup>15</sup> [https://www.migrationpolicy.org/sites/default/files/publications/mpi-wfp-mit\\_migration-motivations-costs\\_final.pdf](https://www.migrationpolicy.org/sites/default/files/publications/mpi-wfp-mit_migration-motivations-costs_final.pdf)

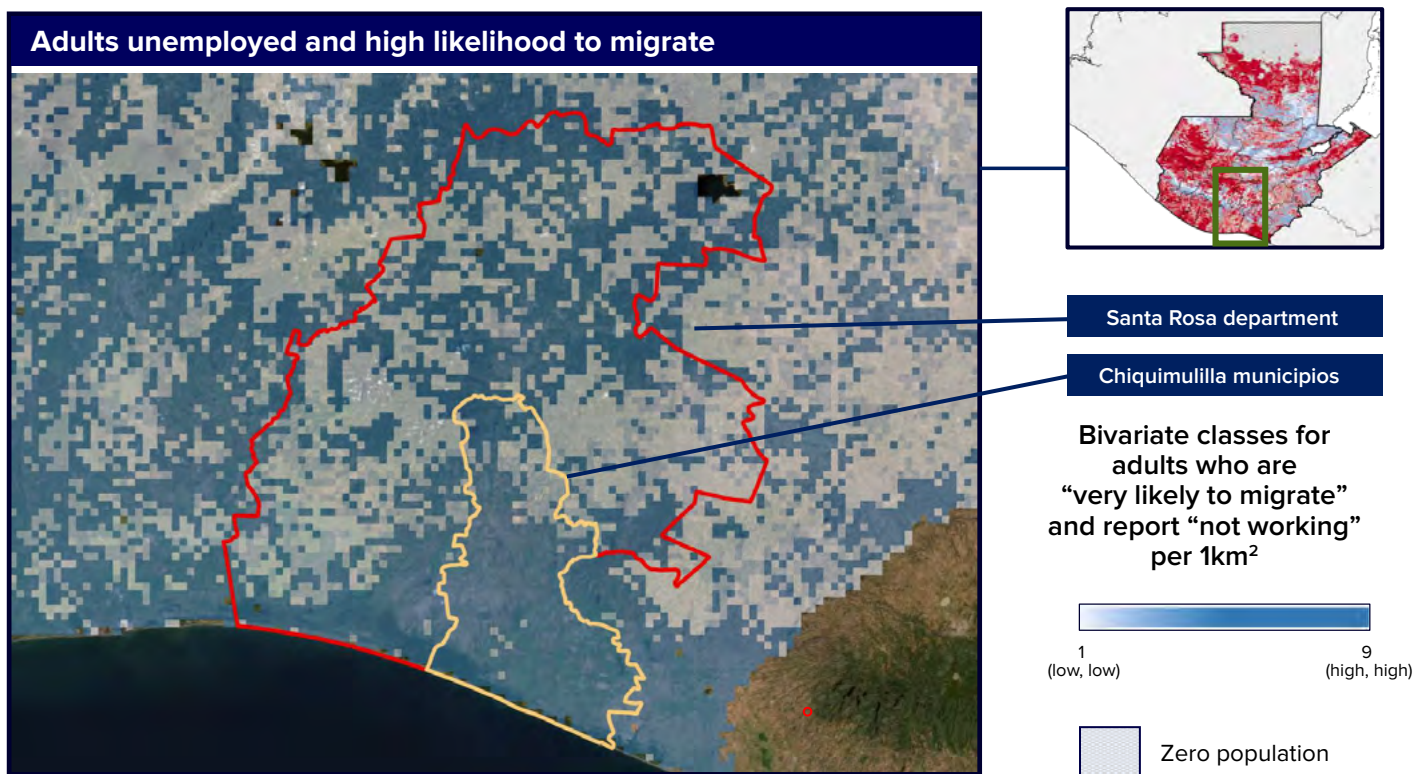
However, using the Impact Metrics Dashboard, enables us to identify specific municipalities that are hotspots both for unemployment and intent to migrate. One such hotspot is in the Santa Rosa Department near Guatemala’s southern border, an agricultural region known for its coffee plantations and dairy farms, which produce famed cheeses. The coastal portion of Santa Rosa has numerous beaches and lagoons, with a high degree of untapped tourism potential. The map below calls out this hotspot.

Targeted investment in the development of the local tourism industry could create new opportunities for workers across a wide range of skill levels, and particularly for women and young people, effectively attenuating migration incentives without the need for a national-level intervention. **This localized response may attenuate local migration incentives more effectively than a diffuse national-level intervention.**

FIGURE 3

GUATEMALA: LOCAL VIEW

Santa Rosa as hotspot for both unemployment and migration desire



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

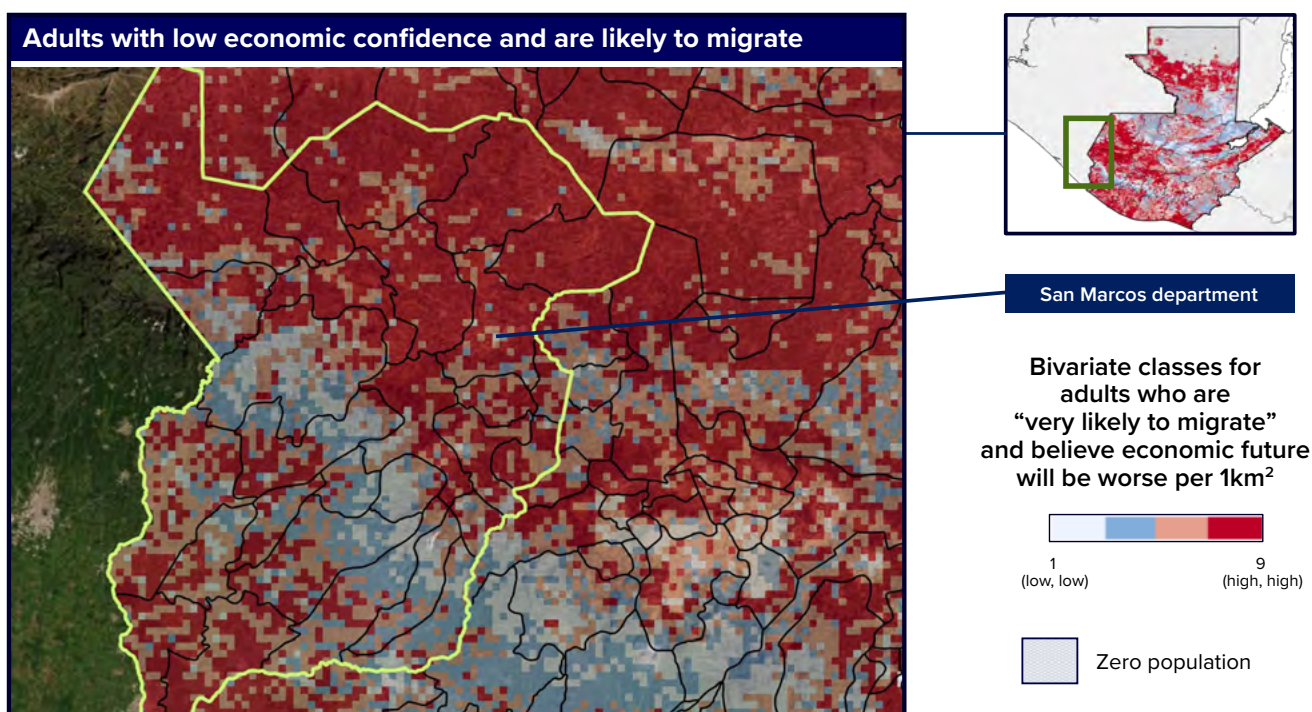
Another migration hotspot is the San Marcos Department on Guatemala’s northwestern border. Here we observe multiple communities with high intent to migrate coupled with low levels of economic confidence. These are adults who have lost hope in their future, particularly their economic prospects, even though San Marcos is an important commercial corridor for the nation. Moreover, San Marcos borders Mexico and thus has the potential to become a focal point for migrants seeking to move north.

Again, this analysis suggests that a focus on job creation in San Marcos could pay higher dividends in curbing migration than a more diffuse national-level strategy. Indeed, a comprehensive program of job creation backed by skills training, educational opportunities, and other investments in human capital is likely to have a major impact in Santa Rosa, San Marco, and similarly vulnerable departments, fostering a new sense of possibility and greater attachment to the community. Moreover, these subnational analyses provide a crucial foundation not only for public investment decisions, but also for complementary investments by private firms.

FIGURE 4

GUATEMALA: LOCAL VIEW

San Marcos as hotspot for low economic confidence and rootlessness



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI



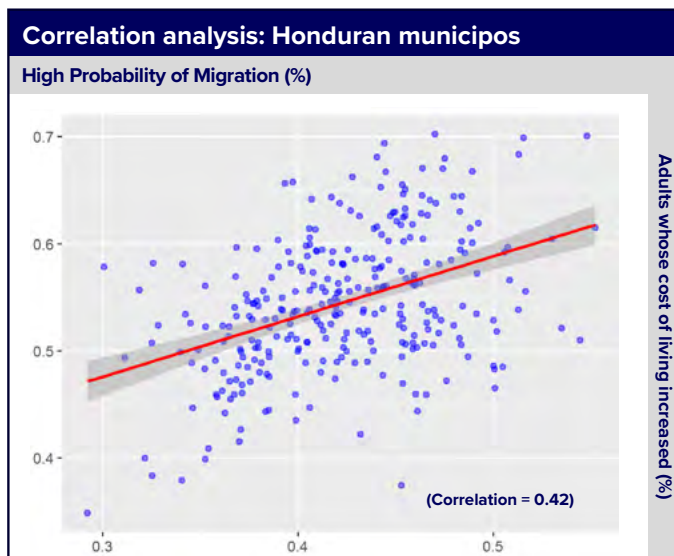
Another view from the Dashboard identifies several municipalities where concerns about rapid increases in the cost of living are highly correlated with widespread desire to migrate. These communities may also benefit from targeted intervention to increase economic stability and help families feel more secure about their purchasing power.

