LATIN AMERICA

THEMATIC NEWSLETTER "EL NIÑO"

JANUARY - AUGUST 2023

CONTENTS

ACTION AGAINST HUNGER

DATE: 21 • 09 • 2023

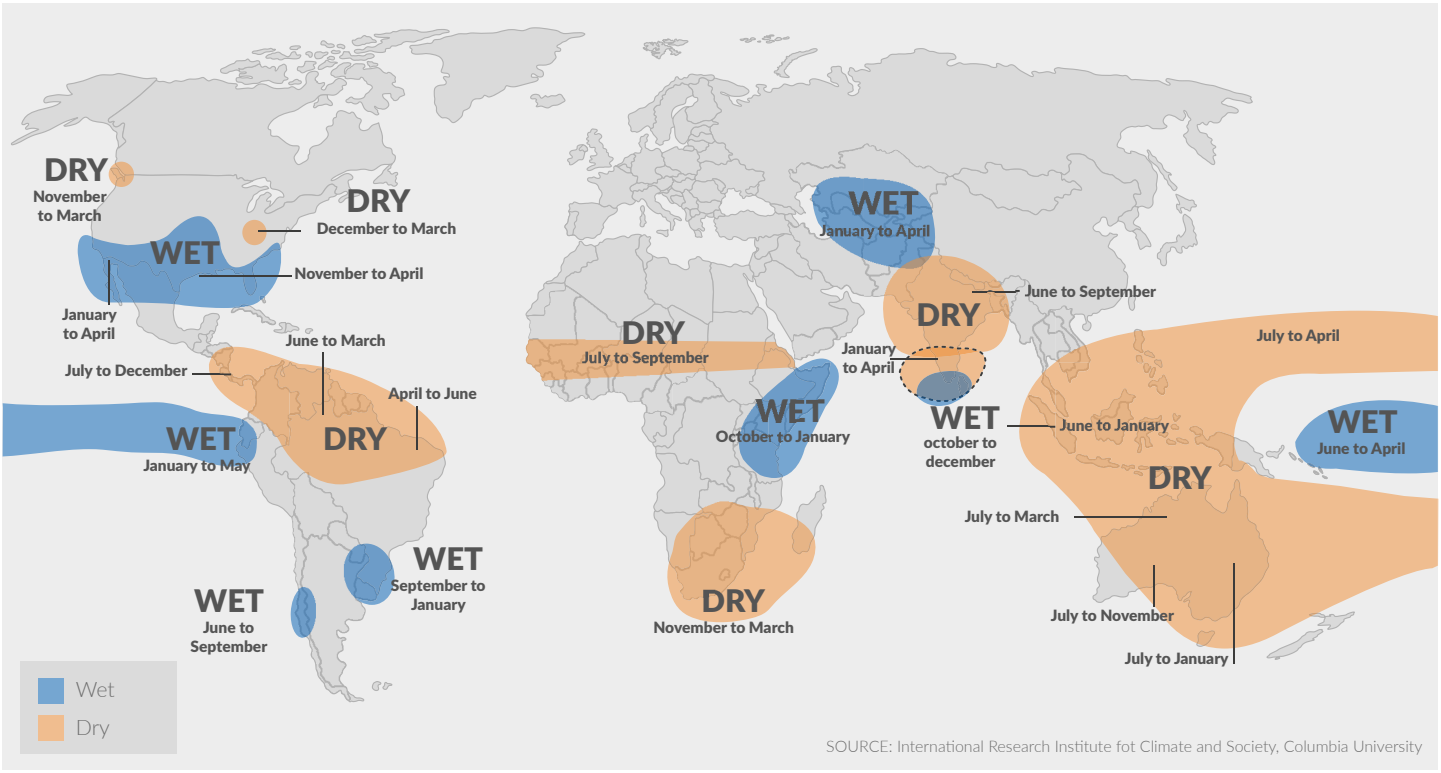
The scientific community warns that the 2023 El Niño could be one of the most intense in decades, raising concerns about extreme weather events and their impact on daily life.

Neighbors crossing a flooded road in search of drinking water and supplies. Piura, Peru.

EL NIÑO STARTING IN 2023 MAY BRING RECORD WEATHER EVENTS... SO WILL BE THE IMPACT ON FOOD SECURITY

The international media have widely reported on record temperatures in different parts of the world in 2023. In a context of increasing collective awareness and concern about climate change and extreme weather phenomena, since June the media have also carried on their front pages the confirmation that this year will see what is known as the El Niño-Southern Oscillation (hereafter referred to as ENSO or El Niño). This is not a specific weather phenomenon, but a weather pattern that repeats in two- to seven-year cycles, triggered by a one- to two-degree increase in surface water temperature in the tropical Pacific Ocean. It is a change that alters the usual weather patterns in much of the world; the usual directions of the main winds are altered, warmer surface waters experience increased evaporation, tropical storms, torrential rains and floods increase in some areas, while others experience extreme droughts leading to crop failures and a marked increase in the risk of forest fires.

Meteorologists predict that the current El Niño, which began in June, will be intense, perhaps as intense as the one that ended in 2016, which contributed to that year being the hottest on record to date, something that is likely to be far exceeded in 2023-2024. Consequently, and in line with past patterns, large parts of Central America and northeastern South America are expected to experience drier and warmer than usual conditions, while in South America extreme rainfall and associated flooding will be the norm, as shown in Map 1 by the International Research Institute for Climate and Society.



Map 1. Usual impact of El Niño in different parts of the world and seasonal periods.

The altered weather patterns are accompanied by major changes in agricultural yields, which will lead to disruptions in food production and have adverse effects on economic performance and food security in the region, according to the report entitled "El Niño Overview. Expected Humanitarian Impact in 2023"[1].

Indeed, in Central America and East Africa, significant crop failures can already be expected in 2023 and 2024, while in the Argentinean Pampas, the expected increase in rainfall could lead to record harvests of crops such as soybeans and wheat. Countries such as India, in anticipation of lower rice production in their main states, have imposed restrictions on rice exports, which has triggered an increase in the international price of rice to the highest level in the last decade, following the increase also caused by the COVID-19 pandemic in 2020. It is important to take into account that the succession of crises caused by the pandemic and subsequent war in Ukraine has led to a general increase in food prices, which in the case of countries such as the Central American countries is already around 20% accumulated in some basic products such as oils and meats.

Increased torrential rains in some tropical countries will also increase the risk of crop pests and diseases, just as epidemics affecting their inhabitants will increase, as is already being experienced in Peru with what is currently the largest epidemic of dengue fever, a mosquito-borne viral disease, with an incidence double that of the previous outbreak in 2017.

Finally, another effect of the El Niño climate phenomenon is experienced in the reduction of energy generation, which will be particularly serious in countries such as Venezuela or in the case of Central America, where according to the Regional Operator Entity (EOR), the regional electricity market is already affected, especially in hydroelectric generation, due to the low rainwater flows that reach the storage reservoirs.

Woman cooperartivized in corn crops. Danlí, Honduras.

[1] https://www.unocha.org/publications/report/belize/latinoamerica-y-el-caribe-el-nino-panorama-humanitario-agosto-2023

From Action Against Hunger we want to contribute to the preparedness and response effort that is being activated at regional level and in the countries where we work, providing information developed by our analysis systems and provided from a local perspective, and proposing priority actions for the next 6 months in the territories and with the population groups that are most vulnerable.

AREAS OF WORK (REGIONAL PROGRAMME APPROACH)	PRIORITY OBJECTIVES FOR EL ÑINO RESPONSE
I. PEOPLE	I.1. Providing early food assistance and post-disaster cash transfers
	I.2. Strengthen local capacities to monitor, prevent and treat child malnutrition
	I.3. Improve access to safe water and shelter in drought/flood affected areas
	I.4. Strengthen the capacities of health services to respond to climate-induced disasters
II. TERRITORIES	II.1. Promote livelihoods less exposed to extreme weather events
	II.2. Improve the sustainability and efficient management of municipal and community water supply and waste management systems
	II.3. Promoting behavioural changes to prevent child malnutrition
	II.4. Promote climate-resilient agriculture and livestock farming in the territories
III. SYSTEMS	III.1. Increase access to social safety nets for families most vulnerable to the impact of extreme weather events
	III.2. Increase knowledge and advocacy on the vulnerability of specific territories and population groups to extreme climate events
	III.3. Strengthen and promote PREDISAN, an early warning system focused on food security

Our goal is to reach 175,000 PEOPLE over the next 6 months which will require a budget of 13.9 million euros.

Piura, Peru

CENTRAL AMERICA: MONITORING OF THE AGRICULTURAL SEASON IN 2023 WITH SUPPORT OF PREDISAN

Action Against Hunger, with the support of the Humanitarian Aid and Civil Protection Department of the European Union (ECHO) and in alliance with the University of Granada and its spin-off GIS4TECH, has implemented in Central America (and in other countries) an information management system that combines:

i) satellite data that allows us to identify in real time flooded areas after a hurricane or to identify territories affected with different degrees of intensity by droughts;

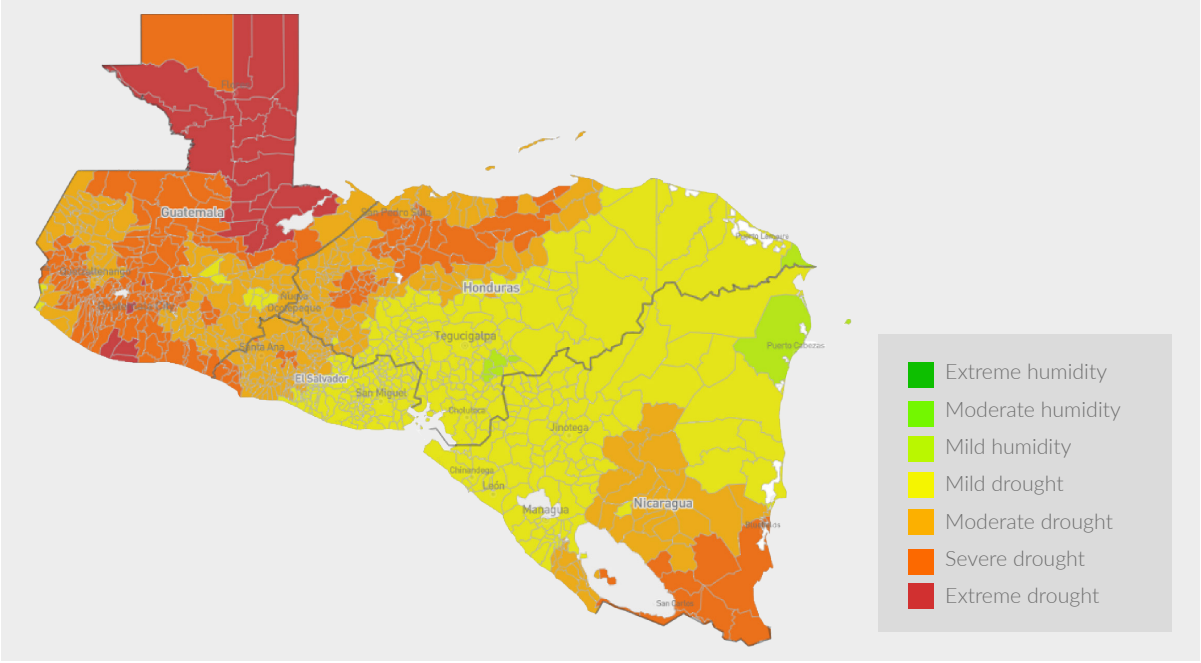
ii) information on variables related to food security from secondary sources provided by governments or international organizations;

iii) primary information obtained through surveys conducted in areas of humanitarian interest.

