United States
Environmental Protection
Agency

Intersection of Social Vulnerability and Resilience to Extreme Weather and Other Disasters- the Equitable Resilience Builder (ERB)

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Disclaimer: *This document has been reviewed in accordance with U.S. Environmental Protection Agency policy and approved for publication.*

Research Problem the ERB Addresses

Disasters can create or worsen environmental and health problems.

Communities need to address multi-hazard, multi-sectoral risks.

Community resilience work needs to systematically and deliberately address social vulnerability and inequities.

Equitable Resilience Builder Team Focuses on Solving Part of this Problem

![EPA logo] United States Environmental Protection Agency

ERB Is a Multi-hazard, Multi-sector Tool for Local Jurisdictions to Self-assess Disaster & Climate Resilience

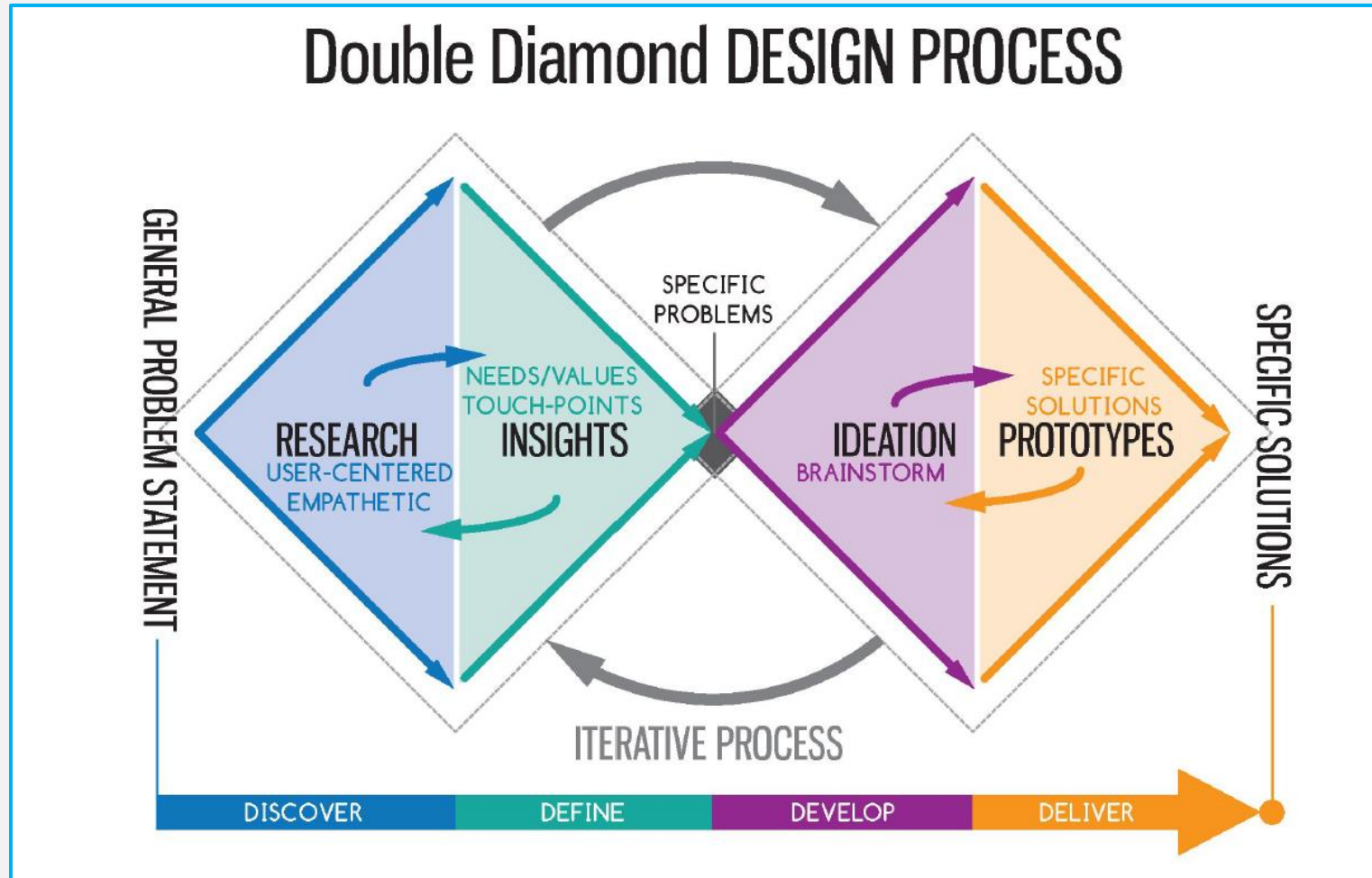| Engage social actors	→	Identify hazards w/ equity lens	→	Self-assess vulnerability & resilience	→	Prioritize action areas	→	Take actions- sectors, community

