CENTRAL AMERICAN FOOD SECURITY OUTLOOK

SECOND QUARTER 2025

APRIL 2025

ACTION AGAINST HUNGER

CONTENT

I. SUMMARY ANALYSIS

1. FOOD SECURITY IN BIG FIGURES

According to the latest Integrated Food Security Phase Classification (IPC) analyses published in Guatemala (August 2024) and Honduras (April 2025), it was projected that between March and May 2025, 16% of the Guatemalan population (2,828,186 people) would be in phases 3 and 4 of food insecurity. In the case of Honduras, the projection for April and July 2025 is that 17% of Hondurans (1,734,314 people) will be in a situation of food insecurity. Although significant, these figures reflect an improvement over the situation assessed by the CIF at the height of the pandemic between late 2020 and early 2021, a period that also coincided with the impact of hurricanes Eta and Iota in large areas of both countries (CIF-GT, agosto 2024; CIF-HN, abril 2025).

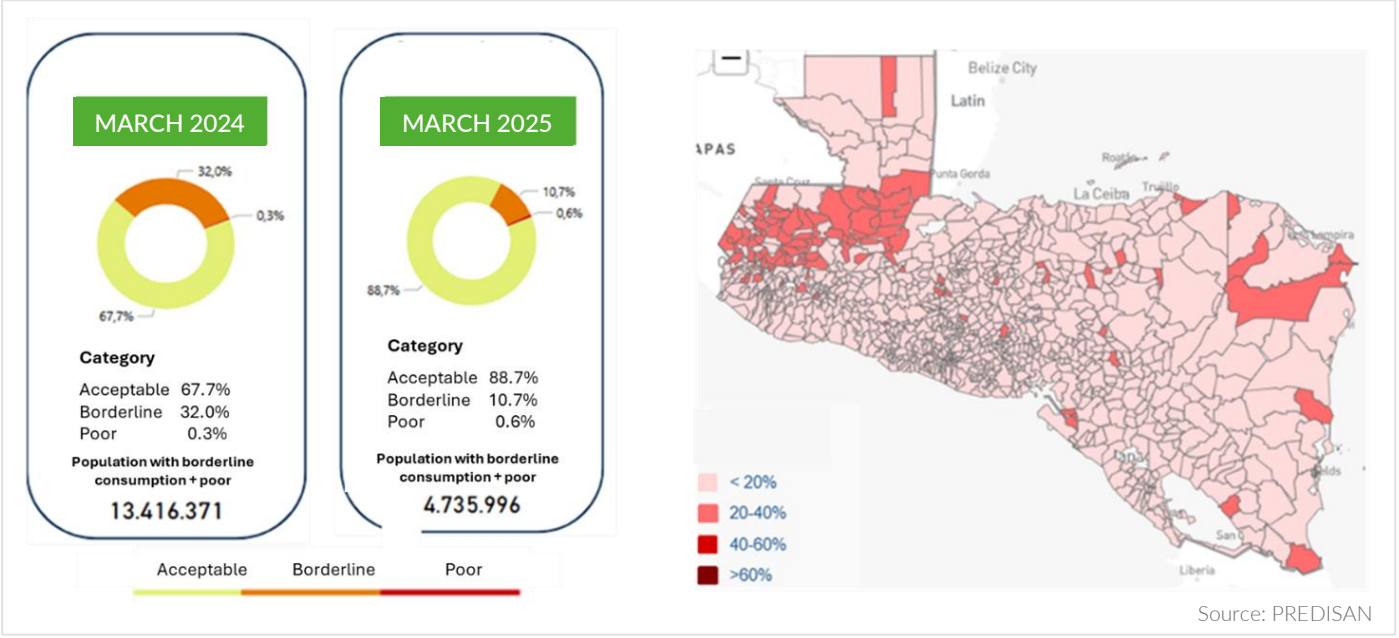
The **Food Consumption Score** (FCS) is a widely used indicator to measure the quality and diversity of household diets. It is calculated using a score that considers the frequency of weekly consumption of different food groups and their relative contribution to nutrition (weighted by nutritional value). The FCS allows households to be classified into categories such as "poor", "limited" or "acceptable", according to their access to adequate food. This indicator is key to monitoring the food situation at household, territorial and country levels, as it provides a rapid and standardized assessment of food conditions. In the framework of the **Integrated Food Security Phase Classification** (IPC) analysis, the FCS is used to complement other data, helping to characterize the severity of food insecurity in a population. FCS is one of the indicators monitored by PREDISAN, and monthly forecasts or nowcasting are made for all Central American departments and municipalities.

PREDISAN is a system that compiles, analyses and synthesizes massive data related to food security in Central America. PREDISAN allows for ***nowcasting,*** a technique that combines real-time data and statistical models to estimate the current state of a phenomenon, in this case food security, when official sources are not available, or it is too expensive to carry out periodic monitoring.[1] PREDISAN leverages satellite information, primary survey information, non-conventional data sources such as mentions in published news stories or social media, and even conflict records, to model food insecurity. Using tools such as natural language processing and regression models, PREDISAN can identify current trends in food insecurity with high accuracy and in a variety of regional contexts.

A comparison of the prediction results provided by PREDISAN, between March 2024 and March 2025, shows a significant decrease in the number of people in the four countries who are in a situation of poor or borderline food consumption (see Figure 1a).

Figure 1a. Evolution between March 2024 and March 2025 of the number of people in Central America (GT, HN, SV, NI) with poor or borderline food consumption according to the FCS indicator.

Figure 1b. Prediction map (nowcasting) of the percentage of the population with borderline or poor food consumption (FCS) produced by PREDISAN using machine learning for Central American municipalities for March 2025.



From the archive to the algorithm: how PREDISAN transforms past surveys into food forecasts

To predict the Food Consumption Score (FCS) indicator in March 2025, PREDISAN integrates more than **100,000 household food security surveys** conducted by Action Against Hunger, NGOs, public entities, and international organizations over the last five years, using standardized variables and indicators. In this way, through machine learning techniques, value is added to data that would otherwise have been archived once the reports to which they gave rise were published. As future databases from new surveys are added, the accuracy and predictive power increase in a process of continuous improvement.

According to estimates made by PREDISAN for March 2025 (see nowcasting map in Figure 1b), food insecurity problems in Central America are concentrated in Guatemala, and more specifically in the central (Alta Verapaz) and western areas of Guatemala (Quiché, Huehuetenango and San Marcos). In Nicaragua, the Northern Caribbean region (RACCN) stands out for its greater food vulnerability.

RECENT EVOLUTION OF FOOD SECURITY VARIABLES/DRIVERS MONITORED BY PREDISAN

PREDISAN conducts regular (monthly and annual) monitoring of dozens of variables that drive food security, allowing us to anticipate trends or potential impacts, both positive and negative, in the coming months based on previous events. This trend analysis is especially useful following the temporary suspension of FEWSNET operations, as it complements other analytical tools, such as machine learning, whose results for March 2025 are shown above in Figure 1. Below is a summary of the results obtained with a selection of monitored variables, incorporated into this first food outlook report for the second quarter of 2025.

Table 1. Summary of recent developments in certain variables/determining factors of food security monitored by PREDISAN

FOOD SECURITY DRIVERS		OUTLOOK FOR 2Q 2025
AGROCLIMATIC		
	Standardized Precipitation Index (SPI)	
	Enhanced Vegetation Index Anomaly (EVIA)	
	Agricultural production	
	Impact of disasters and extreme weather events	
ECONOMIC		
	Prices of staple foods	
	Inflation	
	International coffee price	
	Exchange rate	GT / HN, NI
SOCIAL AND CONFLICT		
	Public spending	
	Official Development Assistance (ODA)	
	Remittances	
	Violence and conflict	

CAPTION

Variable with very positive evolution (z-score >1)
Variable with positive evolution (0.25<z-score <1)
Variable with negative evolution (-1<z-score<-0.25)
Variable with very negative evolution (-1<z-score)
Variable with evolution similar to the historical series average (-0.25<z-score<+0.25)

In general terms, at the end of the first quarter of 2025, the factors that have the greatest impact on food security in Central America have shown a favorable performance, particularly in: i) the containment of food prices; ii) the positive results of an agricultural season in 2024 that has been close to historical averages, especially in Guatemala; iii) a more humid period and therefore more favorable for agriculture and livestock in recent months; iv) as well as an international coffee price well above the historical average, which favors the income and economy of large rural areas of Central America. However, there are some variables that will have to be considered in the coming months due to their potential negative impact on food security. Among these factors is the impact of migration policies in the region and a possible reduction in the arrival of international remittances, something that could be particularly relevant in the case of Nicaragua, a country that in the last two years had seen a notable increase in the number of migrants (93,000 people) who obtained permission to reside and work in the US, which was revoked in March 2025, and could force their return. Another element that has had an adverse effect has been the continued depreciation of the Honduran and Nicaraguan currencies, which makes the purchase of imported agricultural inputs more expensive, although it benefits families who depend on remittances for their livelihoods. The cancellation of many USAID projects in the region, and the decrease in other countries' Official Development Assistance (ODA) budgets, is also expected to have a negative impact on some of the region's most vulnerable rural areas, such as the departments of Alta Verapaz and Huehuetenango in Guatemala and the western region of Honduras.

2. RECOMMENDATIONS

The beginning of 2025 offers a relatively favorable scenario in Central America compared to previous years: more stable food prices, better agricultural conditions and a reduction in recent extreme weather events. This temporary decrease in pressure on vulnerable households represents a strategic opportunity that should be seized. It is precisely in times of relative stability that countries can, and should, strengthen their preparedness, social protection, productive resilience and food governance systems. The following recommendations seek to guide concrete actions to consolidate progress, close structural gaps and anticipate more effective responses to future crises that, by their cyclical nature, will continue to impact the region.

GOVERNANCE, COORDINATION AND EVIDENCE-BASED PLANNING

- Under the leadership of the Secretariat of Food and Nutritional Security (SESAN) in Guatemala and the Food Security and Nutritional Unit (UTSAN) in Honduras, promote the revision and updating of national seasonal hunger mitigation plans, incorporating predictive and anticipatory approaches, as well as geographic and population targeting criteria.

- Promote local action plans adapted to communities, led by Community Development Councils (COCODEs) in Guatemala and such community committees (patronatos) in Honduras, aligning municipal, national and international cooperation resources.

- Foster institutional exchanges between national and regional entities to share good practices in food resilience.

- Encourage the participation of different public, private and civil society entities in inter-institutional coordination spaces such as the National Councils for Food Security and Nutrition (CONASAN) that operate in countries of the region, as well as in their departmental and municipal equivalents.