Advanced Artificial Intelligence tools are periodically applied to all these data to find patterns of affectation in different territories. All this is shared in an organized way through a web page in a valuable exercise of data collection and visualization through maps and infographics, under the name of PREDISAN.

Through PREDISAN we have monitored the intensity of the drought affecting Central America using rainfall data systematized monthly by NOAA satellites, from which we have calculated the Standardized Precipitation Index (SPI). In an SPI record, each monthly value is compared with all previous rainfall records for that month or the time period considered, so that SPI-3 refers to three months, while SPI-6 compares in a normalized way the rainfall of a specific 6-month period in a specific territory or area, with the average rainfall value for those 6 months available in the whole historical series. The SPI thus translates into the number of times a particular value of accumulated rainfall in a time period deviates from the series mean, measured in units of standard deviation. The SPI regularly varies between -3 and +3.

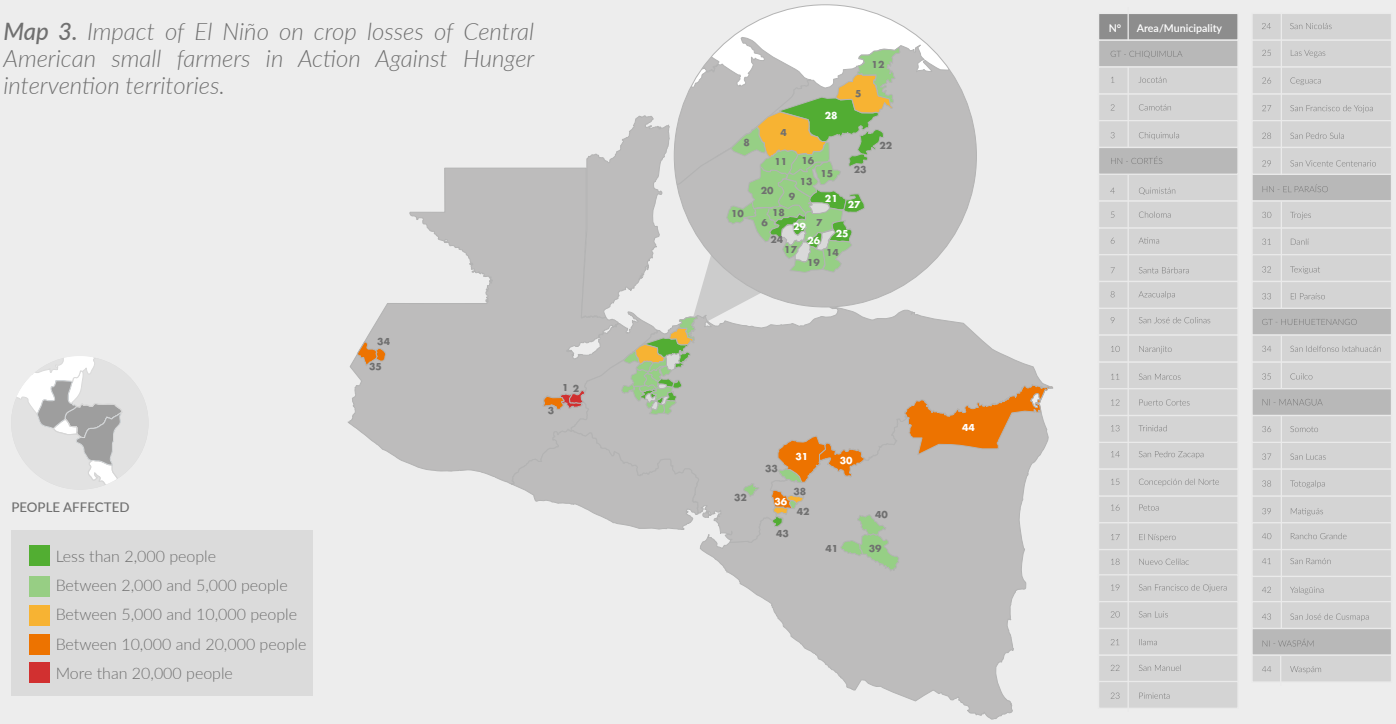
Applying this methodology to Central America during the first three months of the staple grain growing season (May-July), PREDISAN allows us to identify the territories in which the lack of rainfall has been most intense during 2023, which is particularly noticeable in a large part of Guatemala, especially in the central region and Petén, northern Honduras and southern Nicaragua.



Map 2. Three-month Standardized Precipitation Index (SPI-3) for Central America for the period May-July 2023.

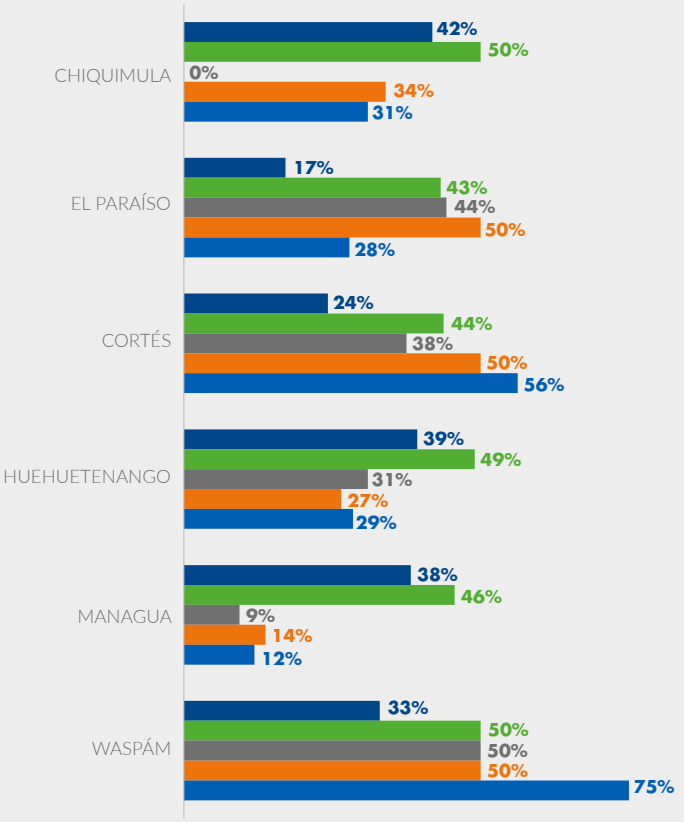
In August 2023, Action Against Hunger teams in these three countries made field visits to areas where various food assistance, socioeconomic development and disaster preparedness projects are already being implemented. This rapid assessment made it possible to evaluate the likely percentage of crop losses as assessed by the affected farming families themselves. The following map summarize the magnitude of expected losses in the departments and territories assessed by the Action Against Hunger teams.

Map 3. Impact of El Niño on crop losses of Central American small farmers in Action Against Hunger intervention territories.



N°	Area/Municipality
GT - CHIQUIMULA	
1	Jocotán
2	Camotán
3	Chiquimula
HN - CORTÉS	
4	Quimistán
5	Choloma
6	Atima
7	Santa Bárbara
8	Azacualpa
9	San José de Colinas
10	Naranjito
11	San Marcos
12	Puerto Cortes
13	Trinidad
14	San Pedro Zacapa
15	Concepción del Norte
16	Petoa
17	El Níspero
18	Nuevo Celilac
19	San Francisco de Ojuera
20	San Luis
21	Ilama
22	San Manuel
23	Pimienta
24	San Nicolás
25	Las Vegas
26	Ceguaca
27	San Francisco de Yojoa
28	San Pedro Sula
29	San Vicente Centenario
HN - EL PARAÍSO	
30	Trojes
31	Danlí
32	Texiguat
33	El Paraíso
GT - HUEHUETENANGO	
34	San Idelfonso Ixtahuacán
35	Cuilco
NI - MANAGUA	
36	Somoto
37	San Lucas
38	Totogalpa
39	Matiguás
40	Rancho Grande
41	San Ramón
42	Yalagüina
43	San José de Cusmapa
NI - WASPÁM	
44	Waspám

AVERAGE PERCENTAGE OF PEOPLE AFFECTED BY AREA

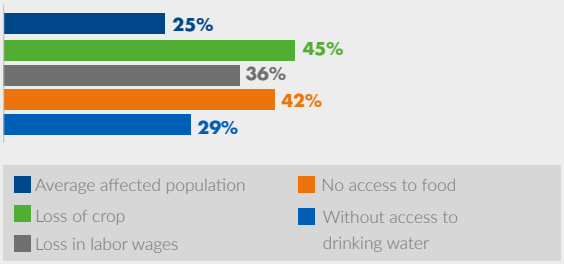


The results obtained have been extrapolated to the total agricultural population of the municipalities evaluated: 1,100,000 people[2].

Of these, between 250,000 and 500,000 people are currently in a situation of total and partial crop loss that would affect family food security: between a quarter and half of the population engaged in agriculture in the Central American Dry Corridor would be in an emergency situation.

