

THE RELATIONSHIP BETWEEN DISASTER RECOVERY AND DISPLACEMENT

AYUDA LEGAL PUERTO RICO | 2020

EARTH
ECONOMICS

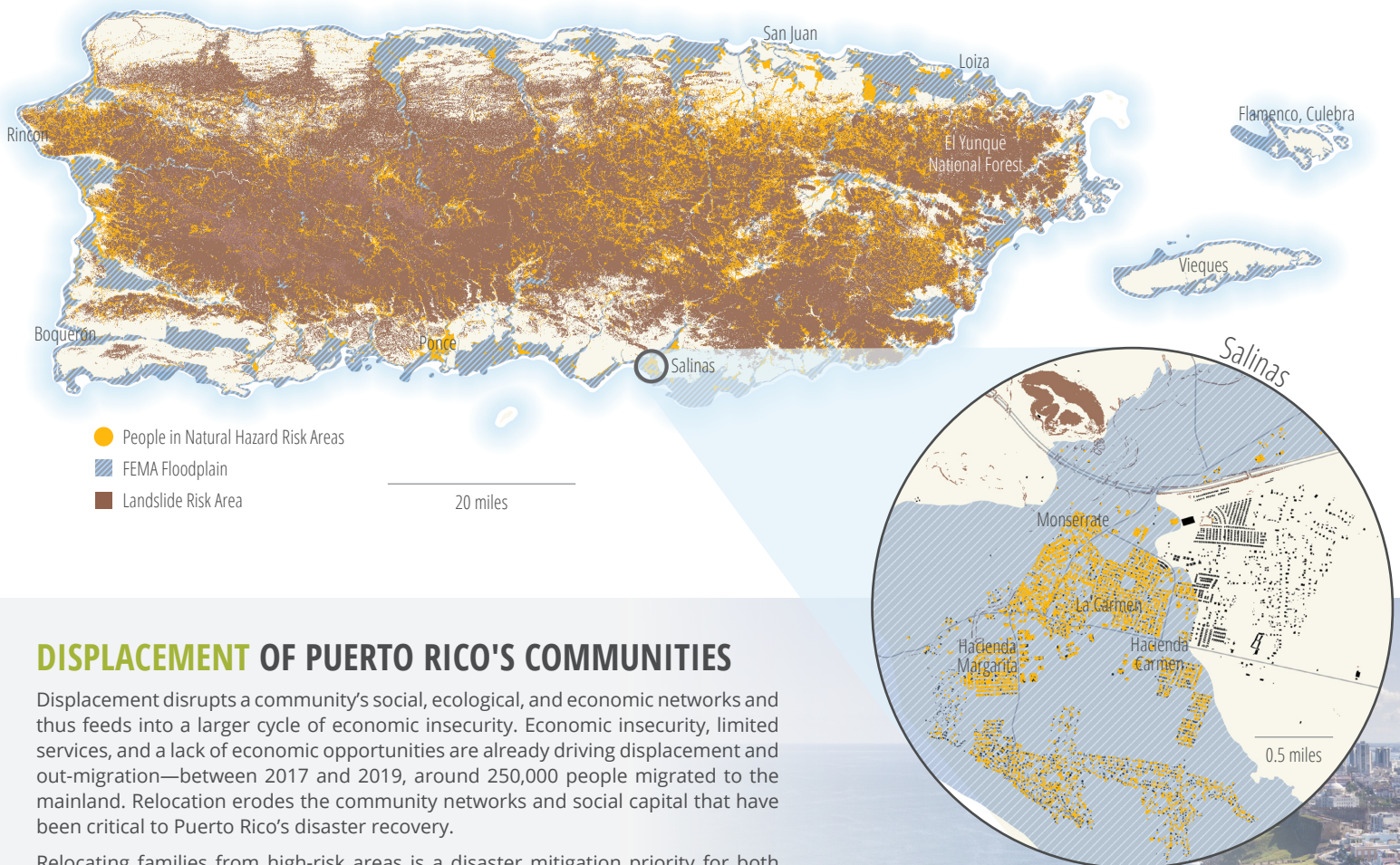
This fact sheet outlines the economic impacts of Puerto Rico's disaster recovery efforts led by the Federal Emergency Management Agency (FEMA) and the Puerto Rico Department of Housing (PRDOH) and makes a case for investment in community-driven resilience.