- Strengthen the food security forecasting committees operating in the various Central American countries, together with the crop monitoring systems in Guatemala and the agroclimatic committees in Guatemala and Honduras, as well as efforts related to the periodic determination of the Integrated Phase Classification (IPC) of food security, encouraging specialized organizations to share the evidence they have in these spaces for technical debate and consultation.

ANTICIPATORY AND ADAPTIVE SOCIAL PROTECTION

- Establish cash transfer systems (conditional, unconditional and for work) as a preventive response to periods of seasonal hunger, prioritizing households with food gaps and difficulties in accessing health services.

- Use the experience gained from the operation of preventive response strategies and programs to periods of seasonal hunger as the basis for more efficient and timely design and operation of response plans to food crises triggered by sudden-onset events or linked to slow-onset crises such as droughts.

- Promote access of extremely insecure food households to national social protection programs, through personalized counselling, as well as complementary care or in the absence of alternatives carried out by civil society organizations.

NUTRITIONAL PREVENTION AND EARLY CARE OF ACUTE MALNUTRITION

- Strengthen active and passive nutritional surveillance to identify cases of acute malnutrition in children under five in a timely manner, integrating health information systems at national and local levels.
- Ensure coverage of critical interventions during the "1,000-day window", including promotion of breastfeeding, appropriate complementary feeding, micronutrient supplementation and deworming.
- Implement standardized, evidence-based acute malnutrition management protocols, ensuring outpatient treatment in communities and access to therapeutic foods where needed.
- Strengthen school feeding programs that meet at least a significant fraction of the daily energy and nutrient requirements of school-age children.
- Promote sustainable access to safe water and basic sanitation in vulnerable communities as a key measure to prevent diarrheal diseases and improve child nutritional status.
- Integrate food assistance and conditional cash transfers as mechanisms to support families with children at risk of acute malnutrition, prioritizing the most vulnerable areas.

INCOME GENERATION AND PRODUCTIVE RESILIENCE

- Support public programs for productive supply (seeds, tools, fertilizers) and agricultural insurance in the face of extreme weather events and/or market crises, promoting complementarity with efforts promoted by civil society organizations.
- Promote resilient practices such as water harvesting, agroforestry, participatory plant breeding and soil conservation in territories with high climate vulnerability.

PREDICTIVE ANALYTICS AND MONITORING

- Public and civil society entities are linked to food security to carry out continuous monitoring of agro-climatic, economic and social variables in their areas of influence, according to internationally accepted common standards.
- Promote, based on open initiatives such as PREDISAN, the exchange and sharing of information on factors affecting food security, as well as on food and nutrition security performance indicators, thus providing a basis for consensus-based forecasts within the framework of IPC analysis and the implementation of early action in the face of potential food crises.
- Ensure access to information processed by local and national authorities, academia and civil society, fostering a culture of prevention and preparedness for adverse events that threaten food security.
- In the event that FEWS NET does not function in the region or in certain countries, national monitoring committees should be formed with the support of international entities to jointly produce agricultural production projections and food security forecasts on an ongoing basis.

II. DETAILED ANALYSIS

1. WHO FACES THE GREATEST FOOD HARDSHIP IN CENTRAL AMERICA?

The Central American households that most frequently face food shortages reside in rural areas, are dedicated to the cultivation of basic grains (maize and beans) and complement their precarious economy with temporary work as day laborers (harvesting coffee, sugar cane, bananas, etc.). Approximately 1.68 million households are engaged in staple grain production (8.4 million people), most of whom are chronically food insecure, aggravated by recurrent crises caused by extreme weather events and socio-economic and political crises. These households tend to have few assets (less than 1 hectare of land, often located on stony slopes with little agricultural vocation), only have basic tools (machetes, shovels, hoes), and are therefore in a very precarious situation in the face of phenomena such as droughts, extreme rains and variations in food prices.

Most households engaged in subsistence farming of basic grains in Central America are in Guatemala (935,000) (FAO, 2024) and Honduras (240,000) (FAO, 2023). No official updated figures are available for El Salvador nor Nicaragua, although 243,000 and 261,000 subsistence[1] farming households respectively can be used as a reference. At least 65% of these households are chronically food insecure (Alpizar, et al IFPRI 2023, FAO 2024), equivalent to approximately **5.5 million people.** This is the population group that should be the focus of food and nutrition security monitoring efforts, as well as the implementation of measures to help mitigate and overcome their situation of vulnerability and exclusion.

[1] In the absence of updated national statistics, to estimate the number of households engaged in basic grains production, the figures compiled by Baumeister (2010) have been used, and then adjusted to take into account the percentage decline in population employed in agriculture between 2010 and 2022, using standardised World Bank statistics; a 25% decline in the case of El Salvador and 9.68% in the case of Nicaragua.

UNCERTAIN TRUCE AFTER FIVE YEARS OF FOOD CRISES DUE TO DIFFERENT CAUSES

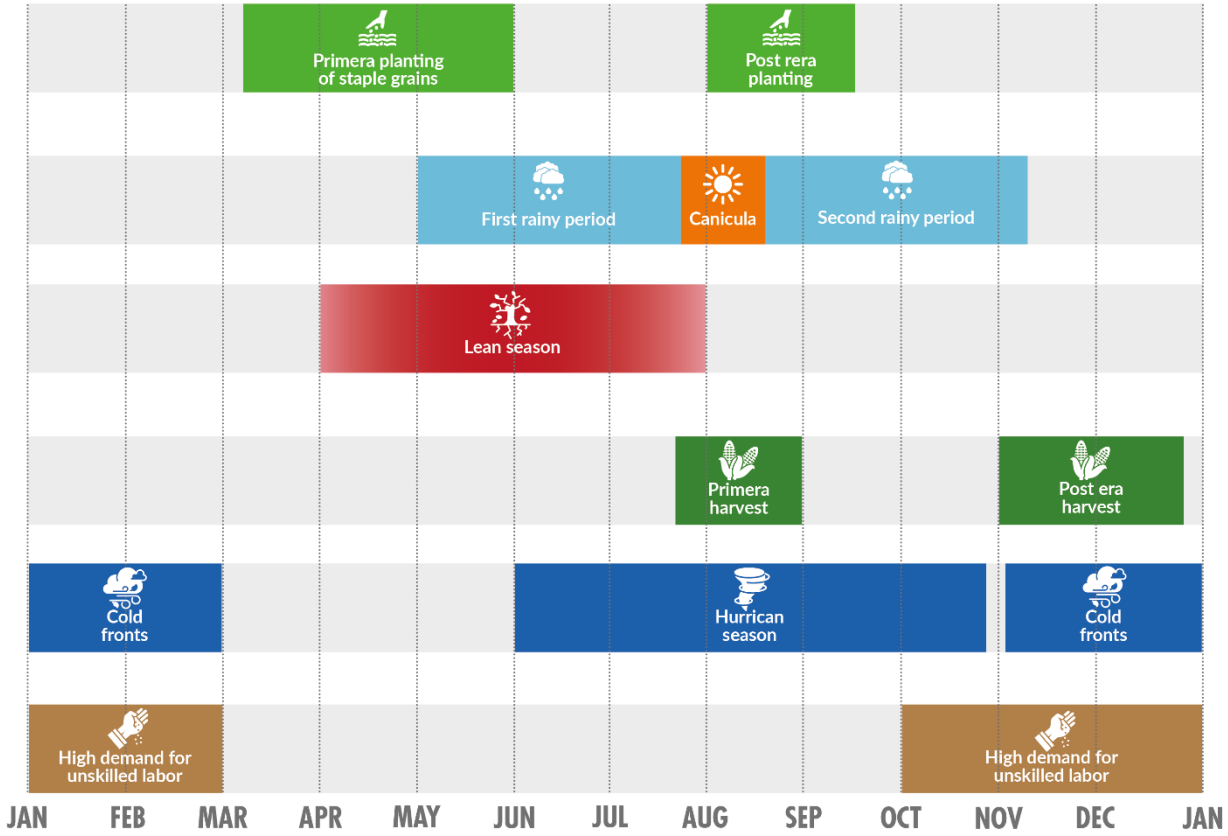
In the community of La Ceiba, in the mountains of the municipality of Jocotán (Chiquimula, Guatemala), Doña Josefina faces the daily challenge of feeding her three children. This single mother relies on odd jobs to survive, while her eldest son, forced to drop out of school, tries to contribute to the family economy with odd jobs as a day laborer. Doña Josefina recalls with unease the time of the COVID-19 pandemic, when work was scarce, income vanished and government aid, promised but never delivered, seemed like a mirage. Bureaucracy proved to be an insurmountable wall for someone like her, who never fully understood the requirements for accessing cash transfers. The health crisis was followed by droughts, such as the one in 2023, when the small plot of maize and beans withered. Desperation led her eldest son to consider migrating to the United States, but Doña Josefina managed to dissuade him, fearing the dangers of the journey. Today, the news heard on the radios of neighboring houses about a word never heard before, tariffs, stirs in her the fear of new price hikes, as already happened in 2022, when a distant war in Europe made oil and chicken almost unaffordable.

2. WHEN IS THE FOOD SITUATION MOST DIFFICULT?

In Central America, agricultural seasonality and access to employment strongly condition the food security of rural populations. Each year, households producing basic grains (mainly maize and beans) face a critical period known as the "lean season", which runs from April to August, coinciding with the phase between planting and harvesting, when food reserves are depleted and incomes fall. During these months, food prices rise, and the supply of temporary agricultural employment is reduced, especially at the end of the coffee harvest, exacerbating vulnerability. From September to December, with the main crops available, there is a temporary improvement in food availability and access. Dependence on subsistence agriculture, highly exposed to climatic phenomena such as droughts and erratic rains, accentuates crop failures and limiting access to food. Thus, food insecurity is not only the consequence of a single bad production, but of a

predictable annual cycle that puts the food and nutritional well-being of thousands of families in the region at risk. It is this predictability that also allows government institutions, communities, families and NGOs to put in place cost-effective measures to help mitigate and even prevent food insecurity.

Figure 2. Seasonal agricultural and food security calendar in Central American countries.