FIGURE 5

HONDURAS: LOCAL VIEW

Migration hotspots with strong concerns about cost of living

Municipios	San Jose, Copan	San Pedro Sula (Cortes)	Distrito Central, Francisco Morzan
Concerned about cost of living	3500 (70%)	277,700 (51%)	484,400 (54%)
Very likely to migrate given the resources	2700 (55%)	214,800 (40%)	310,600 (34%)
Adult population	5000	544,000	907,000
Concerns about unemployment	1300 (26%)	126,800 (23%)	190,000 (21%)
Completed secondary education	250 (34%)	107,300 (19%)	328,000 (36%)



All figures are rounded | Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

As we expand data collection with additional funding, we expect to include detailed information about local information ecosystems in the Impact Metrics Dashboard. Knowing which media outlets and social media platforms are the most trusted and the most widely used could help NGOs and public-sector partners develop targeted educational campaigns for highly vulnerable communities like Santa Rosa and San Marcos.

**We know from the previous maps that economic insecurity drives much of the restlessness; media campaigns highlighting new educational and employment opportunities could be effective in sparking optimism and giving would-be migrants a compelling reason to stay put.**

# DEVELOPING HUMAN CAPITAL



## Education

Education across the Northern Triangle has long been suboptimal. In its recent comprehensive analysis of Central America, the World Bank concluded that “there is a deficit of skilled labor relative to what is demanded by businesses.” Indeed, the World Bank’s index for education value in each country put Honduras at 34, El Salvador at 33, and Guatemala at 22. By comparison, Costa Rica was 55 and Panama 53.<sup>16</sup> **There is a pressing need not just for better secondary and tertiary education, but especially for better education in technical fields, including vocational training.**

The COVID-19 pandemic dramatically worsened education outcomes across the region. Latin America experienced some of the longest average school closures in the world, averaging nearly 48 weeks.<sup>17</sup> Limited internet connectivity likely made remote learning less effective. In addition, when schools re-opened, some parents were reluctant to send their children back.<sup>18</sup>

Not surprisingly, the pandemic took a toll on public views about education across the Northern Triangle. The effect was particularly pronounced in Honduras, where the Gallup World Poll showed satisfaction with local schools dropping to a record low of 47% in 2021.

As with unemployment, poor educational outcomes are only modestly correlated with the probability of migration at the national level in Guatemala, likely because a high percentage of the population lacks secondary education across huge swaths of the country.

<sup>16</sup> World Bank, “Unleashing Central America’s Potential,” 2020

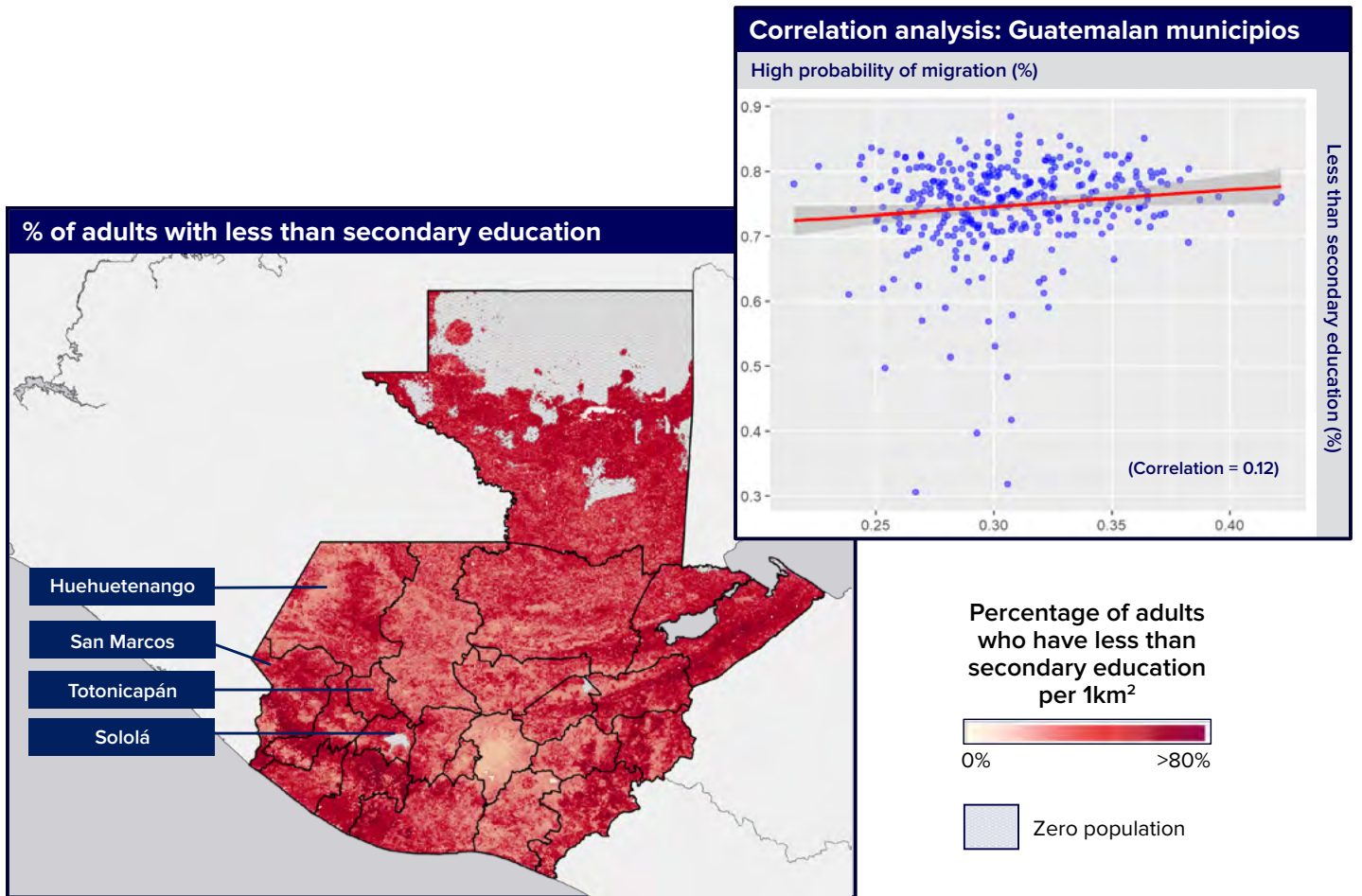
<sup>17</sup> <https://www.undp.org/latin-america/closing-schools-big-and-unequal-learning-losses-lac>

<sup>18</sup> <https://www.americasquarterly.org/article/how-to-reverse-covids-toll-on-latin-american-education/>

FIGURE 6

GUATEMALA: NATIONAL VIEW

Educational attainment weakly correlated with migration probability



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

However, as with job creation, the Impact Metric Dashboard can identify key regions to target for investment in education.

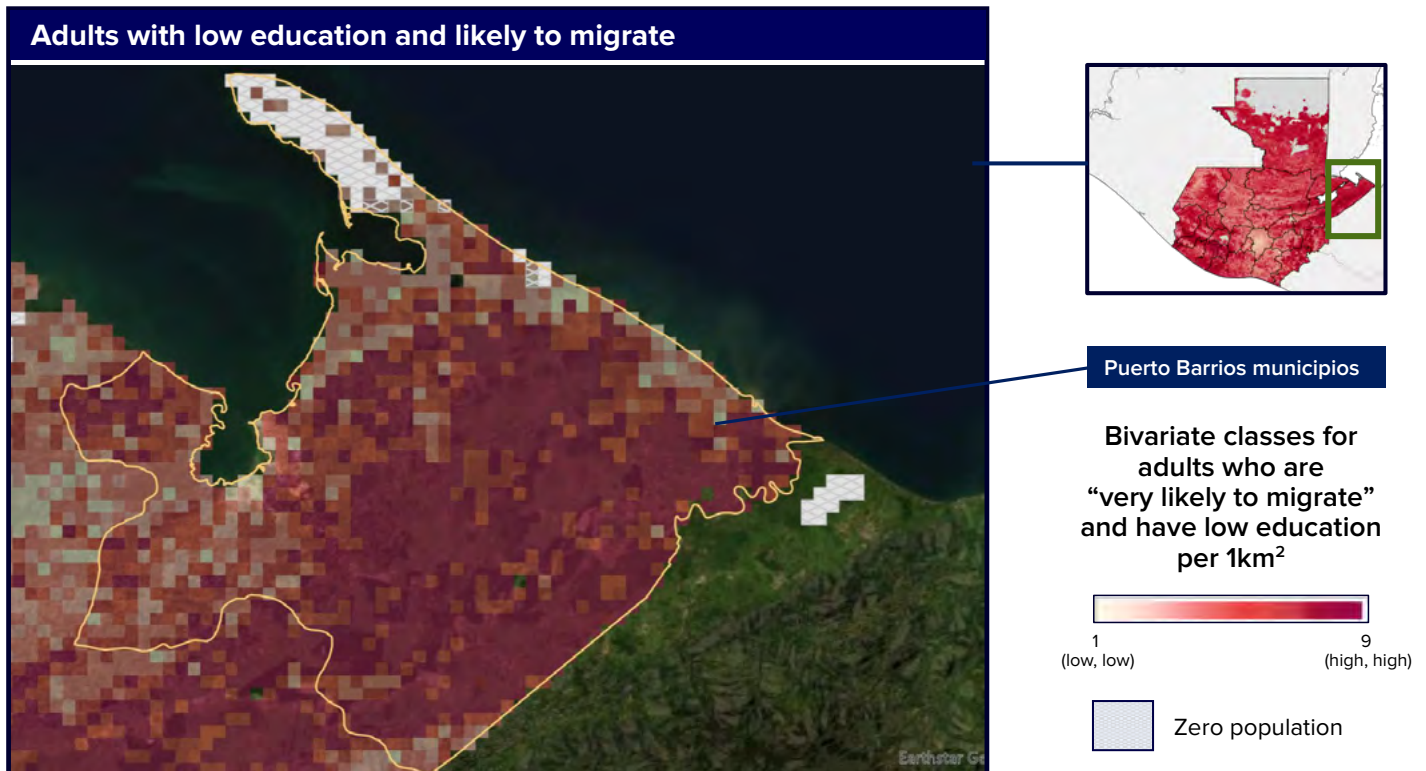
The Dashboard flags certain regions as hotspots for low educational attainment and high levels of intent to migrate, such as the Puerto Barrios Municipio (an administrative unit analogous to a U.S. county) on the country's eastern border.



