



Enabling homeowners to adapt to flooding: The case of Rockaway, New York

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The objective and the setting

Improve urban homeowners' capacity to adapt to flooding.

Rockaway:

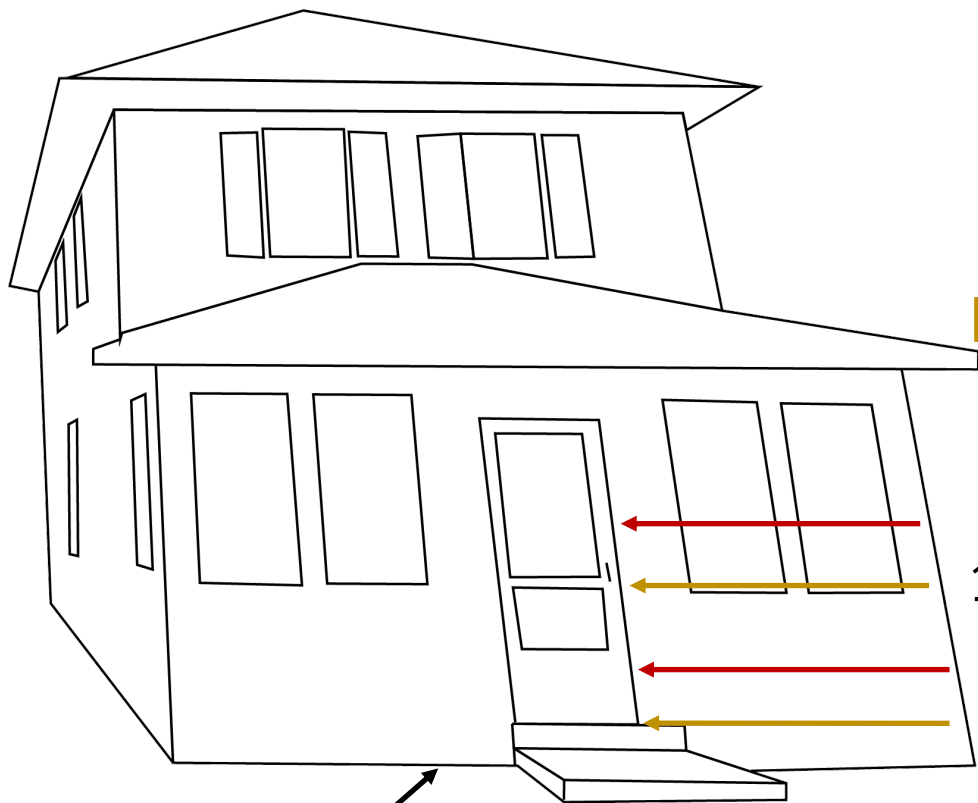
- Densely populated
- Diverse
- Historically low investment



The project

- Does co-producing knowledge about flood risks and adaptation options influence behavior, whose behavior, how and why?
- Co-produce knowledge with civic and homeowner associations.
- Engaged through a trusted partner – RISE.
- Series of three workshops: flood risk and adaptation options.
- Focus on what individual homeowner can do.
- Place and person-specific information.

How much flooding can Kate and Ben expect?



