



ACC DAR Adapting to Climate Change in Coastal Dar es Salaam

International Workshop

MAINSTREAMING CLIMATE CHANGE ADAPTATION INTO URBAN DEVELOPMENT AND ENVIRONMENTAL MANAGEMENT PLANS AND PROGRAMS



A Participatory Backcasting Scenario Methodology for Supporting Climate Change Adaptation Planning at Community Level: Access to Water in Coastal Dar es Salaam

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BACKGROUND

Background of the study in ACC Dar Project

Activity 2.2: develop scenario approach methodologies for exploring the vulnerability of coastal peri-urban populations under Climate Change (CC)

Case study

Access to water in coastal Dar es Salaam, particularly in coastal zones where salinization of groundwater is already evident

Access to water is currently an emerging problem for Dar es Salaam's coastal communities due to the rising level of aquifer salinization caused by increasing anthropogenic pollution and seawater intrusion. Such a situation could be exacerbated by the effects of Climate Change.

Previous studies developed within Activity 2.2 indicate that Climate Change will have an important impact on the hydrogeological budget of the shallow aquifer, placing those who depend on wells for access to water at risk (Sappa et al., 2013).

GOALS AND SCOPE

Overall objective

Improve participatory scenario methods for supporting local CC adaptation planning that take into account the community's development objectives as well as factors that influence their potential to reach such objectives

Specific objective

Provide a participatory scenario methodology that can be used to:

- explore populations' aspirations for accessing water and the challenges that may undermine their achievement;
- identify and elaborate possible strategies for overcoming those challenges.

Identification of the population's aspirations and proposals and of contextual obstacles to and conflicts over water access is expected to provide useful inputs as regards defining community-level adaptation objectives and developing a methodology for the participatory design of community-based adaptation initiatives (Activity 2.3 of the ACC Dar Project)



MOTIVATION

Assumption

Planning for Climate Change (CC) Adaptation in urban context should be aimed :

not exclusively at..

→ reducing the direct and indirect potential impacts of CC

but also at ..

→ identifying transformative societal projects oriented to sustainability



Necessity of innovating the consolidated scenario approach for local adaptation planning, based on the use of downscaled forecasting scenarios for exploring possible future trends in climate and non-climate factors, as it is unable to fully recognize:

→ *the contextual mechanisms that determine people's trajectories of vulnerability*

→ *people's legitimate expectations for change*

APPROACH AND METHODS

As such, it was considered necessary to experiment an **alternative scenario approach** for supporting local adaptation planning that places at center of the planning process **people's aspirations**, and considers **contextual uncertainty and complexity**

by reversing the usual approach to planning
(*backcasting* rather than *forecasting*)

by promoting direct participation in the
definition of objectives and strategies



Conceptual model of
PARTICIPATORY BACKCASTING
(Robinson, 2003; Quist, Vergragt, 2006)

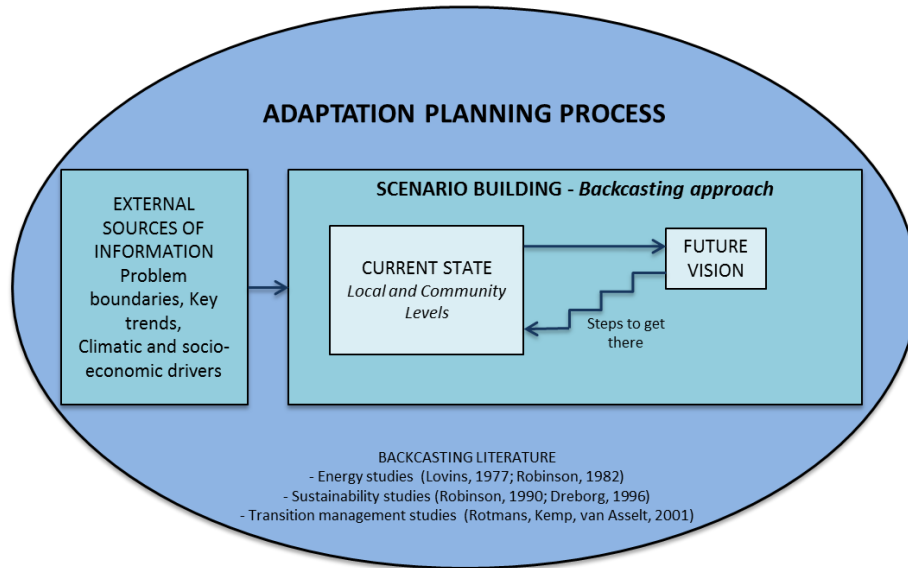
Use of the **THEATRE OF THE OPPRESSED**
(Boal, 1995) as a method of
participation