ECONOMIC INSECURITY FOR PUERTO RICO'S RISK AREAS

In 2017, Hurricanes Maria and Irma swept across Puerto Rico, causing a total of \$167 billion in damages. Following these disasters, the U.S. Federal Government allocated \$50 billion to fund recovery efforts. Yet, the PRDOH-administered Community Development Block Grant for Disaster Relief (CDBG-DR) has identified an unmet housing need of \$34 billion following these federal recovery efforts. To fulfill these unmet needs, the CDBG-DR prioritizes relocation from designated flood- and landslide-prone risk areas through a buyout or acquisition process. However, discrimination against applicants who lack property

titles remains a barrier to funding, particularly after FEMA approved only 20% of applicants for household repair or replacement assistance. The combined challenges of the buyout process, discrimination against those without a title, and inadequate assistance risks perpetuating the displacement of families living in risk areas.

Households in designated risk areas continue to lack adequate access to government funds and support. The CDBG-DR Action Plan identifies risk areas by both landslide and flood susceptibility. Nearly one million people and 500,000 buildings fall within these designated risk areas. Roughly 15% of the population live in flood zones and 40% of the island is at moderate risk of landslides. With only 25,000 people living under blue roofs after the hurricane damaged 786,000 homes, there is high demand for support. However, applications to PRDOH's Home Repair, Reconstruction, or Relocation Program (the R3 Program) have already exceeded the program cap of 25,000 households.



DISPLACEMENT OF PUERTO RICO'S COMMUNITIES

Displacement disrupts a community's social, ecological, and economic networks and thus feeds into a larger cycle of economic insecurity. Economic insecurity, limited services, and a lack of economic opportunities are already driving displacement and out-migration—between 2017 and 2019, around 250,000 people migrated to the mainland. Relocation erodes the community networks and social capital that have been critical to Puerto Rico's disaster recovery.

Relocating families from high-risk areas is a disaster mitigation priority for both FEMA and PRDOH. Relocation, like eviction, is a direct form of displacement. Prioritizing relocation without alternatives like disaster mitigation and community rehabilitation also leads to displacement. Indirect displacement occurs when people living in or near a risk area are no longer able to access essential services (e.g., electricity, clinics, schools) due to closures, disrepair, and rising costs as recovery efforts focus on areas outside risk zones and families migrate elsewhere. A rising cost of living coupled with poor opportunities could even lead to the displacement of households which have received R3 support.

- **75% of houses remain damaged and empty in Salinas.**
- **Histories of colonialism and systemic racism leave residents of the Afro-Caribbean community, Loiza, vulnerable to additional displacement risks from recovery efforts.**
- **El Caño Martin Peña created a community land trust after being denied recovery assistance due to discrimination against informal settlements and households without a title.**

Map Sources: USGS (Landslide Risk), FEMA (Floodplains), U.S. Census (Population Distribution), OSM (Building Footprints).

SUPPORT COMMUNITY-DRIVEN RESILIENCE

Investing in communities—especially those in or near high-risk areas—provides multiple benefits that can help break cycles of economic insecurity and vulnerability to disasters. Supporting communities and building social capital through ecological restoration develops both social networks and resources, thereby strengthening resilience and economic sustainability. In these ways, community-driven resilience measures can be more cost-effective than relocation. Additionally, the Stafford Disaster Relief and Emergency Assistance Act requires that alternative mitigation measures be considered to determine whether a proposal is the best approach to meet the community's needs.

