



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

Malgosia Madajewicz, Center for Climate Systems Research, Columbia University

Philip Orton, Stevens Institute of Technology

Michaela Labriole, New York Hall of Science

Judith Hutton, New York Hall of Science

Ana Fisyak, Rockaway Initiative for Sustainability and Equity (RISE)

Judah Asimov, Rockaway Initiative for Sustainability and Equity (RISE)

Iris Liao, Columbia University

Jordan Pares-Kane, Columbia University

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The objective and the setting

Improve urban homeowners' capacity to adapt to flooding.

Rockaway:

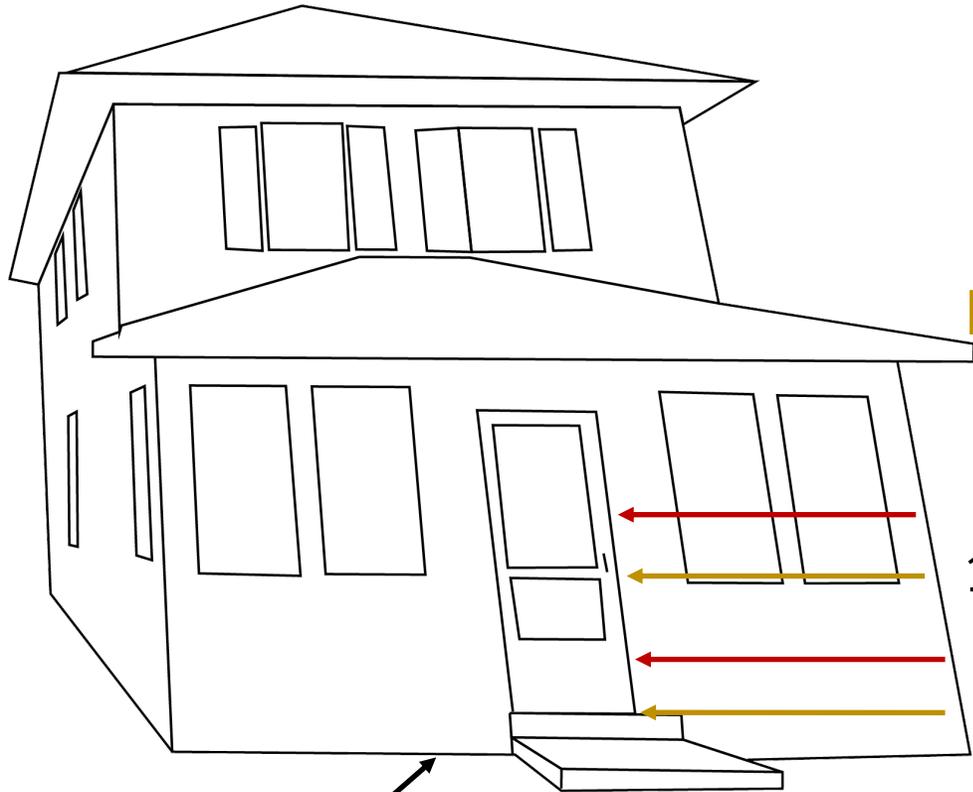
- Densely populated
- Diverse
- Historically low investment



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
Malgosia Madajewicz at mm1174@columbia.edu