



The role of foresight in social-ecological systems governance

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Introduction

- Social-ecological systems (SESs) are *complex adaptive systems* characterized by self-organization, emergent properties, multi- and cross-level interactions, non-linear change (Levin, 1999; Cash, 2006; Folke et al., 2010; Walker et al., 2012)
- Interactions between internal and external drivers → uncertainty and unpredictability of SESs (Berkes, 2007; Gunderson, 2000).
- Slow variables (soil organic matter, changing societal norms) underlying fast variables (crop production, election cycles), giving impetus for longer term perspective in SES governance (Walker et al., 2012; Biggs et al., 2015, 2012)
- Most forms of governance ill-equipped to address SESs, to enhance SESs' capacity to respond to and recover from disturbances (resilience) – focus on production, command-and-control; unsustainable in long run (Holling, 1978, Chaffin et al. 2014)
- Adaptive governance (AG)** emerged as a way to more adequately address the dynamics of SESs; criteria for AG include 1) inclusive dialogue between actors; 2) multi-layered institutions; 3) facilitation of experimentation, learning, change (Dietz et al. 2003; Chaffin et al. 2014).

Uncertainty and non-linearity of SES → understanding of management interventions should be continuously updated and adjusted; learning by doing/experimentation (Folke et al. 2005).

However, despite the importance of a longer term perspective, the literature on AG pays little attention to methods for exploring potential future events and developments.

Foresight, an umbrella term for methodologies aiming to explore different directions of the future (Wiebe et al., 2018), has huge potential for AG.

For this research, we focus on scenario planning.