Source: Own elaboration based on SESAN

3. HOW HAVE THE EXTERNAL FACTORS THAT MOST INFLUENCE FOOD SECURITY EVOLVED IN 2024 AND AT THE BEGINNING OF 2025?

Food security is a multidimensional phenomenon that depends both on factors internal to the households described in the previous section, as well as on external variables that condition the possibilities of access, availability, utilisation and stability of food. Among the most important of these variables are:

Agro-climatic variables: Climatic conditions, such as rainfall, temperature extremes and natural phenomena, have a significant impact on agricultural production and food stability. Indices such as AEVI (Anomaly Enhanced Vegetation Index), NDVI (Normalised Difference Vegetation Index) or SPI (Standardised Precipitation Index) allow the health of crops and the capacity of ecosystems to sustain agricultural production to be assessed.

Economic variables: Economic growth (or lack thereof), GDP per capita, employment, food prices, ease of doing business, inflation, remittances or poverty rates are variables that impact food security of the most vulnerable households. Increases in the cost of essential food items make them more difficult to access for the most vulnerable populations. These price distortions may be due to inappropriate economic measures taken by the government of the country under analysis or be caused by disruptive global events such as the 2008 financial crisis, the COVID19 pandemic or the war in Ukraine that started in 2022.

Social Variables and Conflict: Socio-political crises and internal conflicts generate population displacement, disrupt livelihoods and decrease access to basic resources, directly affecting the food security of affected communities. They also increase vulnerability by disrupting supply chains and limiting access to markets. In this block of variables, we also include public investment in social protection or remittances sent by the country's migrants abroad, as these remittances constitute the basic sustenance of thousands of families in the absence or weakness of other safety nets.

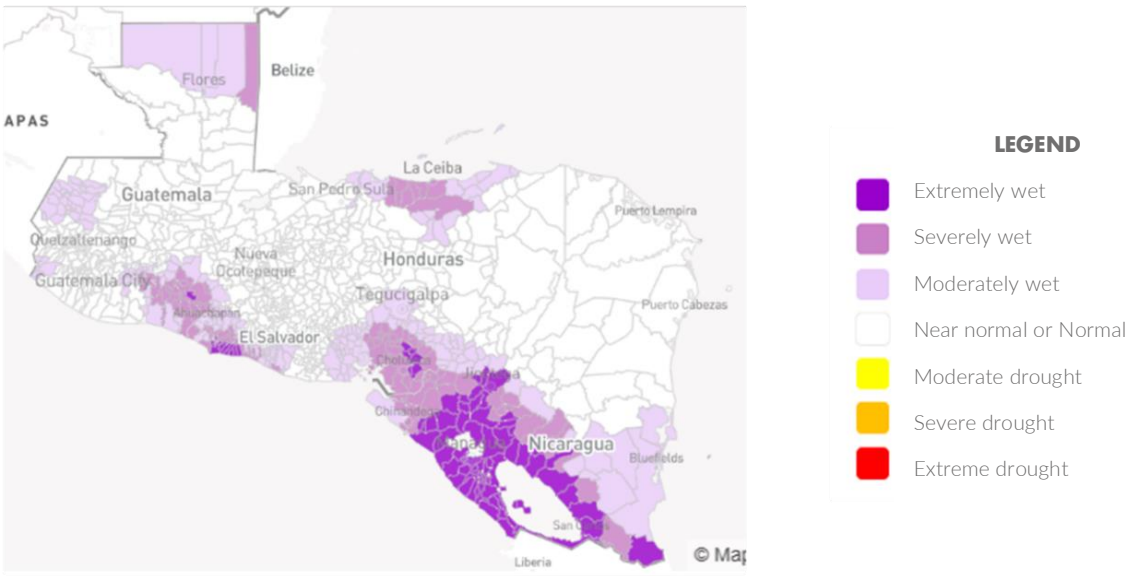
The z-score is a statistic that indicates how many standard deviations a value is from the average of a historical series. It allows identifying anomalies, both positive and negative, in the analyzed data. PREDISAN uses this tool to easily monitor multiple monthly variables related to food security, detecting significant variations that could anticipate risks or crises, and facilitating a timely response based on objective evidence.

The results of the monitoring of these variables provided by PREDISAN are shared below.

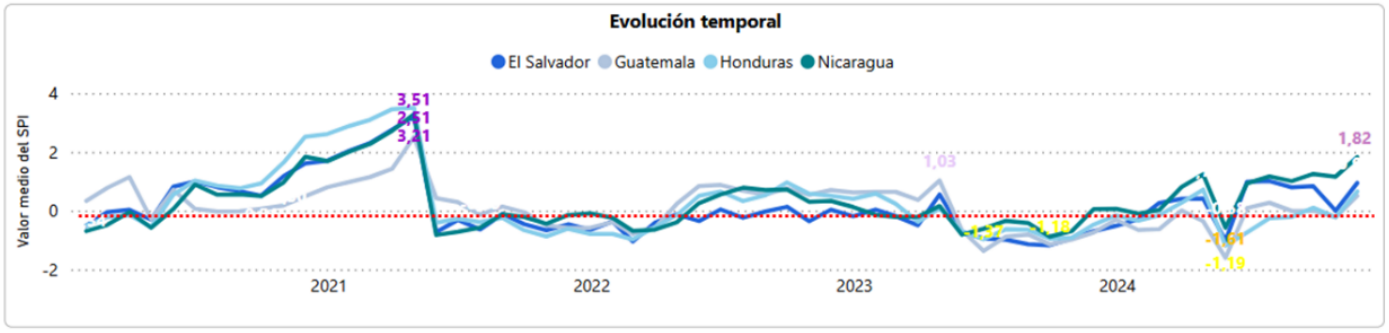
3.1 AGRO-CLIMATIC VARIABLES

Standardized Precipitation Index (SPI); a metric that evaluates deviations in accumulated precipitation from the historical average, allowing the identification of anomalies such as droughts or excess rainfall in each period.

Figure 3. SPI for 6 months covering the rainy season in Central America (June-November 2024).



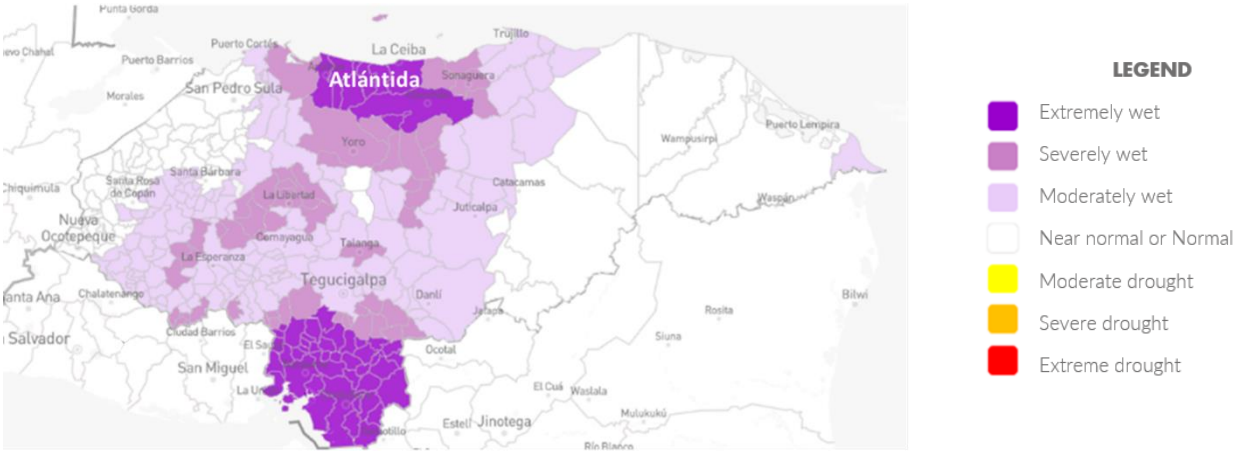
Source: PREDISAN



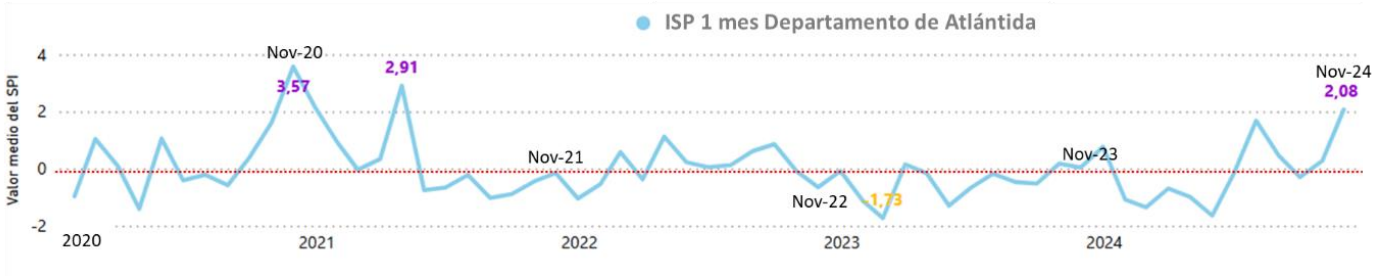
The SPI analysis for the six months leading up to November 2024, corresponding to the rainy season in Central America, reflects a period with generally favorable weather conditions for maize and bean production, key crops for smallholders in the region, as well as other crops such as coffee that are important for the livelihoods of the rural population.

In Nicaragua, SPI values showed high levels of humidity, well above the historical average, in areas of the Pacific slope that form part of the so-called Dry Corridor, which favored the growth of maize and beans. Honduras and El Salvador experienced mostly normal rainfall and moderate humidity conditions, which allowed a relatively stable development of both crops. In Guatemala, although normal precipitation predominated, some municipalities in Petén and the southern coast experienced severe humidity, especially in November, which caused damage to crop and infrastructure in the municipalities of La Gomera, Santa Lucía Cotzumalguapa and La Democracia in the Department of Escuintla and Chiquimulilla in the Department of Santa Rosa.
In mid-November 2024, tropical storm Sara caused significant damage in close to a hundred municipalities affecting 250,000 people in Honduras, according to COPECO (Honduran Civil Protection) estimates. Crop damage was particularly intense in the Department of Atlántida, where rainfall was higher than in any month of November since Hurricanes Eta and Iota hit in November 2020. Torrential rains and flooding in this department, which has La Ceiba as its reference city, have resulted in losses of subsistence crops such as cassava, plantain and maize, which are essential foods for the poorest households, leading to increased reliance on market food purchases for more than 20,000 vulnerable rural families (70 per cent of the department's rural population).

Figure 4. Map showing SPI-1 for Honduras in November 2024, with graphic detail of the evolution of SPI-1 for the Department of Atlántida.