Participatory scenario building methodology

tested through a scenario exercise in a peri-urban area within Dar es Salaam's coastal plain

APPROACH AND METHODS

Backcasting Approach



NORMATIVE SCENARIO

(How can a specific target be reached?)

- Generate a desirable future vision
- Explore future-present pathways
- Individuate strategies, including system change actions, for achieving the desired future
- Its use in adaptation planning has not yet been widely experimented

Key elements of Participatory Backcasting

1. **Stakeholder involvement** in the whole process
→ Increase legitimacy and accountability for the decision and the related action plans
2. **Participatory generation** of desirable future **vision**
→ Vision acts as activator and motivator
3. **Stakeholder learning** through interaction during vision development and future-present pathway definition

APPROACH AND METHODS

Theatre of the Oppressed

Theatre of the Oppressed (TO) is a **participatory theatre method** that allows people to bring their **everyday issues** to the stage, and involves the audience in a **collective exploration** of possible solutions/actions for overcoming oppression, first on the stage and then in real life.

TO techniques: Forum Theatre, Image Theatre, Invisible Theatre and Legislative Theatre

Powerful tool for:

- energizing large audiences
- increasing knowledge and awareness on specific issues
- strengthening coalitions
- building community action agendas
- developing community advocacy skills

Participatory theatre is a relatively well-known approach in Tanzania, and is already recognized as valid due to its successful implementation in many spheres, including in HIV/AIDS prevention programs



PHASES OF THE STUDY

Preliminary Activities

Selection of the study area

Selection of the community participants in the scenario exercise

Execution of the Scenario Exercise

Definition of the structure of the scenario exercise

Individuation of methodological steps and tools, as well as the adjustments during the application phase

Drawing of information and knowledge emerged in the various scenario exercise phases