ORD Partnership with Urban Waters (UW)

Equitable Resilience
Builder (ERB) will:

- Provide information
for local resilience
planning

- Demonstrate value of
place-based
partnerships

- Develop approach to
analyze social
vulnerability

Resilience Planning

Watershed Planning

Water security

Multi-Jurisdictional

Integrated Water Resource Management

All-hazard

Municipal /Regional

Water quality

Climate Ready Estuaries

Multi-Sector

Urban

Water Equity

Stormwater

Social Vulnerability

Flooding

Restoration

EJ SCREEN

Environmental Justice

Human-centered design (HCD) of the ERB

Discovery and Ideation Workshops

Objectives: Understand local resilience planners' needs, generate ideas for solutions to meet their needs

- Two Discovery workshops (Oct)
  - Virtual coffee ½ hour + 3 hour workshop with breakout groups
  - 19, 12 attendees: state, local, tribal resilience planners, NGOs, academia
- EPA Regional input meeting (Dec)
  - Present discovery workshop findings
  - Discuss work in resilience, with under-resourced communities, on equity
- Ideation workshop (Dec)
  - Virtual coffee ½ hour + 3 hour workshop on 'How might we'
  - 15 attendees: state, local, tribal agencies(resilience, emergency management, libraries) foundations, NGOs, academia
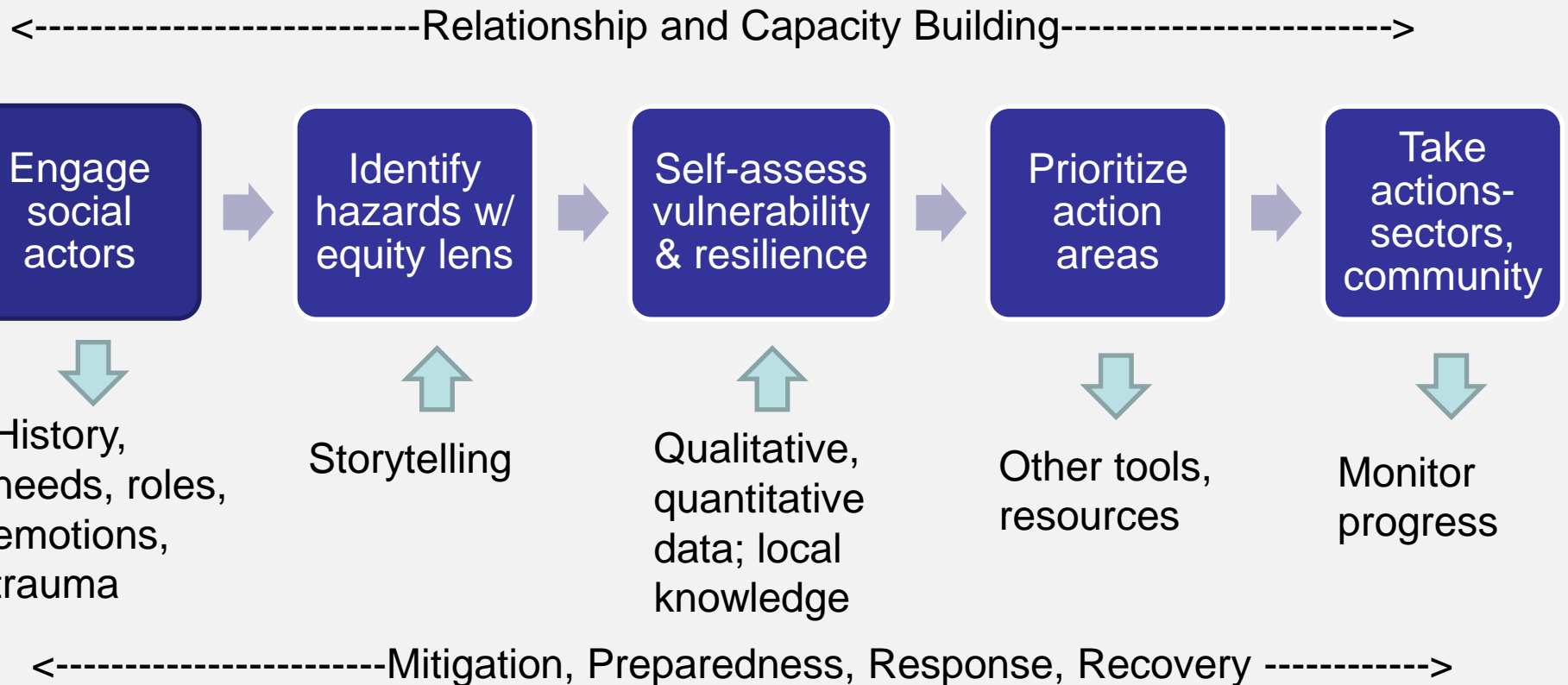
Discovery & Ideation Inform ERB Design

Finding

1. "Resilience planning" is a broad umbrella.