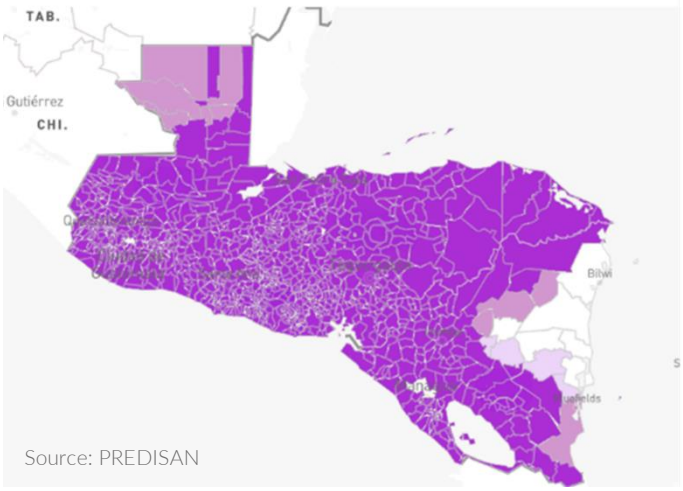


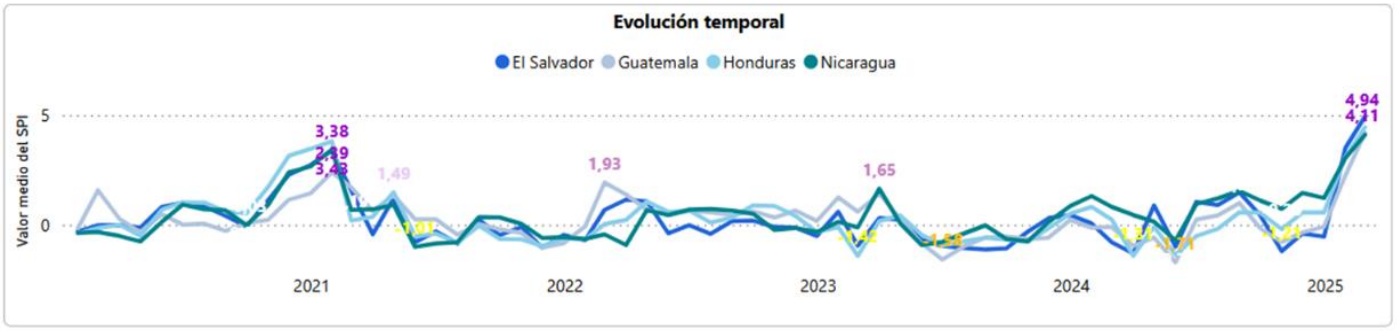
Source: PREDISAN



The standard deviation measures how much the data vary from the average. A low deviation indicates that the values are close to the average, while a high deviation reflects greater dispersion. In the case of the SPI, being at +2 standard deviations means a period (1, 3, 6 or 12 months) that is very rainy, infrequent, and exceeds 95% of historical values.

Figure 5. Map showing SPI-3 for Central America in February 2025.



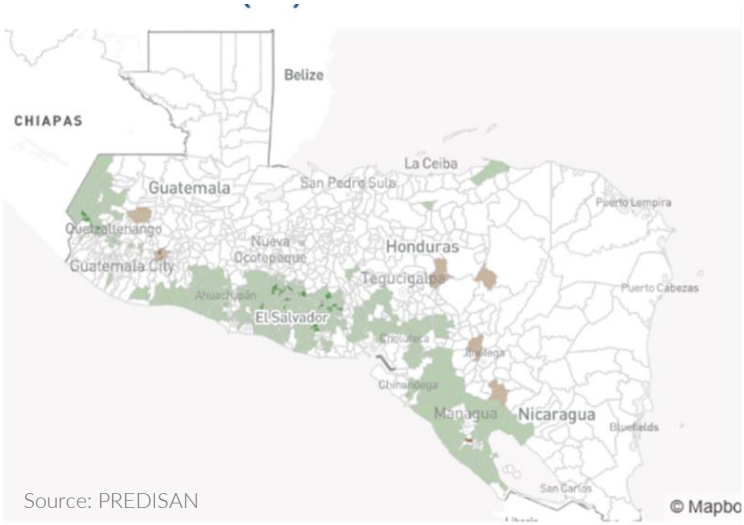


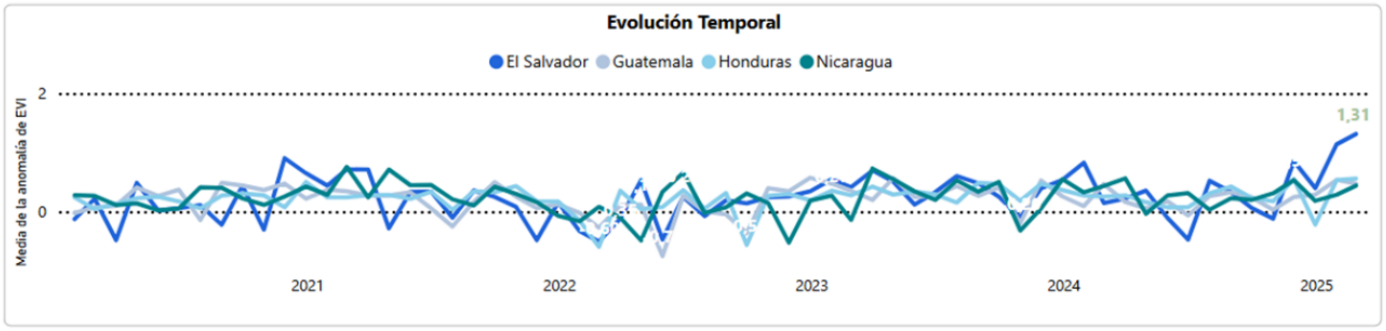
As can be seen in Figure 4, the rainfall received in the three months prior to the preparation of this report in practically all Central America is above historical averages. These rains stand out for having fallen during the dry season, and although they are not relevant for the subsequent basic grains crop cycle (May-August), they lay a positive foundation for the 2025 crop year.

The **Anomaly Enhanced Vegetation Index (AEVI)** measures deviations of the Enhanced Vegetation Index (EVI) from its historical average, assessing changes in vegetation health and density. Positive values indicate healthier or denser vegetation than normal, while negative values reflect deterioration caused by drought, fire, pests or changes in land use. This indicator uses satellite data from sources such as **MODIS** *(Moderate Resolution Imaging Spectroradiometer)*, with a

temporal resolution of up to 16 days, allowing frequent monitoring of the state of ecosystems and croplands against normal conditions.

Figure 6. AEVI map for February 2025 and graph showing the monthly evolution of this index for the average of the four countries between 2020 and 2025





In February 2025, the Anomaly Enhanced Vegetation Index (AEVI) analysis in Central America shows that vegetation in Honduras and Guatemala is generally in normal to good vegetative condition, with some isolated mountain areas showing below-average values. In much of El Salvador and the Pacific slope of Nicaragua, vegetation is in good condition, reflecting above-average rainfall. These above-average rains in the first months of the year in large areas of the Dry Corridor could favor an early start to the first corn and bean plantings compared to previous years, if the rainy season begins in May.

AGRICULTURAL PRODUCTION

Coffee, maize and beans are fundamental to the food security of small-holder farmers in Central America. Coffee, besides being a key cash crop that generates economic income for families with land, is also vital for those who do not have their own plots, as it provides work as day laborers during the harvest period, which allows them to earn a temporary but significant income. On the other hand, maize and beans, as basic self-consumption crops, guarantee the daily food supply and sustainability of rural households, and are essential to the region's diet. Dependence on these crops means that fluctuations in coffee production and prices, as well as maize and bean crop losses due to climatic factors, directly affect their food security. Official production statistics compiled by the Food and Agriculture Organization of the United Nations (FAO) always have a certain time lag before they become available. At the time of writing this report, crop estimates for basic grains for 2024 were available, and the analyses shared below are based on these estimates.

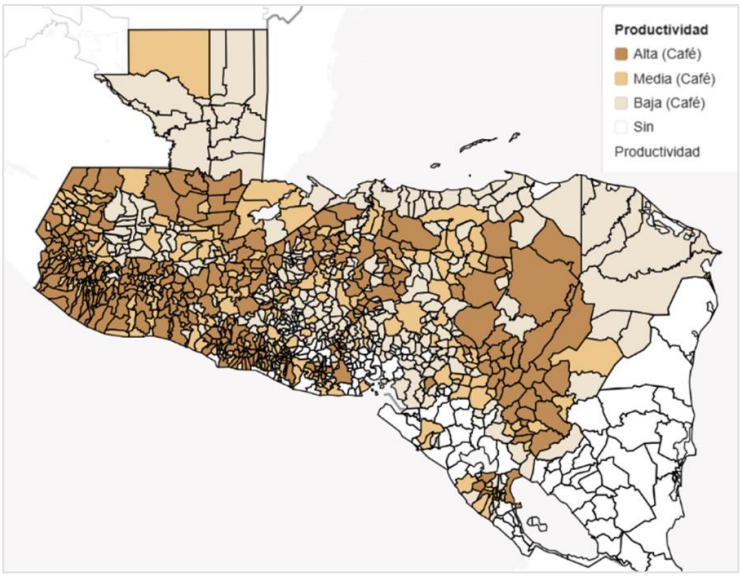
COFFEE PRODUCTION IN CENTRAL AMERICA

The Central American coffee production z-score anomaly graphs show significant variations between countries. In El Salvador and Guatemala, production has been fluctuating in recent years, with a decreasing trend in Guatemala since 2013, with a rebound in 2020. On the other hand, Honduras and Nicaragua show a different evolution: both countries had low productions in 2013 and 2014 due to the coffee rust crisis that severely affected yields. However, since then, production has grown gradually, especially in Nicaragua, where in 2023 and 2024 a harvest volume above the historical average was reached, reflecting a sustained recovery of the sector, which has been accompanied by better international prices, which together favour the rural economy and the food security of the most vulnerable Central American households. In Honduras, there has been a strong recovery of harvests since 2017, although from 2020 onwards the total harvest tends to decrease with respect to the historical average, a decrease that is nevertheless compensated by the increase in price. We remind readers that the use of z-scores in agricultural production graphs such as those shown in Figures 7 and 9 allows for quick identification of whether the production levels of a crop (corn, coffee, or other) each year are above or below the historical average. A z-score of 0 indicates average production, while positive values reflect above-normal yields, and negative values warn of abnormal declines, which may be related to factors such as droughts, floods, or pests. This tool facilitates comparisons between years and regions, highlighting relevant deviations for decision-making in food security.

