

Drought Risk and Resilience in Central America

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Resilience and Adaptation for Drought Initiative in Latin America and the Caribbean (ReADI-LAC)

OBJECTIVES

- 1 Understand drought risks and policy gaps
- 2 Identify recommendations for proactive action



WHY THE DRY CORRIDOR?

11 million people

share one hot-spot — same El Niño cycles, rain-fed agriculture, & exposure to water insecurity.

Droughts are structural development challenges—not only hazard risks

- Impacts across people, natural systems, and the economy.
- The region's structural vulnerability requires regional, national, and sub-national action.

WHAT WE DID?

- Spatially-targeted analytics (remote sensing + surveys & census data + key-actor consultations) to assess drought impacts on growth and poverty
- Deep dives: impacts on agricultural jobs (El Salvador) and poverty (Honduras)

Protecting growth — drought impacts on water, GDP, and poverty

10.2 M
people affected
GT · HN · SAL

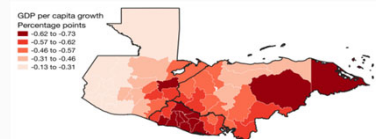
US\$ 415 M
in reported damages
2000–2024

1,200 Mm³/yr
freshwater lost per
land area 2002–2024

DROUGHT IMPACT ON GDP

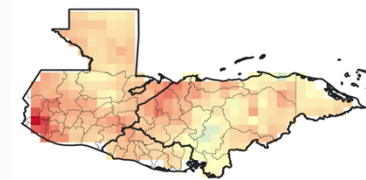
GDP per capita growth loss (1990–2014)

El Salvador **-0.64 pp** Highest loss in LAC
Honduras **-0.54 pp** 3rd in LAC
Guatemala **-0.27 pp** 4th in LAC



FRESHWATER LOSS

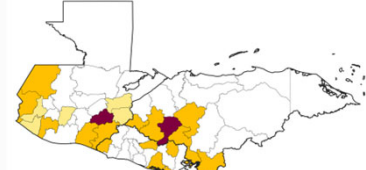
Anomaly per land area ·cm/yr· 2002–2024



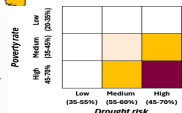
≈ 3× in GT, 5× in HN
the country's annual domestic water needs.

DROUGHT × POVERTY HOTSPOTS

11.4 million people in high-vulnerability hotspots



Bivariate index
poverty rate × drought risk → local hotspots for targeted action.



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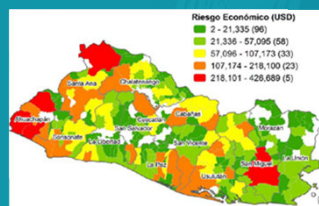
Drought impacts on agricultural jobs in El Salvador

MAIZE

US\$ 10.65 M

annual labor-related
economic risk from drought

26,308 jobs at risk · 1 in 9 farmers

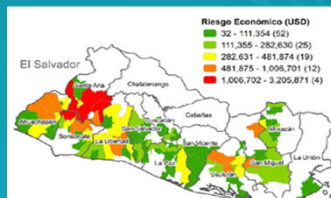


COFFEE

US\$ 31.2 M

annual labor-related
economic risk from drought

21,416 jobs at risk · 1 in 14 workers



Droughts already cost ~US\$ 42 M/yr in farm-labor losses alone.

Concentration

Risk is geographically concentrated — Ahuachapán, Sonsonate, Santa Ana, San Miguel — the same departments repeatedly.

Differential exposure

Coffee farmers face 3× the labor-risk exposure of maize workers — but maize hits the broader rural poor.

Policy implication

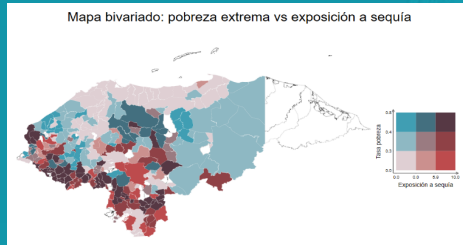
A spatially-targeted package — drought-tolerant varieties, irrigation, indexed agricultural insurance — outperforms blanket subsidies.

Risk expressed as annual labor costs at municipal level

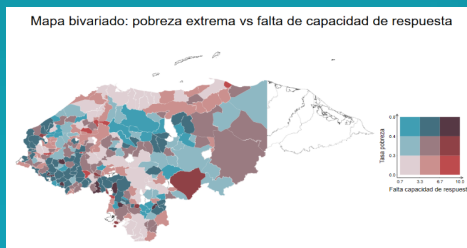
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Poverty vulnerability to droughts in Honduras: triple burden

POVERTY × DROUGHT EXPOSURE



POVERTY × LOW COPING CAPACITY (WASH + GOVERNANCE)



THE TRIPLE-BURDEN POCKETS

High poverty + drought exposure + low coping capacity.

1 South-west belt is the hot-zone

Dry departments overlap precisely with the highest poverty rates and weakest WASH coverage.

2 Coping capacity is the multiplier

Limited WASH infrastructure and weak local governance turn shocks into chronic harm.

3 Action must be municipal

National averages mask the geography. Targeting needs to be at the municipality level.

Level of policy development for drought risk management in Dry Corridor Countries

	High / Advanced	Moderate / In Progress	Low / Limited	
Pillar 1 — Early Warning	Drought types and indicators	National Drought Monitor	Drought Bulletin & communication	Overall Progress
Guatemala				High
Honduras				Moderate
El Salvador				Moderate
Regional				Moderate
Pillar 2 — Impact & Vulnerability Assessment	Impact Assessment	Vulnerability Assessment	Scale & Coverage of Assessment	Overall Progress
Guatemala				Moderate
Honduras				High
El Salvador				Low
Regional				Moderate
Pillar 3 — Mitigation Measures	Typology of Measures	Sectoral Coverage	Level of operational detail	Overall Progress
Guatemala				Moderate
Honduras				Moderate
El Salvador				Moderate
Regional				Moderate
Summary	Pillar — 1 Early Warning	Pillar — 2 Impact & Vulnerability Assessment	Pillar — 3 Mitigation Measures	
Guatemala	High	Moderate	Moderate	
Honduras	Moderate	High	Moderate	
El Salvador	Moderate	Low	Moderate	
Regional	Moderate	Moderate	Moderate	

Approach is still **reactive**, with significant gaps in proactive systems.

Focus largely on contingency response and much less in upstream reduction of drought vulnerability and exposure.

→ **Guatemala:** leads in monitoring and early warning systems

→ **Honduras:** is strongest in vulnerability and impact assessments, with municipal-level data

→ **El Salvador:** is at an early stage across all pillars, with no standalone drought monitoring platform

Four pillars to shift from managing disasters to managing risk: from policy recommendations to programmatic actions

From a reactive cycle of crisis-contingency response *to managing risk.*



Droughts are chronic, worsening, and structural. Vulnerability is built — and can be unbuilt. The path forward is a decisive shift from managing disasters to managing risk.

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Water Forward

FOR PEOPLE FOR FOOD FOR PLANET

Water Forward is a new global coalition that brings together governments, multilateral development banks, the private sector, and philanthropies, with each contributing its comparative advantage, whether reforms, financing, or delivery.

It aligns all partners behind government-led Water Compacts: government-owned action plans that connect policy reform, institutional strengthening, and investment planning in one coordinated framework



MISSION

To deliver water security for over 1 billion people by 2030 under three pillars:



Water for People



Water for Food



Water for the Planet

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Thank you

