



**SAPIENZA**  
UNIVERSITÀ DI ROMA

**Tyndall Centre for Climate Change Research**

**Climate Transitions: Connecting People, Planet and Place**

**PhD Conference 2013**

**BACKCASTING SCENARIOS FOR ADAPTATION  
TO CLIMATE CHANGE**

***THE CASE OF DAR ES SALAAM (TANZANIA)***

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# KEY POINTS OF THE STUDY

## Background

Planning for climate change (CC) adaptation in urban contexts is a major challenge, particularly due to:

- increasing levels of future complexity and dynamicity of socio-economic and environmental systems, which are intrinsically unpredictable
- difficulty in predicting climate effects at the regional/local level

## Assumptions

1. Adaptation planning should be aimed at:

- reducing the potential impacts of CC
- identifying transformative societal projects oriented to sustainability

2. Scenario analysis methods are particularly useful in:

- anticipating and shaping the future
- dealing with uncertainty and complexity

## Research Question

How can scenario analysis contribute to adaptation planning in the sub-Saharan urban context and promote systemic societal transition to sustainability targets?

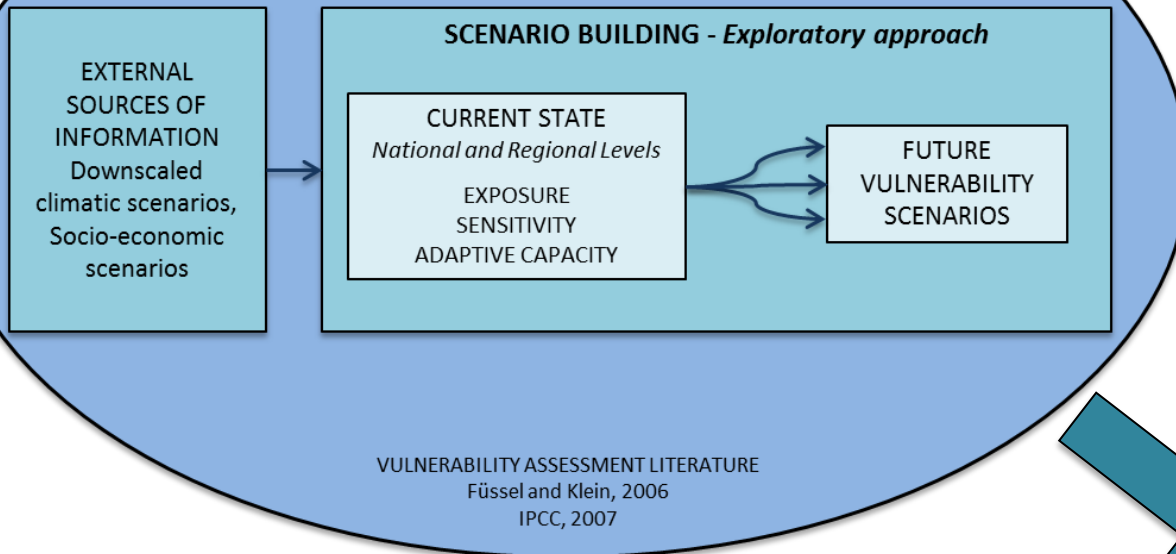
## Case Study

Access to safe water in coastal Dar es Salaam (Tanzania)



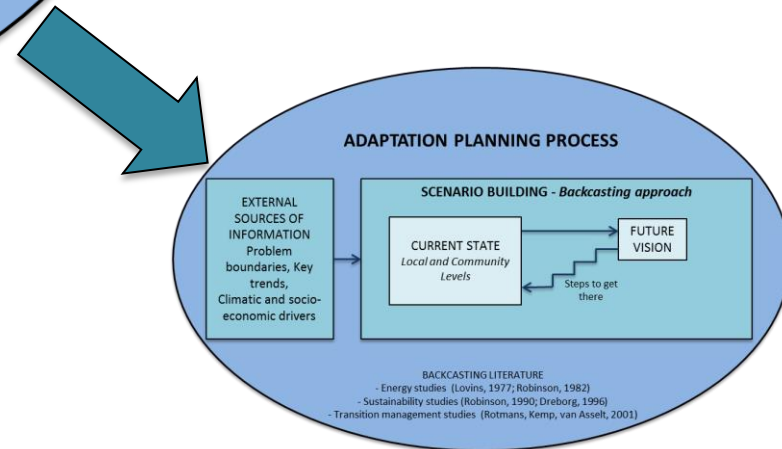
# MOVING TOWARDS A NORMATIVE SCENARIO APPROACH FOR CC ADAPTATION ON A LOCAL SCALE