FIGURE 7

GUATEMALA: LOCAL VIEW

Puerto Barrios as hotspot for poor education and high desire to migrate



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

This department is a crucial commercial center for Guatemala. It includes two Atlantic seaports, which are among the best deep-water harbors in the region; the department’s port infrastructure will likely play a key role in the PCA’s efforts to boost the manufacturing sector in Guatemala. Puerto Barrios also has unexplored tourism potential; Fodor’s Travel describes it as a “friendly but down-at-the-heels port city” notable for its “old stilt houses built in the traditional Caribbean style” and its tropical atmosphere.<sup>20</sup>

This is clearly a region that matters to the economic future of Guatemala, and one that is uniquely vulnerable. Fewer than 30% of adults have attained secondary education and many are determined to emigrate in search of employment opportunities. **Leveraging these insights to steer PCA investment in both job creation and human capital could help maximize the value of PCA resources.**

**Health care**

Access to basic healthcare is limited across much of the Northern Triangle. USAID estimates that more than 6 million people in Guatemala, or about 35% of the country’s population, lack access to basic health and nutrition services. At the national level, the clinical workforce is also stretched far too thin. Guatemala has just 0.6 physicians per 1,000 residents. Honduras is even worse, with 0.4 doctors per 1,000 residents.<sup>21</sup>



<sup>19</sup> <https://www.encyclopedia.com/humanities/encyclopedias-almanacs-transcripts-and-maps/puerto-barrios>

<sup>20</sup> <https://www.fodors.com/world/mexico-and-central-america/guatemala/the-atlantic-lowlands/places/puerto-barrios>

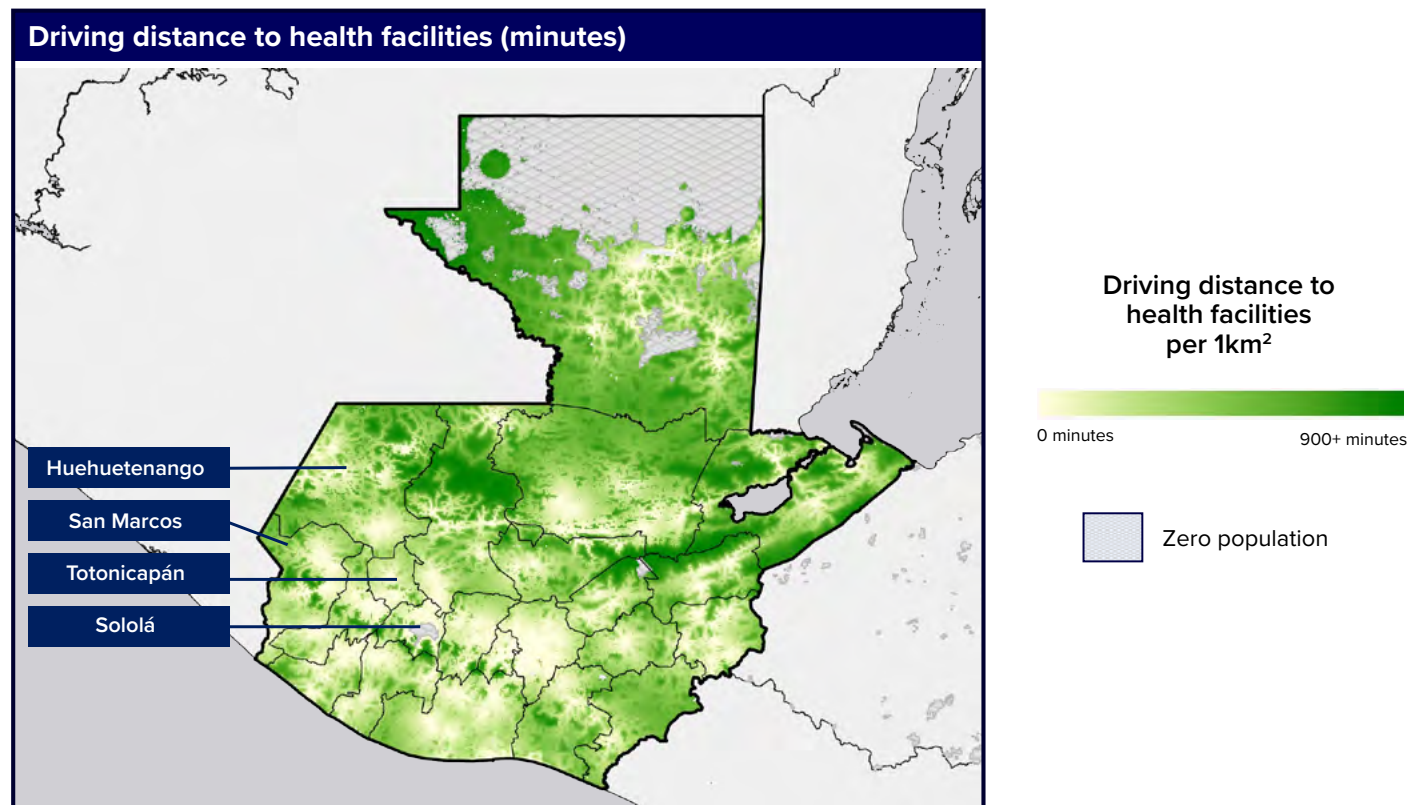
<sup>21</sup> <https://data.worldbank.org/indicator/SH.MED.PHYS.ZS?locations=HN-GT-SV-US-GB-DE-1W>

In rural areas, the nearest medical facility is often more than an hour away. The Guatemalan communities colored dark green on this map have an average drive time of *more than 15 hours* to the nearest health facility.

FIGURE 8

## GUATEMALA: NATIONAL VIEW

### Long drives to health facilities in many communities



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

The lack of healthcare access and depth of poverty in the region translates directly into poor health outcomes. Despite recent progress in improving access to prenatal care and professional clinical support during childbirth, Guatemala's maternal mortality rate is among the highest in Latin America, and indigenous women are disproportionately vulnerable.<sup>22</sup>

Guatemala also has one of the worst rates in the world of chronic malnutrition, which leads to stunted growth and affects a staggering 47% of children<sup>23</sup> and rises to 61% among indigenous children.<sup>24</sup> The IADB and OAS report found that food insecurity is one of the biggest drivers of migration: Across the region, 23% of individuals experiencing food insecurity were making concrete preparations to migrate, compared to just 7% of those who did not have to worry about their next meal.<sup>25</sup>

**The Northern Triangle nations also fail in some of the most fundamental metrics of public health.** In El Salvador, more than 400,000 people lack access to safe drinking water and more than half a million lack basic sanitation.<sup>26</sup> In Honduras, more than 1.3 million school-aged children were treated for soil-born intestinal parasites in 2017.<sup>27</sup> Extreme weather brought on by climate change has exacerbated water and sanitation problems by damaging infrastructure.

<sup>22</sup> World Bank Group, Guatemala: Closing Gaps to Generate More Inclusive Growth, 2015

<sup>23</sup> World Bank Group, Guatemala: Closing Gaps to Generate More Inclusive Growth, 2015

<sup>24</sup> World Bank Group, Guatemala: Closing Gaps to Generate More Inclusive Growth, 2015

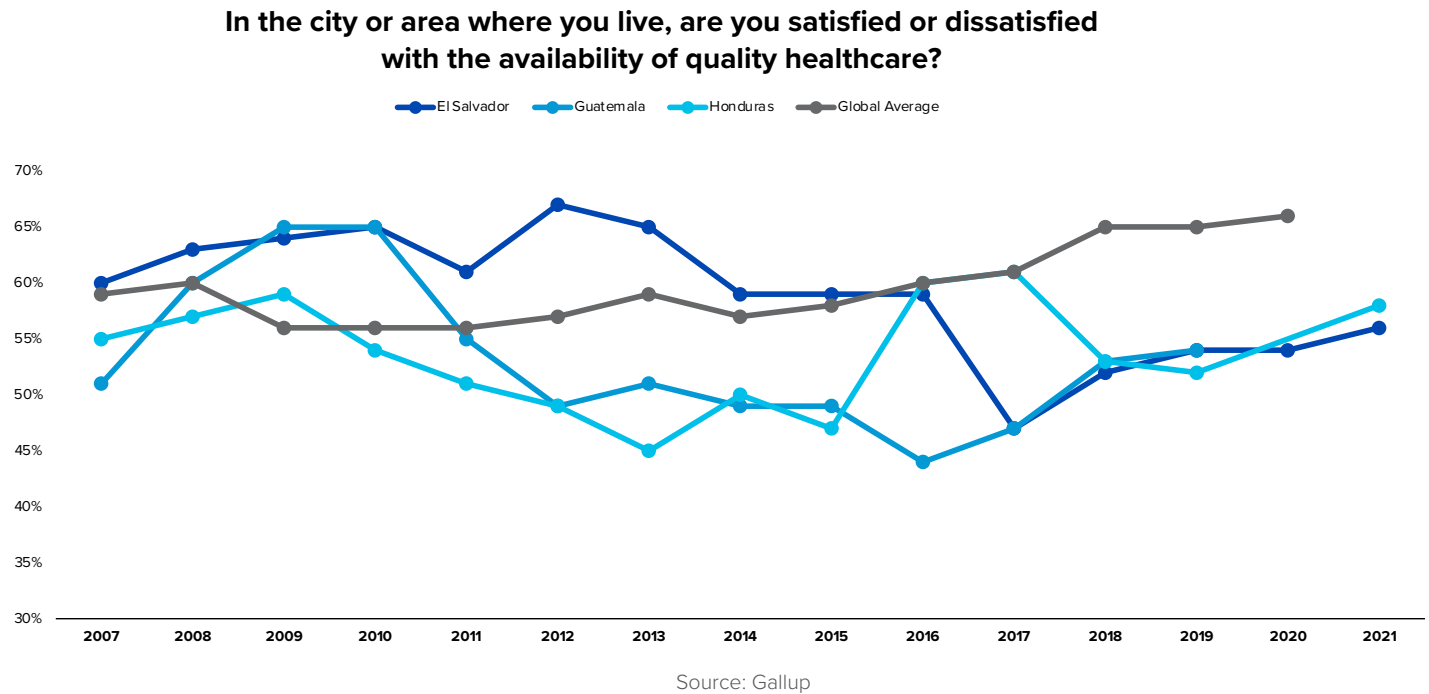
<sup>25</sup> [https://www.migrationpolicy.org/sites/default/files/publications/mpi-wfp-mit\\_migration-motivations-costs\\_final.pdf](https://www.migrationpolicy.org/sites/default/files/publications/mpi-wfp-mit_migration-motivations-costs_final.pdf)