Figure 7. Z-score de la producción anual de café entre 2014 y 2024 en países del CA4.

Source: PREDISAN with FAO data

Figure 8. Municipal map of coffee production in CA4.



Source: PREDISAN with data from Agricultural Surveys available from Ministries of Agriculture and Livestock of the region.

MAIZE PRODUCTION IN CENTRAL AMERICA

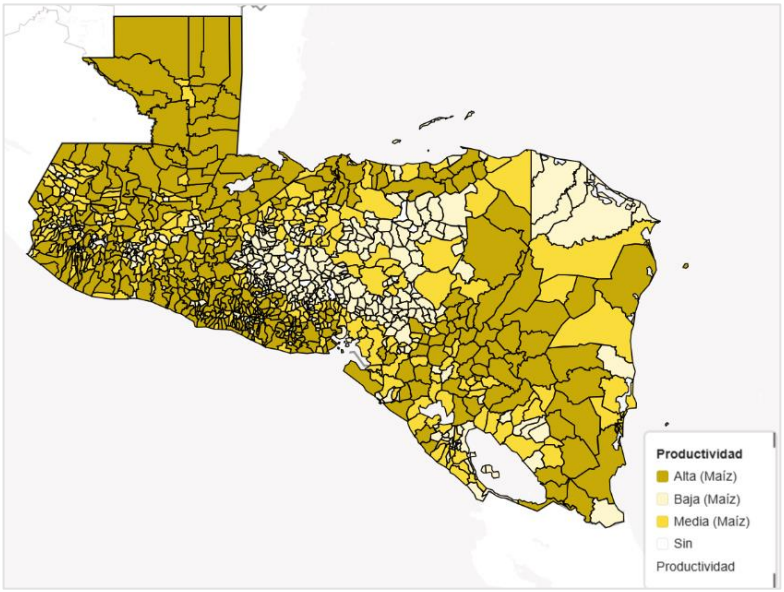
In El Salvador and Honduras, maize production has remained relatively stable, above and very close to the recent historical average. Guatemala shows a clear upward trend since 2015, except for a smaller harvest in 2019, reaching levels significantly above the historical average in 2023, with an estimated harvest in 2024 that is also above average. Nicaragua shows relatively stable production since 2016, as does Honduras, whose yields in 2024 are also expected to be above the historical average. Only in El Salvador has the 2024 maize crop been below average for this country, due to a late onset of rains in the planting period (May), and well above-average rains in the last weeks of cultivation.

In 2013, 2014 and 2015, there was a sharp drop in production in all countries, especially in Guatemala and Nicaragua, due to intense drought and the El Niño phenomenon that severely affected maize and bean yields. Since then, the countries have shown a gradual recovery, with Guatemala, the largest producer in the region, showing a sustained increase. The El Niño event of 2023 was particularly noticeable in lower yields in El Salvador and Nicaragua, but not in Guatemala or Honduras. It is important to note that this macro statistic includes production estimates for industrial farmers, who tend to be more stable, as well as for small subsistence farmers, who do not weigh as heavily in overall national production, but who are greatly impacted by a month of drought, however mild it may be.

Figure 9. Z-score of annual maize production between 2014 and 2024 in CA4 countries

Fuente: PREDISAN con datos de FAO

Figure 10. Municipal map of maize production in CA4. Source PREDISAN with data from the latest available Agrarian Censuses of the Ministries of Agriculture and Livestock of the region.



Source: PREDISAN with data from Agricultural Surveys available from Ministries of Agriculture and Livestock of the region.

Rainfall in the 2024 rainy season ensured agricultural harvests that were in line with historical averages. The dry season in the first quarter of 2025 is being wetter than usual, which will favor the planting of staple crops of maize and beans that are expected to start from the second half of May.

IMPACT OF DISASTERS AND EXTREME WEATHER EVENTS

Guatemala, El Salvador, Honduras and Nicaragua experienced the effects of the El Niño phenomenon, which peaked between November 2023 and January 2024. Although this event caused variations in weather patterns, its intensity was moderate, resulting in less severe impacts compared to previous episodes. Precipitation in the region remained close to historical averages, avoiding the extreme droughts usually associated with El Niño. However, periods of erratic rainfall and slightly above-normal temperatures were recorded, moderately affecting agriculture and food security in specific areas of the Central American Dry Corridor. In November 2024, tropical storm Sara impacted the region, causing torrential rains and flooding, especially in northern Honduras where at least 111,000 people were affected, and six deaths were reported. Flood damage also occurred in Nicaragua and El Salvador in the last stage of the rainy season.

According to disaster impact data compiled by the Centre for Research on the Epidemiology of Disasters (CRED), part of the Catholic University of Leuven (Belgium), in the last five years the succession of tropical storms and hurricanes in the region have affected the lives of millions of people. This was especially relevant at the end of 2020, during the COVID-19 pandemic, when two top category hurricanes hit Nicaragua, Guatemala and Honduras, causing significant damage and disruption to the economic fabric of some of the most productive areas of Central America, such as the Sula Valley in Honduras. This cumulative crisis effect was reflected in the first half of 2021 with the worst food security statistics of the last decade.

Figure 11. Evolution of the number of people affected and killed by disasters in Central America between 2000 and 2025

Source: PREDISAN with EM-DAT data.

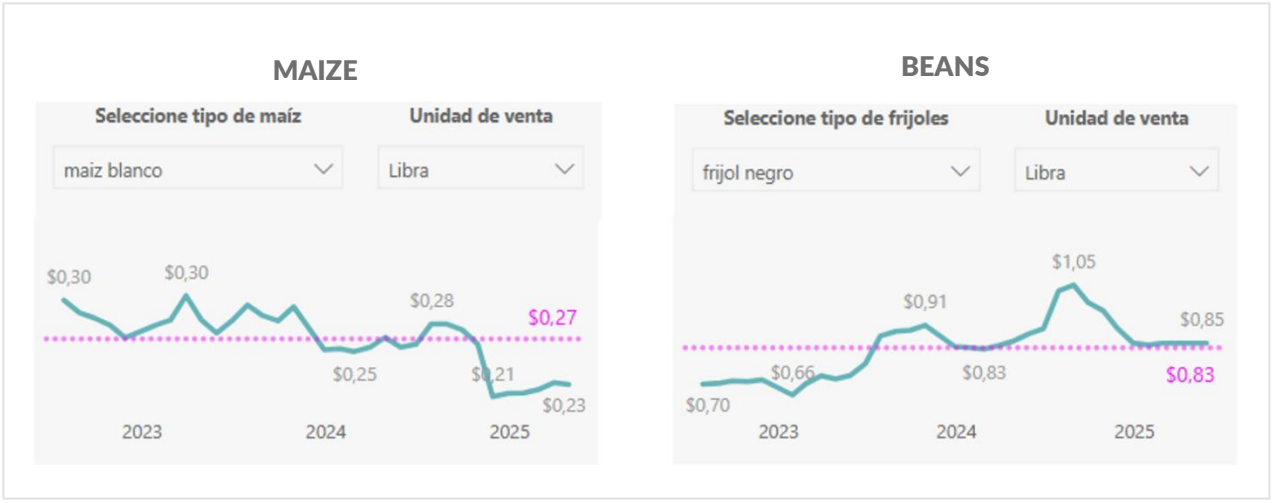
In 2020, hurricanes Eta and Iota hit Guatemala, Honduras and Nicaragua hard, leaving millions affected. The Sula Valley, Honduras' economic engine, suffered severe flooding and agricultural losses. In 2023, the rainy season caused significant flooding in Guatemala, affecting more than 4 million people. In 2024, the impact of disasters has remained within the average, except for Tropical Storm Sara, which caused considerable damage on the northern Caribbean coast of Honduras.

3.2 ECONOMIC VARIABLES

PRICES OF STAPLE FOODS

The price of staple foods such as maize and beans is crucial for the most vulnerable Central American households, especially those in rural areas with little or no land. These foods represent the basis of their diet and any increase in prices directly impacts their ability to access food. The dependence on the market for these products makes them particularly sensitive to economic or climatic shocks.

Figure 12. Price per pound (lb) of basic grains.



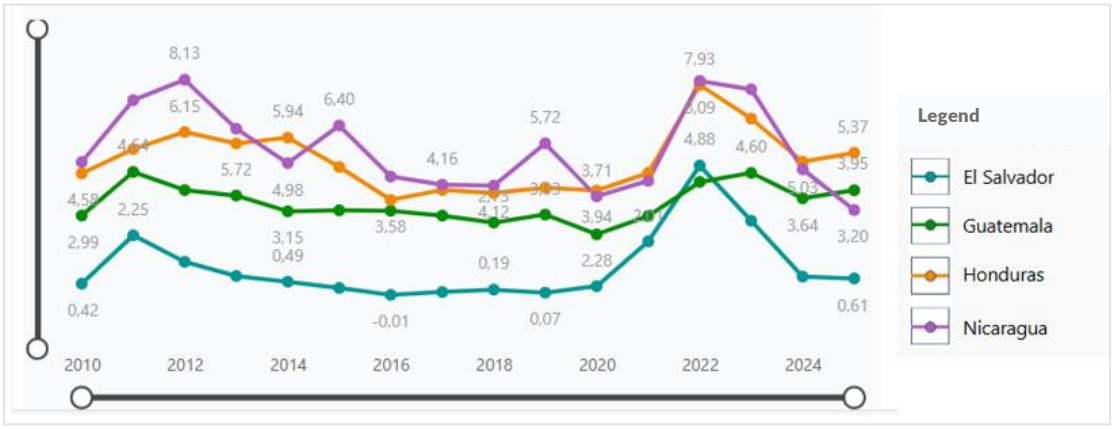
Source: PREDISAN with MAGA-GT data.

Figure 12 shows the evolution of the price of white corn and black beans over the last 34 months in the markets of Guatemala, the country with the greatest weight in the region's production and consumption dynamics. In April 2025, the price of white corn stood at $0.22 per pound, significantly below the historical average of $0.27. In contrast, the price of black beans remained around $0.83 per pound, very close to, although slightly above, their average for the last 34 months, which is $0.83. This situation is favorable for the most vulnerable households, especially those that depend on the market to meet their food needs. The reduction in the price of corn represents significant relief for their budgets, as it is an essential staple in the Central American diet. On the other hand, the stability in the price of beans ensures that the cost of this other fundamental item does not skyrocket at the beginning of the seasonal hunger period, allowing for greater accessibility and food stability for lower-income families.