2. Relationships underlie effective resilience work.

3. Under-resourced jurisdictions rely on external scientists.

4. Trauma can be a barrier to action.

5. Data "how you're vulnerable" = frustrating. Data "helps implement action" = exciting.

Design implication

1. Make ERB flexible to different planning contexts.

2. Encourage users to work in collaboration to use ERB.

3. Allow users to start and stop.

4. Include storytelling in ERB.

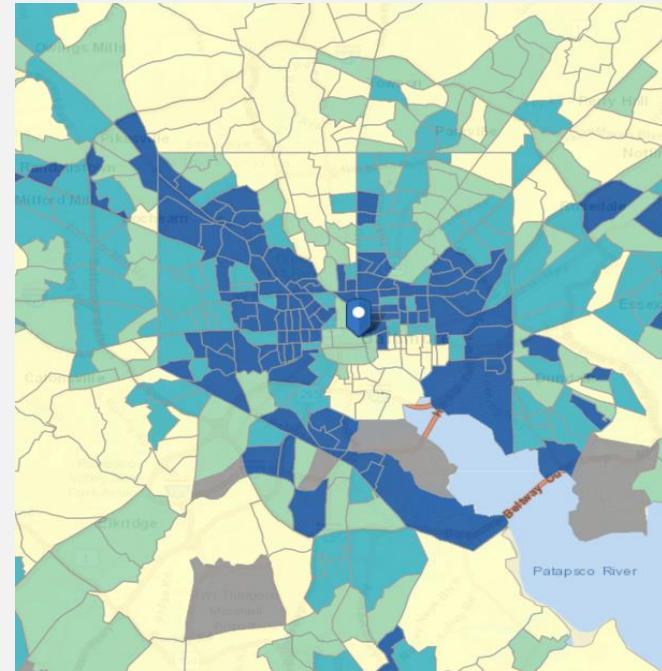5. Include qualitative & quantitative data; "Equity review" of hazards.

How Communities Could Use ERB

<----------------------------Relationship and Capacity Building----------------------->

| Engage social actors | → | Identify hazards w/ equity lens | → | Self-assess vulnerability & resilience | → | Prioritize action areas | → | Take actions-sectors, community |

History, needs, roles, emotions, trauma

Storytelling

Qualitative, quantitative data; local knowledge

Other tools, resources

Monitor progress

<----------------------Mitigation, Preparedness, Response, Recovery ----------->

ERB Social Vulnerability Module

- Objective:
  - Meet local jurisdictions' interest in incorporating equity and social vulnerability into resilience plans.

- Approach: Literature review
  - How and why populations and communities face differential exposure and/ or susceptibility to different hazards
  - What actions are taken

Maps show spatial patterns in vulnerability, not why/ how

https://svi.cdc.gov

Social Vulnerability Framework

- Framework
  - As related to 'root causes'
  - As they experience disasters

- EXAMPLE: Experiencing flood
  - LGBTQIA individuals may face risk of violence in shelters
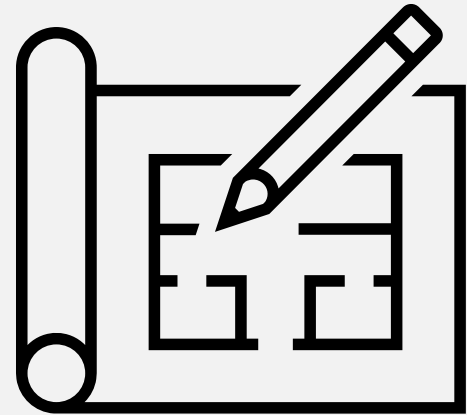 - Low-wealth households may take longer to fix up flooded homes;

Social Vulnerability

The ways in which people and communities are vulnerable to the effects of hazards and disasters that go beyond physical exposure, including social, economic, health, cultural, and historical factors.

Next Steps with ERB

- Produce "paper prototype" of tool

- Test "paper prototype" with community case studies

- Develop & test "web prototype" of the tool

- Develop user guidance and training, including practices for inclusive engagement

Thank You!

We welcome opportunities for collaboration or connection with your projects.

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