<sup>26</sup> <https://ecoviva.org/millions-in-central-america-lack-access-to-clean-water/>

<sup>27</sup> <https://ecoviva.org/millions-in-central-america-lack-access-to-clean-water/>

Data from the Gallup World Poll show that satisfaction with the availability of quality healthcare in all three Northern Triangle countries has fallen well below the global average in recent years. This is the case even in El Salvador, where satisfaction in the early 2010s was well above the global average. In 2021, the Gallup-Hologic Women’s Health Index placed El Salvador 96th out of 116 countries globally across five dimensions of health including preventive care, emotional health, access to food and shelter, physical health, and perceptions of safety.<sup>28</sup>

**FIGURE 9** National view: Attitudes toward health care



As with other metrics, these national-level snapshots of the health care landscape paint an overall picture, but do not enable effective targeting of the most pressing issues in an individual community. Once again, that is where the Dashboard comes in. **As we expand to include more health care data, the Dashboard can be used to identify the most vulnerable communities, to highlight the biggest challenges in those communities, and to evaluate progress after interventions.**

<sup>28</sup> <https://www.worldbank.org/en/publication/wdr2019>



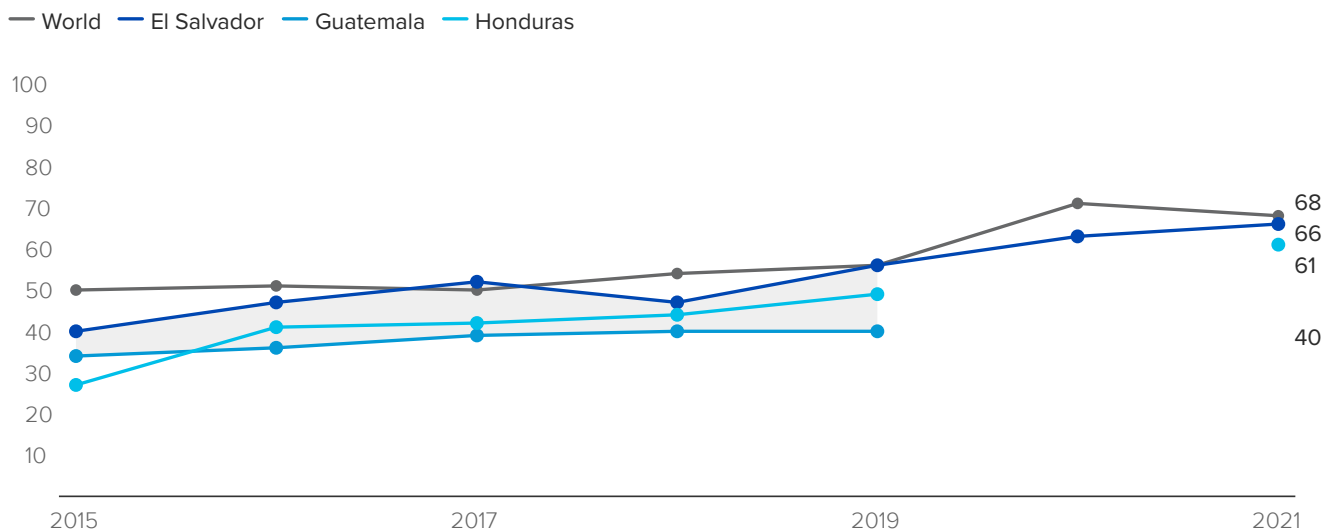
## Digital access & financial inclusion

Internet access has expanded in El Salvador and Honduras in recent years and is close to the global average, though Guatemala remains far behind.

**FIGURE 10** National view: Digital connectedness

### Internet Access in the Northern Triangle

Do you have access to the Internet in any way, whether on a mobile phone, a computer, or some other device?  
(% Yes)



Source: Gallup

### Digital access has complex implications for rootedness.

On the one hand, connectivity can create opportunities that can greatly improve the quality of life, including access to mobile banking, telehealth solutions, and distance learning. Financial inclusion has been a particular focus of PCA investment. Fewer than half of all adults in the Northern Triangle have a bank account<sup>29</sup> and in many rural areas, the nearest bank or ATM is an hour's drive away. Digital access to financial services is an essential prerequisite for anyone in these rural areas who hopes to start a business or save for the future after securing employment. Internet connectivity can also facilitate participation in civic society,<sup>30</sup> strengthening personal investment in the local and national community.

On the other hand, viewing the abundance of life in other parts of the world can increase dissatisfaction with conditions at home and spur a desire to migrate.<sup>31</sup>

<sup>29</sup> [https://globalfindex.worldbank.org/sites/globalfindex/files/2018-04/2017%20Index%20full%20report\\_0.pdf](https://globalfindex.worldbank.org/sites/globalfindex/files/2018-04/2017%20Index%20full%20report_0.pdf)

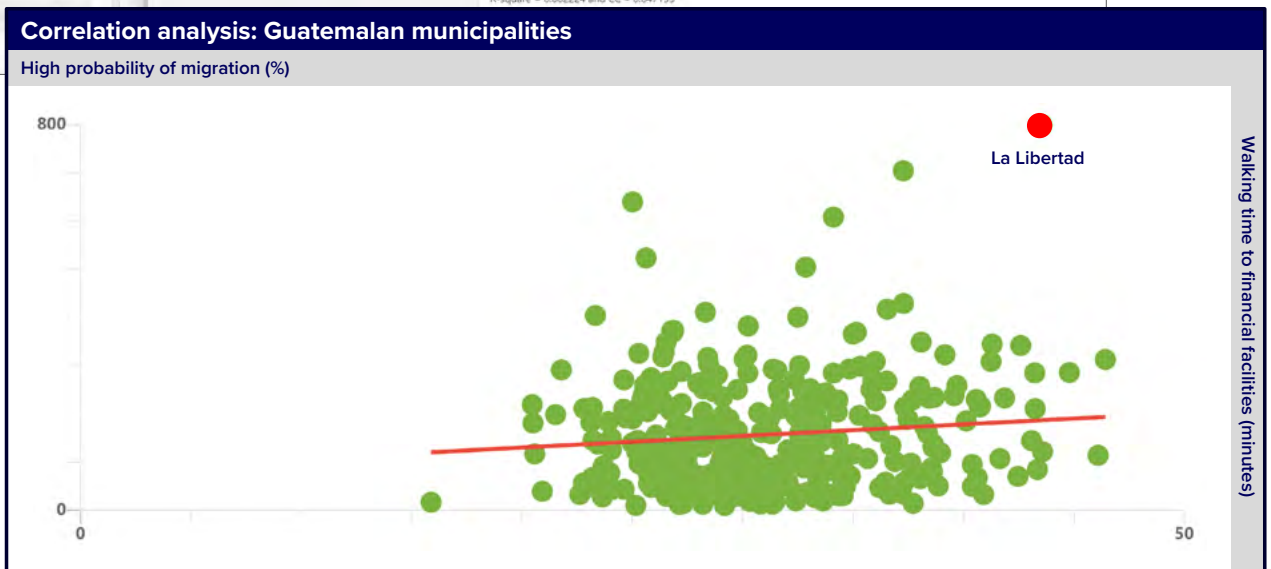
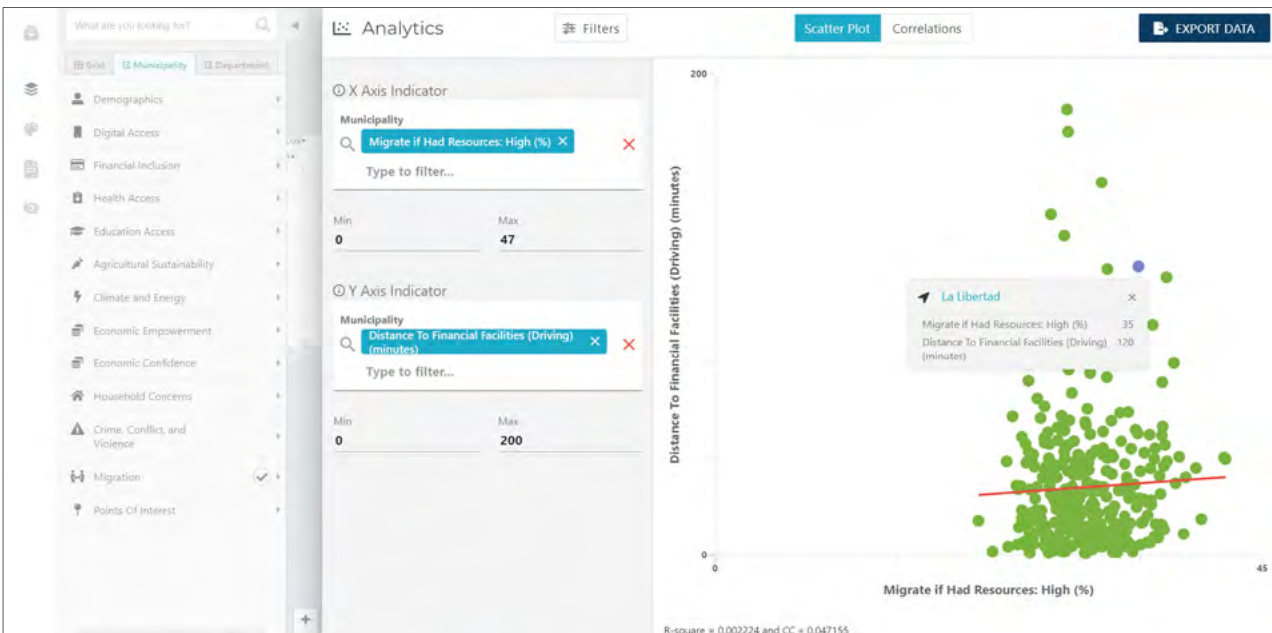
<sup>30</sup> <https://openknowledge.worldbank.org/handle/10986/11843>

<sup>31</sup> <https://www.worldbank.org/en/publication/wdr2019>

The Impact Metrics Dashboard can identify those communities where intervention is most urgently needed. The screenshot below demonstrates how the Dashboard can be used to identify outliers.

