

# H2O-T2S IN URBAN FRINGE AREAS

T2S VIRTUAL MEETING- JUNE 3, 2020

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**SaciWATERS**

**TU Delft**





## PROJECT

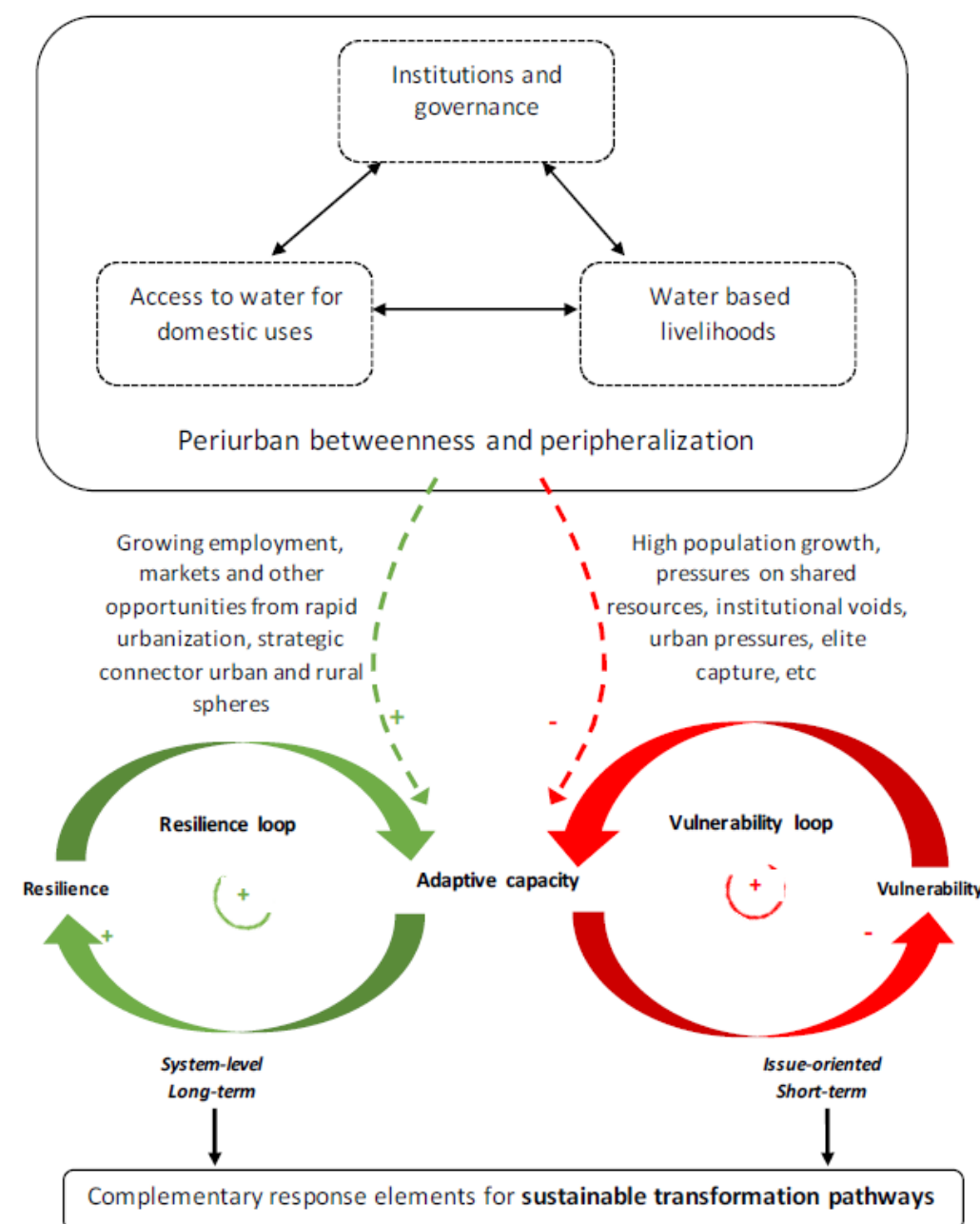
# H2O-T2S IN URBAN FRINGE AREAS

### AIM

Understand existing drivers of vulnerability and resilience to help peri-urban stakeholders identify more sustainable future pathways