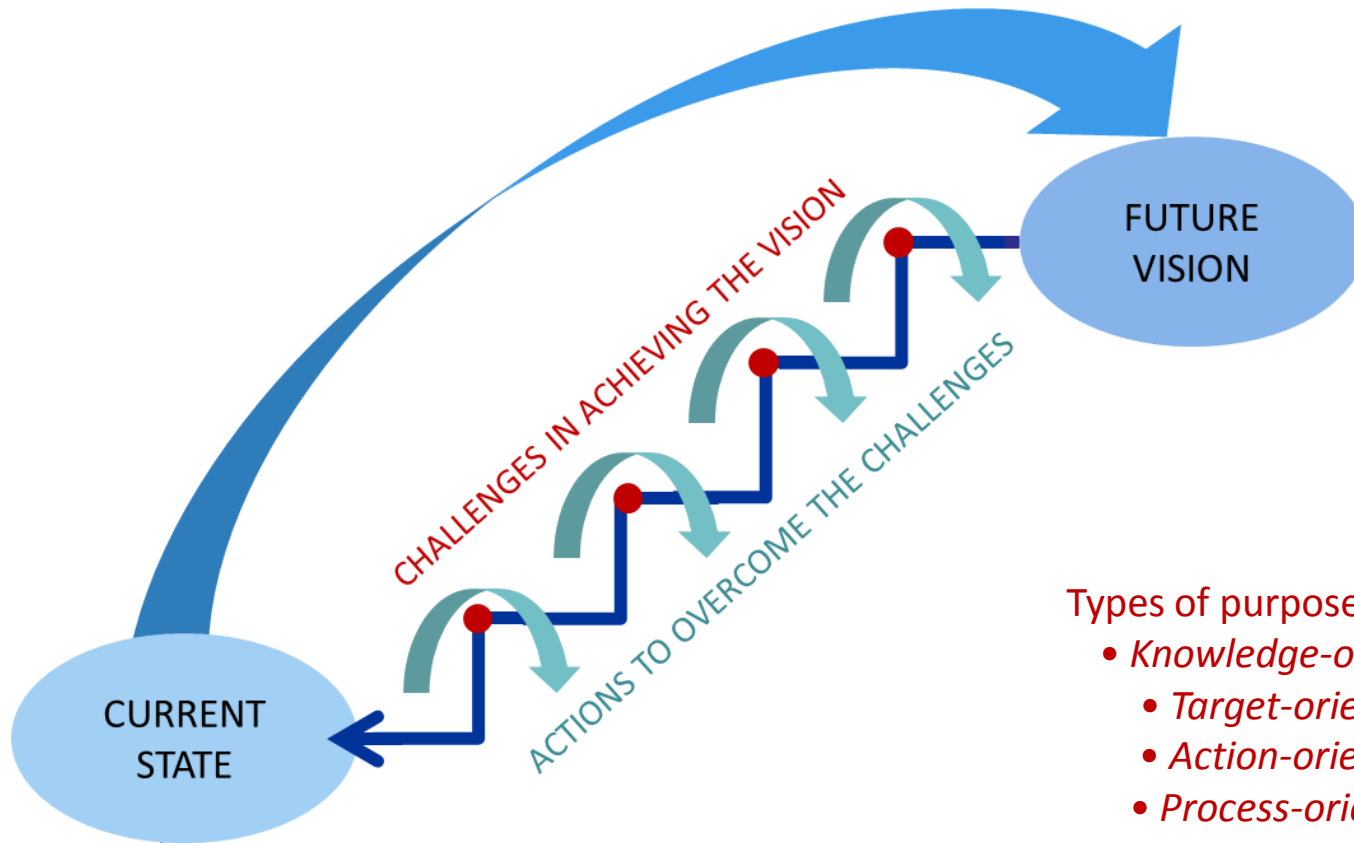
Assessment of the Developed Scenario Methodology

SWOT Analysis based on:

- Literature review
- Observation of the process
- Execution of semi-structured interviews to several participants in the scenario exercise

1. Development of a **participatory scenario methodology**
2. Identification of the **community's aspirations** as regards access to water, as well as the **potential challenges** and obstacles they anticipate in this respect, and their **proposals** for overcoming them
3. **Assessment of the scenario methodology** applied in the case study

PARTICIPATORY BACKCASTING METHODOLOGY



Types of purpose it seeks to meet:

- *Knowledge-oriented purpose*
- *Target-oriented purpose*
- *Action-oriented purpose*
- *Process-oriented purpose*