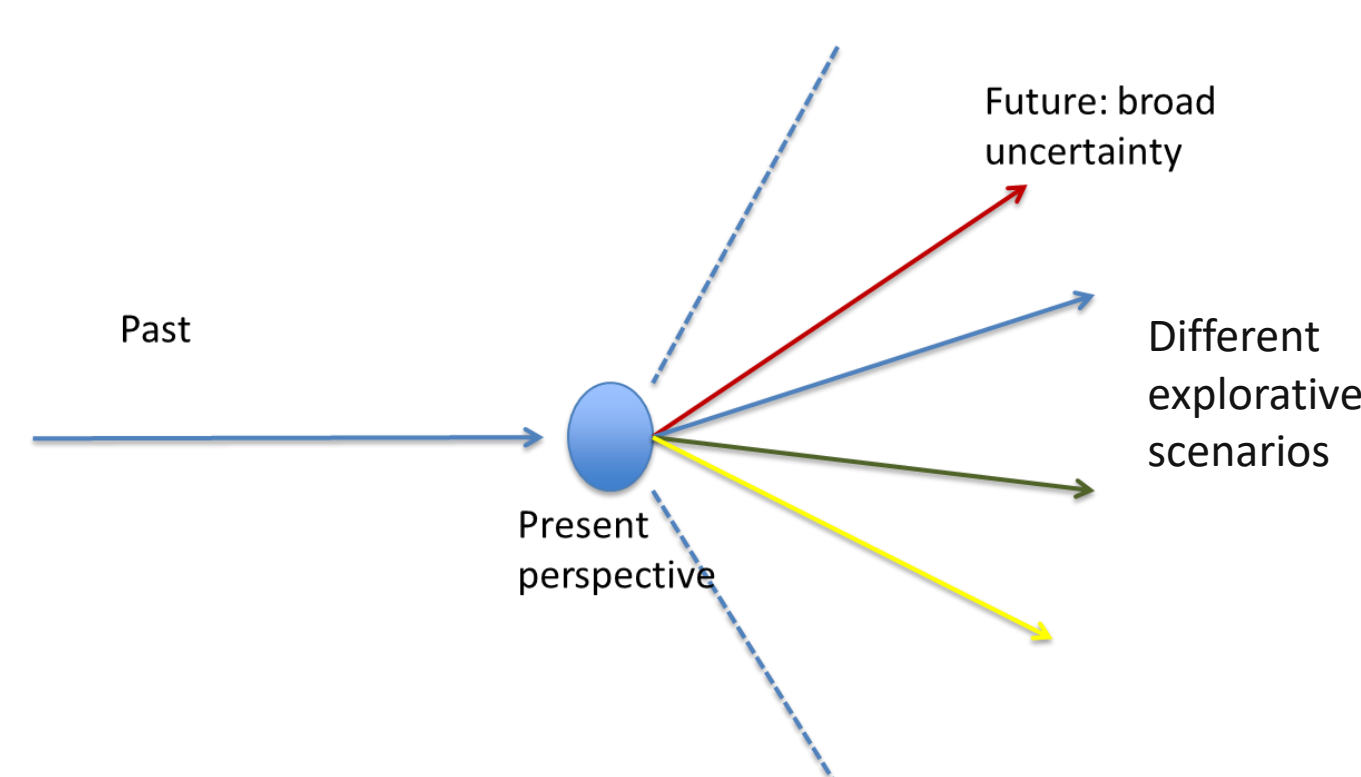


Figure 1. Scenarios to explore future uncertainty

Overall research objective

To understand and improve the role of foresight in policy formulation for effective governance of agricultural socio-ecological systems through analysis and evaluation of foresight-guided policy formulation cases and drawing lessons for improving foresight for SES governance