### INTEGRATED RESEARCH

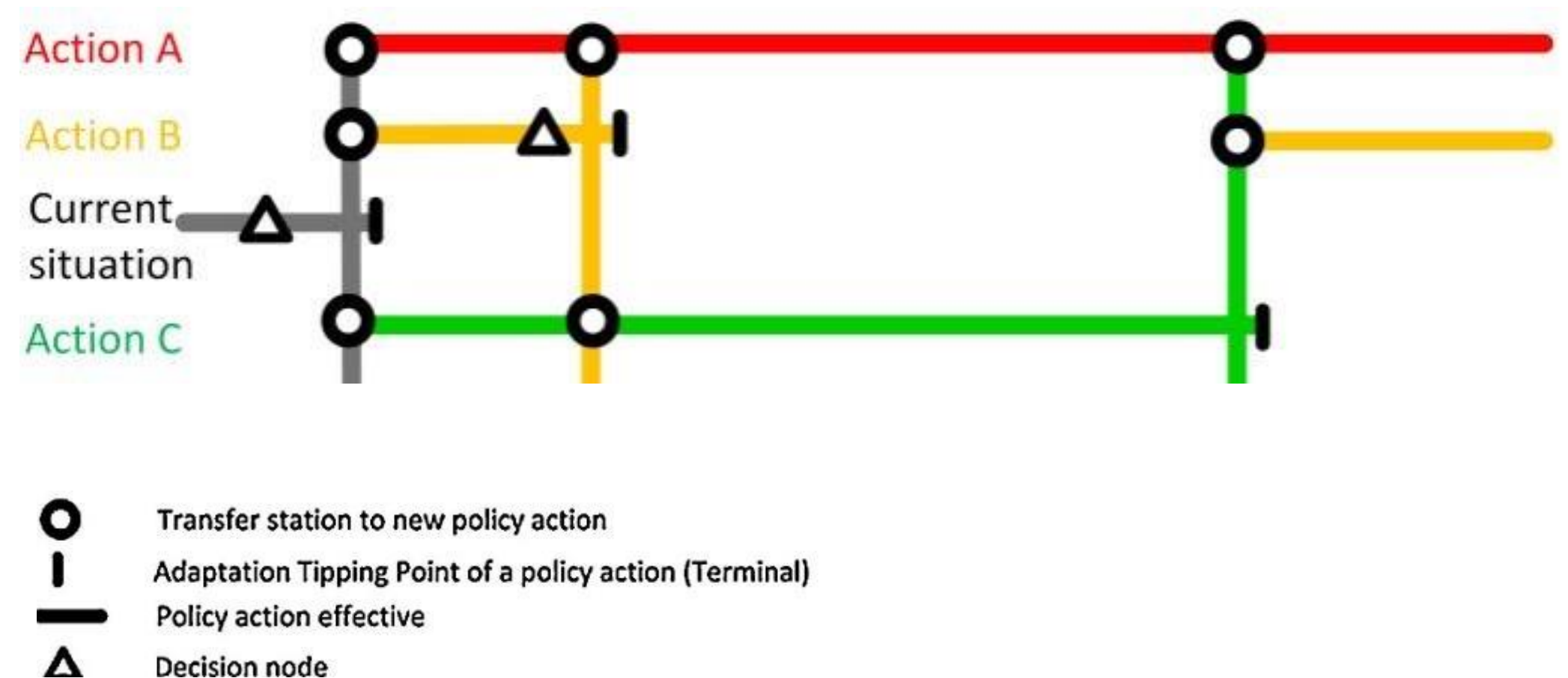
- Linkages between water governance, water access and water based livelihoods
- Vulnerability, adaptive capacity, resilience



CONCEPTUAL FRAMEWORK

### SUPPORT POLICY-PLANNING PROCESS

- Design transformative pathways for sustainable peri-urban development and desirable futures
- Knowledge exchange & dialogue
- Create visibility for peri-urban space