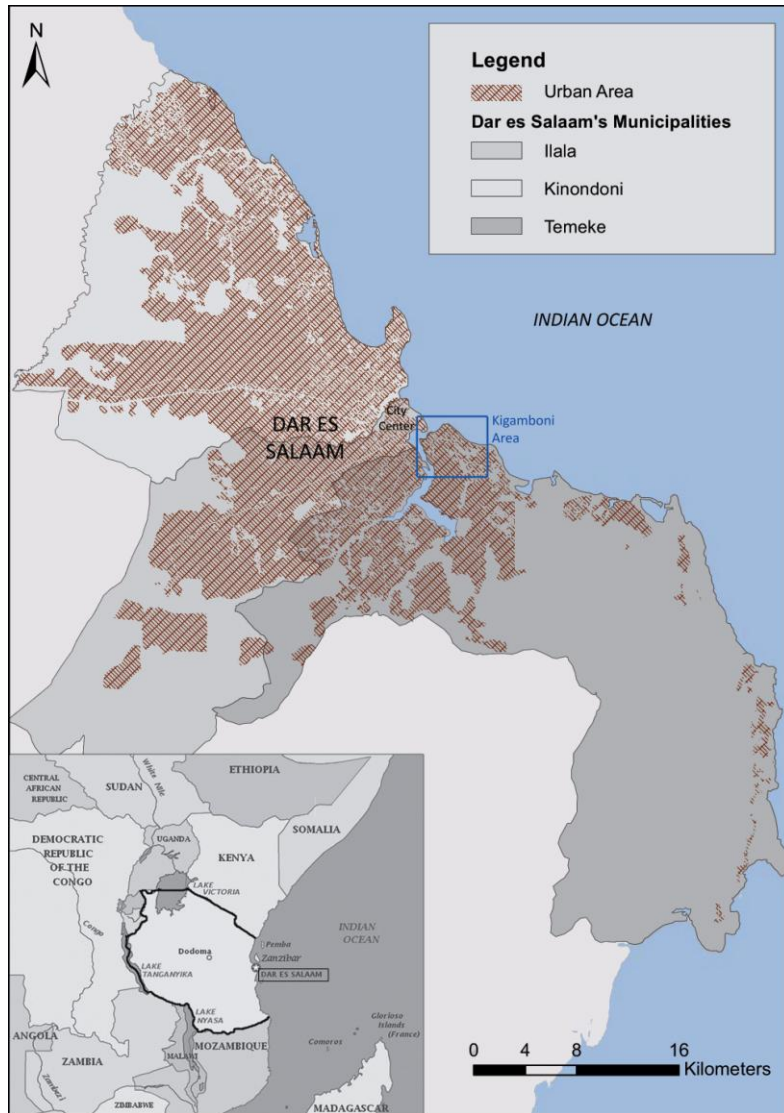


PARTICIPATORY BACKCASTING METHODOLOGY

Scenario Exercise Phase	Step of the Scenario Methodology	Description
<p style="text-align: center;">Execution of a Community Scenario Workshop</p>	<p>1. Development of a shared vision of future access to water</p>	<ul style="list-style-type: none"> - Creation of "human sculptures" depicting an image of their ideal access to water scenario, in response to the leading question: "<i>What is your wildest dream as regards water?</i>" (Use of the Image Theatre technique) - Collective analysis of the various images produced - Selection of the most commonly shared vision
	<p>2. Identification of the challenges in achieving that vision</p>	<ul style="list-style-type: none"> - Representation of current conditions, in terms of activities and issues related to water access and use, and comparison between the present and the vision - Creation and representation of various scenes that depict possible obstacles to achieving the vision, in response to the leading question: "<i>What obstacles might arise in achieving the vision (or a specific element of the vision)?</i>" - Definition of the temporal relationship between obstacles - Collective analysis of various scenes
<p style="text-align: center;">Execution of various public sessions of Forum Theatre</p>	<p>3. Preparation of a theatrical representation that stages the vision and related challenges</p>	<ul style="list-style-type: none"> - Definition of the content and the structure of the play to be represented in Forum Theatre sessions (vision and challenges) - Artistic creation of the play and aestheticization of scenes
	<p>4. Search for alternative actions and strategies to overcome challenges</p>	<ul style="list-style-type: none"> - Execution of public Forum Theatre events, in which the show is presented to the audience once, after which spectators can intervene to replace a character in the scene and act out their own suggestions for overcoming a specific challenge



APPLICATION OF THE METHODOLOGY



Study Area: Kigamboni, Temeke

Case Study: Access to water in coastal area



Community Scenario Workshop (a, b) and some Forum Theatre events (c, d)

ACTORS

Community Scenario Workshop

24 young adults (equal numbers of men and women, ages 18 to 33) from various Mtaa within the Kigamboni ward.

