

# ***Waterproofing Data: engaging stakeholders in the sustainable governance of flood risks***



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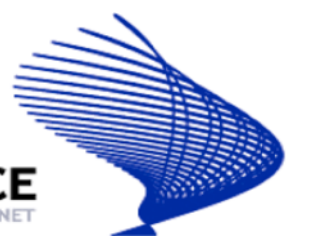
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# Waterproofing Data

## Engaging stakeholders in sustainable flood risk governance for urban resilience

(October/2018- September/2021)

### Challenge

How to **rethink** flood data  
production and flow to  
**enable transformations** to  
build sustainable, flood  
resilient communities?



# Waterproofing Data

## *Engaging stakeholders in sustainable flood risk governance for urban resilience*

### Objectives

Develop three innovative interdisciplinary methods:

- 1. Make visible** how stakeholders engage with data
- 2. Engage** citizens to produce, circulate and embed data
- 3. Integrate** citizen-generated data with other sources to support decision and policy making

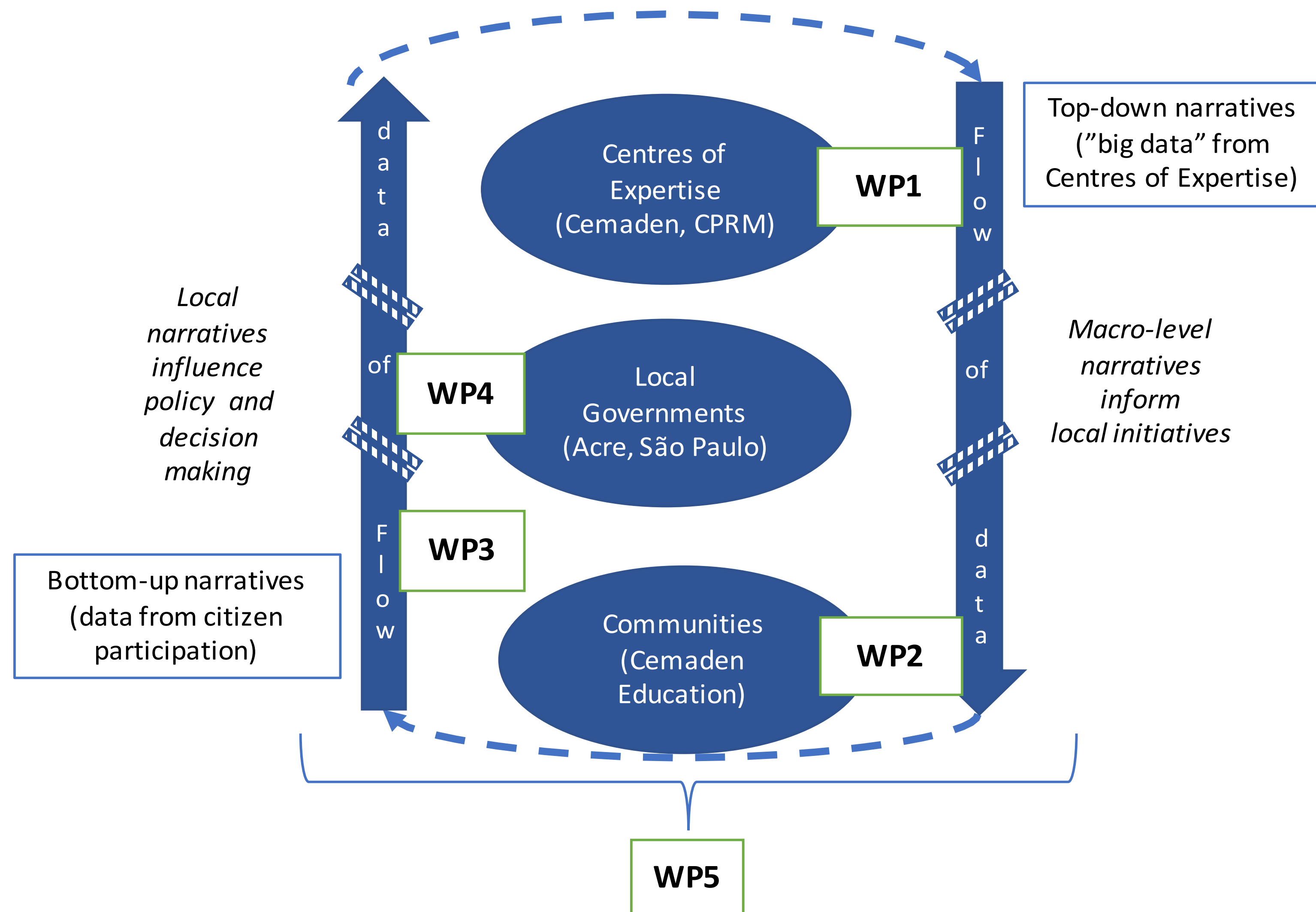
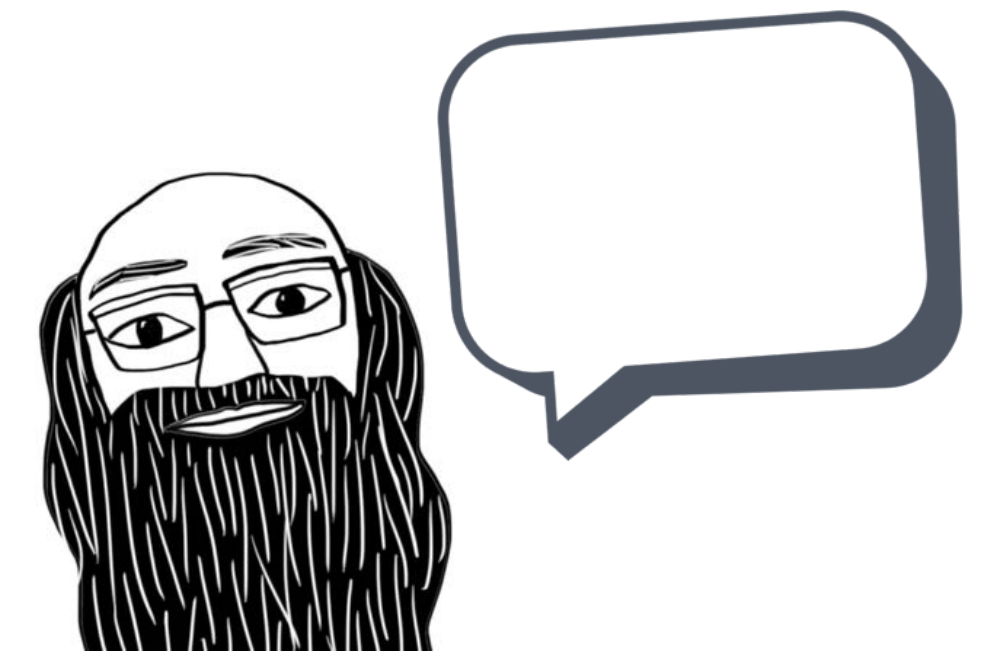