In this rapid assessment, socioeconomic and food aspects have also been considered to determine the level of impact of the municipalities analyzed. Thus, the following maps show the percentage of the population without access to food, without access to water and who have seen their income reduced as agricultural wages:

PERCENTAGE OF AVERAGE TOTAL NUMBER OF PEOPLE AFFECTED

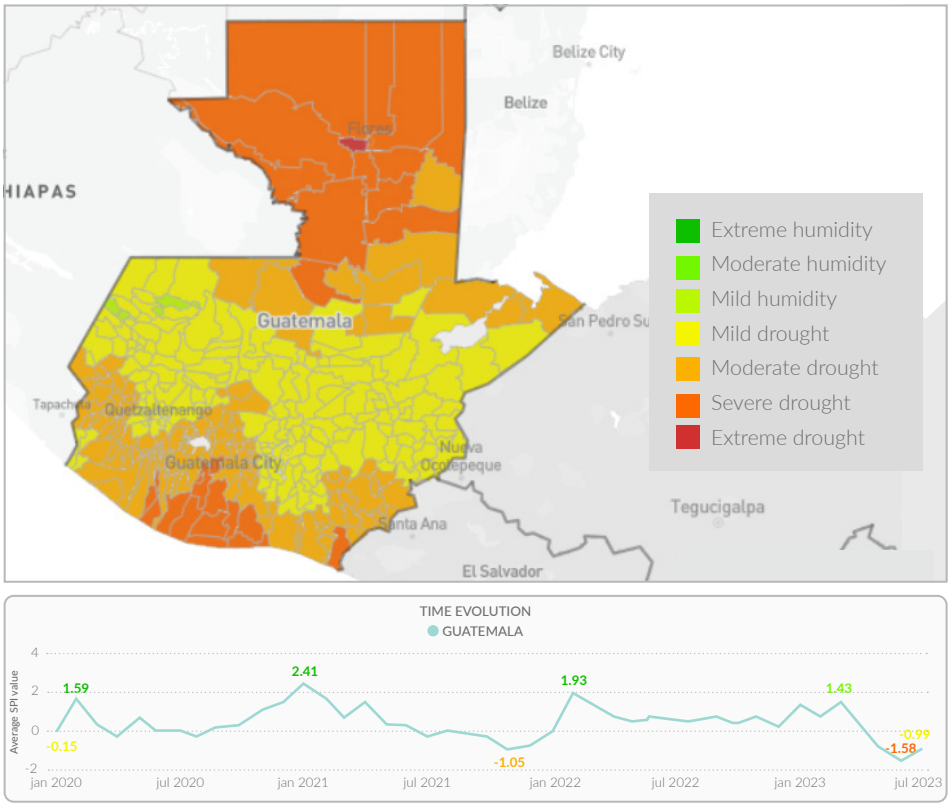


[2] Extrapolating the data obtained to the total resident population in the municipalities evaluated: 3,200,000 people according to the 2023 population projection of the National Censuses of Guatemala, Honduras and Nicaragua, of which approximately one third would be population mainly engaged in agricultural activities (latest available agricultural censuses per country). https://www.ine.gob.gt ; https://ine.gob.hn/v4 ; https://www.inide.gob.ni https://www.ine.gob.gt ; https://ine.gob.hn/v4 ; https://www.inide.gob.ni

SITUATION IN GUATEMALA

The aforementioned report on the effects of El Niño in the region,[3] highlights that the Central American Dry Corridor, which includes Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua, is particularly vulnerable to extreme weather conditions and could suffer serious consequences due to El Niño.

The PREDISAN tool offers a territorial analysis of the precipitation deficit associated with the first three months (May-July) of the essential growing season for the farming families of the Guatemalan Dry Corridor. Map 4 shows how, according to the analysis carried out using SPI, large areas of the country have had below-average rainfall, severely in much of the Petén region, while it would be mild for that period of time in much of the Dry Corridor and somewhat more intense in the southern coast of Guatemala. For all these reasons, it can be expected that the harvest of staple grains (maize and beans) will be affected. In the graph that accompanies the map, we can see that in the month of June the highest deviation (-1.58) for precipitation deficit for the country as a whole in the last three years was reached.



Map 4. SPI analysis for 3 months (May-July 2023) corresponding to Guatemala.

In this area, seasonal forecasts and pre-existing vulnerability factors will significantly increase humanitarian needs, particularly in terms of **health and food security**. In its July global food security monitoring, FEWS NET has included Central America among the regions of the world at high risk of severe humanitarian impacts during the 2023-2024 El Niño season, which is consistent with estimates derived from PREDISAN. In the 2015-2016 El Niño episode, Guatemala experienced a severe drought that affected agricultural production and caused food shortages, especially in the Dry Corridor.

Community leaders during a visit to Guatemala.

Adding to this climate challenge are the high prices of staple foods, such as white corn and black beans, which have experienced unusual increases despite adequate supplies in the markets at present. This is due to an increase in demand for storage due to uncertainty about the climate impact on upcoming harvests, which is compounded by high production costs (price of fuel, fertilizers and other basic inputs). These factors are forcing households in a more precarious economic situation to reduce the amount of food in their daily diet, leaving them with gaps in consumption.

[3] "El Niño Overview. Expected humanitarian impact in 2023".

SITUATION IN HONDURAS

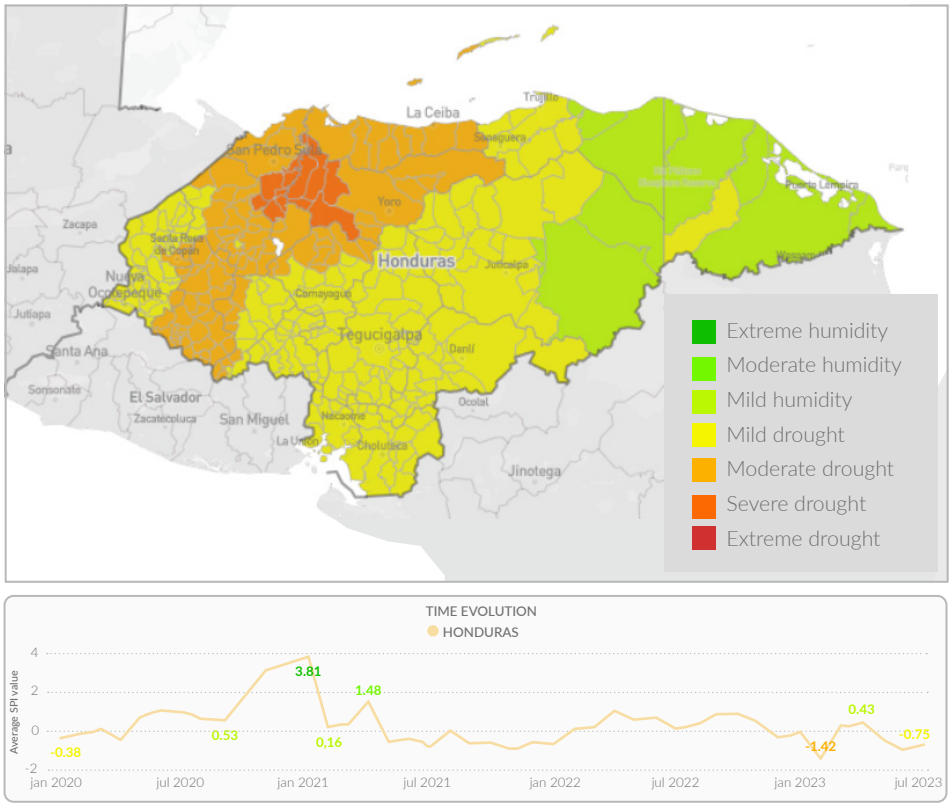
In Honduras, a yellow alert has been declared in 85 of the country's 298 municipalities due to the drought caused by the El Niño phenomenon. This alert will remain in effect indefinitely. The remaining 213 municipalities[4] are on preventive alert (green), according to the Secretariat of State in the Offices of Risk Management and National Contingencies (COPECO).

This measure is based on forecasts by the Center for Atmospheric, Oceanographic and Seismic Studies (Cenaos), which predicts a period of "low rainfall" at different times, which will affect water supply in most municipalities. The purpose of this alert is to contribute to food security, nutrition and access to water for human consumption.

The water shortage caused by the El Niño has also had an impact on the availability of water for power generation. The hydroelectric power production has fallen to 30% in recent weeks.[5] The Electrical Interconnection System of Central American Countries (SIEPAC), which manages 1,793 kilometers of transmission lines between Guatemala and Panama, reports a 10% reduction in hydroelectric generation in the region[6].

The Honduran government has recognized the seriousness of the electricity supply situation that is causing constant blackouts and is expected to have a direct impact on the country's Gross Domestic Product (GDP).

The SPI-based rainfall analysis provided by PREDISAN (see map 5) identifies the municipalities in Honduras where rainfall has been most severely reduced with respect to the average of the historical series, with the Northwestern zone being the most affected, specifically part of the departments of Cortés and Yoro. The Eastern zone, which includes the departments of Gracia de Dios and part of Colón and Olancho, has received slightly above average rainfall.



Map 5. SPI analysis for 3 months (May-July 2023) corresponding to Honduras.

Coffee harvest.Honduras.

According to the report published by FEWSNET in July 2023, the most impoverished households in the Dry Corridor of Honduras "will face Crisis (Phase 3, IPC) outcomes as a result of the seasonal deterioration of food security (lack of food reserves and low seasonal demand for labor), in addition to the impacts suffered in previous years".

