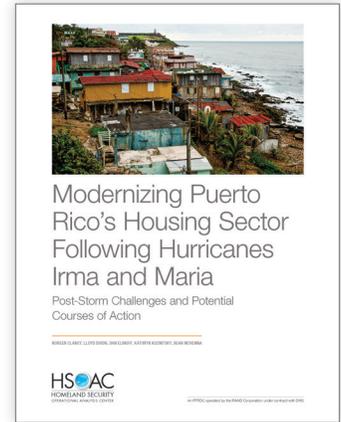


# Modernizing Puerto Rico's Housing Sector Following Hurricanes Irma and Maria: Post-Storm Challenges and Potential Courses of Action

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Puerto Rico's housing sector was hit hard by Hurricanes Irma and Maria and needs a big fix. In this detailed and comprehensive analysis of the housing damage caused by the 2017 hurricanes, the authors make informed recovery recommendations for policymakers so they can repair and rebuild safe and affordable housing in Puerto Rico and create a modernized housing infrastructure that is more resilient to future natural hazards and code-compliant.

## RESEARCH QUESTIONS

- How did deficiencies in Puerto Rico's housing sector *before* the storms contribute to more broad-scale devastation and hinder disaster response after?
- What are the remaining needs for recovery of the Puerto Rico housing sector?
- How can Puerto Rico rebuild and modernize the housing market for greater resiliency?
- How can public, private, nonprofit, and academic stakeholders contribute to recovery and help Puerto Rico set itself on the path to successfully implement a transformative program for the housing sector?

## KEY FINDINGS

### **Poor economic conditions and deficiencies in the structure of the housing market prestorm created and perpetuated problems post-disaster**

- Puerto Rico's housing stock was known to be vulnerable to wind, flooding, erosion, and landslide risk.
- A substantial number of residential houses were built "informally"—without building permits, falling far short of building codes, and without insurance of any kind.
- Existing programs to provide affordable housing are not big enough to meet demand.

## **Mechanisms for tracking, approving, and certifying property ownership were lacking**

- Inconsistent land-use plans meant that homes were sometimes built in high-risk areas.
- Lack of clear property title, common in Puerto Rico, makes it difficult to distribute assistance after disasters and removes the property tax base needed to fund services.
- Take-up rates for homeowners and flood insurance are low, leaving many without resources to pay for temporary shelter or to rebuild their homes.

## **Recovery efforts were impeded by lack of data and other challenges**

- There is no central source of data related to title, permits, land use, property tax, and location.
- Lack of accessible data on sales and rentals has prohibited the development of consumer-based products, such as the Multiple Listing Service, to help find available housing.
- Address numbers on streets are chaotic, with often multiple uses of the same street name in a community. This complexity hinders emergency response.
- Other prestorm challenges included the high cost of getting building permits, high housing construction costs, increasing foreclosures, and increase in vacancy and blight as residents have emigrated from Puerto Rico.

## **RECOMMENDATIONS**

### **Repair the housing stock and reduce its vulnerability to natural hazards**

- Start with substantially damaged owner-occupied structures to reduce the hardship caused by the storms. Residences without significant damage must be assessed to reduce their vulnerability in future storm events.
- Mitigate damaged subsidized rental housing to be resilient to natural hazards and to accommodate special-needs populations, such as those with disabilities, seniors, and veterans.
- Increase take-up rates of homeowners and renters insurance. Insurance will not prevent damage from a disaster, but it does provide resources to recover afterward.

### **Improve housing availability for lower-income households**

- Implement payment assistance programs to reduce mortgage delinquencies and foreclosures so homeowners can remain in their homes and avoid the social disruption of relocating.
- Engage communities in strategies (e.g., rent to own, first-time homeowner programs) to rehabilitate properties and address the high vacancy rates across Puerto Rico.
- Given the lack of funds for new construction of public housing and the long-term demand, tap public-private partnerships for creative financing to leverage private debt with limited public resources in smaller developments.

### **Modernize the housing market infrastructure**

- Decrease the time or monetary cost of compliance, and increase the actual benefits associated with the formal housing sector.
- Collect, integrate, and map data on the housing sector to improve and standardize the irregularities in Puerto Rico's address system.
- Enforce land-use plans, building permitting, and building codes by allocating resources for municipalities to develop land-use plans consistent with economic development and creating a pathway to bring noncompliant structures into compliance.