INFLATION

Price inflation is hitting hard the most vulnerable Central American households, which already spend more than 50 per cent of their income on food. With the rising costs of basic goods including transport, fuel, medicines and food in general, these families face greater difficulties in covering a minimum food basket. The loss of purchasing power compromises their food security, pushing them towards adjustment strategies such as reducing portions or buying lower quality products.

Figure 13. Evolution of the core inflation index in CA4.



Source: PREDISAN with ECLAC data

ACCESS IN PREDISAN > VULNERABILIDAD > Índice de Precios al Consumidor (IPC)

The graph shows the underlying inflation rate in Central America since 2010. In 2022, the outbreak of the war in Ukraine led to a significant increase in prices, especially in Nicaragua and Honduras, with historic inflation peaks. However, in 2024, a downward trend is observed, especially in Guatemala, which has managed to maintain remarkable inflationary stability even during the crisis, controlling prices better than its neighbors. El Salvador, on the other hand, being dollarized, has a much lower and more stable inflation rate, with only 0.61% in 2024.

INTERNATIONAL COFFEE PRICE

The international price of coffee is critical to the food security of rural households in Central America, especially in the mountainous areas of the Dry Corridor, where many depend on day labor for cultivation and harvesting. A fall in prices reduces incomes, directly affecting the ability to purchase food. In the early 2000s, the drastic drop in prices caused by the entry of Vietnamese production into the markets caused a significant increase in child malnutrition and food insecurity, especially in Guatemala, where thousands of families were affected, highlighting the impact of some global economic variables even in isolated Central American communities.

Figure 14. Evolution of the international coffee price anomaly (z-score)

Fuente: PREDISAN con datos de OIC

ACCESS IN PREDISAN > VULNERABILIDAD > Precios del Café, azúcar y banana

The graph shows a continued increase in the international price of coffee from September 2023, reaching a peak of $4.10 per pound in March 2025, which is very favourable for the rural economy of Central America. This increase improves the incomes of small producers and day labourers in coffee-growing areas, strengthening their food security by increasing their purchasing power. After years of low prices, this rebound alleviates the economic precariousness in vulnerable communities

in coffee-growing areas of the extended Dry Corridor and guarantees both the existence of agricultural day laborers and a slight improvement in the wage conditions on which part of the livelihoods of the most vulnerable population groups depend. This wage improvement, which still needs to be verified, could be increased by the decrease in available labor in rural areas because of internal and foreign migration processes.

EXCHANGE RATE OF LOCAL CURRENCIES AGAINST THE USD

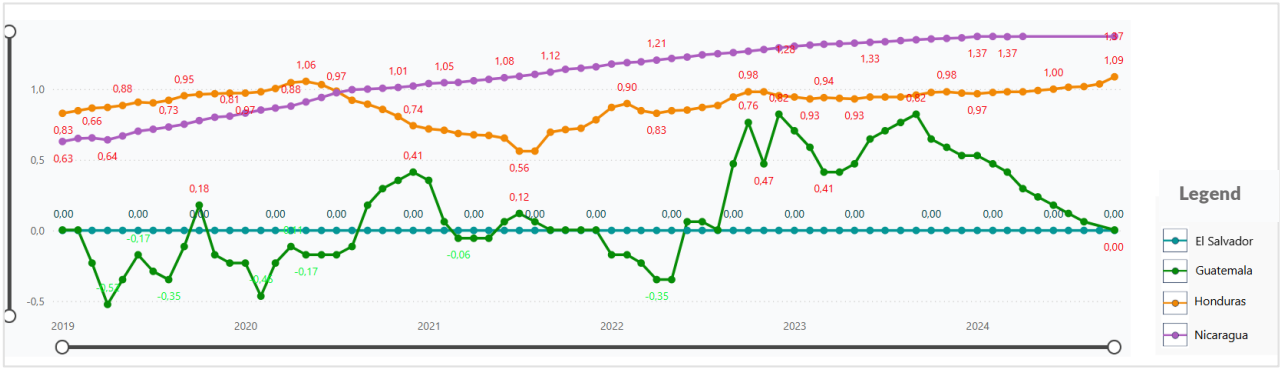
In general terms, when a local currency such as the Guatemalan Quetzal, the Honduran Lempira or the Nicaraguan Cordoba depreciates against the US dollar (USD), the food security of the most vulnerable population is hindered by several interrelated mechanisms, as described below:

i) In net food-importing countries such as Guatemala, a depreciation of the currency makes foodstuffs (including maize, black beans, rice, meat and dairy products), as well as key inputs such as fertilizers, seeds, machinery and fuels, more expensive. As the local currency is devalued, all these products become more expensive in relative terms, which raises domestic food prices. El Salvador is also a net food importer, but its dollarized economy is not affected by these fluctuations. Nicaragua is a net food exporter, so its depreciated currency makes it more competitive in the international market but makes the acquisition of key inputs for production more expensive. Honduras can also be considered a net food exporter, although there is a significant inflow of processed food.

ii) Depreciation reduces the purchasing power of households, especially the poorest, who spend more of their income on food. This can lead to a reduction in the quantity, quality and diversity of the diet, negatively impacting nutrition.

iii) Exchange rate volatility also discourages agricultural investment if production costs rise faster than selling prices, affecting local production and generating greater dependence on imports.

Figure 15. Anomaly measured by z-score in the evolution of the monthly exchange rate of the US dollar against national currencies in CA4 between 2019 and 2025



Source: PREDISAN with SECMCA data.

As can be seen in Figure 15, the Quetzal (GTQ) has remained stable and slightly appreciated until June 2022 when it underwent a depreciation process that aggravated the inflationary dynamics initiated previously with the war in Ukraine, and even before that with the rise in prices associated with the end of the pandemic. Since September 2023, the GTQ has gradually revalued, until March 2025 it was at an average value similar to that of the historical series, which has contributed to lowering the prices of imported foodstuffs and inputs. In the case of Honduras and Nicaragua, their currencies continue to depreciate steadily against the USD, which makes imports of basic agricultural inputs and fuels more expensive, thus reinforcing inflationary processes, which have not been reduced as much as in Guatemala over the last few months.

3.3 SOCIAL AND CONFLICT VARIABLES

PUBLIC EXPENDITURE

Public spending and social safety nets are key to reducing the risk of food insecurity among the most vulnerable groups. Investing in food assistance programs, cash transfers and support to small producers helps to cushion the impact of economic and climatic shocks. However, Central American countries have the lowest budgets in the region and the lowest social investment, which aggravates the situation of vulnerability and limits the capacity to respond to crises and mitigate their consequences.

Figure 16. Evolution of per capita public expenditure (USD) in Central American countries.

Source: PREDISAN with ECLAC data

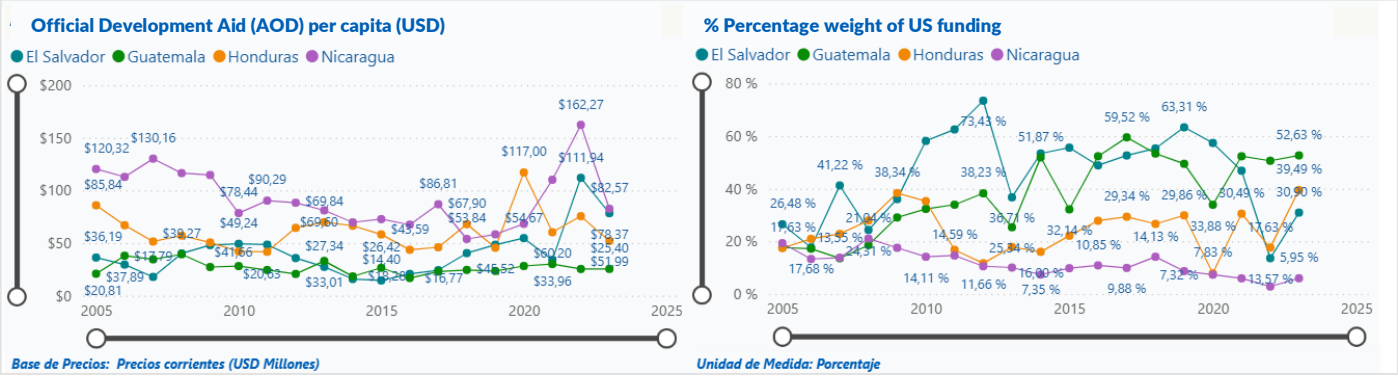
Figure 16 shows per capita public spending in Central America from 2015 to 2025. El Salvador stands out as having the highest per capita expenditure, reaching $1,648 in 2025. In contrast, Honduras, Guatemala and Nicaragua have the lowest values, with $814, $854 and $729 respectively, when all services provided by states are added together. This low investment capacity reflects the limited capacity to finance social programs, which exacerbates the structural vulnerability of more than 50% of Central American households living in poverty.

OFFICIAL DEVELOPMENT ASSISTANCE (ODA)

The official development assistance (ODA) is instrumental in mitigating the impact of humanitarian crises in vulnerable countries, providing essential resources for immediate response and long-term recovery. It facilitates access to basic services such as health care, supporting the strengthening of infrastructure and the provision of medical supplies. In

addition, in Central American countries such as Guatemala and Honduras, it promotes cash transfer programs that alleviate poverty, improve food security and promote the resilience of the most vulnerable communities, which is essential given the difficulties of national governments to meet the needs of their populations.

Figure 17. Evolution of official development aid per capita (USD) in Central American countries and the percentage weight of US funding in this figure up to 2024



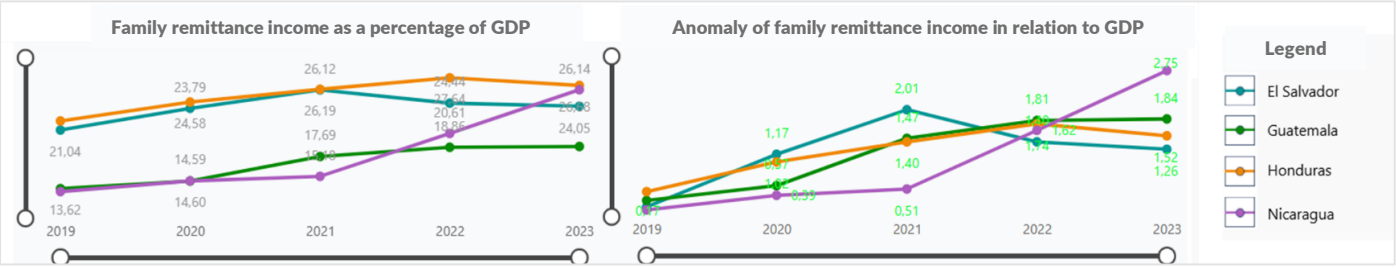
Source: PREDISAN with data from the Organization for Economic Co-operation and Development (OECD)

ODA per capita in Central American countries has shown significant fluctuations in recent decades, reflecting variations in donor priorities, socio-economic conditions in the region, the impact of disasters, and the socio-economic evolution of the region's countries. Traditionally, Nicaragua, the poorest country, has been the largest recipient of aid in relative terms, reaching USD 162 per capita in 2022, coinciding with significant contributions from development banks. US funding of this aid has been particularly important in Guatemala, reaching 52.63% of all international contributions in 2024. However, the recent cancellation of most US aid has raised concerns in the region. This decision will affect many essential programs in areas such as health, humanitarian aid, disaster preparedness and economic development. This reduction in ODA could increase economic and social hardship in Central America, increasing the vulnerability of the most disadvantaged populations and limiting the capacities of national governments to implement public policies. Among all the variables monitored in this report, this and the subsequent one on migration and remittances is the one that shows the most adverse behavior or outlook for the second quarter of 2025 and beyond.