ECONOMIC PATHWAYS FOR DISASTER RECOVERY



HISTORIC CONDITIONS

Colonialism, Systemic Inequality, Informal Development, Land Use Planning, etc.

SHOCKS & STRESSORS

Hurricane, Pandemic, Drought, Earthquake, etc

DISASTER RECOVERY

Response type determines recovery and resilience.

COMMUNITY-DRIVEN FOCUS

SUPPORT ALTERNATIVE MECHANISMS OF OWNERSHIP such as collective ownership through cooperatives and community land trusts.

REHABILITATE PUERTO RICO'S NATURAL CAPITAL FOR COMMUNITY BENEFITS

Puerto Rico's ecosystems provide a number of services, including water storage and supply, improved water quality, recreation, soil retention, disaster risk reduction, climate stability, and carbon sequestration. Conservatively estimated, these benefits provide at least \$2 billion in value each year. Puerto Rico's mangroves, coastal wetlands, reefs, and seagrass areas alone provide an average of \$250 million in benefits each year.

REGENERATE COASTAL HABITAT—mangroves, coral reefs, estuaries, and coastal wetlands—to reduce flooding and erosion exposure. The outer 100 meters of mangroves along a coast can reduce wave energy up to 66%. Every \$1 spent on mangrove reforestation projects returns between \$28 and \$104 in benefits.

INCORPORATE GREEN INFRASTRUCTURE—rain gardens, bioswales, storage ponds—to manage stormwater and store water. Green infrastructure can save \$6.1 million annually in flood-prone areas.

PROMOTE AGROFORESTRY—interplanting woody perennials with annual crops—and local farms for food security. Perennials can protect cash crops such as coffee from high temperatures and wind to reduce crop damages. Agroforestry farms experience less food insecurity during drought or flood events.

RELOCATE, REBUILD, AND RETROFIT LOCALLY TO SUPPORT SOCIAL CAPITAL

The benefits of elevating homes above flood waters are 14.5 times greater than implementation costs. Vacant buildings can be rehabilitated as community centers to promote preparedness, social capital, and local services.

USE DEED-RESTRICTIONS on land acquired for open space to promote ecosystem recovery and food production.

RELOCATION-FOCUSED

ADDED COSTS TO HOUSEHOLDS When households are pressured or forced to relocate, they face additional costs, such as longer work commutes or new job searches, new schools (including a switch to private schools), or higher housing costs.

COMMUNITY DISRUPTION Relocation disrupts social networks and the unpaid care work of neighbors, friends, and family, thereby generating additional costs and opportunity costs. These costs are often gendered as women lose work opportunities without household support.

COSTS OF DELAYED FUNDING With limited FEMA funding, communities have taken on the cost of recovery on their own. One and a half years after funding was released, no home repairs or rebuilding projects have been completed.

OUT-MIGRATION In 2018, Puerto Rico's population declined by 4%. As families with children have left, Puerto Rico faces an aging population and losses in economic productivity.

SCHOOL CLOSURES The average Puerto Rican student missed 78 days of school in 2018. A quarter of the island's public schools have closed, mostly in rural areas (Hinojosa, Meléndez, Severino Pietri, 2019, Center for Puerto Rican Studies, Hunter CUNY).

INDEBTEDNESS AND DECLINING PROPERTY VALUES Puerto Rico has seen \$2.6 billion in delinquent loans and a 25% drop in property values.

GROWING POVERTY 43% of the island lives in poverty—SSI (or equivalents) support 17% of the population.

FOOD INSECURITY More than one-fifth of adults have reported skipping meals or eating less due to higher food prices—1.4 million Puerto Ricans rely on food aid, at least in part.

SHIFTING AWAY FROM HOMEOWNERSHIP Property losses are likely to increase the proportion of renters above the current 32%. Renters tend to be more vulnerable to disaster impacts.

OUTCOMES FOR FUTURE DISASTER RESILIENCE AND ECONOMIC STABILITY

Resulting in either economic security or insecurity