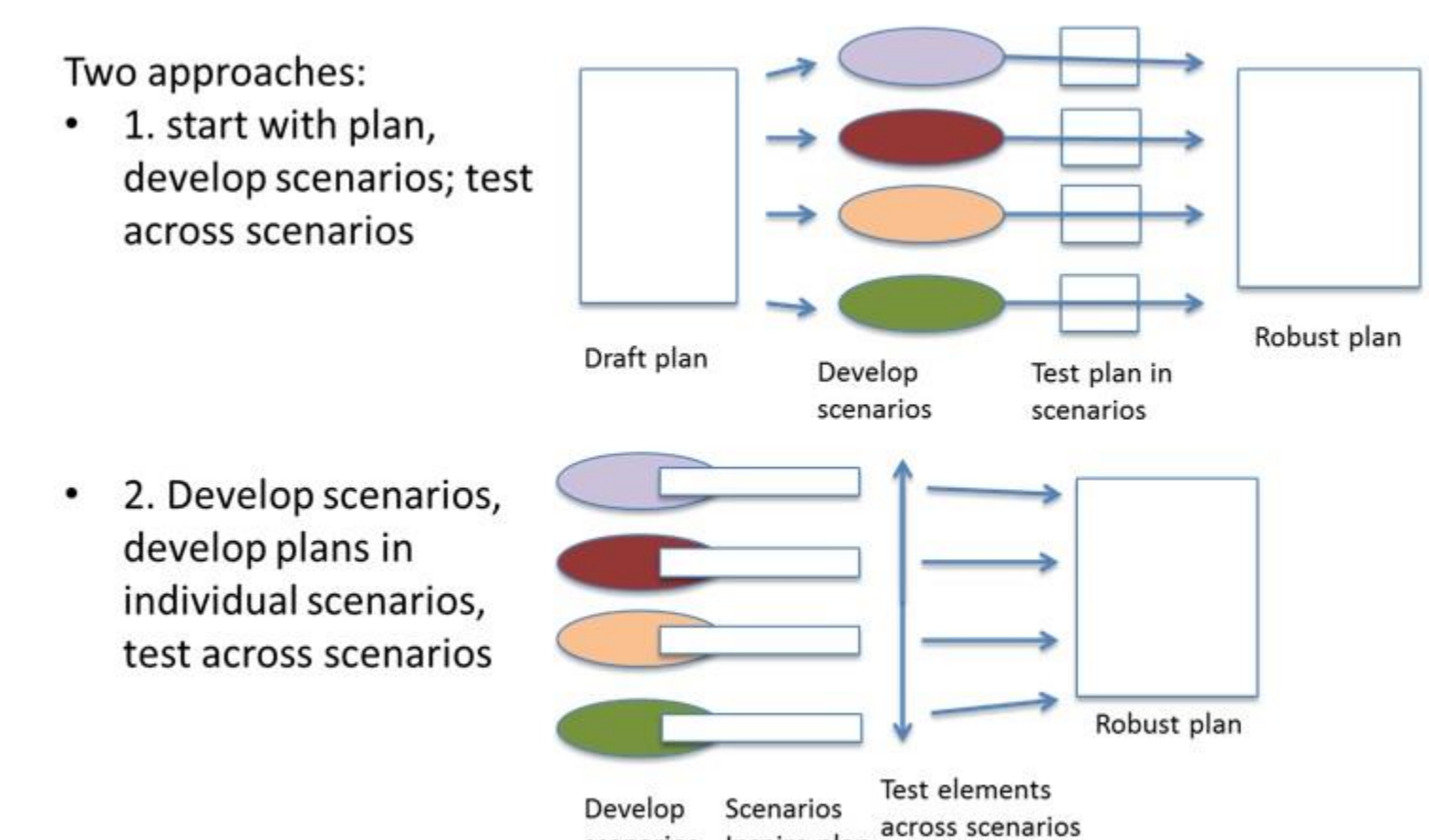


Figure 2. Foresight and policy formulation

Empirical cases: CCAFS Scenarios Program

Global foresight program – socio-economic and climate scenarios; objective: help policymakers develop better policies, with supported by key global and regional actors