Figure 1. Scales and work packages of the project



# Data Generation and Dialogical Transformations to Resilience



Fonte: <http://www.paulofreire.org/>

## ► Resilience as co-production

- Flood data production and flow in a transdisciplinary ‘problem space’ (Lury)

## ► Data generation as a **critical pedagogical** activity following Paulo Freire:

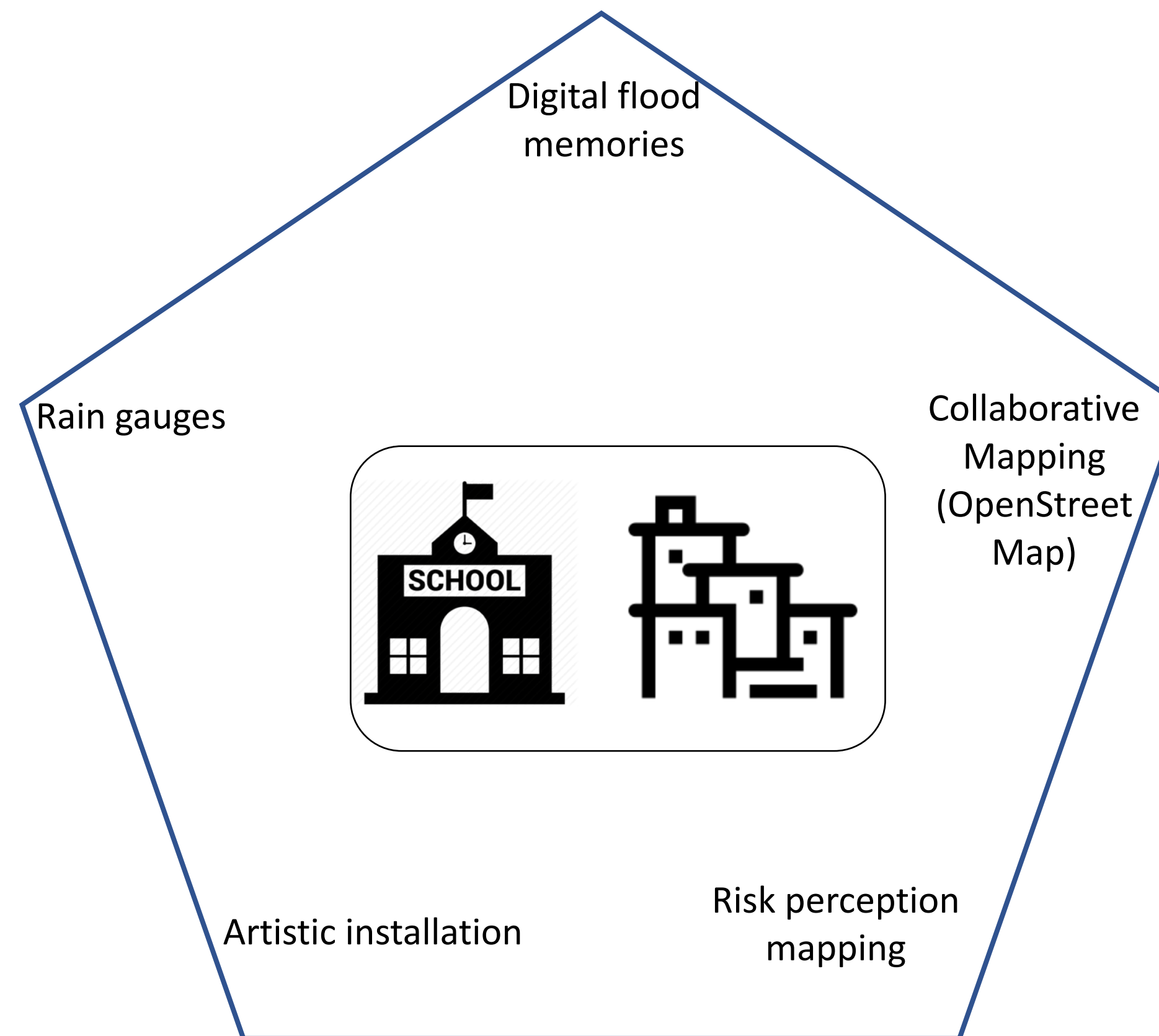
- Reframing “citizen science”: the “pedagogy of the oppressed” is a **pedagogy of questions**
- **Generative data**: data generation grounded in the particular realities of communities and serving to ask questions about the territory (conscientization)
- Data generation **process** is as important as the resulting data

*de Albuquerque, J. P. de & de Almeida, A. A., (2020). Modes of engagement: reframing ‘sensing’ and data generation in citizen science for empowering relationships. In: Mah, A. and Davies, T. (2020), Toxic Truths: Environmental Justice and Citizen Science in a Post Truth Age. Manchester, UK: Manchester University Press*