ADAPTATION PATHWAYS

# PROJECT LOCATION

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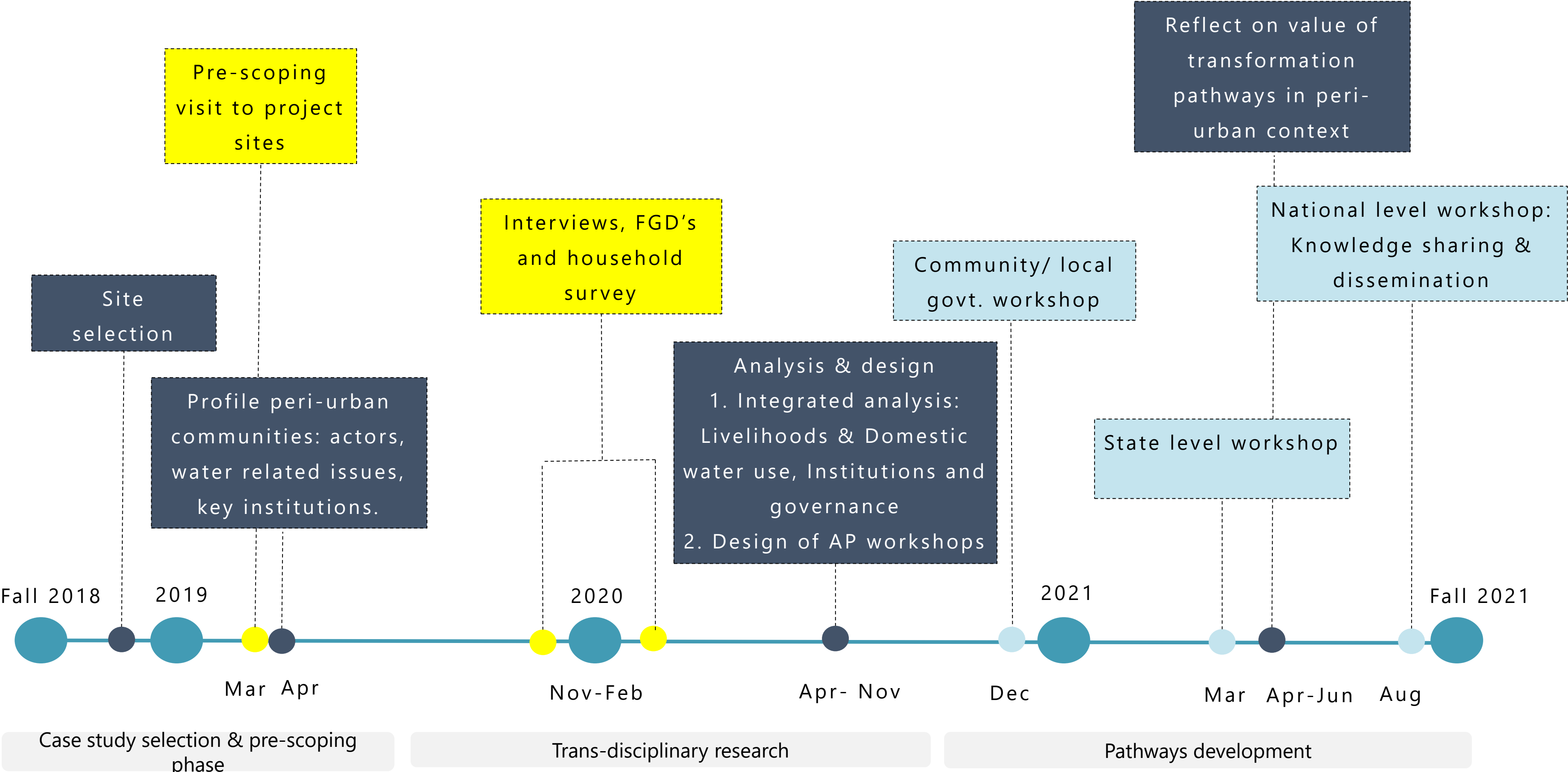
GEOGRAPHIC CONTEXT

## SELECTION CRITERIA

- Outside municipal boundary, varied physical-geography
- Changing population, resources, income, institutions. Depletion/degradation of primary water sources, water outflows
- Interest in transforming peri-urban governance, platforms for learning/knowledge sharing

6-case studies: 2 near each city

# PROJECT TIMELINE



## BADAI VILLAGE, KOLKATA

### PERIURBAN TRANSFORMATION

- Village is well connected to Kolkata via highway
  - Emergence of industrial cluster
  - Agricultural intensification – closeness to urban markets and subsidies
  - Influx of migrants from other states – industrial work force
  - Educated younger generation commutes to Kolkata for work