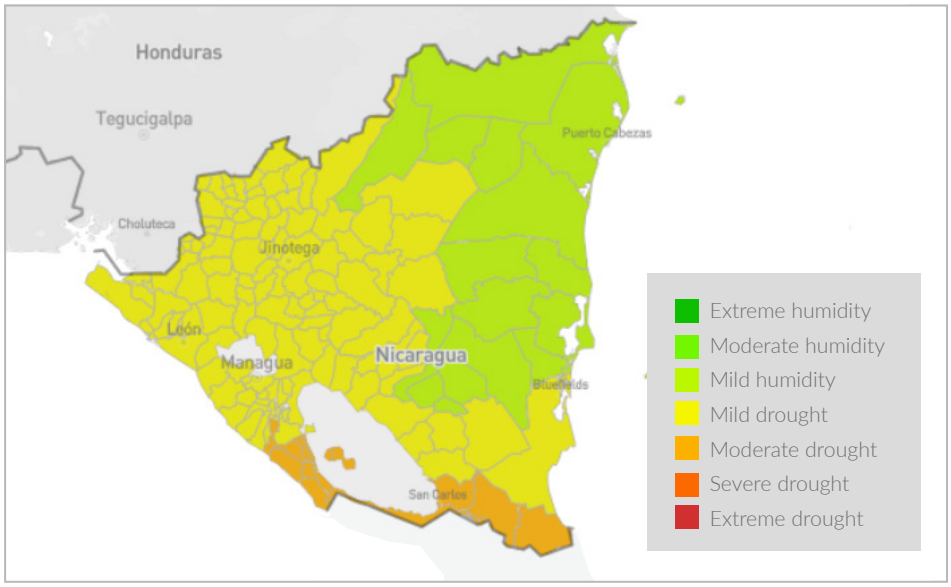
High prices for basic products, such as red beans, and high inflation are putting pressure on the population's purchasing power. Through June, food inflation in Honduras had increased by 10.1% compared to the same period last year, and the basic food basket had risen by 14.3% compared to the same period. Although inflation is expected to remain stable for the rest of the year, prices will remain above average, which will affect access to food for non-producing rural households and prolong their dependence on the market.

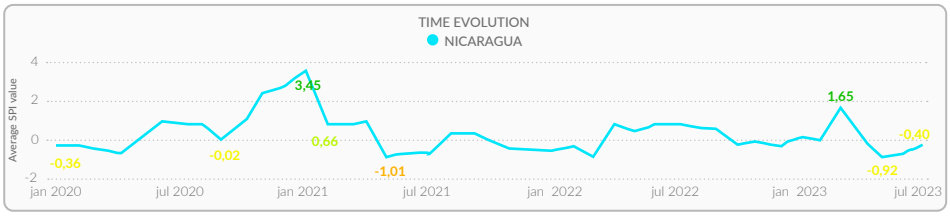
[4] https://efeverde.com/honduras-sequia-el-nino/
[5] https://www.elheraldo.hn/honduras/xiomara-castro-crisis-energetica-racionamientos-honduras-ID137612836
[6] https://www.elnuevosiglo.com.co/articulos/06-07-2023-fenomeno-de-el-nino-reduce-generacion-electrica-en-centroamerica#:~:text=El%20fen%C3%B3meno%20clim%C3%A1tico%20de%20El,con%20sede%20en%20San%20Salvador

SITUATION IN NICARAGUA

The rainy season in the country has started late and with low rainfall in May, and has continued with erratic rainfall and high temperatures. It is estimated that most of the country will record below-normal rainfall between July and September and dry conditions are likely to continue through October.[7]

According to the analysis provided by PREDISAN (see map 6), rainfall in Nicaragua between May and July was above average in the Northern and Southern Caribbean Autonomous Regions (Atlantic zone), while in the Pacific zone rainfall was slightly below the historical average.[8]





Map 6. SPI analysis for 3 months (May-July 2023) corresponding to Nicaragua.

Although the lack of rainfall is not as marked as in Guatemala or some areas of Honduras, producers in the Department of Madriz, in the north of the country, have stated that the lack of rainfall in the Primera Cycle has been the main factor affecting crops (flowering, growth, grain development). In general, beans and corn in some areas and communities of the department have suffered losses of up to 70% of expected production. However, despite the forecasts, for the next production cycle (Postrera) producers have guaranteed seed for planting.

On the other hand, food inflation reported year-on-year increases of almost 14%, while the basic food basket has had an increase of up to 14.3% in June compared to the same period in 2022.

Corn crops affected by drought.Central America.

Inflation is expected to be stable, but prices will remain on the rise, affecting food access for rural non-producer households and for producers who will be dependent on the market for a month longer than normal until Primera's harvest in September[9].

Although migration in Nicaragua has several causes, the lack of job opportunities and poverty in areas mainly located in the Dry Corridor, are the main factors that expel those who live in rural communities such as those located in the department of Madriz. The preferred destinations for those who decide to leave their homes are El Salvador, Spain and the United States.

[7] https://reliefweb.int/report/world/acaps-thematic-report-el-nino-overview-anticipated-humanitarian-impact-2023-25-july-2023#:~:text=Based%20on%20seasonal%20forecasts%2C%20in,the%20Pacific%20(dry%20conditions)

[8] https://www.ineter.gob.ni/boletinclimaticodecenal.html

[9] https://fews.net/es/latin-america-and-caribbean/el-salvador-honduras-y-nicaragua/actualizacion-de-mensajes-clave/julio

IN SPITE OF THE EFFORTS, THE HARVEST WILL BE INSUFFICIENT

Felix Ramirez Süchite, farmer in Guatemala

Most of the basic grain farmers in eastern Guatemala, like Félix, started planting their crops in early May.

Others waited until June, but have obtained similar results; the harvest that will be harvested throughout September this year will be between 40% and 90% lower than in previous years as a result of the scarcity of rainfall in the last three months, especially at the beginning of the crop cycle.

Félix tells us that for this harvest he expects to produce 5 quintals of corn per manzana, while last year he obtained a production of 24 quintals per manzana. The harvest he will obtain "will not be enough on its own to feed the family for the whole year". However, he hopes to be able to cope with this difficult situation with a small reserve of corn that he still has left over from last year, in addition to having a mini-irrigation system, which allowed him to irrigate part of his crop, saving it from the drought. These two measures are an example of climate resilience and also show the need to promote disaster preparedness measures.

Another alternative to the loss of crops that his family and neighbors resort to is the production and sale of handicrafts, so that with the minimal profits obtained they buy the corn of the day. "That is why there is poverty in the community, there are no good harvests and there are no other sources of income," refers Felix, who mentions that currently the cost of corn and beans, which is the main food of the day, "is very expensive" and that "eating beans is like eating meat." He also points out that for next year's planting he will have to buy seed, because the quality of the grain he harvested is not adequate.

NO HARVEST, PEOPLE WILL LEAVE

Mercedes de Carmen Perez Hernández, producer associated with the Cooperativa de Turismo Rural Comunitario (COTUCPROMA) in Nicaragua

In the community of San José de Palmira, in the municipality of Totogalpa (Madriz), where Mercedes del Carmen Pérez Hernández lives, the corn and bean crops "yellowed" due to the lack of rain. The harvest was poor, they barely managed to harvest 50 pounds of beans from the apple planted and the corn was lost: "Only the bushes were left as guate (cattle feed), but we have no cows".

Mercedes points out that, due to these crop losses, their availability of seed for post-harvest planting was affected and that in the families that did not manage to harvest, the women are leaving to work as household helpers in the municipal capitals and those who are unable to find local employment have to migrate to other areas to work as agricultural day laborers.

Mercedes is concerned that what happened with the Primera crop will be repeated in the Postrera cycle. "This will lead us to migrate to look for alternatives." For now, they have not reduced food consumption, but reserves are running low. To make ends meet, she works in the cooperative of which she is a member to earn income and be able to buy the food she does not have.

The families that have dug wells establish small cultivation areas, mainly vegetables; other families have built terraces and ponds to harvest water, "but it doesn't rain, nothing is retained," she explains. "We must make responsible use of water, making efforts to build gray water filters to reuse water," says Mercedes.

CURRENT ACTIVITIES

Mother participating in the integral health fair in Guatemala

Families producing basic grains on small plots of land in the Central American Dry Corridor are historically the most affected by the incidence of extreme climatic phenomena.

The periodic reduction and/or irregularity of rainfall has a direct impact on the economy of approximately 1.5 million Central American households engaged in small-scale agriculture, most of them subsistence farmers (7.5 million people), whose main livelihood is the cultivation of basic grains (maize and beans) and seasonal work on coffee plantations and other export crops. Their livelihood thus depends on harvests from small, hand-worked farms (on average 1.2 ha in Guatemala and El Salvador, 2.4 ha in Honduras and 2.8 ha in Nicaragua), and that little land is often characterized by adverse conditions; dry, stony slopes, with up to 30% slope. These starting conditions are what increase the vulnerability of such producers to climatic events that deviate from the averages, such as those associated with El Niño.

In general, the situation of this population group has worsened in recent years:

i) their crop productivity has decreased;

ii) the percentage of households without direct access to land or with very limited access has increased;

iii) many landless rural households have had to diversify their employment strategies towards non-agricultural activities, as well as seasonal or permanent emigration of some of their members;

iv) there has been a significant reduction in the area under cultivation or plots of land, also reducing the average area planted per family;

v) basic grains farms do not generate sufficient production of corn and beans for the families' annual self-consumption.

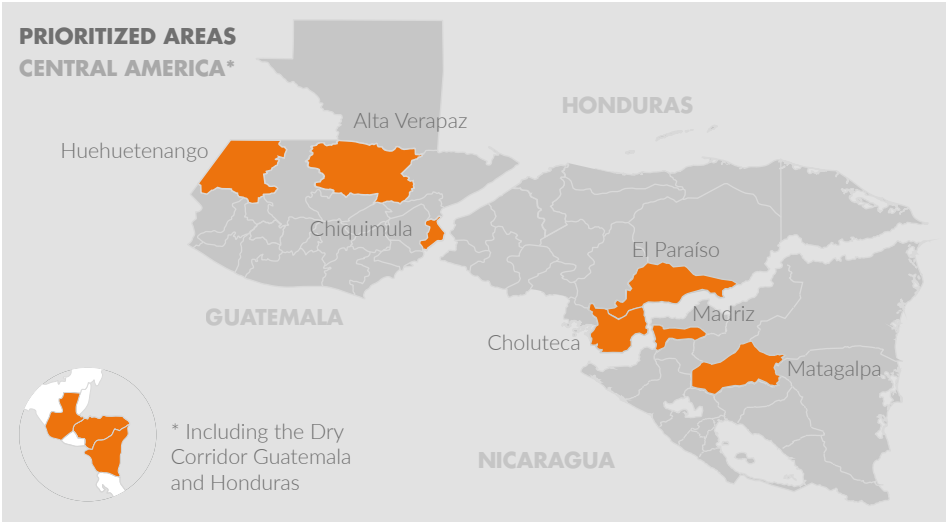
The children of these peasant families are the ones most affected by chronic malnutrition, and periodically by acute malnutrition.