MIGRATION AND REMITTANCES

Remittances represent an informal social safety net in Central America, supporting the basic consumption of thousands of families who depend on these resources for food, education and health. In the absence of public investment or well-paid jobs, remittances energize the local economy, strengthen small businesses and generate cash flow in rural and urban communities. Their impact is crucial in cushioning poverty and addressing recurrent economic crises in the region.

Figure 18. Evolution between 2019 and 2023 of the percentage weight of remittance receipts in the GDP of CA4 countries.



Source: PREDISAN with data from SECMA

In recent years, remittances have accounted for a growing share of GDP in Guatemala, El Salvador, Honduras and Nicaragua, reflecting their importance in national economies. The Humanitarian Parole program implemented by the Biden administration since January 2023 allowed the legal entry of approximately 93,000 Nicaraguans to the US, facilitating their labor insertion and the consequent sending of remittances to their families in Nicaragua. However, the cancellation of this program by the new administration in March 2025 and the risk of deportation of these migrants threaten to significantly reduce the flow of remittances. This situation could negatively affect the Nicaraguan economy and those of other CA4 countries, which rely heavily on this external income to sustain local consumption and investment.

VIOLENCE, SOCIAL CONFLICT AND FOOD INSECURITY

Food insecurity is closely linked to conflicts and episodes of violence in Latin America, where factors such as rural poverty, inequality and the weakening of the state aggravate the problem. Recurrent food crises in the region have generated protests which, in context of exclusion and state repression, lead to violent unrest[2]. Food insecurity, especially when combined with price shocks and government failures, acts as a conflict multiplier, exacerbating existing conflicts and creating new ones.[3]

The opposite relationship has also been identified, as an increase in violence or conflict alters or hinders the livelihoods of vulnerable populations, thereby increasing food insecurity. In the case of Honduras, for example, serious disruptions of livelihoods have been observed at different times and in different territories, intensifying food insecurity, especially in rural areas. The presence of gangs, drug trafficking and high levels of homicides limit mobility, access to markets and the provision of basic services, affecting agricultural production and family income. In departments such as Copán and Colón, where chronic violence and prolonged droughts converge, there has been a notable increase in the population migrating in search of security and livelihoods.[4] The combination of violence and agricultural deterioration can push thousands of families to abandon their land, not only for lack of food, but also because of the impossibility of rebuilding a dignified life in contexts of exclusion and constant risk.

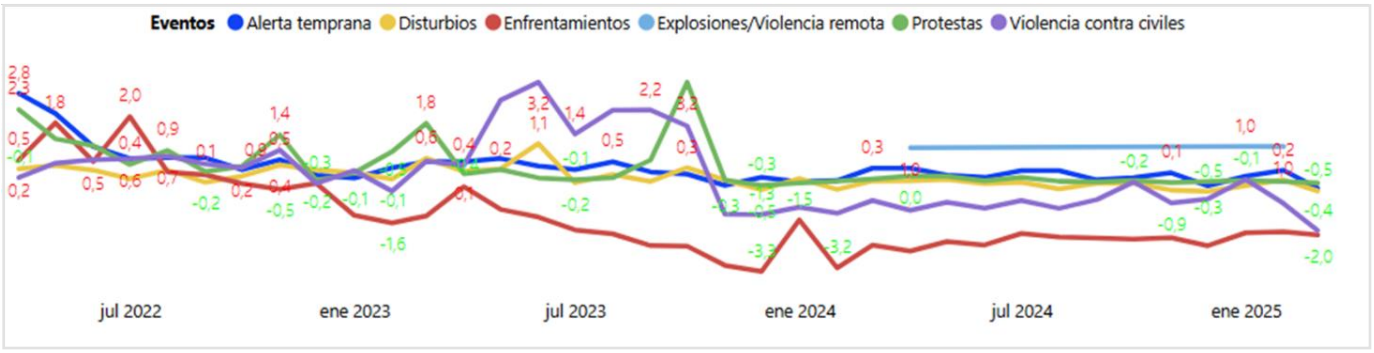
PREDISAN also incorporates an analysis of data from ACLED *(Armed Conflict Location & Event Data Project)*, global registry that collects geo-localized information on conflict, political violence and protests, recording actors, dates, locations and type of event. The following is an analysis of how events of violence directed against civilians, as well as protests and riots, have evolved over the last 12 months in Central America.

In general, there has been a decrease in the number of violent events of different natures registered in CA4 during the last 12 months, as can be seen in Figure 16. Most notable is the decrease in violence against civilians, as well as the occurrence of clashes. The following pages provide more detail on three of the five categories of violence monitored by ACLED.

[2] Zimerman, A. (2024). The Agrarian Conflicts and Food Crises Nexus in Contemporary Latin America. *Journal of Politics in Latin America*, *16*(2), 113-144.
[3] Hossain, N., & Hallock, J. (2022). Food, energy & cost of living protests, 2022. *NY: Friedrich Ebert Stiftung NY. https://ny. fes. de/article/food-energy-cost-of-living-protests-2022*.
[4] Bermeo, S., & Leblang, D. (2021). Honduras migration: Climate change, violence, & assistance. *Duke Univ. Cent. Int. Dev*.

Figure 19. Evolution of violent events recorded in CA4 between March 2024 and March 2025, including estimated z-score anomalies in March 2025 with respect to the historical series

Events	El Salvador	Guatemala	Honduras	Nicaragua
Early warning	193	126	354	229
Riots	11	135	259	1
Clashes	139	442	211	12
Explosions/remote violence		2	1	
Protests	330	1383	2053	15
Violence against civilians	72	1251	1248	27
Total	**745**	**3339**	**4126**	**284**

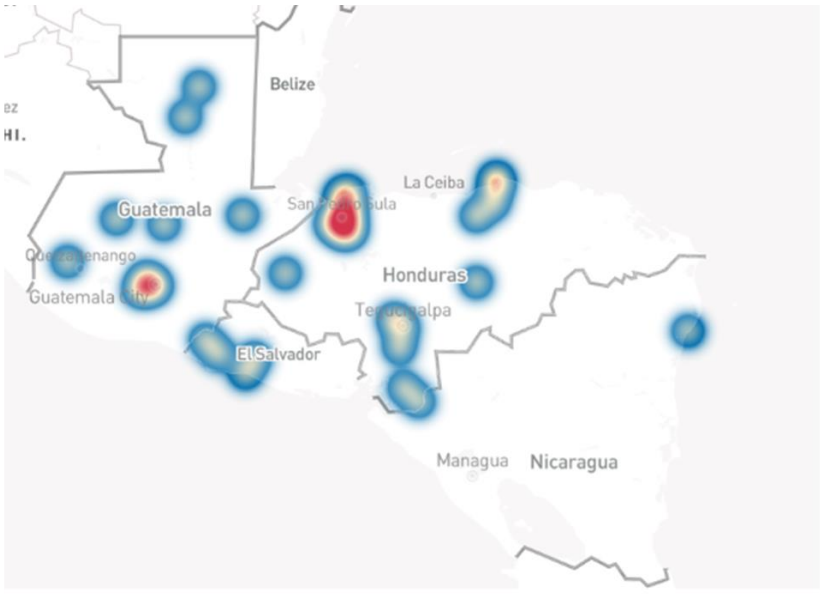


Source: PREDISAN based on ACLED.

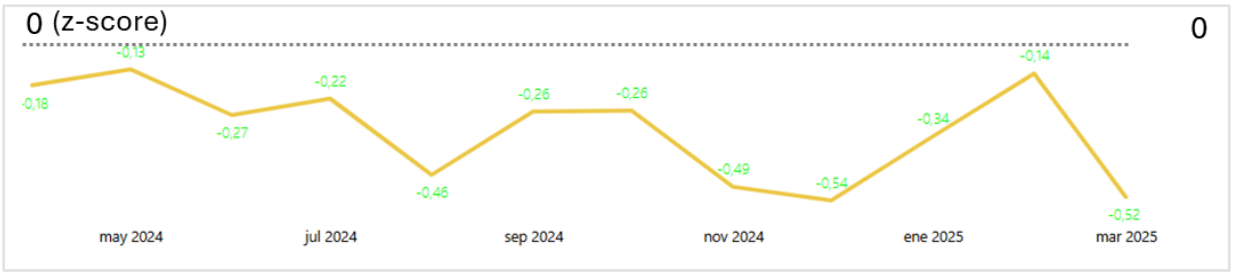
RIOTS

ACLED defines the category riots as events characterized by an unorganized and uncoordinated form of public violence, in which participants do not use lethal weapons in a systematic way. This category includes two main sub-types: i) Violent demonstrations (i.e. protests that turn violent, for example, with clashes with police or destruction of property); ii) Mob violence (i.e. acts of collective violence, such as looting or lynching, with no organized structure or clear leadership). In the last twelve months, this type of violent event has been below the average of the historical series available since April 2022.

Figure 20. Incidence of disturbances in CA4 between March 2024 and April 2024.