# Overview of Work Package 2

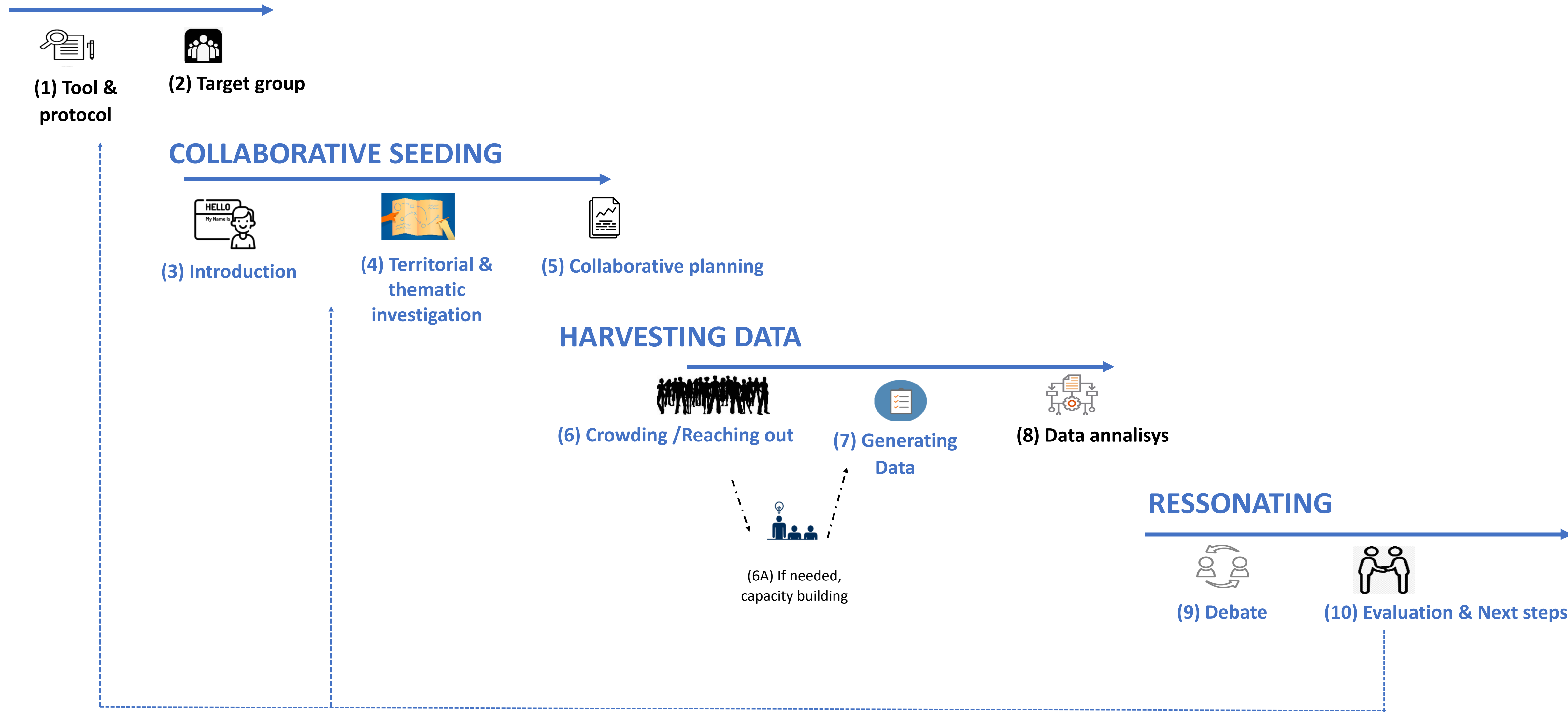
## GOAL

Engage citizens to produce, circulate and use **data**, which incorporate and build upon pre-existing **flood memories** and **local knowledge** of flood risk, to increase community resilience.



# 2. Proposal: a new methodology of community engagement

## FORETHINKING





### 3. Presentation of uses of the new methodology

#### Risk perception mapping

#### Collaborative seeding & Harvesting data

- Implemented in Oct-Dec 2019
- Risk perception mapping + questionnaire – 70 respondents

#### Ressonating

- a) Change in perception: **“yes, we have flood-related risks”** + flood, flash-flood and ‘water excess’
- b) Debate & feedback
  - 1<sup>st</sup> Open Meeting (Fev 2020)
  - **Interest in generating new data: rain gauges**





## 4. Presentation of uses of the new methodology

### Risk perception mapping - Ressonating

“It was very important this event here in the parish to open up our minds. Because before we understood floods as we see them on the TV, taking things and houses down, and we learned that flood is when you are trapped inside your home, you cannot get out. So this is what happens here. It rains, it doesn't need much, and the neighborhood stops! (...) **It is a very critical case, but we did not have this vision of our neighborhood**”

(Ana, dweller from M'Boi Mirim, Feb 01 2020)





## 4. Presentation of uses of the new methodology

### Citizen Science (rain gauge)

### Collaborative seeding & Harvesting data

- 5 classes of High School (1 st grade)/ public school
- Students daily monitored rain precipitation (Sep-Nov 2019)