Ground: 6ft

Lowest floor: 0.5 ft

First floor: 7 ft

Flood elevation now

1% annual chance (**BFE**): 10 ft

10% annual chance: 7 ft

Annual flood: no risk

Flood elevation in 2050

1% annual chance: 11 ft

10% annual chance: 8 ft

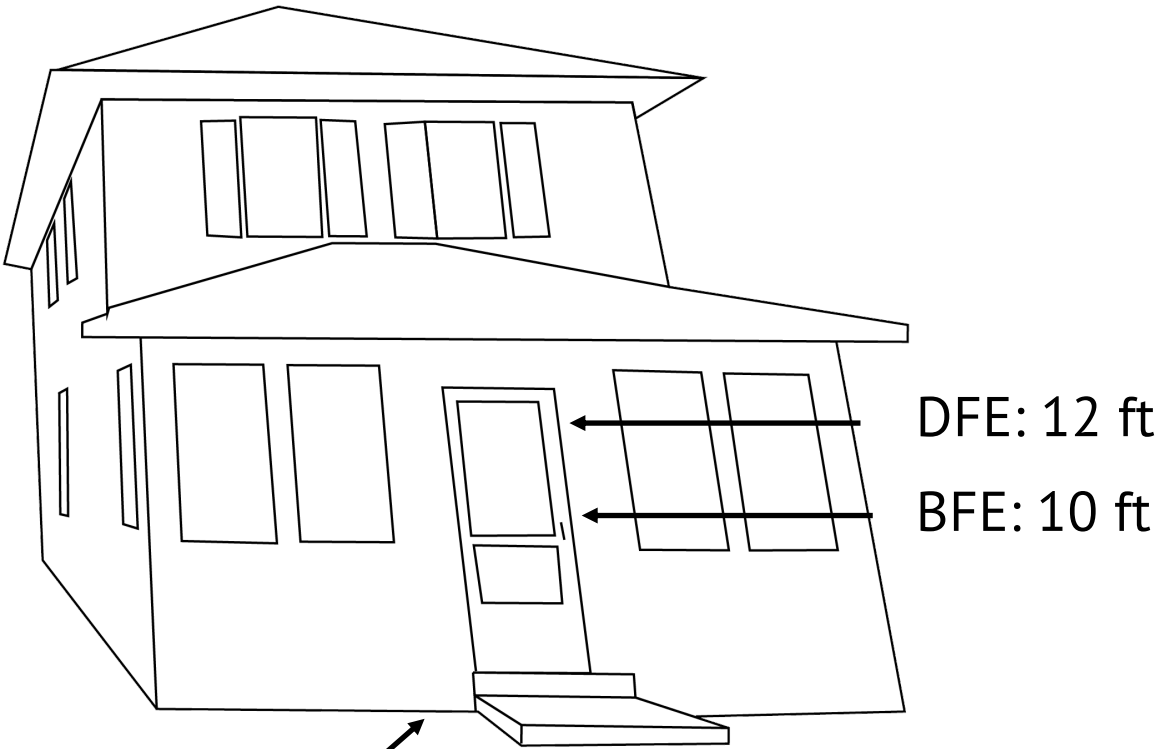
Annual flood: about 3 inches above ground

What will it cost Kate and Ben to recover from flooding if they don't do anything to reduce damages?

- Over the next 15 years: \$450,000 on average
 - Range: \$120,000 – \$950,000
- Over the next 30 years: \$1,700,000 on average
 - Range: \$570,000 - \$2,700,000

Should Kate and Ben fill the basement?

What do you think about this action? What else do you want to know?



Ground: 6ft

Lowest floor: raised from 0.5 ft to 7 ft

First floor: 7 ft

Benefit 30 yrs: \$1,631,000 (\$568,000-\$2,460,000)

Benefit 15 yrs: \$434,000 (\$120,000-\$840,000)

Cost: \$8,500 - \$30,000

Effect on insurance premium: Small because lowest floor remains below BFE

Considerations:

- May be able to replace lost space
- Lowest floor still below BFE
- May be a step on way to abandoning first floor

Remaining recovery costs 30 yrs: \$69,000 (\$2,000-\$240,000)

Evaluation

- Purpose
 - Develop effective approach to building adaptation capacity
 - Improve planning, decision making, and adaptation outcomes
 - Justify funding
- Evaluation question: Who benefits from the approach, who experienced negative effects, under what conditions, how, and why?
- Evaluate what?
 - Process
 - Outcomes

Program theory

- Lack of information is a barrier to planning, decision making, and action.
- Useful information requires co-production.
 - How much, at what point, by whom?
- Useful information is specific to decisions and actions that homeowners can make and take.
- How use the information, and benefits, depend on resources, organizational capacity, networks, geography, other factors.
 - Effect on individual outcomes: capacity, decisions, actions, resilience
 - Effect on collective outcomes

Methodology

- Mixed methods
- Contribution: Qualitative methods based on transcripts of workshops and meetings.
- Attribution: Quantitative difference-in-difference approach.
 - Baseline and follow-up survey data on outcomes among participating and non-participating groups.

Preliminary insights

- General information about flood risk → lack of agency.
 - City government responsible for flood planning and protection.
 - About 80% not aware of online information specifically for residents.
- Considering individual risks → sense of urgency and personal responsibility.
- Role of online information.
- Simple is not always good - empowering to think in terms of a menu of strategies.
- Considering individual risks led to interest in a collective planning process.
 - More so among the less well-off.
- Began to raise the question of relocation.

What happens next?

- Follow up survey completes this project.
- Participants agreed to meet, disseminate, engage elected officials.
- Organizing to plan and act is challenging.
 - Uncertainty and unknowns, no longer about the risks but about
 - Public policy and investment
 - What will other residents do?
 - Inadequate resources, even for middle income residents
 - Equity implications of organizing across diverse, divided communities
- Evaluation question: Does the information and motivation to act persist and disseminate and how?

Thank you

Send questions and comments to
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