### WATER RESOURCE VULNERABILITIES

- Groundwater
  - Industrial demand is lowering groundwater table – local SWID oversight limited
  - Seasonal scarcity for domestic users – PHED piped water supply not yet available
- Canals
  - Untreated effluent – regulatory gaps, land for ETP
  - Conflicts between farmers & industries
  - Agricultural lands barren due to pollution and water logging (construction)
- Ponds
  - Loss of village ponds- land sold for real estate/industrial development





# BADAI VILLAGE, KOLKATA

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## ADAPTATION

Drinking water:

- Falling water levels- shift from handpumps to private tubewells by affluent households
- Growing need for pipeline supply by low-income households
- PHED- investing in drinking water supply projects in areas
- Emergence of bottled water market – commodification, higher cost of drinking water

Livelihoods:

- Agriculture sector restructured – shift from rice to fruit and vegetable cultivation
- Investment in fisheries or non-water based occupations
- Emergence of new businesses: water-vending, water purification etc.
- Transfer of ponds and agricultural land to small industrial enterprises

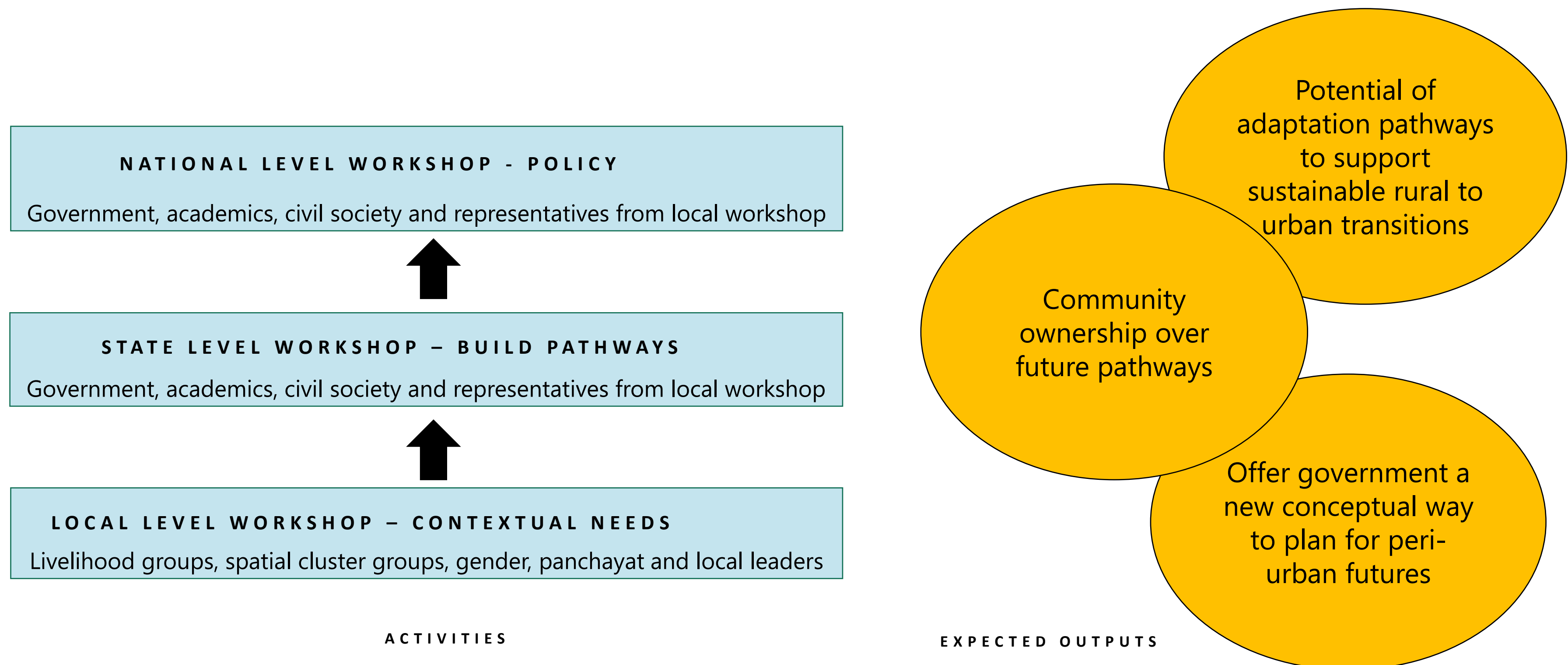


# STRENGTHENING PERI-URBAN RESILIENCE THROUGH ADAPTATION PATHWAYS

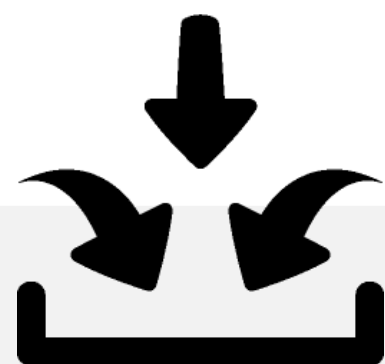
- Current rural to urban transformations are not sustainable
- Dynamic nature of requires considering short and long term vulnerabilities