At Action Against Hunger in Central America, we prioritize support to families of special vulnerability within the group of rural households characterized briefly above, whose main livelihood is small and random agriculture. This more specific group is made up of mothers who are heads of household without regular income, elderly adults with chronic illnesses and without a support network, with or without dependent children, families with some of their members in a situation of disability or dependency, households in which some of their children are in a situation of acute malnutrition, families who are victims of violence and/or at risk of protection.

PRIORITY ACTIONS FOR THE NEXT PERIOD

In September 2023 we are in the initial phase of El Niño, an anomalous climatic period that may last between 9 and 18 months, so there is still time for its main consequences and humanitarian impact to become evident. In this period, from Action Against Hunger we prioritize the following actions to be undertaken during an initial period of 6 months. Most of these activities are already underway, but we believe it is important to extend them to more territories and families.

Our goal is to be able to reach **25,000** people, for which a budget of **4,000,000** euros is required.

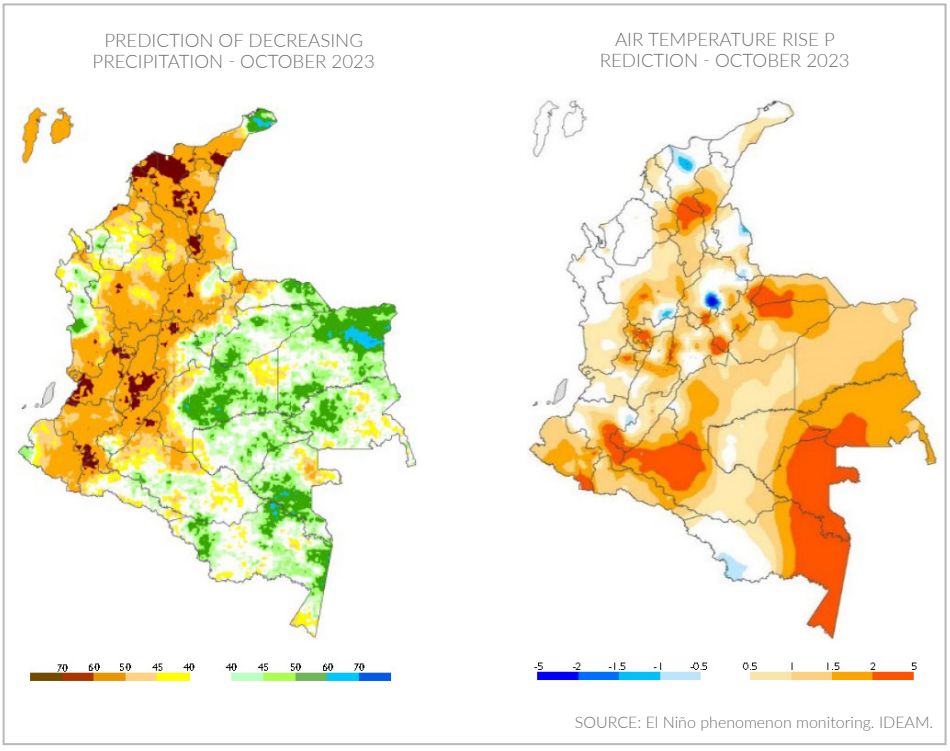


AREAS OF WORK	PRIORITY OBJECTIVES	ACTIVITIES prioritised for the next 6 months
I. PEOPLE	I.1. Providing early food assistance and post-disaster cash transfers	• Establishment of pre-agreements with local suppliers. • Provision of anticipated food assistance through multi-purpose cash transfers (MPCA) to vulnerable households with a high probability of being impacted during the current El Niño period. • Provision of MPCA to households that have lost homes and/or livelihoods due to the impact of extreme weather events.
	I.2. Strengthen local capacities to monitor, prevent and treat child malnutrition	• Support to health services and community nutritional surveillance system. • Diagnosis of the capacities of health personnel and health services for the care and response to acute malnutrition. • Referral and treatment of children with acute malnutrition. • Creation of Food and Nutrition Security Field Schools for the improvement of dietary habits
II. TERRITORIES	II.1. Promote livelihoods less exposed to extreme weather events	• Creation of revolving funds and micro-credit lines to enable the adoption of climate-smart technologies and increase the added value of agricultural products. • Employment training, especially for young people, to diversify household incomes. • Financing, technical assistance and mentoring for young people and women entrepreneurs in rural areas.
	II.4. Promote climate-resilient agriculture and livestock farming in the territories	• Support to municipalities, local associations and cooperatives for the dissemination and replication of good agricultural practices and climate resilience: community seed banks, drinking water committees, conservation agriculture, green manure, agroecology. • Provision of technical advice to producers in the Dry Corridor to adopt new productive technologies better adapted to extreme climatic phenomena.
III. SYSTEMS	III.1. Increase access to social safety nets for families most vulnerable to the impact of extreme weather events	• Detailed mapping of public social protection programmes. • Definition of household profiles according to their vulnerability. • Design of protocols to facilitate differentiated access of vulnerable households to social protection programmes.
	III.3. Strengthen and promote PREDISAN, an early warning system focused on food security	• Establishment of agreements and partnerships with multiple humanitarian actors in order to standardise data collection and data sharing processes. • Analysis of information from multiple sources and identification of food and nutrition insecurity (FNS) risk situations and areas of concern. • Contribution to inter-agency FNS analysis efforts under the IPC Initiative. • Strengthening through the PREDISAN group the articulation between humanitarian actors for anticipation, advocacy and coordinated response to extreme hydro-meteorological phenomena that can cause disasters, particularly droughts.

SITUATION IN COLOMBIA

In Colombia, the El Niño Southern Oscillation (ENSO) anormal climate effects have been characterized by a reduced rainfall and elevated air temperatures conditions[10].

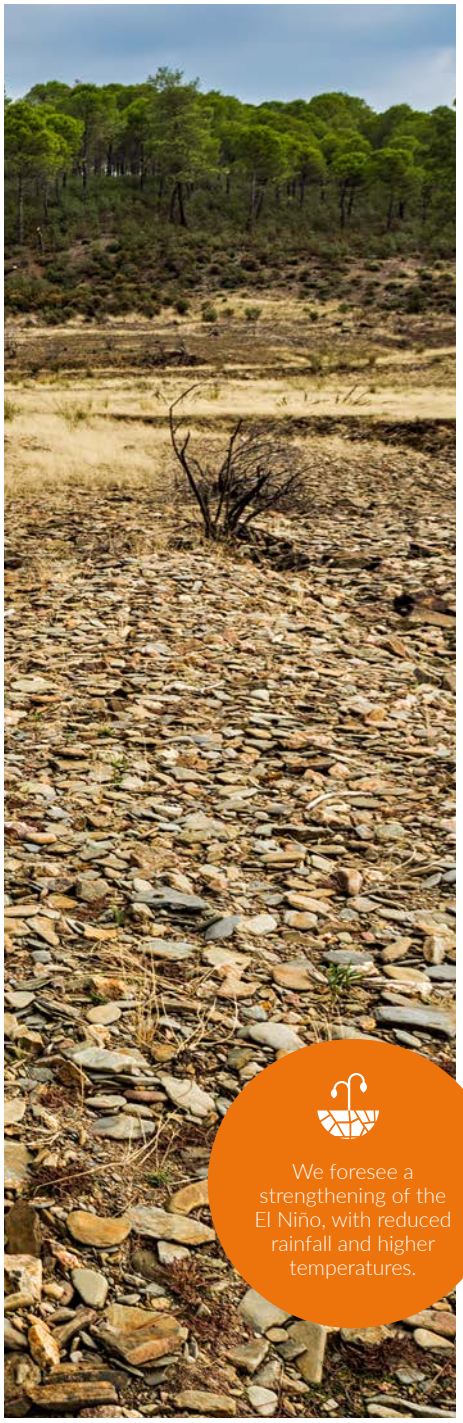
According to historical records, the occurrence of the El Niño in Colombia has led to significant economic, social and environmental impacts associated with severe drier than normal conditions. These include problems in the supply of aqueducts, increased fires, reduced energy generation capacity (hydroelectric plants), reduced agricultural and livestock productivity, and an increase in tropical diseases[11].



Map 7. Predicted decrease in precipitation and increase in air temperatures

In the current forecast for ENSO in Colombia[12] it is expected that the phenomenon intensity will strengthen, transitioning from weak to moderate, this implies an average rainfall reduction between 10% and 20% in the Caribbean, Andan, Orinoco, Amazonian, and Pacific Regions[13]. In addition, the average air temperature is expected to increase by 0.5°C to 2.5°C in most parts of the country[14].

This forecast is in line with the information gathered from the communities that participated in the survey 'Community Perception of Vulnerabilities and Impacts Associated with ENSO' we conducted in August to understand, from the community's perspective, the main impacts related to previous events and the prediction of possible impacts. The collection of this information was designed using a random statistical method to ensure a representative sample of the population.



[10] DNP (2018) Conpes 3947. Strategies for Action and Coordination to Reduce Impacts in the Eventual Occurrence of a Climate Variability Phenomenon.

[11] UNGRD (2018) National Contingency Plan for Possible El Niño Phenomenon. Bogot

[12] Institute of Hydrology, Meteorology and Environmental Studies (IDEAM) of Colombia.

[13] "Departments of Antioquia, Norte de Santander, Boyacá, Cundinamarca, Tolima and Huila in the Andean region; in the east of the departments of Cauca and Valle in the Pacific region; south of Casanare and north of Arauca in the Orinoco region; as well as in the foothills of Caquetá and central-east of Guainía in the Amazon region" (Source: Government of Colombia (2023) - National Communiqué - Current El Niño-La Niña Conditions. Communiqué No. 8 August 2023.

[14] Government of Colombia (2023) - National Communiqué - Current El Niño-La Niña Conditions. Communiqué No. 8 August 2023.