FIGURE 11

Local view: Dashboard identifies towns with exceptionally poor access to banking



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

Running this analysis, we find that residents of La Libertad, Guatemala must walk more than 13 hours to the nearest financial institution. And nearly half of adults in the town report a high willingness to migrate. Digital access to banking and the training to use online financial services could help curb migration desires in La Libertad.

## ONE SIZE DOES NOT FIT ALL: Lessons from analyzing four hotspots of migration

The small mountainous town of Joyabaj, with a predominantly indigenous population of around 100,000 people, had 627 migrants sent back by the U.S. during the first six months of 2019 alone. That level of migration is on par with Guatemala City, which has 2.5 million people. Along with the communities of Huehuetenango, San Marcos, and Quetzaltenango, Joyabaj remains one of the most significant hotspots of migration, as measured by number of returnees from the U.S. in 2021.

Most irregular migrants who are returned home have made multiple attempts to cross the border and can be expected to try again, so reintegration policies, support services, and efforts to address drivers specific to local communities can make a big difference.<sup>33</sup>

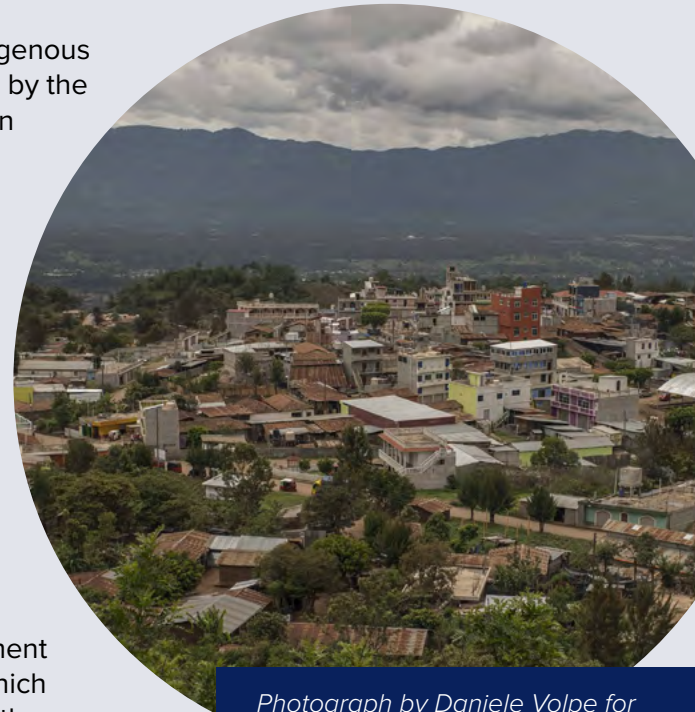
The Impact Metrics Dashboard helps illuminate those local drivers.

In Joyabaj and Huehuetenango, the cost of goods and unemployment were top concerns even before accounting for soaring inflation, which is leading to a hunger crisis that could push even more people north. The malnutrition rate in Joyabaj is already one of the world's highest, at 54% compared to the national level of 44% in Guatemala. Economic prospects are bleak. Some 80% of adults have cash-only employment, most households earn less than \$4,000 annually, and there are no formal access points to financial systems in the municipio. Moreover, over two thirds of adults believe the country's economic situation has gotten worse over the last year, and half believe that it will get even worse over the next year.

By contrast, in San Marcos and Quetzaltenango, while economic concerns still dominate, education ranks as a far more pressing concern than it does in Joyabaj and Huehuetenango. This is not surprising, given that nearly one-quarter of the adult population in those towns lacks any formal education. That's nearly double the rate in Joyabaj and Huehuetenango.

This analysis suggests that PCA members and stakeholders may want to prioritize skills training and education in San Marcos and Quetzaltenango, including as components of economic opportunity and inclusion programs. In Joyabaj and Huehuetenango, by contrast, creating jobs and extending access to financial systems may be the most urgent needs.

**In assessing how best to reach these communities with messages to discourage migration—a tactic frequently used by U.S. government agencies<sup>34</sup>—it will be essential to understand the local information ecosystem.** The radio is an important channel of communication in all four of these communities; in fact, the coyotes who smuggle migrants across the border are known to advertise their services on local radio stations in Joyabaj.<sup>35</sup> TV might be an effective medium in Quetzaltenango, where it reaches 44% of the population, compared to just a third of the population in Joyabaj. Future surveys will enable us to update these numbers in the Dashboard and drill down on access to other information outlets, such as YouTube.



*Photograph by Daniele Volpe for  
The Wall Street Journal*

<sup>33</sup> <https://www.usaid.gov/news-information/fact-sheets/apr-2021-usaid-increases-efforts-address-irregular-migration-el-salvador>

<sup>34</sup> <https://www.cbp.gov/newsroom/national-media-release/cbp-launches-digital-ad-campaign-say-no-coyote-warn-migrants-about>


<sup>35</sup> <https://www.wsj.com/articles/the-guatemalan-city-fueling-the-migrant-exodus-to-america-11563738141>




## A window into Joyabaj Municipio, Quiché Department

### DEMOGRAPHICS

**117,240** total population

 Indigenous Ethnicity  
66%

 Non-Spanish Speaker  
68%

### MIGRATION

**256** returnees from the U.S. in 2021  
(second highest in country)

**37% of adults** express high intent to migrate  
(compared to 31% nationally)

**19% of adults** express high intent to migrate  
in the next six months

### HEALTH

**54%** of children are stunted  
(compared to 44% nationally)

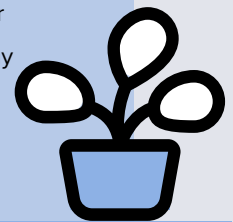
**241 minutes**  
 Average walking time to health facility

### CONFIDENCE IN THE FUTURE

**69% of adults** believe that the country's economic  
situation has gotten worse over the last year

**50% of adults** believe the country's economy  
will get *even worse* over the next year

**60% of households** believe that their  
personal economic situation has gotten  
*worse* over the last year



**FIGURE 12** Local view: Comparing four hotspots of migration

	Joyabaj	Huehuetenango	San Marcos	Quetzaltenango
US Returnees (2021)	256	193	145	220
Population	117,240	115,946	62,834	193,032
<b>Main Concerns</b>				
Costs	37%	42%	31%	27%
Unemployment	19%	19%	12%	19%
COVID-19	17%	13%	18%	17%
Crime	11%	9%	14%	12%
Education	6%	7%	13%	16%
Housing	7%	7%	8%	7%
Other	3%	3%	4%	3%
Costs + Unemployment	56%	61%	43%	46%
<b>Intent to Migrate</b>				
High Intent	37%	34%	39%	34%
Some Intent	15%	14%	15%	13%
<b>Education</b>				
No formal education	12%	13%	22%	24%
<b>Crime</b>				
HH Member Victim	18%	24%	24%	21%
<b>Major media consumption categories</b>				
Radio	33%	39%	39%	44%
Television	30%	39%	36%	44%
Print	19%	25%	24%	33%

# EMPOWERING WOMEN



**Robust, sustained economic growth in the Northern Triangle will require the increased participation of women in the labor force.** As the World Bank noted, “educational and labor market policies that remove barriers and incentivize female labor force participation and education could have significant positive impacts on growth, productivity, and development.”<sup>36</sup>

The countries of the Northern Triangle have a long way to go. Across Central America, fewer than half of all women participated in the labor force before the pandemic, compared to 84% of men.<sup>37</sup> Guatemala had one of the region’s lowest rates of female labor-force participation, at just 41%.

Enabling more women to enter the workforce will require sustained efforts from both the public and private sectors. Key steps include providing high-quality, subsidized childcare and early childhood education; addressing gender norms that often keep women at home; tailoring adult education opportunities, including digital skills and vocational training, for women who may have been out of the workforce for decades; and encouraging employers to prioritize hiring women.

**Countries across the region also urgently require a strong and sustained effort to reduce violence against women.** The entire region suffers from concerns of widespread violence against women—in 2020, 85% of women living in Latin America reported that domestic violence was a widespread problem in their country.<sup>38</sup> Honduras and El Salvador have some of the highest femicide rates in Latin America, and the prevalence of sexual violence is alarmingly high. In El Salvador, a staggering 43% of women report having been the victim of sexual violence in their lifetime.<sup>39</sup>

<sup>36</sup> World Bank Group, Guatemala: Closing Gaps to Generate More Inclusive Growth, 2015

<sup>37</sup> World Bank Group, Guatemala: Closing Gaps to Generate More Inclusive Growth, 2015

<sup>38</sup> <https://news.gallup.com/opinion/gallup/390269/shadow-pandemic-widespread-violence-against-women.aspx>