Representative of the socio-economic composition of the community, in terms of:

- level of education (from primary to high school)
- household income (from low to high, as compared to the average income in the selected ward)
- main type of economic household activity (agriculture, fishing or small "informal" businesses).

→ most of the participants collaborate with the Kigamboni Community Center (KCC)

Other workshop participants :

- Team of Italian researchers, consisting of 1 TO expert and 2 researchers (Sapienza University)
- a Tanzanian expert in participatory processes (Ardhi University)
- a Tanzanian facilitator (Club Wazo)
- a Tanzanian researcher (Ardhi University)

Forum Theatre Sessions

11 public FT events were performed in various areas within the Kigamboni and other wards, involving in total more than **2000 people**

Individuals in decision-making roles within the community, **people with economic interests** in the water sector, and **“higher level” actors** were not involved in the workshop at all, but were partially involved in the FT events.

→ desire to exclude any external elements (such as cultural differences or power dynamics)

CURRENT STATE

Access to Water

Lack of municipal water system;
Water from private and community shallow wells is salty;
Freshwater purchased locally at moderately elevated prices from street vendors or in other areas and transported for many km.

Water Use

Domestic purposes

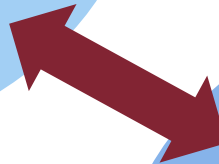
FUTURE VISION

Access to Water

2000 l/household per day (volume of many water tanks);
Diversification of water sources: Deep Community Borehole + Public Standpipes connected to the municipal water supply system.

Water Use

Domestic and agricultural purposes;
Development of income generating activity at household level and community level



Vision Building Process

Community hopes reflect the variety of perspectives on access to water

→ Well-defined and shared future objectives for the community

- *Water as a stable primary good*
- *Water as a motor of local development*
- *Water as a crux of community togetherness*



CHALLENGES IN ACHIEVING THE VISION

Challenge and obstacle identification process

Enable discussion of problems, conflicts and critical points related to the water access issue that require intervention in order to facilitate changes to the system

→ Complexity and transversal character of the water issue, as it involves multiple aspects of community life



CHALLENGES IN ACHIEVING THE VISION

POLITICAL CHALLENGE

Critical political situations in the development of community projects

OBSTACLES

- Lack of or difficulty in communication between the community and political leaders (at the ward and district levels)
- Public funds allocation without consideration for community needs
- Corruption among politicians and technicians

SOCIAL CHALLENGE

Difficulty in reaching an agreement within the community on a shared project

OBSTACLES

- Individual interests prevail over community interests
- Community disorganization and disinformation
- Community disillusioned by the problem solution
- Community's growing disinterest in public participation

CHALLENGES IN ACHIEVING THE VISION

FUTURE VISION

TECHNICAL AND ENVIRONMENTAL CHALLENGE

Critical technical and environmental situations in the development of community projects

OBSTACLES

- Little technical support when designing and building the community borehole and the water supply scheme
- Poor maintenance or lack of control of the built water systems
- Lack of communication and coordination between the community, politicians and technicians from different sectors
- Water pollution

