Mobilising Adaptation: Governance of Infrastructure through Co-production (MAGIC)

Professor Liz Sharp
Climate Resilience Conference, 7th March 2023
Research focus: Co-producing Green Infrastructure

Mobilizing authorities and publics to adapt to stormwater challenges with..

..Multi benefit nature based solutions to address:
- Floods
- Pollution
- Drought
- Biodiversity
- Local greening
Critique of UK (and many countries’) approach to stormwater management

REDUCTIONIST – many siloed parts.

MODERNIST - conception that the state / authorities can do everything

Research aim to aid transformation

JOINED UP - taking account of how green infrastructure can deliver multiple benefits

INCLUSIVE - public have a role
Joining up

1. Functions

- Stormwater management
- Green space for humans
- Ecological services e.g. drought resilience

2. Scales & Sectors

- Local people in Hull and East Riding (HER)
- HER's local community sector
- HER's formal governance organisations
- Developers
- Academics
- Organizations overseeing UK adaptation infrastructure

Local scale — National scale
Being inclusive via

**Action research**
Communicating by doing with, not to”
- Local people as local experts
- A point for ongoing constructive conversations

**Understandable language**
Case study- Hull and East Riding

• Urban flood risk investments;
• Contrasting neighbourhoods
• Institutions working in partnership

Hull and East Riding facts
- Delta city built on the river Hull in Humber Estuary
- Apx 300,000 population plus surroundings
- 20% of England drainage via the estuary.
- 84% of water drainage to sewers
- 100% reliant on pumping

Images by Pixabay and OS maps
Building engagement

- Five buildings with a significant public footfall
- Engaged owners, workers and users in designing, building and celebrating adaptation
- Supported development of a local cooperative to lead in the construction of adaptations
# MAGIC Building engagement

<table>
<thead>
<tr>
<th>Site</th>
<th>Adaptation</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilton Primary School</td>
<td>Pond / outdoor classroom (with future potential link to roof)</td>
<td>Pre-discussion with head and schoolkeeper. Assignments with children during construction. Celebrate with Festival of rain 1/7/23</td>
</tr>
<tr>
<td>Thorpe Centre Orchard Park</td>
<td>Green roof, stormwater planters and raintank</td>
<td>Engagement days with workers/users at centre. Days painting murals &amp; planting days with centre users, including 24/11/23</td>
</tr>
<tr>
<td>Derringham Baptist Church</td>
<td>Raintank planters</td>
<td>Engagement via interviews with users from different groups attending the church and a ‘Garden Rain Party’ 30/04/23</td>
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<tr>
<td>Sewells Garage Chanterlands</td>
<td>Raintank planters</td>
<td>Interviews with owner and workers at the garage &amp; workers at local shops. “Mermaid’s tea party” celebration 19/5/23</td>
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<tr>
<td>Cottingham Town Hall</td>
<td>Raintanks and stormwater planters</td>
<td>Consultation event with community running the building. Rain dance celebration on 30/7/2023</td>
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Engagements

How can we live well with water?

Water grows and sustains life. The kitchen rainwater tanks and gardens around the school are a place we can work with water in live, unfamiliar and useful ways.

Expect the rains to fall

Because the climate is changing, floods, heavy rain and periods of drought are becoming more frequent. This is a time to re-think storage and use water, and can quickly become a transformation during stormy weather.

Create spaces to contain the rains

There are many ways to contain or retain the rainwater on the building. Some we can retain near the base of each roof. Connect them to help us to raise the earth and plant a tree or a small area of water. “Tanks” can be installed around the school and used to collect rainwater in storage, leaving the rainwater.

Create surface to absorb the rain

Wet the soil with water during drizzle or after rain. The plants will absorb the water, creating pools for insects and birds. These pools will form a visual link to the school and the building, attracting birds and helping to raise the earth.

Thinking of installing a rain barrel at home?

Find out how you can look forward www.werraburravale.com.au/fullofwater

Adaptations

Adaptations

Adaptations
The adaptation context

1. Interviews with new housing developers
2. Interviews with local and national policy makers

Considers integration across scales and benefits
Achievements and reflections
Outputs

**FILM:** Holding back the rain (see Community Action for water youtube channel, [https://youtu.be/J0megLHm0Yg](https://youtu.be/J0megLHm0Yg))

**GUIDANCE**
Sefton, C; Hughes, G; Sharp, L; Chapman, K; and Quinn, R; (2023), Community Engagement for Nature-Based Solutions, Sheffield: University of Sheffield DOI 10.15131/shef.data.21997478

**REPORT**
Sharp, L (ed) 2023, Sustainable Drainage and New Housing Developments, Sheffield, University of Sheffield DOI 10.15131/shef.data.22134440

**PUBLIC INFORMATION/leaflets** – see web site e.g. raingarden planter See [https://www.communityactionforwater.org/](https://www.communityactionforwater.org/)
Outcomes in Hull and East Riding

AUTHORITIES
- Engaging communities via new specialised engagement staff
- 1000 raintanks to give out
- Options for raintank register being explored (to enable emptying request ahead of forecast storms)

COMMUNITIES
- 5 rainwater management installations with interpretation
- Exploring the legacy of our communications via KE funding
In 2016 Wamsler stated (of Bavaria):

“targeted city–citizen collaboration for climate change adaptation is practically non-existent”

Wamsler, Christine, 2016, From Risk Governance to City-Citizen Collaboration: Capitalizing on individual adaptation to climate change, Env. Pol. Gov. 26, 184–204 2016 DOI: 10.1002/eet.1707

MAGIC’s contribution – developing and trialling the concept of “rain management” in which:

- Everyone helps to ‘make the city’ via homes / gardens / workplace – shared responsibility
- Managing the rain gives multiple benefits for citizens … but not much said
<table>
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<tr>
<th>Needed</th>
<th>Challenges</th>
<th>Opportunities</th>
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<td>To deliver:</td>
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<tr>
<td>• <strong>Local buy-in</strong> to more rain management on public land</td>
<td>1. <strong>Benefits dispersed</strong> among many agencies</td>
<td>• Mobilise via community passions – e.g. healthy rivers or growing food</td>
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<tr>
<td>• <strong>Public mandate</strong> for more spend on rain management to adapt</td>
<td>2. <strong>Authentic communication</strong> is not prioritised, and tends to catastrophise</td>
<td>• Research question about how society delivers multi-benefit projects</td>
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<td>• More rain management on <strong>private land</strong> - commercial or domestic.</td>
<td>3. <strong>Evidential standards</strong> need to recognize cumulative change</td>
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Thank you for listening

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Web site

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