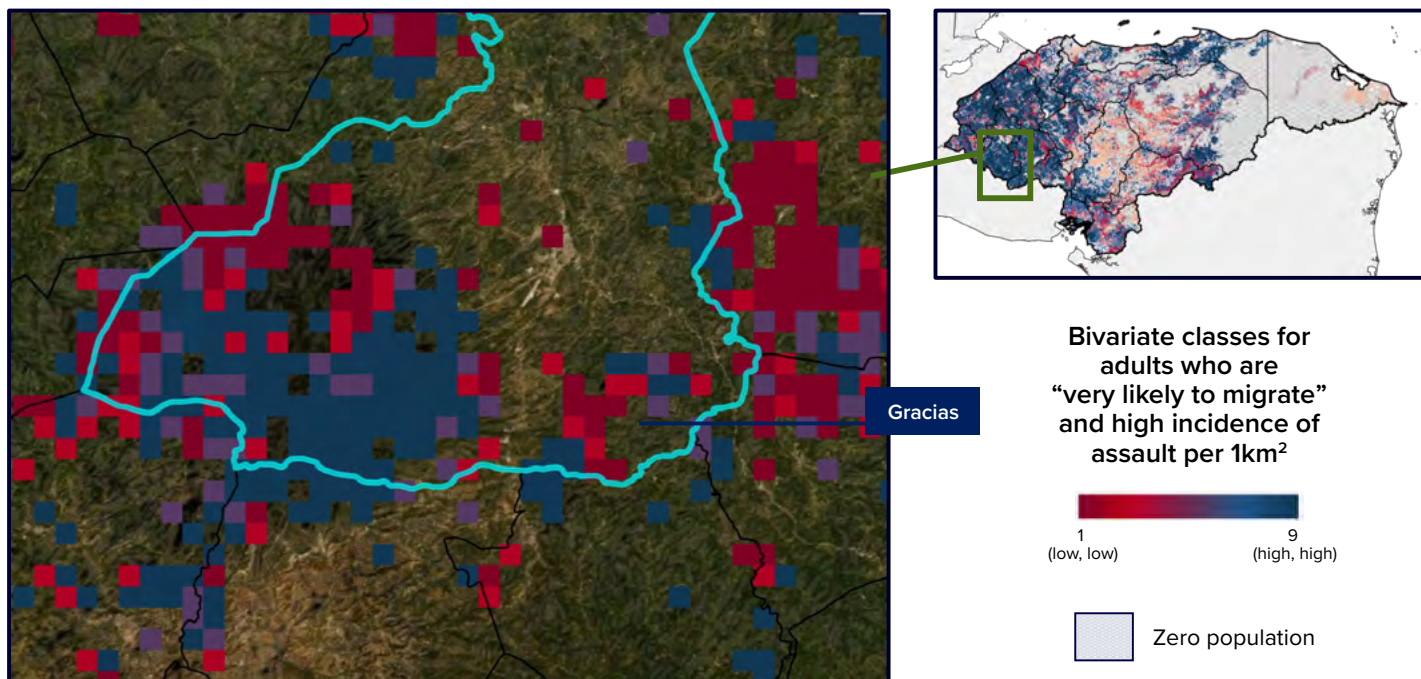
<sup>39</sup> United Nations, “The Pandemic in the Shadows”, [https://www.cepal.org/sites/default/files/infographic/files/21-00792\\_folleto\\_to\\_the\\_pandemic\\_in\\_the\\_shadows\\_web.pdf](https://www.cepal.org/sites/default/files/infographic/files/21-00792_folleto_to_the_pandemic_in_the_shadows_web.pdf)

The Impact Metrics Dashboard highlights hotspots of exposure to personal victimization – a category that includes but is not limited to violence against women. Exposure to victimization is correlated with a high likelihood of migration. One such hotspot in Honduras is the town of Gracias, the capital of Lempira Department, a remote mountainous region in the western part of the country.

FIGURE 13

### HONDURAS: LOCAL VIEW

#### Gracias as hotspot for violence and intent to migrate



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

Regional officials have been striving to boost the local tourism sector in Gracias, touting its hot springs and colonial-era architecture as a draw for both domestic tourists and foreign visitors.<sup>40</sup> Reducing violence and facilitating the participation of women in the workforce could spur development of the local tourism industry while strengthening the sense of rootedness and hope among individuals exposed to violence and victimization.

<sup>40</sup> <https://en.wikipedia.org/wiki/Gracias>

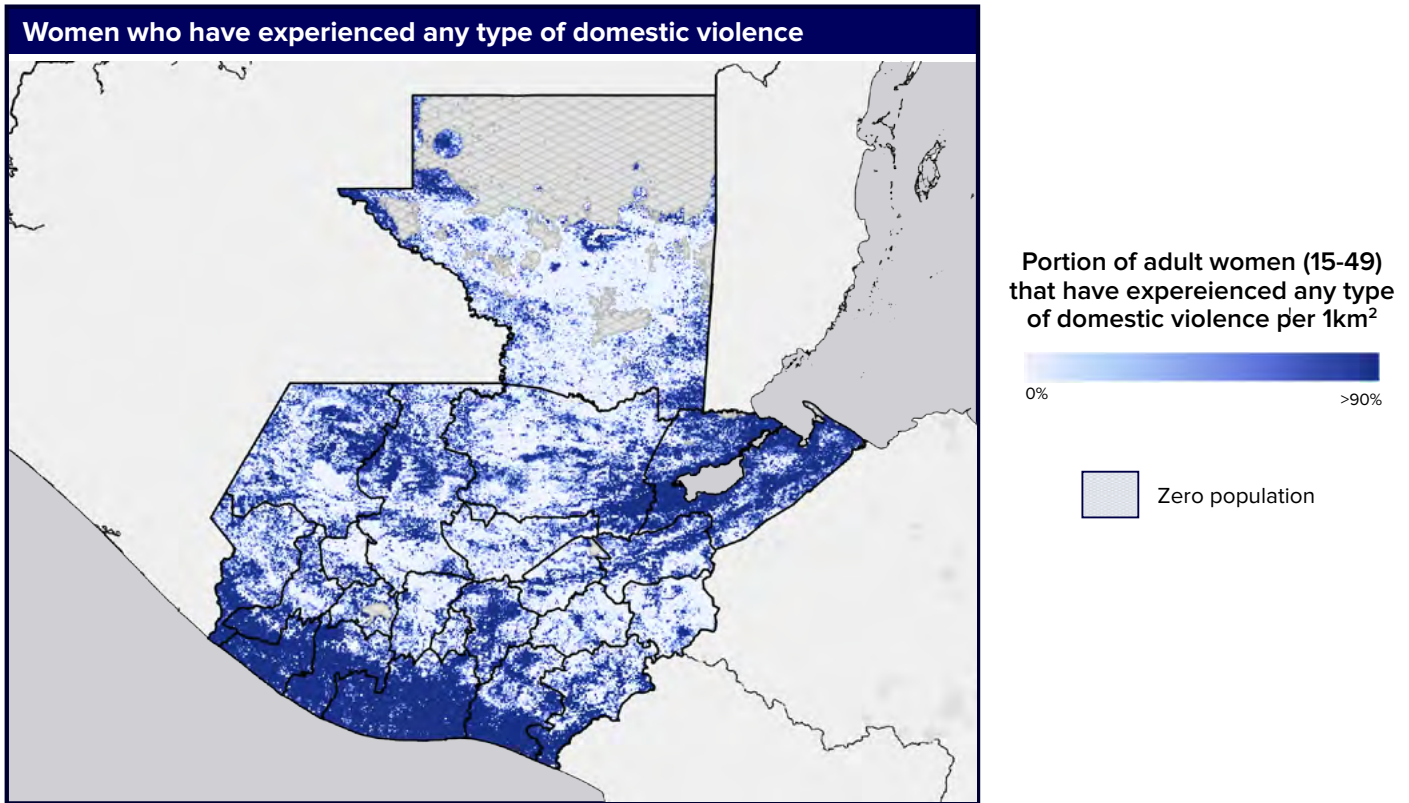


Efforts to improve conditions for women and girls in the Northern Triangle extend far beyond labor force participation. The White House and the PCA have set out clear goals for expanding access to education, health care, and services for women and girls, increasing access to capital and economic opportunity, and improving gender equality.<sup>41</sup> Again, the Impact Metrics Dashboard can be used to identify outliers—for instance, the communities where women and girls are most at risk of domestic violence—so PCA partners can direct interventions to those countries. It is clear that it will take multiple coordinated, localized interventions to improve conditions and nurture rootedness in communities with so many challenges.

FIGURE 14

GUATEMALA: NATIONAL VIEW

Domestic violence a steep concern across southern and eastern Guatemala



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

<sup>41</sup> <https://www.whitehouse.gov/wp-content/uploads/2021/07/Root-Causes-Strategy.pdf>

# CURBING VIOLENCE

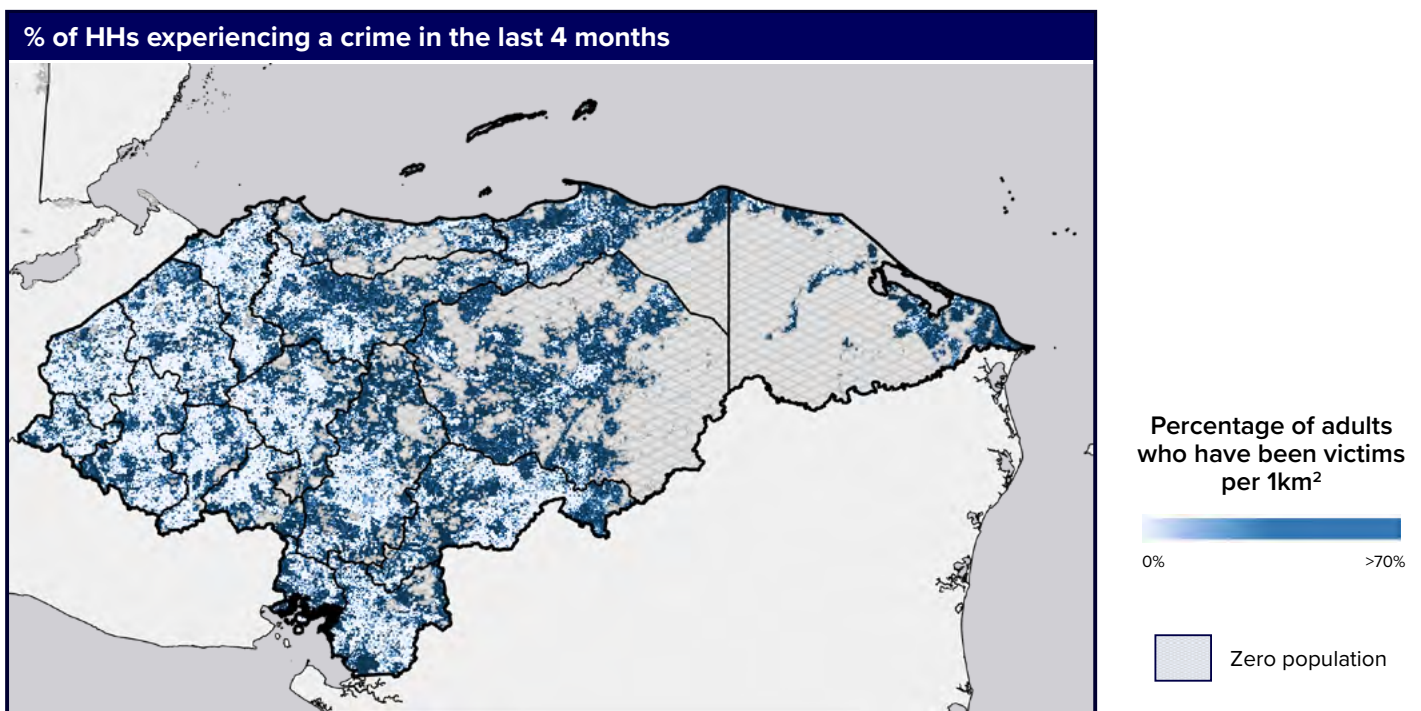
For years, El Salvador, Guatemala and Honduras have had some of the highest homicide rates in the world. Violence is a fact of daily life in many communities.