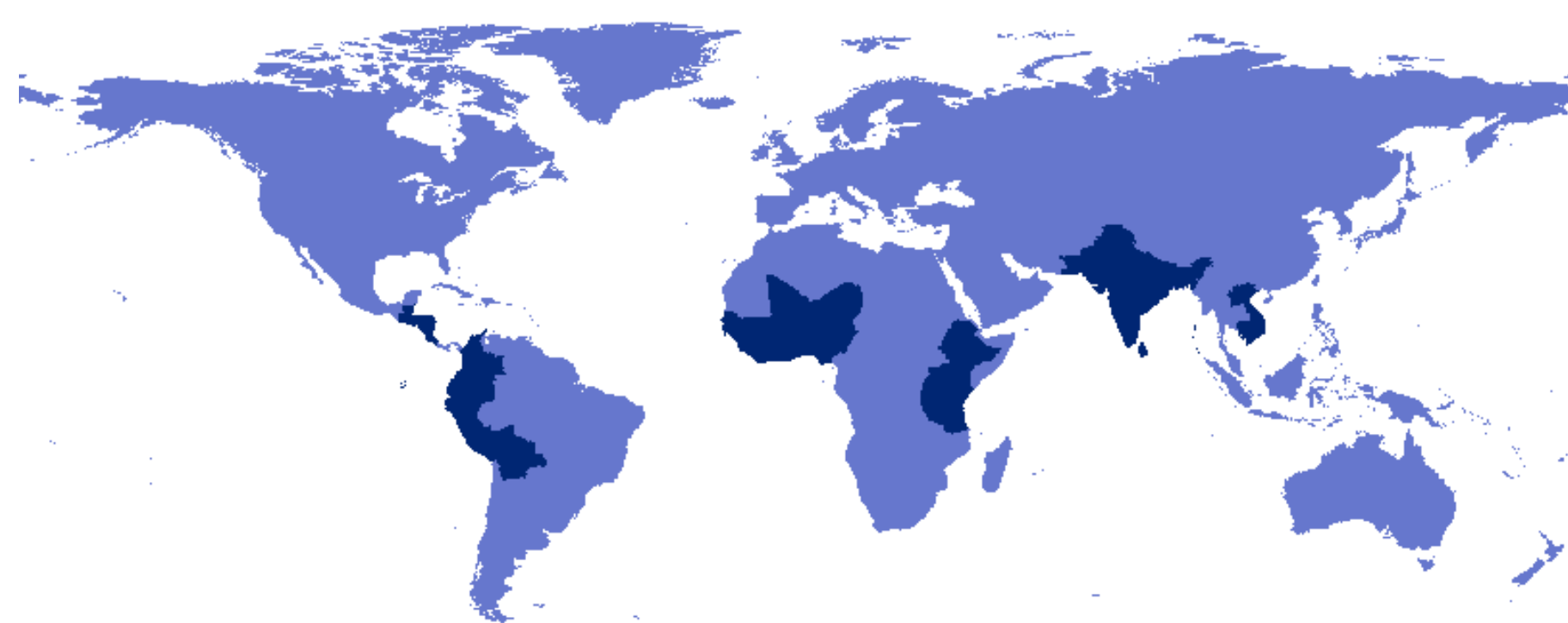


Figure 3. CCAFS Scenarios Program

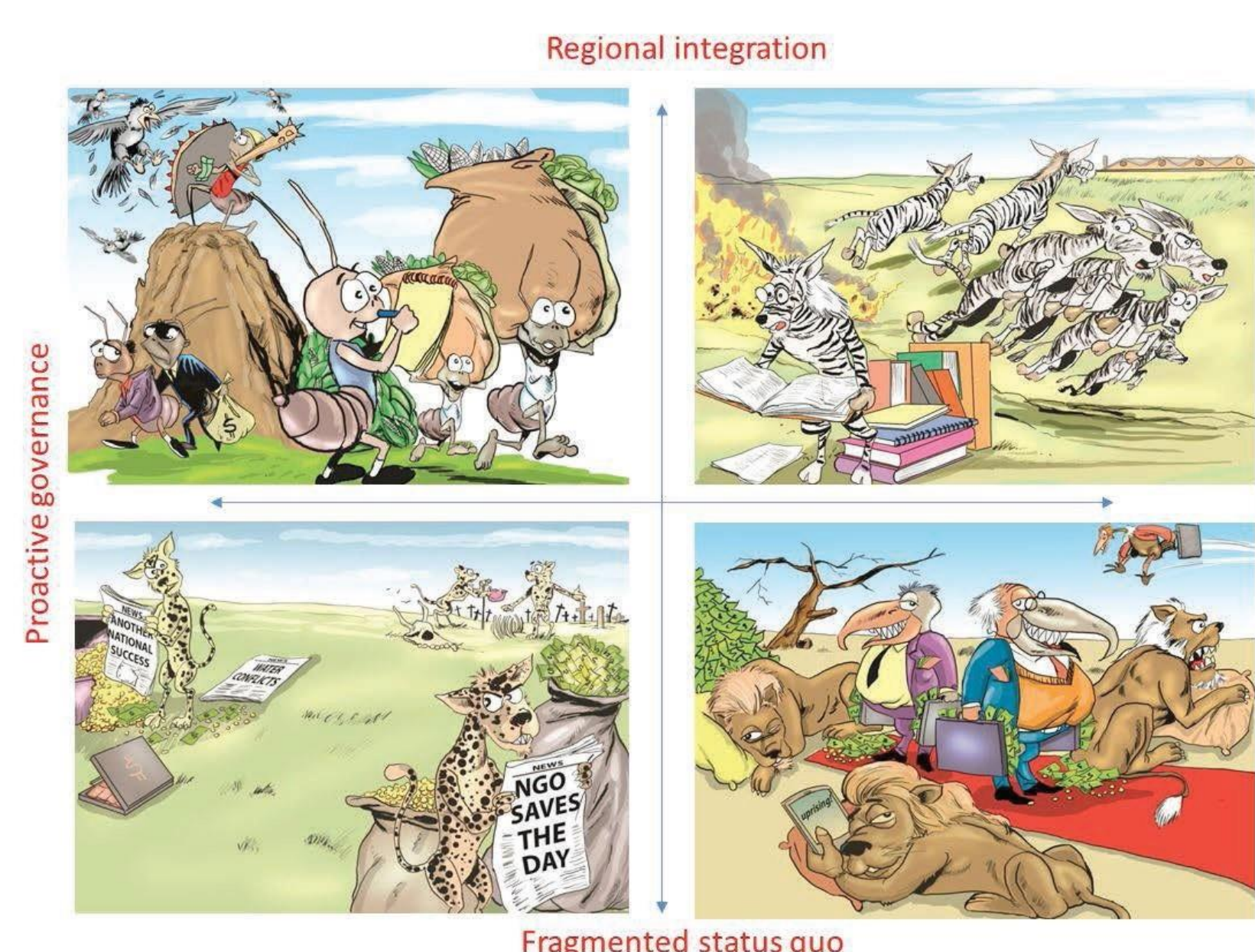


Figure 4. CCAFS Scenarios for East Africa (Vervoort et al. 2013)