Eventos	El Salvador	Guatemala	Honduras	Nicaragua
Disturbios	5	13	46	1



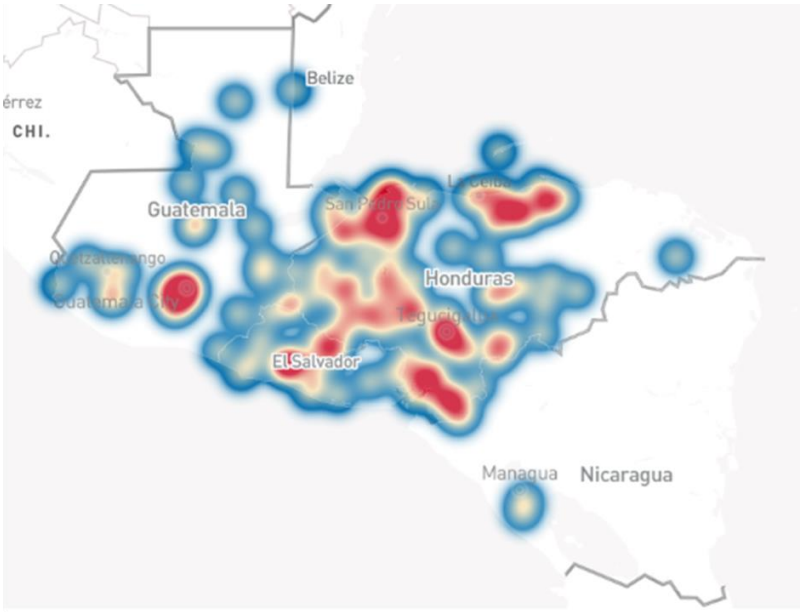
Source: PREDISAN based on ACLED.

A greater number of disturbances occur in Honduras (especially associated with prison riots), and to a much lesser extent in Guatemala. In the case of Honduras, the concentration of episodes of this type in the Sula Valley is noteworthy. There is no identified risk of food security being affected consequently.

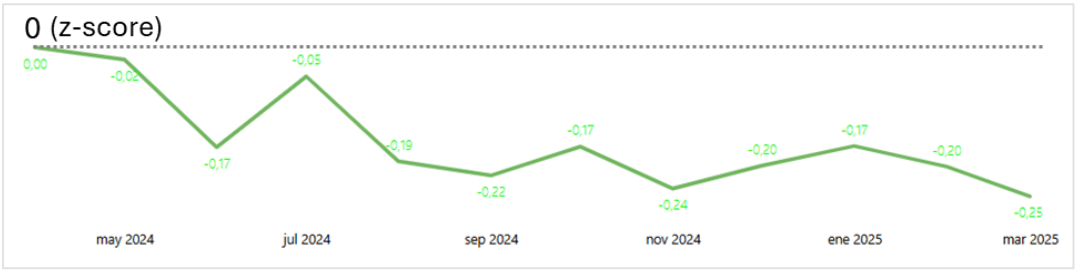
PROTESTS

ACLED defines protests as non-violent collective actions by which people publicly express grievances or demands against authorities, institutions or other actors, without the use of physical violence or weapons, and may or may not face law enforcement intervention. When prolonged or repressed, protests can negatively affect livelihoods, disrupt local commerce, hinder access to markets and services, and aggravate food insecurity, especially in vulnerable communities.

Figure 21. Incidence of protests in CA4 between March 2024 and March 2025.



Eventos	El Salvador	Guatemala	Honduras	Nicaragua
Protestas	101	79	496	3



Source: PREDISAN from ACLED

Over the last 12 months there has been a gradual reduction in the number of protests registered by ACLED, which have not had a significant impact on the food security of vulnerable populations, due to the fact that they have been punctual both in time and in the areas affected, unlike what happened in Guatemala in September and October 2023, for example, when popular mobilizations and roadblocks halted the attempt by the government and the Attorney General's Office to allow the elected president, Bernardo Arévalo, to take office. Figure 22 shows the notable increase in protests that took place in the country during those weeks in 2023, marking a turning point from which social conflict decreased notably once Guatemalan society considered that the risk of disrupting the democratic process had diminished. Had this turnaround occurred, it is likely that the economic and food security situation would have deteriorated.

Figure 22. Graphical representation of the monthly anomaly of protests recorded in **Guatemala** between April 2022 and March 2025.

Source: PREDISAN

Most of the protests recorded in the last 12 months have been concentrated in Honduras, reflecting persistent political and social tensions. In March 2025, demonstrations in Tegucigalpa denounced the government's political course and warned of authoritarian risks in the region. In April, transporters blocked sections of the Pan-American highway in rejection of new authorised routes, alleging unfair competition, affecting regional trade, but without identifying a significant effect on the food security of the most vulnerable populations.

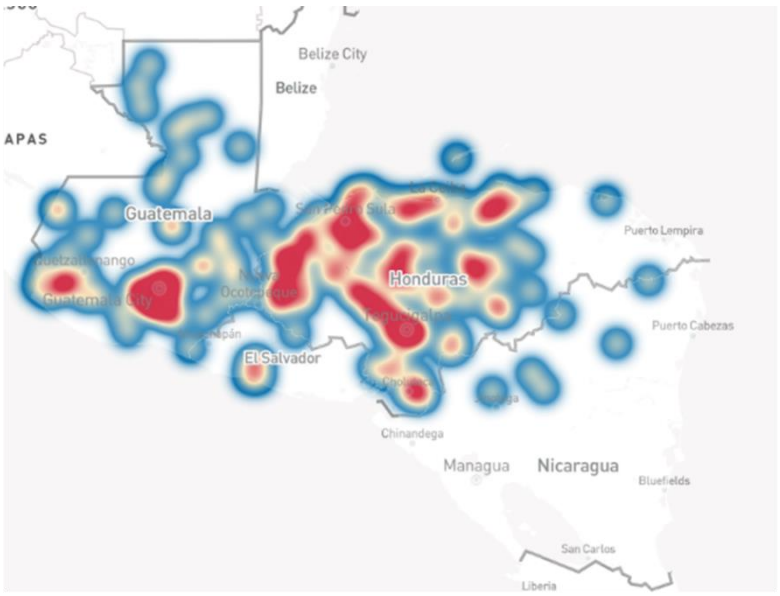
In Guatemala, a week-long protest in March 2025 had a major impact on life and travel in the country, when transporters blocked more than 30 highways in rejection of compulsory vehicle insurance. These blockades affected regional trade, causing daily losses estimated at US$42 million and shortages of basic commodities in local markets. The lifting of the blockades prevented an eventual impact on food security.

VIOLENCE AGAINST CIVILIANS

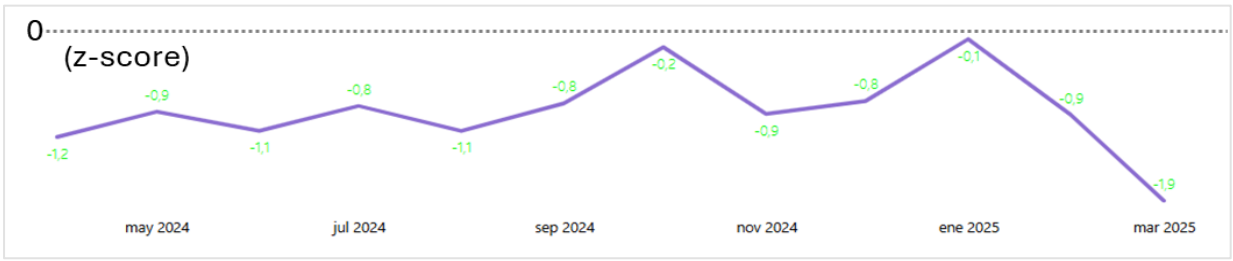
ACLED defines violence against civilians as any act in which an armed or non-state actor uses direct physical force against unarmed persons not actively participating in a conflict. This includes killings, assaults, torture, abductions and threats, as well as attacks on civilian objects if the primary objective is to terrorize or punish the population. This category applies when:

i) The victims are civilians, not actively engaged in fighting.
ii) The perpetrator of the act may be a state force, rebel group, militia, criminal group or external actor.
iii) The act involves direct physical harm or credible threat of harm.

Figure 23. Incidence of violence against civilians in CA4 between March 2024 and March 2025



Eventos	El Salvador	Guatemala	Honduras	Nicaragua
Violencia contra civiles	6	185	335	6



Source: PREDISAN based on ACLED.

At no time in the last 12 months has the incidence of violent acts against civilians exceeded the average monthly value of the historical series contemplated by PREDISAN, which begins in April 2022. Specifically, after a significant increase in this type of violence between March and October 2023 (see Figure 24), there is a sustained decrease in this type of violence throughout 2024, reaching its minimum in March 2025, which reflects a favorable evolution, despite the considerable work that still needs to be done to reduce these figures in countries such as Honduras (where the greatest number of violent acts is concentrated) and Guatemala. On the other hand, El Salvador and Nicaragua stand out, where there has been a notable decrease in the number of acts of violence against civilians.

Figure 24. Anomaly measured with z-score in the Incidence of violence against civilians in CA4 between April 2022 and March 2025.

Source: PREDISAN from ACLED.

4. CONCLUSIONS

The first quarter of 2025 has offered Central America a relatively more favorable context compared to previous years, with better agro-climatic conditions, relative stability of food prices and a slight recovery in key economic indicators such as coffee prices. These advances, although relevant, take place in an environment still characterized by high structural vulnerability, marked by precarious rural livelihoods, fragile social safety nets and exposure to climate and socio-economic risks.

The evidence gathered through PREDISAN shows a temporary reduction in the most severe levels of food insecurity but also confirms the persistence of hotspots in historically vulnerable territories, such as western Guatemala, the Dry Corridor of Honduras and the Caribbean coast of Nicaragua (see forecast map in Figure 1b). In addition, emerging factors such as the decline in remittances, the reduction of Official Development Assistance and migratory pressure pose latent threats that could rapidly reverse the progress achieved.

Against this backdrop, it is imperative to consolidate current progress and take advantage of the "window of opportunity" opened at the beginning of 2025 to strengthen preparedness and early response capabilities. The region must therefore commit to:

- Improve food security governance, based on evidence and effective coordination between levels of government, civil society and international cooperation.
- Strengthen adaptive and anticipatory social protection systems that protect vulnerable households from future crises.
- Strengthen nutritional prevention and early response strategies, which are critical to reducing child undernutrition and its long-term consequences.
- Boost rural productive resilience through investments in sustainable agricultural practices and financial risk protection mechanisms.
- Consolidate predictive monitoring systems that allow early action against threats, maximizing the use of innovative tools such as PREDISAN.

Recent experience confirms that food crises are not isolated events but cyclical and multifactorial phenomena. Only through a preventive, coordinated and sustained approach will it be possible to transform moments of relative stability and improvement into lasting advances for the food security of Central Americans.

CENTRAL AMERICAN FOOD SECURITY OUTLOOK

SECOND QUARTER 2025

ACTION AGAINST HUNGER

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