This map highlights the share of households in various Honduran departments that report being a victim of a crime in the last four months. There are clear hotspots in the north and west of the country, but dark blue patches — representing high concentrations of recent victimization — speckle the entire country.

FIGURE 15

## HONDURAS: NATIONAL VIEW

Recent victimization weakly correlated with migration intent

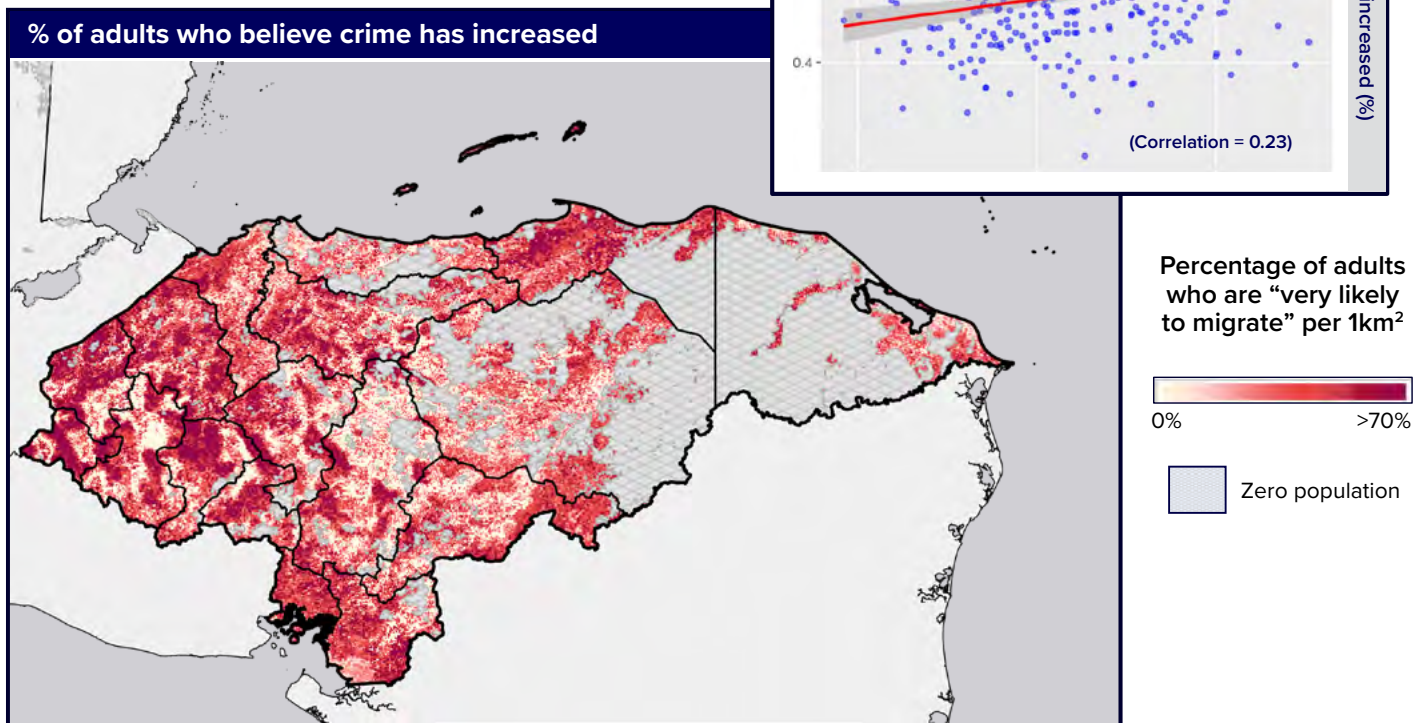
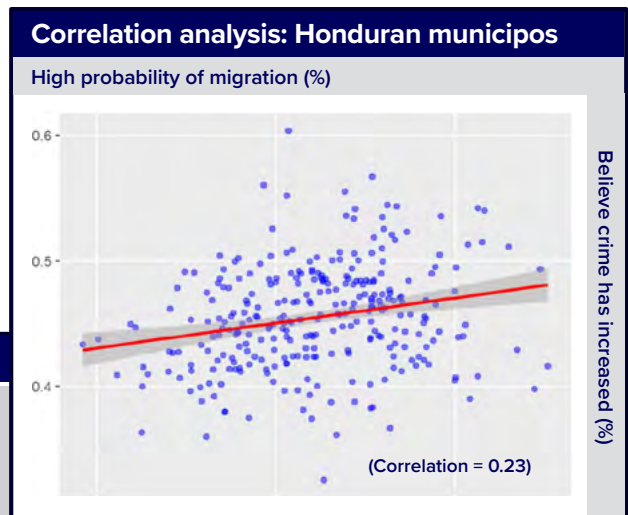


Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

Looking at a different measure, the perception of rising crime appears to be a more important factor in driving intent to migrate than personal victimization. **A ring of fearfulness, where a great many adults perceive crime to be increasing, stretches around the country's borders, with diminished fear in the center of the country, around the capital of Tegucigalpa.**

FIGURE 16

HONDURAS: NATIONAL VIEW  
Perception of rising crime more firmly correlated with migration intent



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

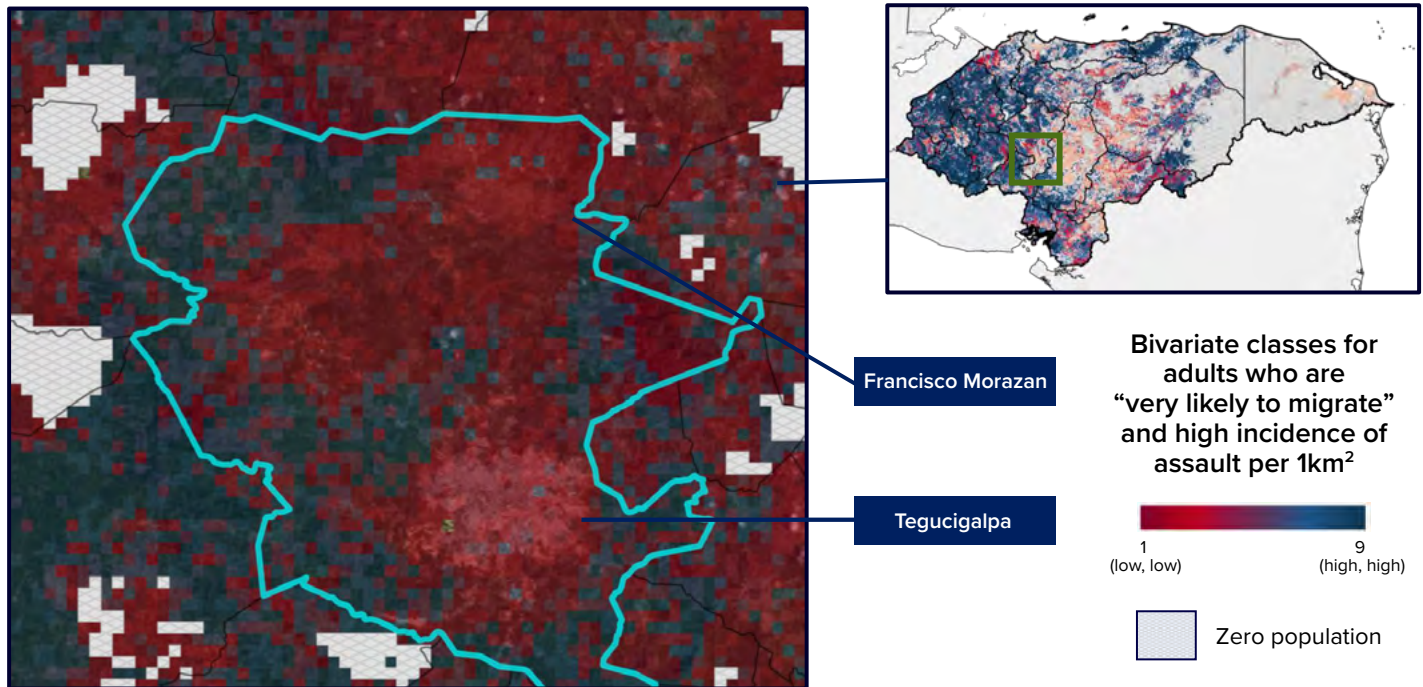


Zooming in still closer, we can see a similar dynamic at play in the Department Francisco Morazan, with fear and intent to migrate (correlated in dark blue) rising in tandem with distance from Tegucigalpa.

FIGURE 17

HONDURAS: LOCAL VIEW

Perception of rising crime drives intent to migrate in Department Francisco Morazan



Source: Fraym, CID Gallup 2021/2022, Harvard T.H. Chan School of Public Health, ESRI

While cracking down on violent crime and corruption throughout the Northern Triangle remains essential, the insight that the *perception* of rising crime, rather than firsthand recent experience with crime, drives intent to migrate at the subnational level could point to opportunities for public education to help residents overcome their fears.

