

A Community-Based Flood Insurance Option

A COMMUNITY-BASED FLOOD INSURANCE OPTION may create new opportunities to reduce flood losses, but is unlikely to provide the single solution to the nation's pressing flood insurance problems. A community-based flood insurance option—either as a stand-alone policy option or as part of a suite of policies—will need to address specific challenges like increasing policy take-up rates, reducing administrative costs, and enhancing floodplain management.

The National Flood Insurance Program (NFIP) is administered by FEMA and offers about 5.4 individual policies nationwide, insuring about \$1.3 trillion in property. The program is confronted with many challenges—it is roughly \$23 billion in debt, has relatively low rates of purchase in many flood-prone areas, and faces issues regarding the affordability of premiums.

To help address some of the challenges within the NFIP, the U.S. Congress passed the Biggert-Waters Flood Insurance Reform Act of 2012, and the Homeowner Flood Insurance Affordability Act of 2014. Part of the conversation regarding NFIP reform is the prospect of a community-based flood insurance option—a single insurance policy for an entire community—which may be more effective and less expensive than administering separate policies for each property within a given community.

This report identifies key issues and questions about a community-based flood insurance option as “food for thought” for FEMA and Congress as they weigh both the possible benefits and challenges of a community-based flood insurance option.

WHAT DID THE COMMITTEE FIND?

The committee developed a conceptual rationale that helps to identify where a community based flood insurance option might be desirable—and where it may not. An application of the Coase Theorem, developed in the economics field, holds that where parties—both individuals and groups—account for all costs and benefits, markets are functional, information is freely and widely available, and transactions costs are zero, economically efficient outcomes are reached irrespective of who holds the property rights. If the collected economic interests of communities and residents fully coincide and are fully accounted for, the outcomes of a flood insurance purchase decision do not rely upon which



Flood waters rising in Hannibal, Missouri in 2008. Source: FEMA/Jocelyn Augustino

party—communities or residents—bears responsibility for insurance.

Applying the Coase Theorem to community-based flood insurance, there are at least eight reasons that explain why the proposition that “the outcomes of a flood insurance purchase decision do not rely upon which party bears responsibility for insurance” may fail to hold. Two reasons are free riding—where some or all residents choose not to buy insurance because they expect disaster relief to provide adequate post-flood aid, and externalities—when self-interested parties fail

Box 1. What is Community-Based Flood Insurance?

A community-based flood insurance option could be based on aggregating the dollar sum of flood loss risks for community structures. Costs could be distributed according to each individual's assessed flood risk, and premiums could be collected using mechanisms such as property taxes or utility charges.

FEMA defines a community as a “political entity that has the authority to adopt and enforce floodplain ordinances for the area under its jurisdiction.” This present report does not define a community or community-based flood insurance; rather, it cites pertinent past work.

Clear definitions will be important if community-based flood insurance is to be implemented, and those definitions will be made based on input from elected officials, FEMA, and citizens.

to account for all the impacts when deciding whether to buy insurance.

There are circumstances where community-based flood insurance may be able to help address specific challenges within the NFIP, for example by reducing administrative and transaction costs, increasing take-up rates, and promoting flood mitigation and floodplain management.

In other circumstances, the prospects for community-based flood insurance may be challenged due to the lack of community interest and the inability to implement insurance at the community level.

THE COMMITTEE'S FRAMEWORK

The committee identified overarching features and considerations that would require further assessment when planning for and designing community-based flood insurance.

- **Risk Bearing and Sharing.**

A community-based flood insurance option could conceivably shift risk-bearing to communities, private insurers, or individuals depending on how it is structured, allowing for a reexamination of how some risk might be transferred or shared.

- **Responsibilities for Writing Policies and Loss Adjustments.**

Write-your-own (WYO) insurance agents write policies and collect premiums under the NFIP. FEMA would need to expand a range of administrative duties to process policies written at the community level.

- **Coverage Limits, Standards, and Compliance.**

Under community-based flood insurance, deductible choices depend on community size, the type of flood risk, and other characteristics. A community-based flood insurance option may provide an opportunity to reconsider flood exposure.

- **Underwriting, Pricing, and Allocation of Premium Costs.**

Several complex issues fall under this topic, including the extent of actuarial principles to be used in setting premiums; the extent to which catastrophic losses would be reflected in premiums; and the allocation of premium costs in a community.

- **Administrative Capabilities.**

If insurance contracts remain the vehicle for transferring risk, private insurers likely would remain as efficient entities for handling their administration. Some definitions of community include entities that could effectively and efficiently collect revenue needed to pay for a community policy through special assessments, property taxes and others.

- **Confirming Compliance with Mandatory Purchase Requirements.**

Currently, mandatory policy purchase requirements within the NFIP are only for the amount of a federally backed mortgage. A bundled community-based option that provides a minimum required coverage would need to maintain some aspect of individual coverage insurance and monitoring.

- **Pricing Expertise, Including Valuation of Mitigation Measures.**

If private insurers were to underwrite risks associated with a community-based flood insurance policy, they would price them according to actuarial principles. If the NFIP assumed the risk, then it would also likely assume the pricing of policies. FEMA has expertise in setting premium costs based on flood risk, and would have to work with communities to communicate individual property coverage costs bundled into a community policy.

Committee on a Community-Based Flood Insurance Option: Henry J. Vaux (*Chair*), University of California, Berkeley and Riverside; Patricia Born, Florida State University, Tallahassee; Jeffrey Czajkowski, University of Pennsylvania, Philadelphia; Lloyd Dixon, Rand Corporation, Santa Monica, California; Robert Hirsch, U.S. Geological Survey; Roger Kasperson, Clark University, Worcester, Massachusetts; Robert Klein, Georgia State University, Atlanta; Sandra Knight, University of Maryland, College Park; David I. Maurstad, OST Inc., McLean, Virginia; Sally McConkey, Illinois State Water Survey, Champaign, Illinois; Tommy Wright, U.S. Census Bureau, Washington, DC; Richard Zeckhauser, Harvard University, Cambridge, Massachusetts; Ed J. Dunne (*Study Director, Water Science and Technology Board*), Jeffrey Jacobs (*Director, Water Science and Technology Board*), Scott T. Weidman (*Director, Board on Mathematical Science and Their Applications*), Brendan McGovern, (*Senior Program Assistant, Water Science and Technology Board*), National Academies of Sciences, Engineering, and Medicine.

The National Academies of Sciences, Engineering, and Medicine appointed the above committee of experts to address the specific task requested by the Federal Emergency Management Agency. The members volunteered their time for this activity; their report is peer-reviewed and the final product signed off by both the committee members and the National Academies of Sciences, Engineering, and Medicine. This report brief was prepared by the National Academies of Sciences, Engineering, and Medicine based on the committee's report.



For more information, contact the Water Science and Technology Board at (202) 334-2187 or visit <http://dels.nas.edu/wstb>. Copies of *A Community-Based Flood Insurance Option* are available from the National Academies Press, 500 Fifth Street, NW, Washington, D.C. 20001; (800) 624-6242; www.nap.edu.

Permission granted to reproduce this document in its entirety with no additions or alterations.

Permission for images/figures must be obtained from their original source.