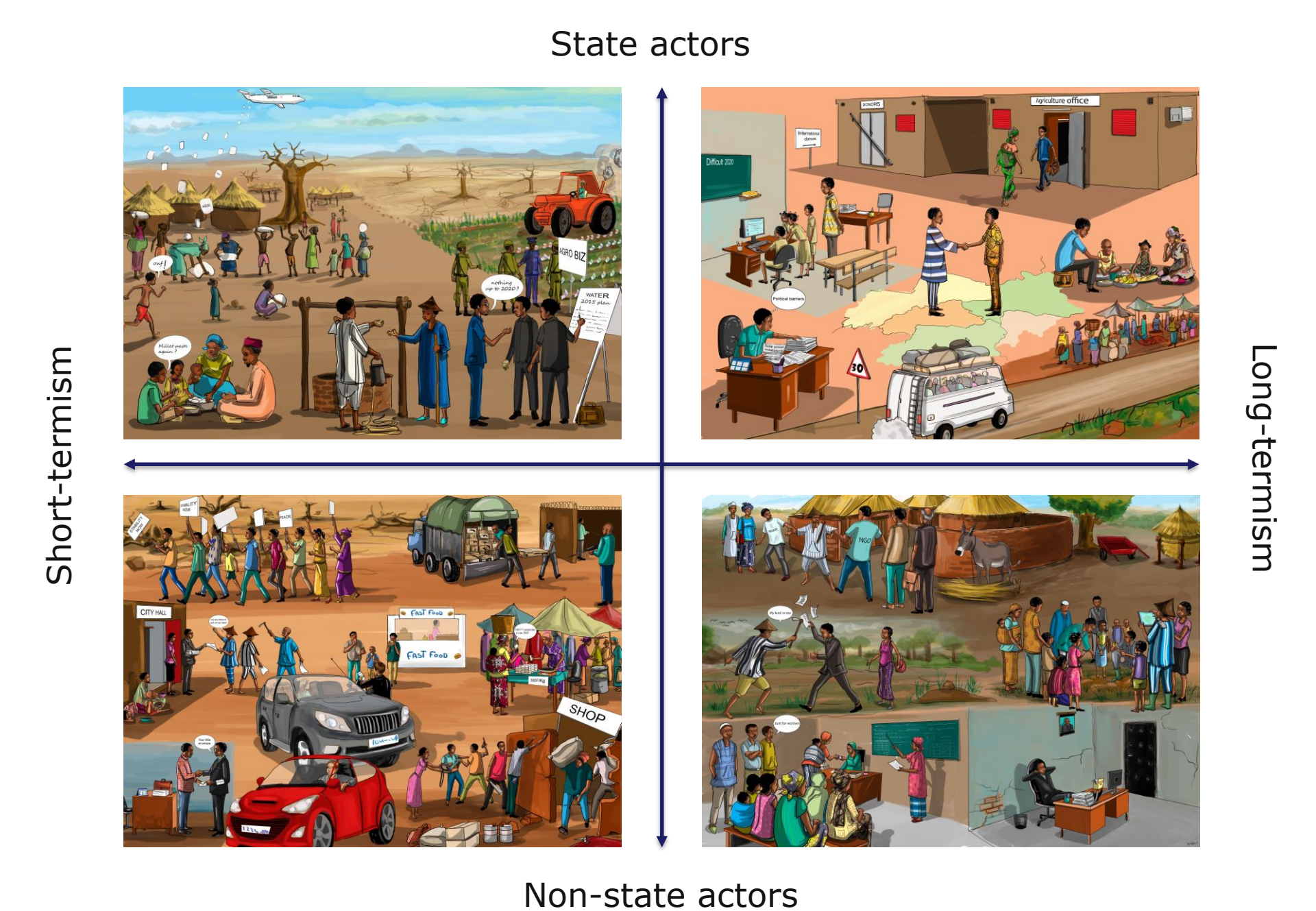


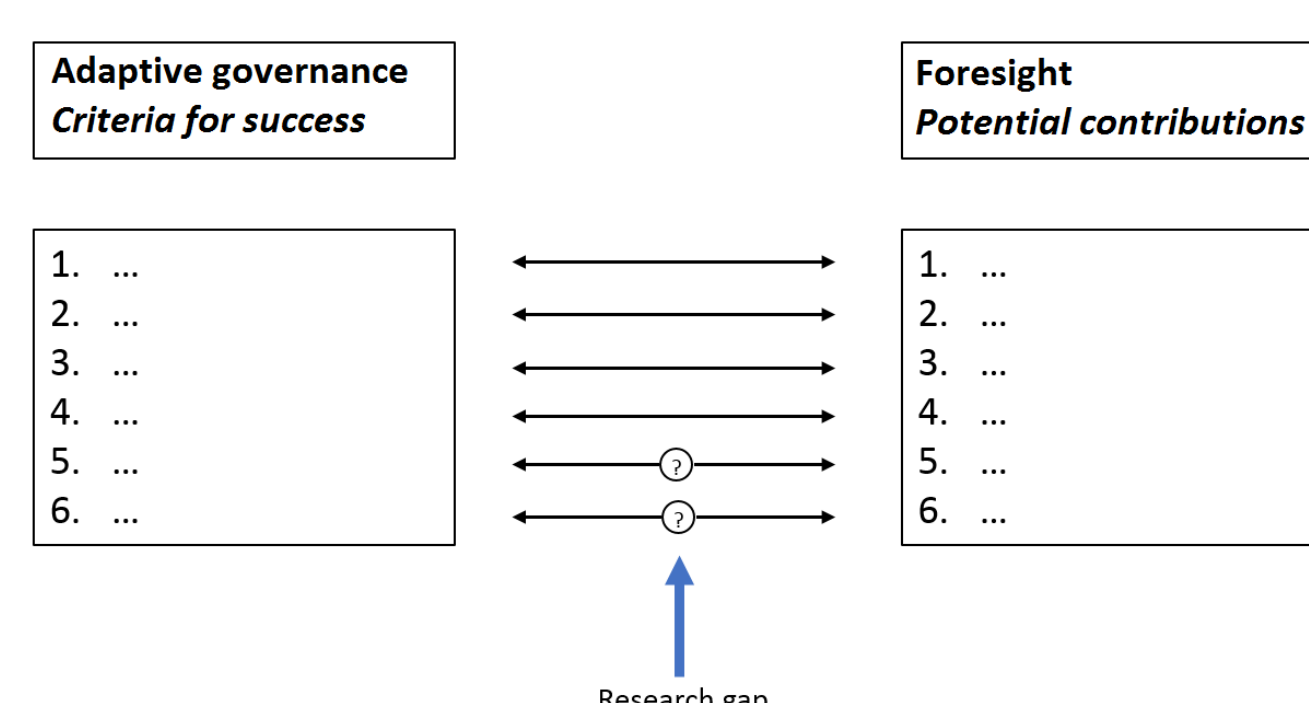
Figure 5. CCAFS Scenarios for West Africa (Palazzo et al. 2016)