As noted previously, we plan to expand the Impact Metrics Dashboard to provide detailed insights about the information ecosystems at subnational levels, including the most favored traditional media outlets and social media platforms in each community. It provides a wealth of local demographic data as well. **Tailoring a public education campaign to the specific contours of each community could help drive down the perception of crime and lower intent to migrate.**

# NURTURING ROOTEDNESS AND HOPE



The Northern Triangle countries have long histories of political and social fragmentation driven by conflict, violent crime, corruption, ethnic discrimination, and economic exploitation. Inequality is deep and entrenched, with indigenous and rural communities facing especially acute marginalization.

These nations also have among the highest rates of corruption in the world. On Transparency International's annual index assessing perceptions of corruption in 180 countries, El Salvador ranks 115th, Guatemala 150th, and Honduras 157th.<sup>42</sup> The perception and reality of corruption are a major barrier to international investment. Corruption also undermines social trust, making it much harder for local citizens to feel rooted in their communities or to have any hope for the future. Accessing municipal services, starting a small business, even ensuring the safety and well-being of one's family can feel impossible when corruption flourishes.

Nurturing rootedness will require tackling all those issues, with strategies that should vary based on the primary drivers of migration in each community.

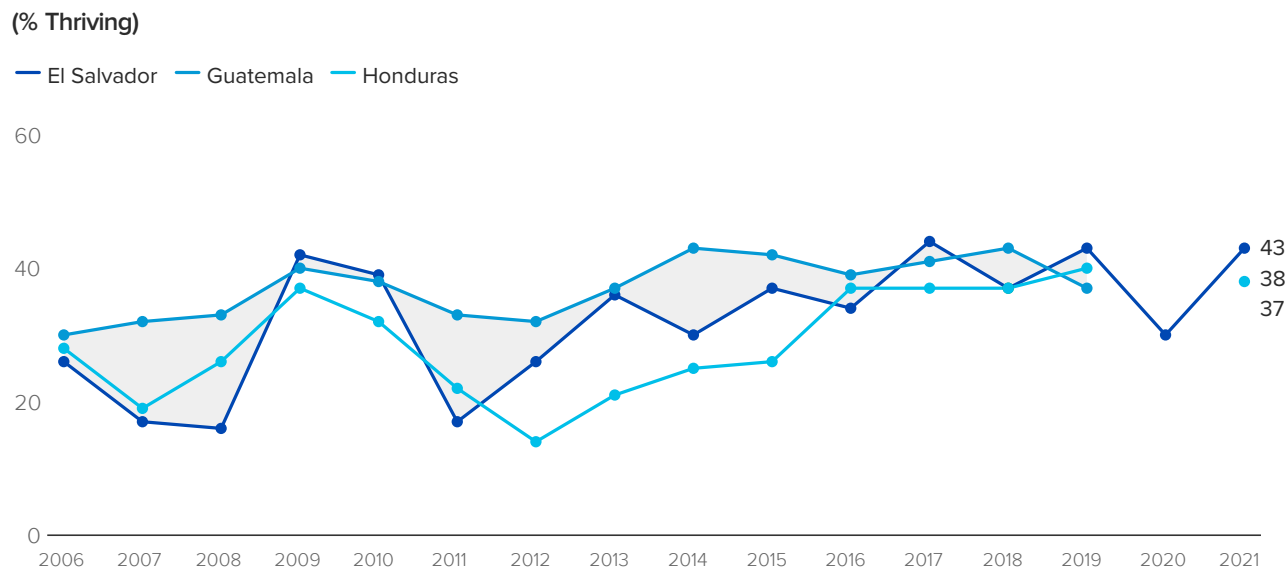
**To assess progress, it will be crucial to regularly survey residents on qualitative measures of well-being and use our AI/ML approaches to transform these survey data into actionable community-level insights.** Gallup asks people to imagine a ladder, with the lowest rung representing the worst possible life and the highest rung representing the best possible life. People rate where they stand today and where they expect to stand in five years. These simple questions capture a wealth of complex emotion, and the first part — asking people to rate their lives today — has proved to have remarkable predictive power.

<sup>42</sup> <https://www.transparency.org/en/cpi/2021>

Again and again, in disparate parts of the world, a sudden drop in life satisfaction has been followed by political and societal tumult, even when more traditional metrics of a society's progress, such as GDP growth, have been positive.

Gallup has been asking respondents in the Northern Triangle region to evaluate their lives on the 0-10 scale for more than a decade. The fluctuations are plotted below.

**FIGURE 18** — Life evaluations in the Northern Triangle



By asking this question more regularly and then applying the ML/AI approach to develop community-level data, we expect to give policy makers, civil society leaders, and private investors an essential window into the civic stability of individual communities. **Fluctuations in the responses could help predict migration hotspots. And cross-referencing the data from respondents' self-evaluations of their lives with the wealth of other data in the Dashboard will yield invaluable insights about the drivers of discontent.**

Regularly asking the second part of the survey question, which asks respondents to predict how their life will be going in five years, will give us an important metric for assessing our progress in nurturing hope and rootedness.



# NEXT STEPS

## AMPLIFYING THE DASHBOARD'S IMPACT



Throughout this report, we have emphasized the importance of pairing a robust job creation strategy with investment in human capital, and we have underscored the importance of targeting interventions based on localized data correlated across key metrics. The Impact Metrics Dashboard allows us to surface insights not only about the most vulnerable communities, but also about the best strategies for addressing those vulnerabilities at scale and with the greatest efficiency.

And we're just getting started. Over the next year, as we secure additional funding, we aim to expand the Impact Metrics Dashboard by:

- » **Implementing regular polling throughout the Northern Triangle** to obtain detailed outcome, attitudinal, and behavioral data on an ongoing basis. We will apply AI/ML to transform this regular polling data into community-level insights at the 1km<sup>2</sup> level that will directly inform where and how PCA partners and other key stakeholders can maximize their impact.
- ⊕ **Leveraging rolling surveys to support the goals of PCA partners**  
A partner seeking to build a manufacturing plant in Guatemala, for instance, might wish to obtain detailed local data on literacy rates, computer skills, English comprehension, or other metrics to help guide the decision on where to locate. An NGO working on gender equity might seek specific questions on the status and support networks of women and girls in a particular department (an administrative unit analogous to a U.S. state). Up-to-date survey data will provide the analytical basis for sound decisions.
- ⊕ **Developing questions that assess the “pull” factors for migration**  
In addition to the domestic “push” factors described in this report, external “pull” factors can encourage citizens to migrate abroad. However, little research into these factors has been conducted. Through expanded surveys, we will aim to gather data on key metrics such as the presence of friends and relatives in other countries, the frequency of communication with those friends and relatives, the types of information consumed about the respondent's home country and their potential migration destination, the source and volume of remittances from abroad, etc. (Privacy for these respondents will be carefully protected; our survey methodology exclude any personally identifiable information and strictly protects the anonymity of all respondents.) Information on “pull” factors could provide a rich vein of data to inform public policies and private-sector investment decisions.

- » **Tracking and reporting progress** will be vital to measure the impact of interventions and integrate lessons learned into new initiatives.
- ⊕ **Analyzing the cost of inaction.** We will develop methodologies for assessing the cost of failing to address root causes of hopelessness in the region, including an increase in high-risk migration, the loss of crucial local talent via “brain drain,” the further destabilization of civic society, and other key issues.
- ⊕ **Creating a rootedness index.** This index will include various factors known to drive migration, including hope for the future. In effect, it will be a single quantitative metric for “rootedness.” This index, which could be applied at the regional, national, and subnational levels, would provide the White House, PCA, and local governments in the Northern Triangle with advance notice of future increases in the likelihood of migration from emerging hotspots.
- ⊕ **Designing a scorecard.** This will allow public officials, private investors, and civil society leaders to easily assess progress on all core development and performance metrics. This scorecard will be delivered through an easy-to-use business intelligence Dashboard at the national level, the subnational level (department and municipio), and in the largest migration hotspots in each of the three Northern Triangle countries.
- ⊕ **Conducting impact evaluations.** These will assess the performance of select PCA investments and initiatives across multiple metrics and desired outcomes. These impact evaluations will be a critical tool to ensure the efficiency of future investments.

These actions will apply the most cutting-edge data analysis, polling, and visualization techniques to maximize the impact and efficacy of the PCA. As we continue to upgrade its functionality, the Impact Metrics Dashboard will help ensure that the biggest public-private-academic partnership in the history of the United States effectively advances the goals set out in the U.S. Strategy for Addressing the Root Causes of Migration in Central America.



# ABOUT THE TEAM

The Impact Metrics Dashboard is a collaboration between the Harvard T.H. Chan School of Public Health, Fraym, and Gallup.

- » **Harvard Chan School** does this work through the **Reform for Resilience Commission**, a global policy group committed to generating policies and tools for building healthier, more economically resilient societies at the regional, national, and local levels.
- » **Fraym** is a U.S. certified small business that produces foundational data about people, their attitudes, and their actions at a neighborhood level across the world. Fraym's artificial intelligence and machine learning (AI/ML) technology transforms ordinary household survey data into census-like spatial data across an entire country at the level of individual neighborhoods, down to 1km<sup>2</sup>. This gridded data can be seamlessly aggregated into any geographic unit and visualized on the user-friendly Dashboard.
- » **Gallup** brings decades of experience managing large, representative surveys worldwide while maintaining the highest standards of data integrity. The Gallup World Poll has generated important initial proof of concept data for the Impact Metrics Dashboard; new focused surveys will expand data collection and may seek to answer specific questions from PCA partners.

This work is conducted as part of the **Partnership for Central America (PCA)**, an independent organization that serves as a coordinating body of Vice President Harris's Call to Action to support economic development in the Northern Triangle. The PCA works in collaboration with governments, nonprofit groups, and private philanthropy to mobilize and coordinate investments and to ensure those investments have a measurable and sustained impact on underserved populations in El Salvador, Guatemala, and Honduras.

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