- Adaptation Pathways approach can help stakeholders and policymakers develop longer-term transformative plans
- Participatory, collaborative, context specific development of sustainable transformation pathways

BUTLER ET AL. 2016, LAWRENCE & HASNOOT 2017, HERMANS ET AL. 2017



# BUILDING TRANSFORMATIVE PATHWAYS



Frame the workshop and the current scenario from research findings

INTEGRATE RESEARCH



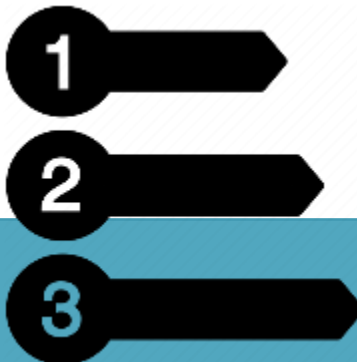
Define future goals, objectives, and aspirations (by stakeholders)

VISION



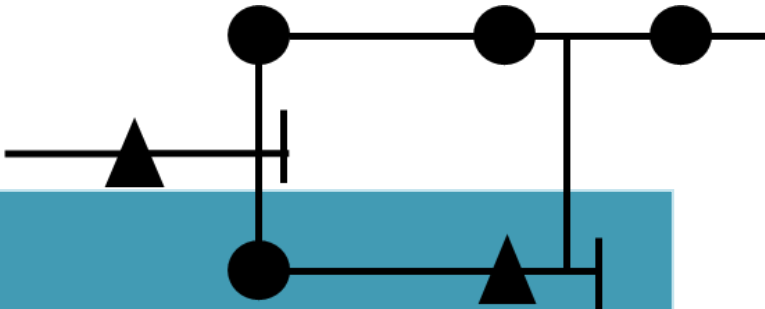
Develop possible future scenarios

CREATE SCENARIOS



Analyse and prioritize future scenarios

COMPARE SCENARIOS



Formulate path from current to the future : Identify strategies, tipping points etc.

BUILD PATHWAYS



Reflect on developed pathways schematic

REFLECT



WAY FORWARD

# DESIGN CHALLENGES

## PARTICIPATORY APPROACH

### CONTEXT

- Strong social hierarchies and uneven power relations in villages
- Conflicting interests (all cases), Open conflicts (a few cases)

### STAKEHOLDER MAPPING & BUILDING BLOCKS

- Group homogeneous participants accounting for caste, educational status, occupations and “interests”
- Bring different perspectives back in plenary sessions

### CHALLENGES

- Involve representatives of the relevant groups (create interest, ask for time)?
- Ensure all participants voices are heard- particularly women, low-income
- Synthesis: bringing together the transformation pathways done by different stakeholder groups