Paper 1

What are the potential contributions of foresight to adaptive governance?

Literature review

- Success criteria or elements of adaptive governance
- Potential contributions of foresight (from different bodies of literature)



Paper 2

Objective: to understand how foresight contributes to problem framing in SES governance

Preliminary insights:

- Foresight can contribute to improved and more inclusive framing of an SES
- Foresight has huge potential to define a shared idea of the system scope - it helps to create a different, shared perspective on questions of resilience "to what" and "of what", potentially leading to more consensus on future policy directions.

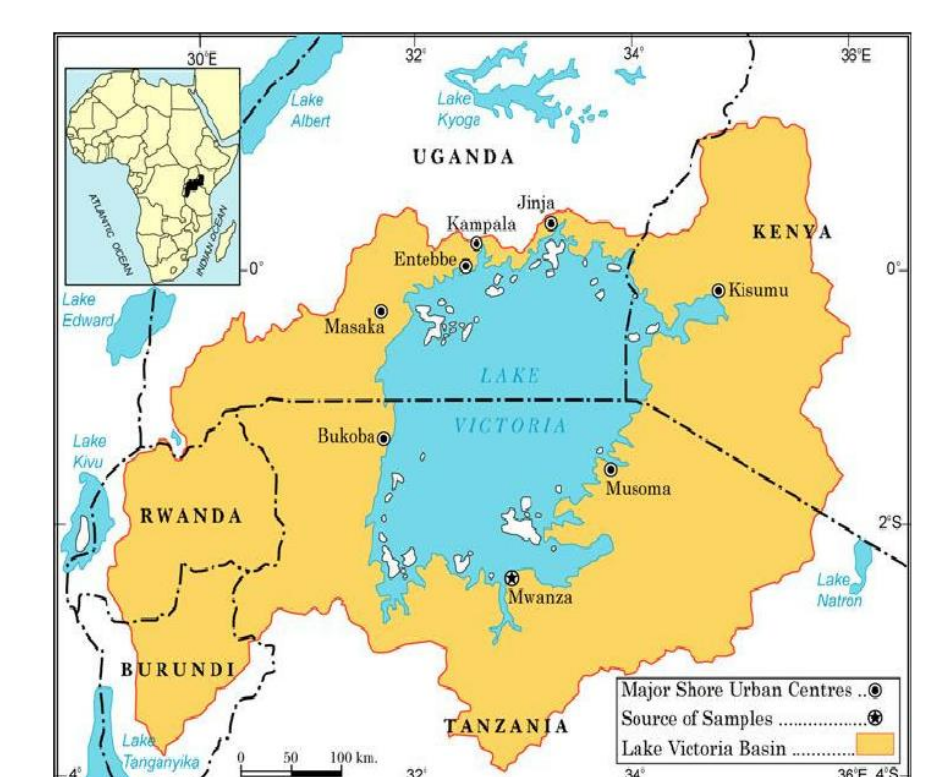


Paper 3

Analysis of foresight-guided policy formulation (as a proxy for SES governance)

National cases (Burkina Faso, Uganda, Tanzania)

Regional case (Lake Victoria Basin: Kenya, Tanzania, Burundi, Rwanda, Uganda)



Paper 4

Optimization of foresight for SES governance – application in future foresight-guided policy formulation cases

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