



RESEARCH BRIEF SERIES MITIGATION MATTERS

AWARD RECIPIENT

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AWARD AMOUNT:
\$2,500

FEMA defines mitigation as the effort to reduce loss of life and property by lessening the impact of disasters. Effective mitigation requires that we all understand local risks and invest in long-term planning to reduce risks and enhance community well-being.

VALUING REEF ECOSYSTEM SERVICES: CENTERING COMMUNITY VOICES

SUMMARY

Coral reef conservation can help protect communities from hurricanes and other hazards, support resident livelihoods, and provide ecological and cultural benefits. The health of coral reefs, however, has declined globally; largely from human causes such as coastal development and climate stress, which can cause bleaching. This research examines how reef conservation and its associated hazard mitigation benefits are assessed against unchecked coastal development when forming policy. Methods involved a systematic review and content analysis of 42 studies.

KEY FINDINGS

- **Investigations on the value of coral reefs is often approached from the viewpoint of tourists and visitors rather than local stakeholders.** This is puzzling, because it is local people who depend on reefs for protection from increasing hazards, especially in places with high income inequality.
- **The value assigned to ecosystem services vary depending on who makes the determination.** Most of the literature focused on the comparative willingness of tourists to pay to visit reefs under different scenarios of environmental quality. Despite this, some examples included an alternative approach, such as asking local coastal community members about willingness to invest in reefs for the benefit of grandchildren.



Reef stakeholders in an Indo-Pacific community host a cultural festival near the reef. ©Kelly Dunning, 2020.

- **Deliberative methods—such as including stakeholders in structured conversations—are seldom used to assess value.** To connect coral reef conservation policy and hazard mitigation, research should focus on soliciting feedback in group settings that are similar to actual communal decision-making processes and reflect daily-use patterns associated with reefs, such as social fishing and catch exchanges.

POLICY IMPLICATIONS

- In addition to other reef-valuing activities, cost-benefit analyses are often conducted for major projects that can impact ecosystems.
- Such initiatives should move beyond the opinions of tourists to include local community members in the process of valuing reef ecosystem services.
- This engagement should take the form of group conversations, building on an awareness of local reef-related activities within coastal communities.

STAKEHOLDERS

Stakeholders who may find this work of use include federal, state, and local agencies, community-based resource managers, community leaders managing reefs, and those setting up community engaged coastal restoration programs.




A vibrant reef in the Caribbean under threat from cruise tourism development. ©Kelly Dunning, 2020.

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