## UNCERTAINTY

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### ORIGINAL PLAN

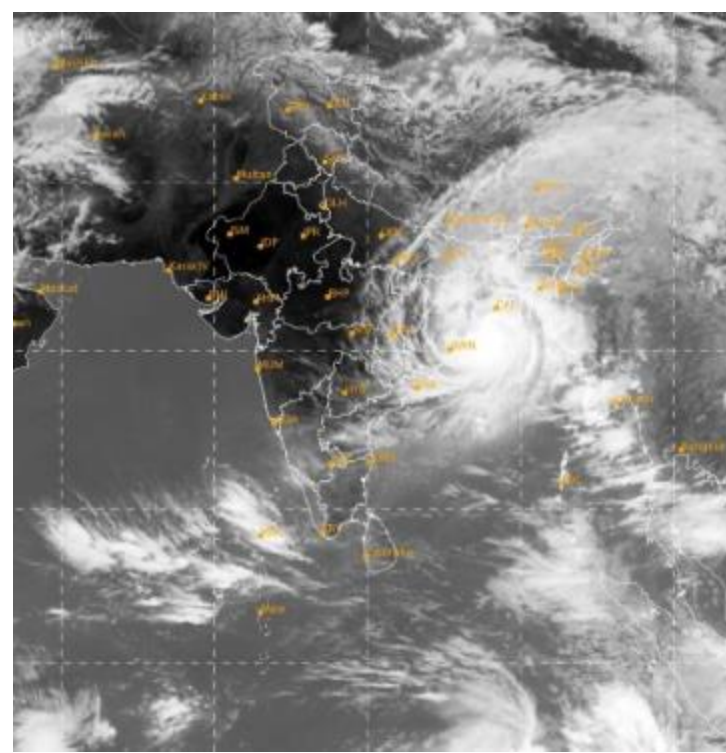
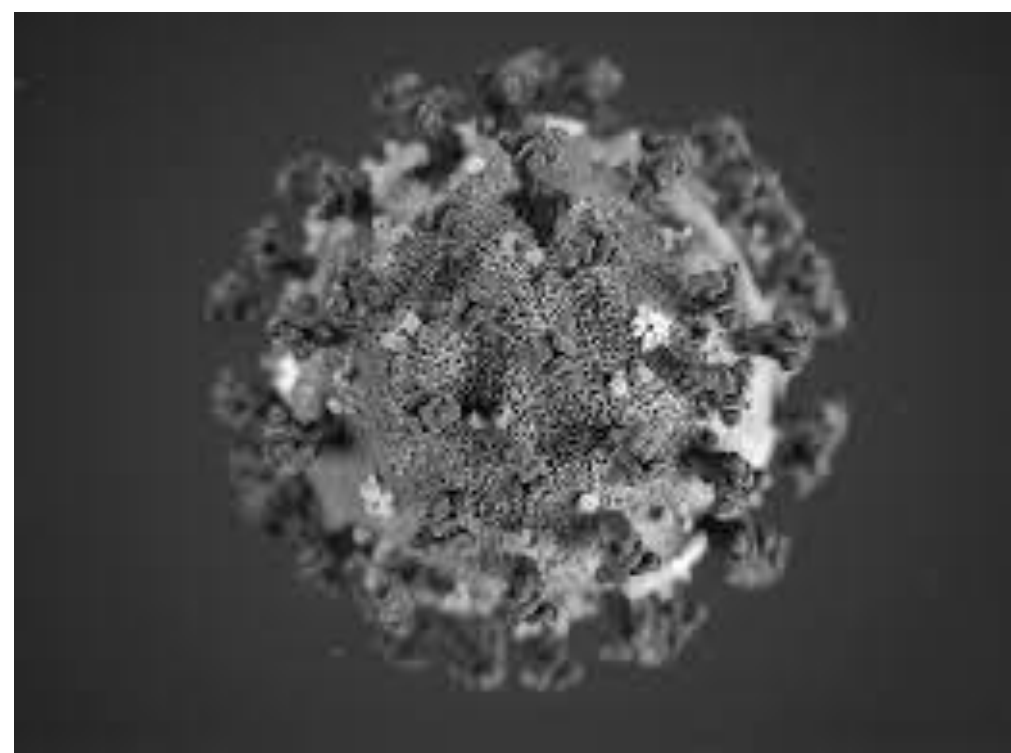
- Community workshops- December 2020
- Government workshops- February 2021

### COVID-19 CRISIS & CYCLONE AMPHAN

- How valid is our diagnosis → changing priorities, context in the last months?
- How can we as externals interact with villagers?
- Will local government officials have time to talk to us or will they still be in “crisis mode”?

### CURRENT STATUS

- Data analysis: reconstruct development pathways, identify similarities/ dissimilarities/ challenges
- Decide on final project phase in September:
  - a) Stick to original plan
  - b) Delay original plan
  - c) Develop alternative for final phase of the project (e.g. virtual discussion of future development pathways, redefine project outputs)







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# THANK YOU



[saciwaters.org/t2speriurban](http://saciwaters.org/t2speriurban)



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