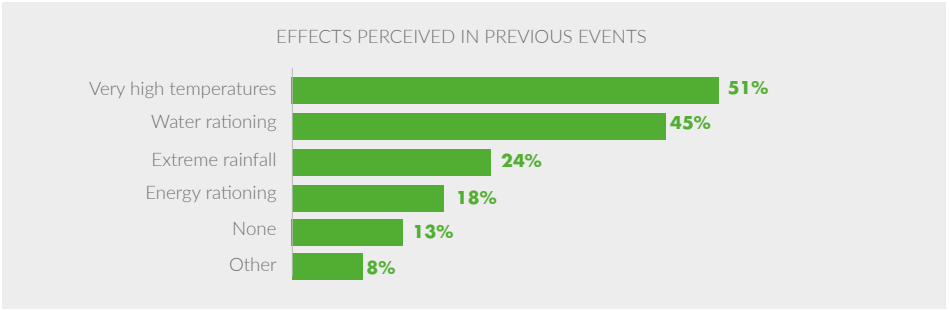
51% of the communities indicated that the most significant impacts perceived in previous events were the high temperatures, while 45% mentioned water restrictions, in addition to extreme rainfall that caused emergencies in the departments of Atlántico, Cundinamarca, Norte de Santander, and Santander.

When questioned on their perceptions on climate change, 84% of the communities' state that temperatures have increased, and rain cycles have changed significantly. Although the ENSO configuration is expected in late 2023 and early 2024, impacts are already being observed in crops production cycles, restricted land and river access to communities, and major health risks as there is an increase in vector borne diseases, snake bites and scorpion stings.

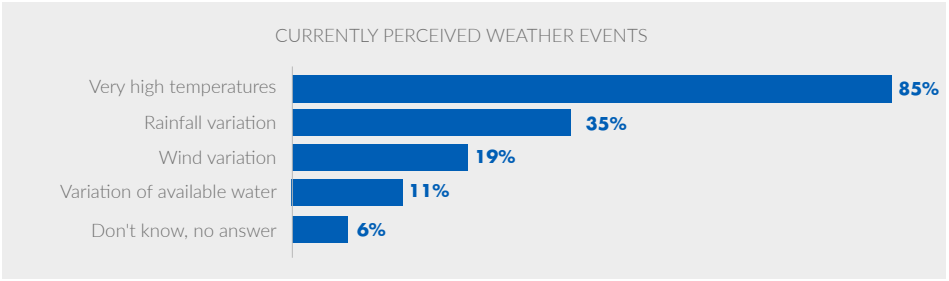
In terms of the main areas of vulnerability, it is estimated that around 22 million people will be susceptible to a direct impact on their **food security**[15]. 63% of the communities estimate that their agricultural activity will be affected as El Niño evolves, as the severe climatic conditions affect agricultural cycles and the cultivated area, which are expected to decrease and even lose seeds and vegetative cover.

In the Caribbean region (especially departments of Atlántico, Sucre, and Guajira, which are the most critical), 84.3% of the individuals have identified a probable increase in food prices. 48.8% indicated that the food likely to experience the greatest price increase will be protein, while the foods most likely to face scarcity are vegetables and legumes (51.2%). This situation affects dietary diversity, access to essential micronutrients, and income generation derived from the sale of agricultural products and surplus.

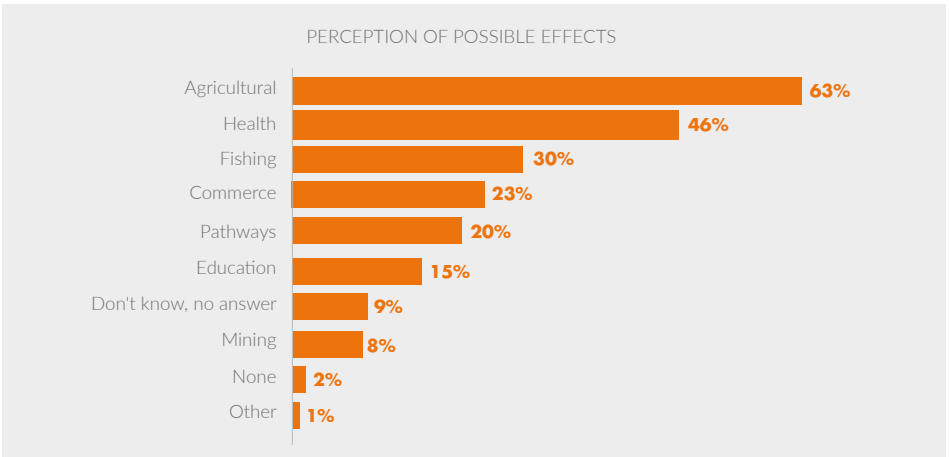
With regard to **water and health**, in the previous ENSO event (2014-2016), 358 public calamities were declared, 52% of them related to water supply shortages and rationing[16]. The evolution of ENSO predicts a direct impact on water access due to the decrease in river flows and water sources. This situation is complex, given that currently 12 million people face inadequate access to safe water[17].



Graph 1. Community perceptibility survey. Action Against Hunger 2023.



Graph 2. Community perceptibility survey. Action Against Hunger 2023.



Graph 3. Community perceptibility survey. Action Against Hunger 2023.

Learn more in the full survey HERE

[15] Food Security and Nutrition Cluster. Colombia (2023). Estimation of people susceptible to food insecurity.
[16] UNGRD. 2023. Comparative Analysis of El Niño Phenomenon 1997-1998/2014-2016
[17] Presidency of the Republic. 2023.

Therefore, with the progression of El Niño, 84% of the surveyed individuals state there will be adverse effects on the quantity, frequency, and quality of water sources, affecting agricultural and livestock activities, energy generation (hydroelectric power), and consumption. Additionally, an increase in the prevalence of tropical diseases (Dengue, Zika, Chikungunya, and Malaria) is expected, linked to vector proliferation, water stagnation, unsafe water, and inadequate water storage. 46% of the people expressed concerns about potential health impacts arising from these factors, exacerbated by limited access to healthcare services, due to the poor state of river and land access roads.

CURRENT ACTIVITIES

In the territories where we operate, a significant part of our activities is focused on ensuring access to safe water, basic sanitation, healthcare, and food security. In the departments of Putumayo and Amazonas, through the Amazon Alliance project, we provide tools for reducing environmental disaster risks, particularly those related to water source contamination. Nationally, through the Emergency Response Mechanism (MIRE)[18], we offer lifesaving integrated assistance to mitigate the effects of natural disasters and armed conflict. Finally, we will continue monitoring the effects of the El Niño phenomenon by conducting periodic analyses based on the survey conducted in August.

WHEN THERE IS EXCESSIVE HEAT OR RAINFALL, OUR CROPS WEAKEN, TREES TOPPLE, EVERYTHING ROTS AND THEN THE FOOD SHORTAGES BEGGING

"While we are facing drought, we prepare for the coming storm. In the Sierra Nevada, we've gone up to 8 months without a single drop of rain. That's why the Wiwa people embark on spiritual journeys, praying that, when the rain arrives, it won't bring a violent storm. Our elders have advised us to get ready for diseases like diarrhea and to store at least six months' worth of food.

Crops are suffering the consequences of climate change. Excessive heat or rain weakens them, trees topple, everything rots, and then food becomes scarce. In such times, we must sell or consume our animals. We also exchange food produced in the highlands with the communities from the lowlands, helping each other to have diverse food. We've lost many long crops that would have taken a year to be ready for harvest, such as coffee.

We also face water problems as streams dry up, and we must trek to mountain springs. This puts our girls at risk as they must walk long distances to fetch water. Animals also go hungry and thirsty; the pastures dry up, and the animals migrate. It is our duty to care for them, which is why we don't milk the goats in the summer, so they can provide milk to their calves and avoid their deaths."

Lejandrina Pastor Gil, a female leader of the Wiwa people of the Sierra Nevada de Santa Marta.

Photographs WIWA.

Lejandrina working with her daughters in her community.

[18] Intersectoral Emergency Response Mechanism, which operates thanks to funding from ECHO, BHA, AECID and SDC.

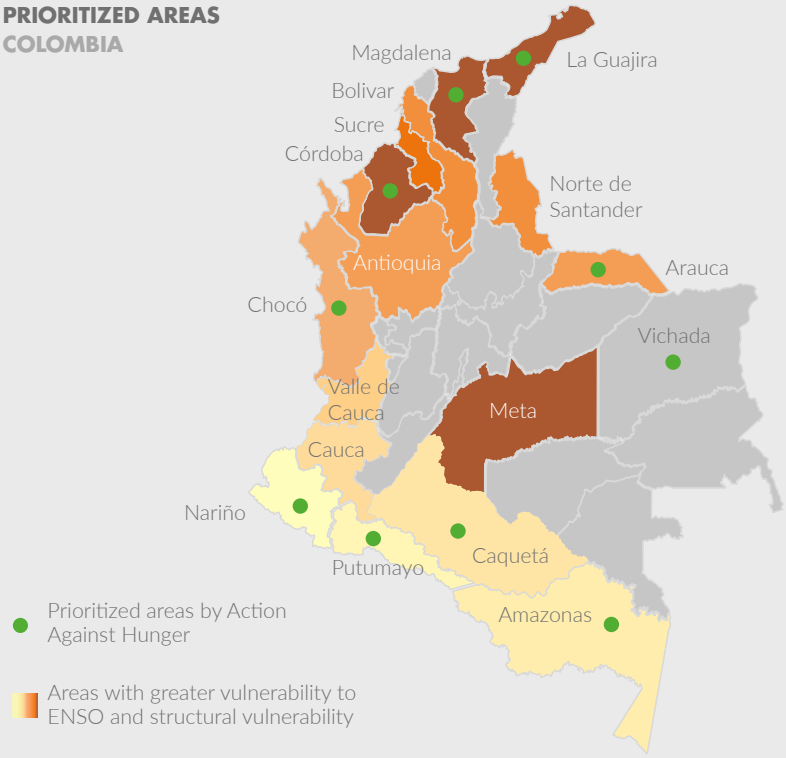
PRIORITY ACTIONS FOR THE NEXT PERIOD

Based on current forecasts and community feedback, we consider of special importance to focus our efforts on the Caribbean region (Guajira, Córdoba, and Cesar), Eastern Region (Norte de Santander, Vichada, and Catatumbo), Amazon Region (Putumayo, Nariño, Caquetá, and Amazonas), and the Pacific region (Chocó, with particular emphasis on the Darién border area).

In these areas, we consider migrants and displaced persons as a population requiring special attention, as well as the rural population, especially ethnic communities, because the effects of El Niño are superimposed on structural problems associated with the armed conflict, illicit economies and multidimensional poverty, which exacerbates their vulnerabilities and makes them population groups with greater needs for protection and attention.

