THE UNIVERSITY OF THE WEST INDIES

POLICY BRIEF

Build-Back-Resilient through Analysing Historic Vernacular and Modern Architecture Hurricane Strategies

No. 12 - December 23, 22025

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Hurricane Melissa caused minimal damage to the Jamaica Vernacular Architecture "Wynter House" in St. Elizabeth, Jamaica. Photo credit Wattle and Red Earth (WARE) Collective Museum of Traditional Building and Craft.

EXECUTIVE SUMMARY

The increased intensity of Caribbean hurricanes and the wide-scale loss of buildings require scientific analyses to inform re-building strategies. Caribbean architecture history and evolution demonstrate a tradition of building back resilient for the small-scale private housing, including larger-scale housing, public, and religious buildings. This included methodologies for anchorage on the land, site orientation, building material, types of opening, roof profiles, immediate landscape environment context, among others. Resilience architecture embodied before, during, and after hurricane strategies, including oral knowledge transference. In Jamaica the literature referenced the English learning lessons from the Spaniards and both from the Tainos, with a continuous knowledge thread of the majority population of enslaved Africans designing and constructing resilient hurricane and earthquake architecture across the centuries. These were woven into Jamaica Building Laws. Currently, new technologies have appeared on the Jamaica architecture landscape. Allow the science to demonstrate architecture resilience in higher recorded hurricane intensities for current rebuilding activities.

INTRODUCTION

- Hurricane Melissa made landfall in Jamaica as a catastrophic Category 5 system on October 28, 2025, causing unprecedented destruction.
- The media focused on the widespread destruction of modern and historic buildings with little attention to the architecture that survived.
- Post-disaster assessments should also include the surviving architecture alongside those damaged or destroyed.
- Scientific analyses should be undertaken on both damaged and surviving architecture to inform strategies to build-back-resilient to mitigate the increasing intensity of hurricanes.

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MAKING THE CASE

Hurricane Melissa exposed some architecture vulnerabilities/gaps through:

- Methodologies for anchorage on the land.
- Building material and construction technology.
- Types of openings and roofing.
- Immediate landscape environment context

RECOMMENDATIONS

The following are some recommendations emerging from the experience with Hurricane Melissa (and other weather extremes that have impacted Jamaica):

- **Inspect on-site** historic/traditional, modern and hybrid architecture that was impacted, particularly those with Hurricane Melissa devastated roof and walling. (short-term)
- **Include inspection** of historic/traditional, modern and hybrid architecture with minimal to no Hurricane-Melissa damage. (short-term)
- **Document evidence of architecture** before, during, and after preparation and practices using images and interviews. (short- to medium-term)
- **Undertake scientific simulation exercises** to analyze Hurricane Melissa field and oral evidence. (medium-term)
- **Determine through simulations** mitigation strategies. (medium-term)
- **Use the scientific evidence** to enhance and improve the building codes. (medium-term)
- **Publish** findings. (short-, medium-, and long-term)

* Short-term (0–6 months); **Medium-term (6–18 months): ***Long-term (18+ months)

CONCLUSIONS

Build-Back-Resilient after Hurricane Melissa must include scientific analyses of the architecture to mitigate damages during Category-5 and predicted increased hurricane intensities. The analyses should engage adaptation through examining architectural traditional practices and modern interventions on the Caribbean cultural landscape to help save lives, protect livelihoods, and maintain economic stability during and after hurricane seasons.