CURRENT STATE

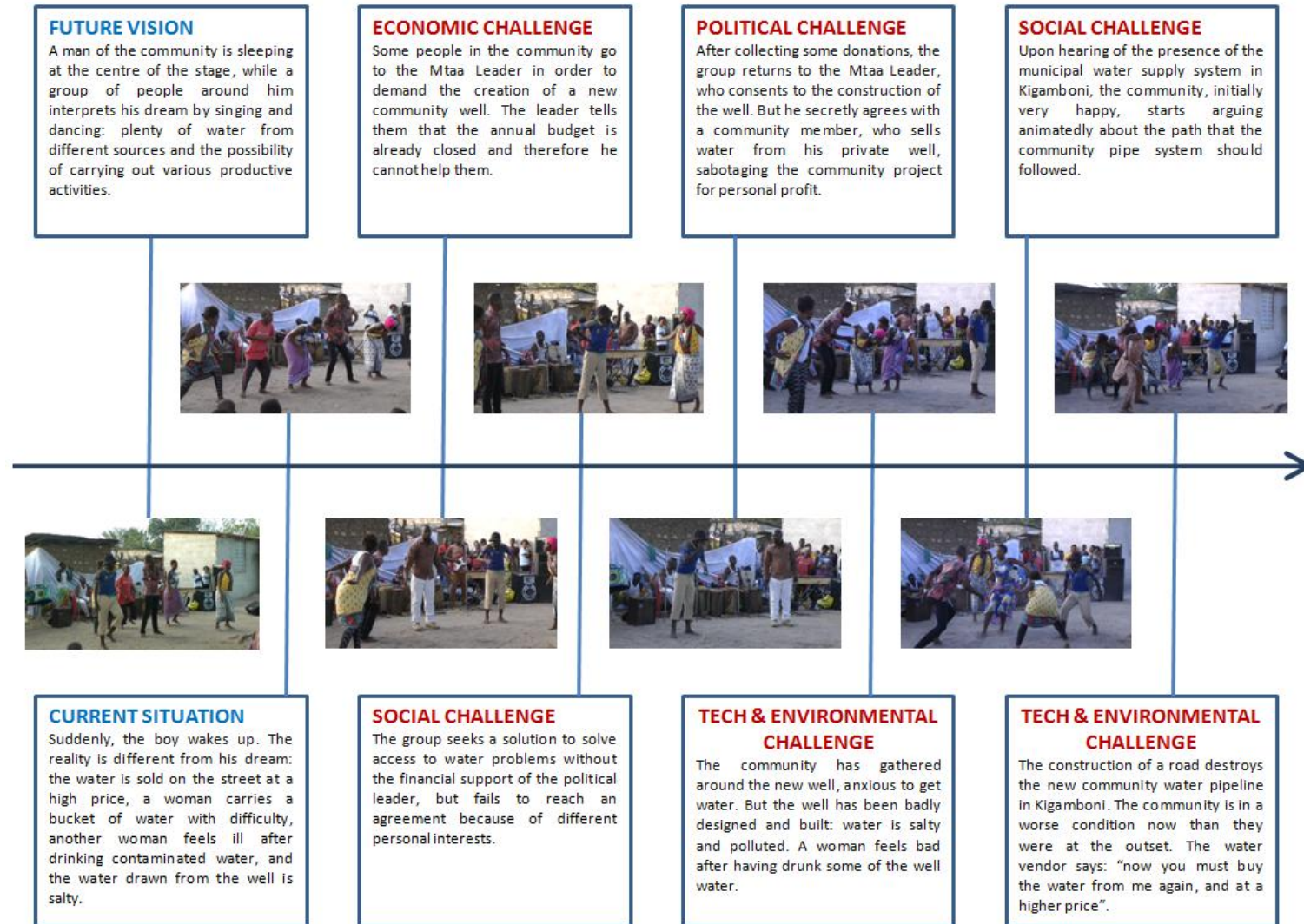
ECONOMIC CHALLENGE

Low access to credit for community development projects

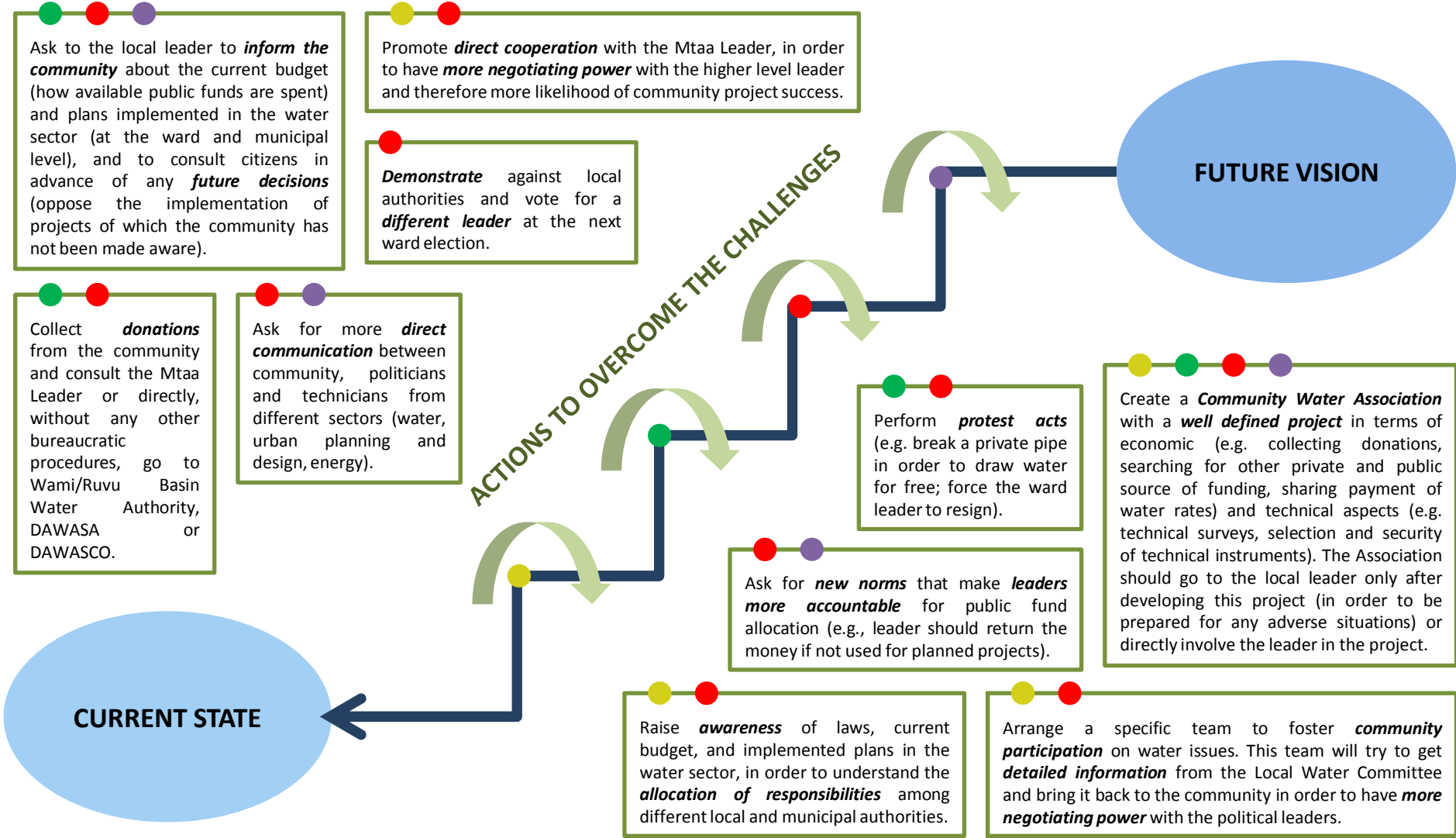
OBSTACLES

- Financial hardship in the community
- Scarcity of public funds
- Difficulty obtaining and repaying private loans
- Difficulty managing the money collected (due to theft or fraud)

CONTENT AND STRUCTURE OF THE STORY



ACTIONS TO OVERCOME CHALLENGES



ACTIONS TO OVERCOME CHALLENGES

Action exploration process

Facilitated the identification of potentially key factors to changing the current situation

→ potential modalities of action, compatible with the capacities of the community, which could favor change

Common aspects to most of the proposed actions:

- *community cooperation*
- *willingness among community members to assume central roles in decision-making processes and to increase the community's awareness (increase their "negotiating power")*