In order to scale up our response, we consider it key to carry out the following activities in the next 6 months, which will allow us to serve **20,000** people with an estimated budget of **3.5 million** euros:

PRIORITIZED AREAS
COLOMBIA

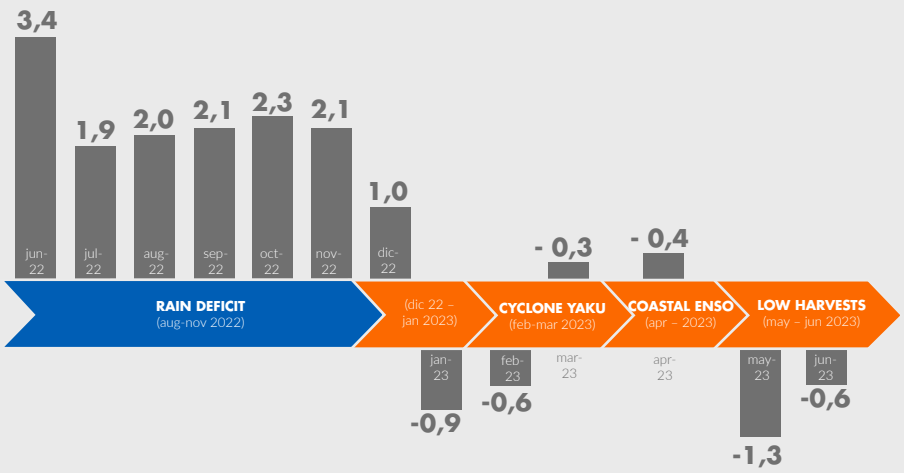


AREAS OF WORK	PRIORITY OBJECTIVES	ACTIVITIES prioritised for the next 6 months
I. PEOPLE	I.1. Providing early food assistance and post-disaster cash transfers	• Food assistance for the population affected by floods due to increased rainfall or prolonged drought.
	I.2. Strengthen local capacities to monitor, prevent and treat child malnutrition	• Strengthening community-based screening and treatment activities for malnutrition.
	I.3. Improve access to safe water and shelter in drought/flood affected areas	• Reinforcement of water filtration systems (filters or alternative methods). • Delivery of supplies to prevent vector-borne diseases and preventive measures against ophidian accidents.
II. TERRITORIES	II.1. Promote livelihoods less exposed to extreme weather events	• Technical assistance to community actors for the analysis of changes in the territories and the establishment of mitigation and response plans.
	II.2. Improve the sustainability and efficient management of municipal and community water supply and waste management systems	• Strengthening of community and school basic sanitation systems. • Rehabilitation/improvement of community water infrastructure.
	II.4. Promote climate-resilient agriculture and livestock farming in the territories	• Creation of seed banks (installation of silos) and strengthening of community infrastructure for food production.
III. SYSTEMS	III.2. Increase knowledge and advocacy on the vulnerability of specific territories and population groups to extreme climate events	• Identification of households and groups at risk through community baselines in areas of greatest vulnerability where access to information is not limited. • Carrying out multi-sectoral gender and protection analyses in the framework of potential impacts of El Niño on population groups with specific protection needs. • Production and dissemination of information and knowledge products.

SITUATION IN PERU

Peru has already experienced multiple El Niño events, each one with a greater impact on the population:

Variation of GDP (annual real GDP Var%) over the last year and weather events in Peru



Source:Elaborated with data from MARCO MACROECONÓMICO MULTIANUAL 2024-2027 APROBADO EN SESIÓN DE CONSEJO DE MINISTROS 27 DE AGOSTO DE 2023 and INEI

OTHER EFFECTS

	El Niño 1982-83		El Niño 2017	RAINS 2023*
Transportation (damaged roads)	2,600 Damaged km	+154%	6,614 Damaged km	8,129 Damaged km
Homes destroyed or affected	209,000	+98%	413,983	332,298
Schools damaged	875	+228%	2,870	11,053
Damaged health facilities	206	+259%	934	1,075

A 37% increase in fatalities and affected population was identified between FEN 1982-83 and FEN 2017.

* Situation prior to the onset of the Global Child 2023

Source: Decreto Supremo N° 101-2023-PCM Plan Multisectorial ante la ocurrencia del Fenómeno El Niño 2023 - 2024.

This year's El Niño-Southern Oscillation (ENSO) comes in the middle of the emergency response to the Cyclone Yaku and the El Niño Costero[19], causing a multi-annual El Niño, in which more than 14 million people would be at very high risk of heavy rains in the north (SINPAD 2023), accompanied by water deficit in the south, where droughts have impacted during last years due to the La Niña. It is also estimated that 1 million people will be affected by droughts, and the impact on the Peruvian economy is expected to be between 1% and 2% of GDP, with economic losses of up to S/. 18,600 million, although they could be higher, up to 5% of GDP, a new impact on the economy, in addition to those already suffered, due to the events experienced in Peru since 2022.

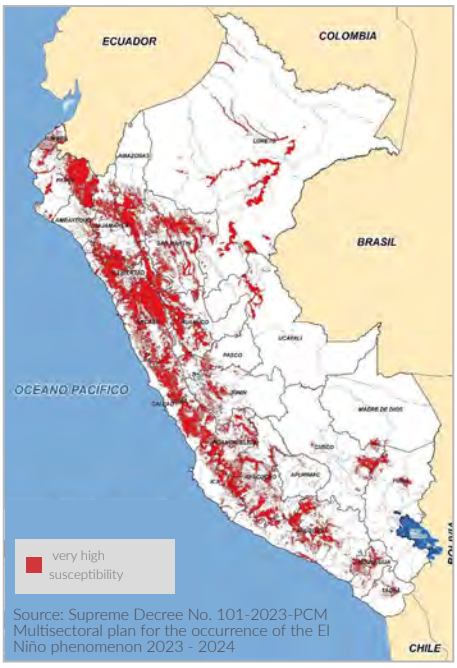
Agriculture and fishing

Due to water temperatures, fish such as anchoveta are migrating. Anchoveta is the most relevant hydrobiological resource in terms of landed volume (80.3% in 2021)[20]. Agricultural production, already reduced by 55,000 hectares of cultivated area, due to Ukraine war prices increase, is now impacted by El Niño effect. This has direct consequences on consumer prices: lemons price has increased up to 500%. This is already causing an impact on food security: the caloric deficit (indicative of people affected by the lack of food) reached 35.4% of children and adolescents in the country, increasing by nearly 7% compared to the same period in 2019 (28.8%), according to INEI[21].

[20] During the first half of the year, massive rains have occurred, coinciding with a Coastal El Niño, which have generated a national state of emergency level 5. Peru: Flooding Situation Report No. 09 (as of 14 August 2023) | OCHA (unocha.org)

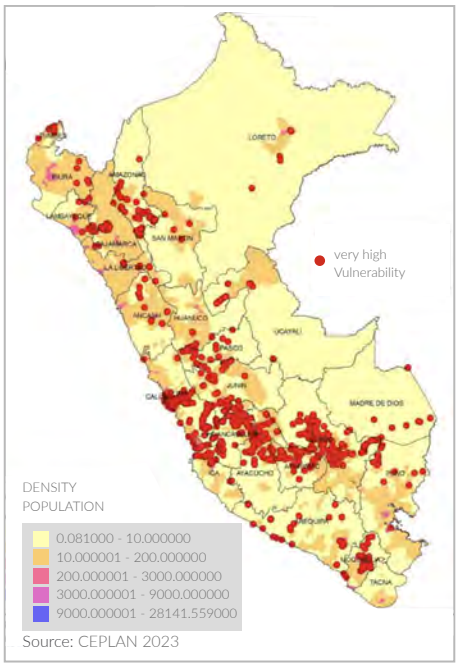
[21] Ministry of Production, 2022

[22] Second quarter of 2023



Map 8. Areas of very high susceptibility to floods and mass movements.

Map 9. Districts at very high risk for water deficit due to El Niño 2023-2024



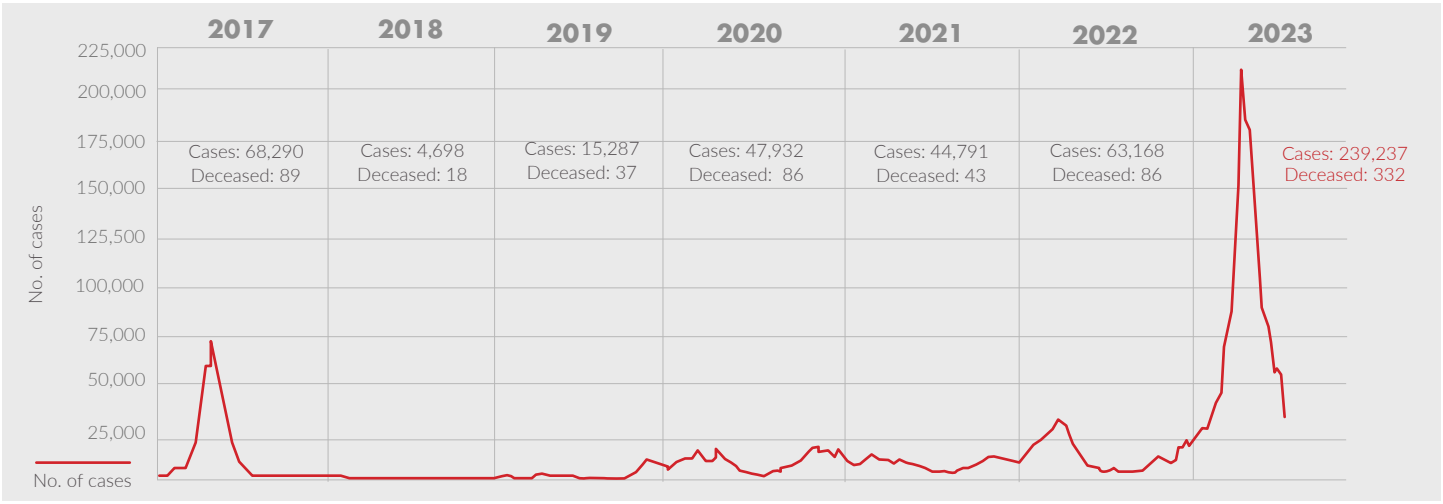
Map 10. El Niño extreme weather drought risk scenario for the 2023-2024 rainfall period.