## ADAPTATION PLANNING PROCESS



### EXPLORATORY SCENARIO (*What could happen?*)

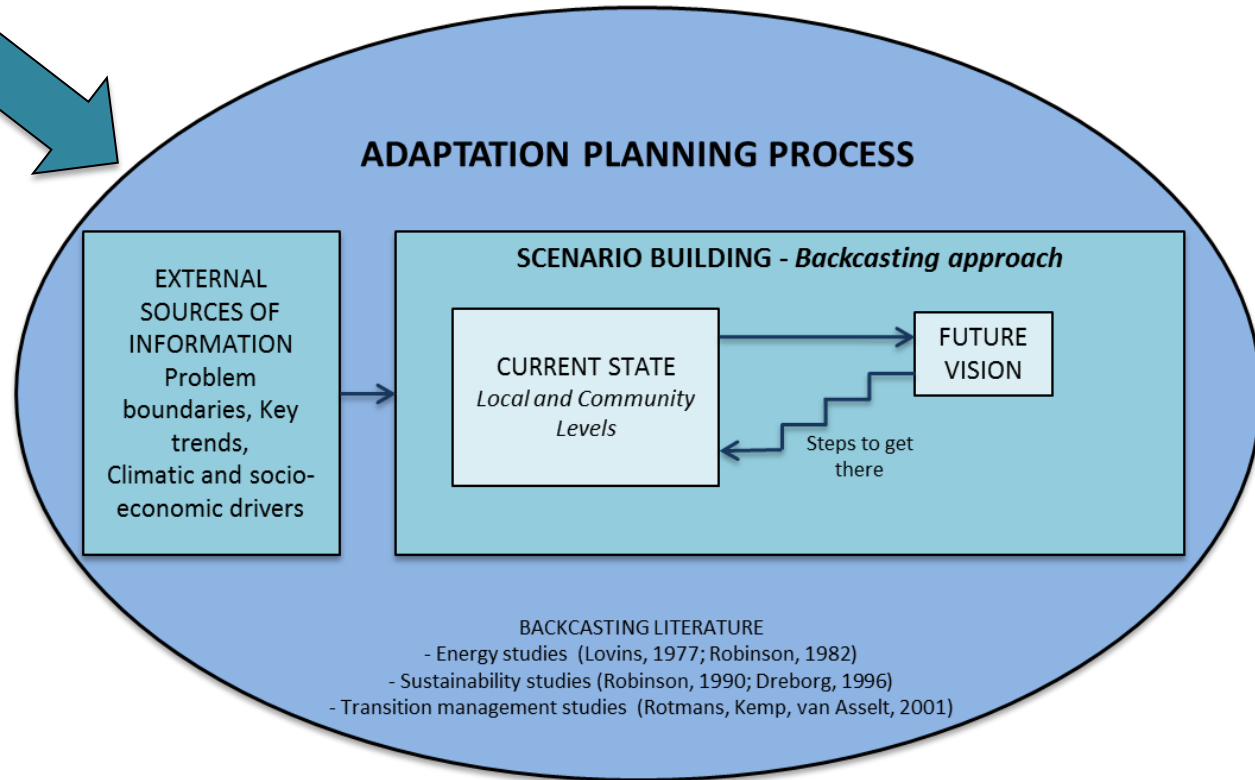
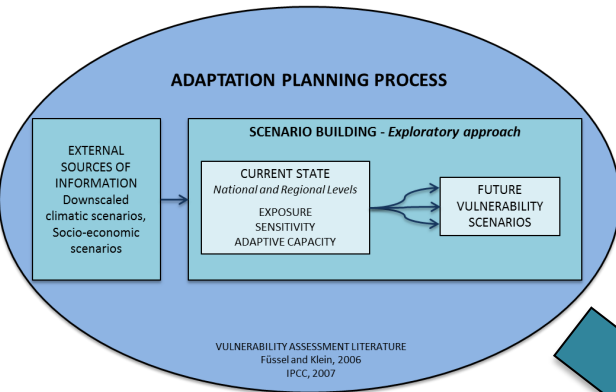
- Articulate different plausible societal developments
- Explore present-future pathways and possible societal consequences
- Define problem boundaries, key trends and drivers
- Not able to support transformative planning processes



# MOVING TOWARDS A NORMATIVE SCENARIO APPROACH FOR CC ADAPTATION ON A LOCAL SCALE

BACKCASTING SCENARIO (*How can a specific target be reached?*)

- Generate a desirable future
- Explore future-present pathways
- Individuate strategies, including system change actions, for achieving that future



# PARTICIPATORY BACKCASTING

(Robinson, 2003; Quist and Vergrat, 2006)

## Participatory Backcasting Methodological Features

*(based on an iterative process)*

1 - Create community vision  
for future development

*(future vision as analytical and  
social construct)*

2 - Stakeholder involvement  
and learning

*(importance of the process over  
the outcome)*

3 - Develop future-present  
pathways

*(continuous feedback between  
future visions and present  
actions)*



## How Backcasting can assist communities and local authorities in CC adaptation

### - Define societal adaptation objectives

- Maintain a systemic perspective in reading the key features of natural and human systems and the different ways in which CC can impact them
- Set normative adaptation assumptions and define criteria of desirability for various images of the future

### - Promote a learning process through social interaction, thus broadening the space for actions, behavioural alternatives and agents of change

- Organize information and enhance knowledge on climatic threats and opportunities
- Incorporate the values and preferences of different stakeholders into adaptation strategies

### - Highlight the possible need for system transformative actions

- Connect future objectives with policy choices and adaptation actions to be applied in the present (adaptive management)
- Promote a robust decision-making process, which will close the gap between planning and implementation typical of sub-Saharan local governments
- Avoid the autonomous adaptation practices that can lead to maladaptation

## FUTURE RESEARCH PLAN

*METHOD FOR EXPLORING THE IMPLICATIONS OF THESE HYPOTHESIS:* Community scenario exercise in coastal Dar es Salaam

*PARTICIPATORY TOOL:* Augusto Boal's Theatre of the Oppressed