Aspects for evaluation

- Capacity to facilitate participation
- Capacity to foster community awareness and learning
- Capacity to provide knowledge for local adaptation planning
- Capacity to support future projects, in terms of targets and actions

Evaluation Method

Qualitative research approach, based on:

- Literature review
- Observations of the process
- Execution of semi-structured interviews with some Scenario Exercise participants during various phase of the process

Interviewed participants:

- a sample of workshop participants
- particularly “active” participants of the FT events
- the Mtaa Leader of Tuamoyo (the sub-ward where the majority of performances were held)
- the Tanzanian expert in participatory processes

ASSESSMENT OF THE DEVELOPED METHODOLOGY

STRENGTHS

KNOWLEDGE PROVISION FOR LOCAL ADAPTATION PLANNING

Highlight in a **direct and rapid way** community's needs, aspirations, problems and conflicts

Rapidly identify the **connections** between the different dimensions of a problem

Highlight the **autonomous adaptation practices** that the community already adopts (or intends to)

COMMUNITY AWARENESS AND LEARNING PROMOTION

Foster a **primary learning process** within the community through building and sharing ideas, experiences and knowledge (which can broaden the space for transformative actions)

Promote **community awareness** of the existing problems, capacities and responsibilities as regards access to water

FUTURE PROJECT SUPPORT (in terms of targets and actions)

Promote the development of **shared goals**, expressed in the vision of a desired future (vision as activator, motivator and catalyst of change)

Facilitate the identification of **critical points** where a transformation is needed and possible factors that can lead to transformation

Facilitate the definition of **community's proposals** of actions to overcome obstacles and meet aspirations

PARTICIPATION FACILITATING

TO facilitates broad community participation, by **stimulating people's interest** through performance, music, dance and games

Allow complex questions to be addressed and shared using simple and **accessible language**

Not favor conditions of subjugation among participants due to the **absence of conditioning elements** such as cultural differences and power dynamics

WEAKNESSES

Partial difficulty in allowing "positive" examples to be portrayed, demonstrating actions successfully taken to overcome a given problem, or virtuous behavior on the part of the "oppressor" characters

Lack of information and technical opinions: expert advice could be useful in expanding the objectives and the options available for reaching them (or in identifying options that are impracticable)

Partial difficulty of defining a specific program of action that, by addressing multiple challenges, would facilitate transformation of the current situation towards the desired vision

Partial involvement of actors in decision-making roles within the community or with economic interests in the water sector

No involvement of actors involved in water issues at a "higher level" (LGAs or experts)



CONCLUSIONS

Backcasting for local adaptation planning

Participatory Backcasting emerges as an useful complement to **Forecasting**

- Allow for recognition of the complex system of relationships between the individual, society and the environment
- Introduce into the planning process people's legitimate expectations for change
- Suitable for community level adaptation strategy development by promoting the process of transition to sustainable models

This approach can effectively **support communities and local authorities** in **various aspects** of the adaptation planning process, because it offers:

- the possibility to **define socially shared adaptation objectives** focused on the community's aspirations (rather than extrapolating them from a context-neutral vulnerability assessment);
- the possibility of overcoming a particular problem by **defining specific actions and strategies proposed by the community** according to their wants and needs, such that institutional adaptation initiatives can favor and support such actions if they are sustainable;
- the possibility of **providing criteria** with which to evaluate potential adaptation options on the basis of the community's aspirations, problems, conflicts, and proposals;
- the opportunity to **promote a process of sharing ideas, experiences, and knowledge** within the community, which may facilitate a broadening of the **potential for transformative actions**.

CONCLUSIONS

Aspects that need a further exploration

Critical aspects

- How to define a specific temporal follow-up agenda of activities (based on the action proposals that emerged during FT sessions) that takes into consideration external climatic and socio-economic pressures
- How to evaluate system transformations in terms of social learning (identification of alternative livelihoods and agents of change) and the actions to be undertaken
- How to effectively integrate this type of approach into centralized institutional decision-making systems like Tanzania's

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Thank you