Health

The combination of high temperatures, heavy rains and water accumulation will further increase the presence of dengue, chikungunya, zika and malaria vectors. In 2023 Peru has already suffered a sharp increase in the incidence of dengue fever, with a cumulative so far of 235,014 cases and 410 deaths, 186,401 more cases compared to 2022 and 166,724 cases compared to 2017, the year of the last El Niño phenomenon in Peru.

The increase of this type of diseases and others, such as leptospirosis, could once again collapse the health system, which does not have adequate preparedness and continuity plans.

El Niño increases risks in a very weakened country context. As we appointed, the consequences of the pandemic and the war in Ukraine[22] have affected agricultural production, food prices and in general have contributed to increased poverty and food insecurity. On the other hand, due to the political situation in the country, the capacity of public institutions to cope with the situation and implement actions to strengthen public systems, activate social protection and producer support programmes is very limited.



Graph 4. Number of dengue cases, Peru 2017 - 2023

The risks are even greater for the indigenous population. Leaders of the Awajun people reported to Action Against Hunger that they suffered flooding during this year's massive rains, as well as landslides with the loss of their homes and livelihoods. However, their territorial dispersion and the difficulty of access to many communities means that the emergency is being dealt with slowly, without allowing the communities to quickly recover their livelihoods. In the province of Amazonas, where we are developing the project "Indigenous Rapid Response (IRR)" with ECHO funds, there are more than 48,000 homes at high or very high risk of landslides which would affect almost 270 health centers. In addition, 124 populated areas are at high risk of flooding.

[23] Acción contra el Hambre, junio 2022

CURRENT ACTIVITIES

At Action Against Hunger we have set up a team in the north of the country (Piura, Lambayeque and Tumbes) in response to the emergency, to meet basic needs with the provision of food and hygiene products at family and community level, multipurpose cash transfers, installation of tanks and repair of water systems, provision of anti-vectorial kits and concerted actions with local governments and regional coordination bodies in order to increase resilience.

In Amazonas (rainforest), our Disaster Risk Management (DRM) intervention strengthens the emergency capacities of community-level authorities and governments and integrates Awajun communities in emergency planning and response mechanisms.

In Lima, we are coordinating with common pots in the areas hardest hit by the Cyclone Yaku emergency, and accompanying entrepreneurs in the inclusion of the DRM approach in their business plans.

In Ayacucho and Cusco (southern highlands), we support farmers exposed to the impact of drought and low temperatures, to increase crop productivity and animal husbandry for self-consumption and marketing.


Piura, Peru


Piura, Peru


Amazonas, Peru


Lima Metropolitana, Peru

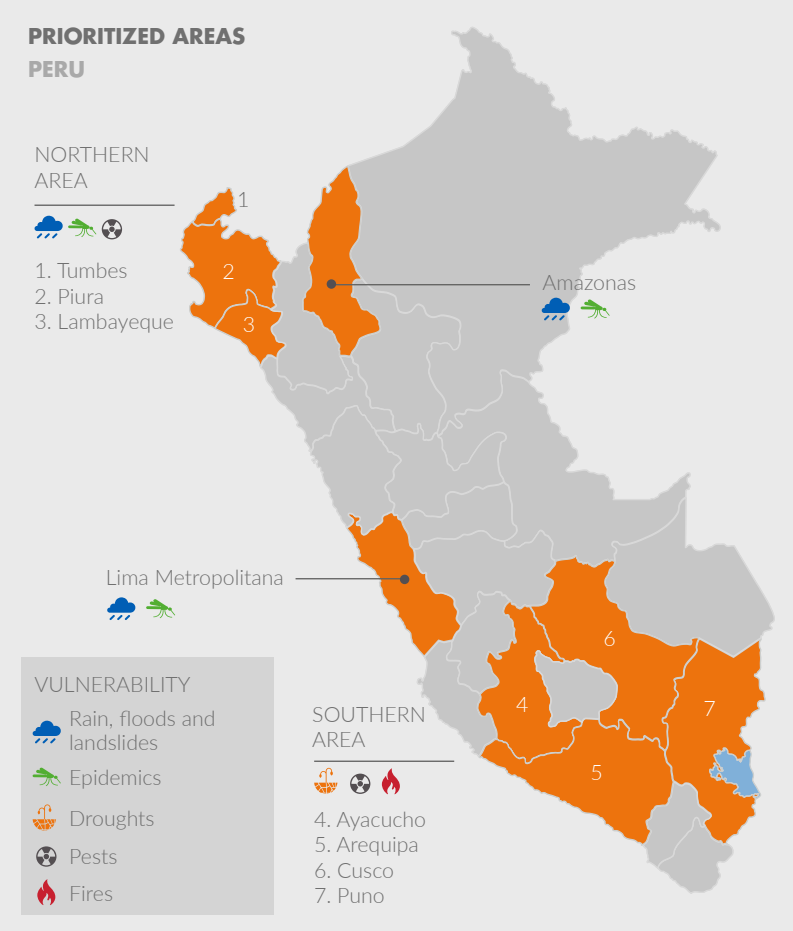
PRIORITY ACTIONS FOR THE NEXT PERIOD

It is essential to ensure human, logistical and material capacities to support most exposed people with food and cash assistance. At the same time, it is important to carefully identify the most vulnerable people, provide information on active social and health protection mechanisms and train them to improve their emergency response capacities.

The groups involved in the management of the response, whether at the community level (common pots) or at the institutional level (health centers, municipalities, others) need to have adequate infrastructure to minimize the impact of El Niño. It's key to ensure services continuity with contingency plans, that includes how to ensure staff coverage and the conditions for them to carry out their work, intra and extra mural.

Our actions in the promotion of rural enterprises also constitute a response mechanism to protect agricultural and livestock products, that are part of the livelihoods of the population of southern Peru.

The estimated budget for a 6-month response is **3.4 million** euros, to serve **60,000** people by carrying out the following activities:



AREAS OF WORK	PRIORITY OBJECTIVES	ACTIVITIES prioritised for the next 6 months
I. PEOPLE	I.1. Providing early food assistance and post-disaster cash transfers	• Cash transfers
	I.3. Improve access to safe water and shelter in drought/flood affected areas	• Provision of supplies to ensure hygiene, menstrual hygiene, prevention of COVID and vector-borne diseases. • Provision of emergency water storage system (in households and shelters) • Provision of water treatment supplies at household and shelter levels • Provision of equipment for shelters: Basic equipment for the adequate accommodation of affected people.
	I.4. Strengthen the capacities of health services to respond to climate-induced disasters	• Strengthening of the technical and operational capacities of the first level of health service
II. TERRITORIES	II.1. Promote livelihoods less exposed to extreme weather events	• Promoting employment and entrepreneurship in rural areas • Promoting employment and entrepreneurship in urban areas • Encouraging the involvement and co-responsibility of local stakeholders
	II.2. Improve the sustainability and efficient management of municipal and community water supply and waste management systems	• Construction, rehabilitation and improvement of water and sanitation points and systems • Local hygiene promotion campaigns
	II.3. Promoting behavioural changes to prevent child malnutrition	• Promotion of good maternal and child care practices and appropriate infant and young child feeding • Promotion of good hygiene practices for infant growth and for a healthy community environment • Promotion of home production and consumption of products with high nutritional value
III. SYSTEMS	III.1. Increase access to social safety nets for families most vulnerable to the impact of extreme weather events	• Identification and characterisation of households and groups at risk. • Design of antipatory activities to assist vulnerable families in coordination with local governments and public services.

REGIONAL RESPONSE

TARGET FOR 2023

	REACHED		TARGET
TARGET POPULATION:	310,450	56%	557,800
FINANCIAL REQUIREMENT:	€ 52,990,000	71%	€ 74,900,000

PEOPLE REACHED BY SECTOR

- 123,700 — FOOD SECURITY AND LIVELIHOODS
- 63,340 — HEALTH AND NUTRITION
- 168,280 — WATER, SANITATION AND HYGIENE
- 8,424 — RISK MANAGEMENT
- 7,348 — GENDER AND PROTECTION
- 4,134 — SOCIAL PROTECTION

CENTRAL AMERICA

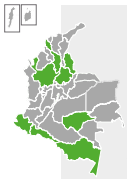
PEOPLE REACHED BY SECTOR

65,596 | 27,969 | 109,858 | 4,604 | 3,617

TARGET FOR 2023

	REACHED		TARGET
	198,660	132%	150,000
	€ 14,000,000	97%	€ 14,400,000

COLOMBIA



PEOPLE REACHED BY SECTOR

21,068 | 11,434 | 30,809 | 715 | 4,126

TARGET FOR 2023

	REACHED		TARGET
	60,838	25%	247,900
	€ 29,000,000	73%	€ 39,600,000

PERU

PEOPLE REACHED BY SECTOR

9,695 | 2,814 | 5,995 | 15 | 610 | 8

TARGET FOR 2023

	REACHED		TARGET
	11,283	18%	63,300
	€ 2,300,000	38%	€ 6,000,000

OTHER COUNTRIES

PEOPLE REACHED BY SECTOR

27,341 | 21,123 | 21,618 | 2,406

TARGET FOR 2023

	REACHED		TARGET
	39,669	41%	96,600
	€ 7,690,000	52%	€ 14,900,000

310,450 TOTAL PEOPLE REACHED
JANUARY - AUGUST 2023

55.6% ARE WOMEN

44.4% ARE MEN

12.7% ARE CHILDREN UNDER 5

FOR MORE INFORMATION ABOUT OUR OUTREACH, VISIT OUR WEBSITE

STRATEGICS ALLIES

Unión Europea
Protección Civil y
Ayuda Humanitaria

USAID
DEL PUEBLO DE LOS ESTADOS
UNIDOS DE AMÉRICA

Suecia
Sverige

In partnership with
Canada

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Agencia Suiza para el Desarrollo
y la Cooperación COSUDE

Cooperación
Española

MINISTÈRE
DE L'EUROPE
ET DES AFFAIRES
ÉTRANGÈRES
Liberté
Égalité
Fraternité

UNHCR
ACNUR
La Agencia de la ONU
para los Refugiados

unicef
para cada infancia

BID
Banco Interamericano
de Desarrollo

FONDAZIONE
GIUSEPPE E PERICLE LAVAZZA ONLUS

Gobierno de Navarra
Nafarroako Gobernua

GENERALITAT
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Pathy Family
Foundation

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ACTION
AGAINST
HUNGER