### Ressonating...

- Planned outputs were obtained
- **Collected data on the rain & link with the territory** – “generative data”
- Collective decision to go beyond and try to promote more transformation & critical thinking

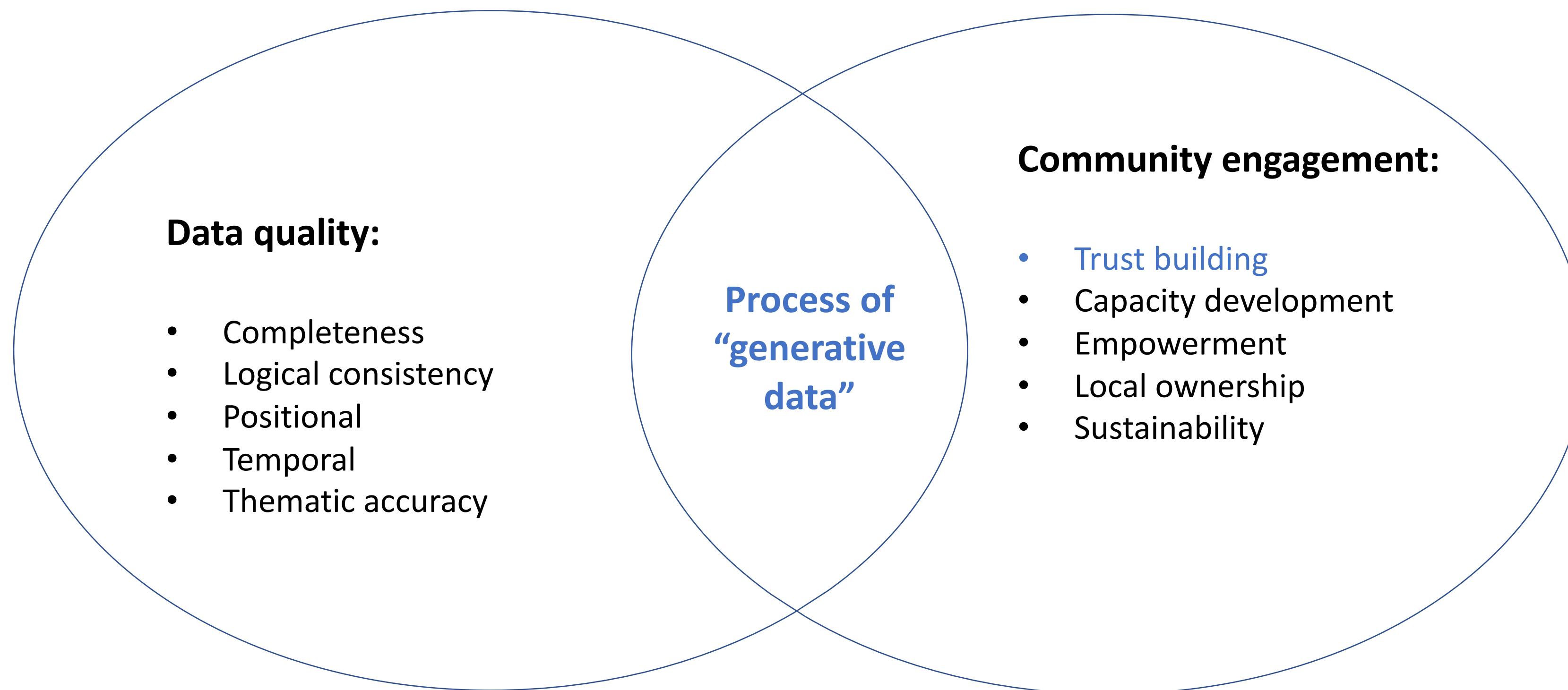


Decision to work on an **elective course (2020)** + handbook for dissemination



## Challenges and learnings

### Spillovers





## Challenges and learnings

### Challenges

- Pandemics
  - Core activities suspended in Rio Branco
  - Suspension of presential classes
  - Difficulty of maintaining contact (Internet)
- Leverage & articulate greater transformations

### Achievements

- Community transformations at local level
- New financing & support to develop an app to disseminate WPD's results (WP6) – UKRI



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Thank you



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