Evaluation in 2014-2020: Challenges and Opportunities
First annual conference of the National Coordination Authority's Evaluation Unit

Dealing with complexity in evaluation: challenges and practical solutions

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Outline

- Three prevalent methodological challenges in evaluation

- A 'practical' approach to dealing with complexity in evaluation

- Concluding remarks

Intervention bias and confirmation bias

- Commissioners of evaluations and program managers often have a narrow program perspective on reality: program is the focus of planning, implementation and evaluation processes

- This affects the ToR and the type of evaluation approach that is used in practice

- As a result, insufficient attention is paid to the influence of context, history, and unintended effects

Attribution / contribution

- Consider the classical attribution problem
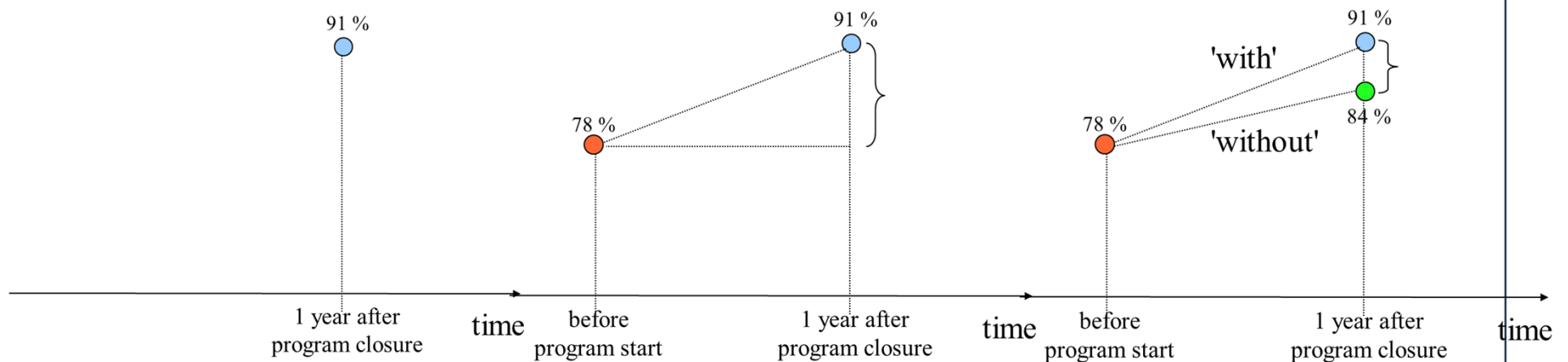
Attribution / contribution

Do (quasi-) experimental designs really satisfactorily address key validity issues?

○**construct validity**: How do we make sure that the variables that we are measuring, adequately represent the underlying realities of interventions linked to processes of change?

○**external validity**: How do we (and to what extent can we) generalize about findings to other settings (interventions, regions, target groups, etc.)?

○**internal validity**: How do we establish that there is a causal relationship between intervention outputs and processes of change leading to outcomes and impacts? **(!)**
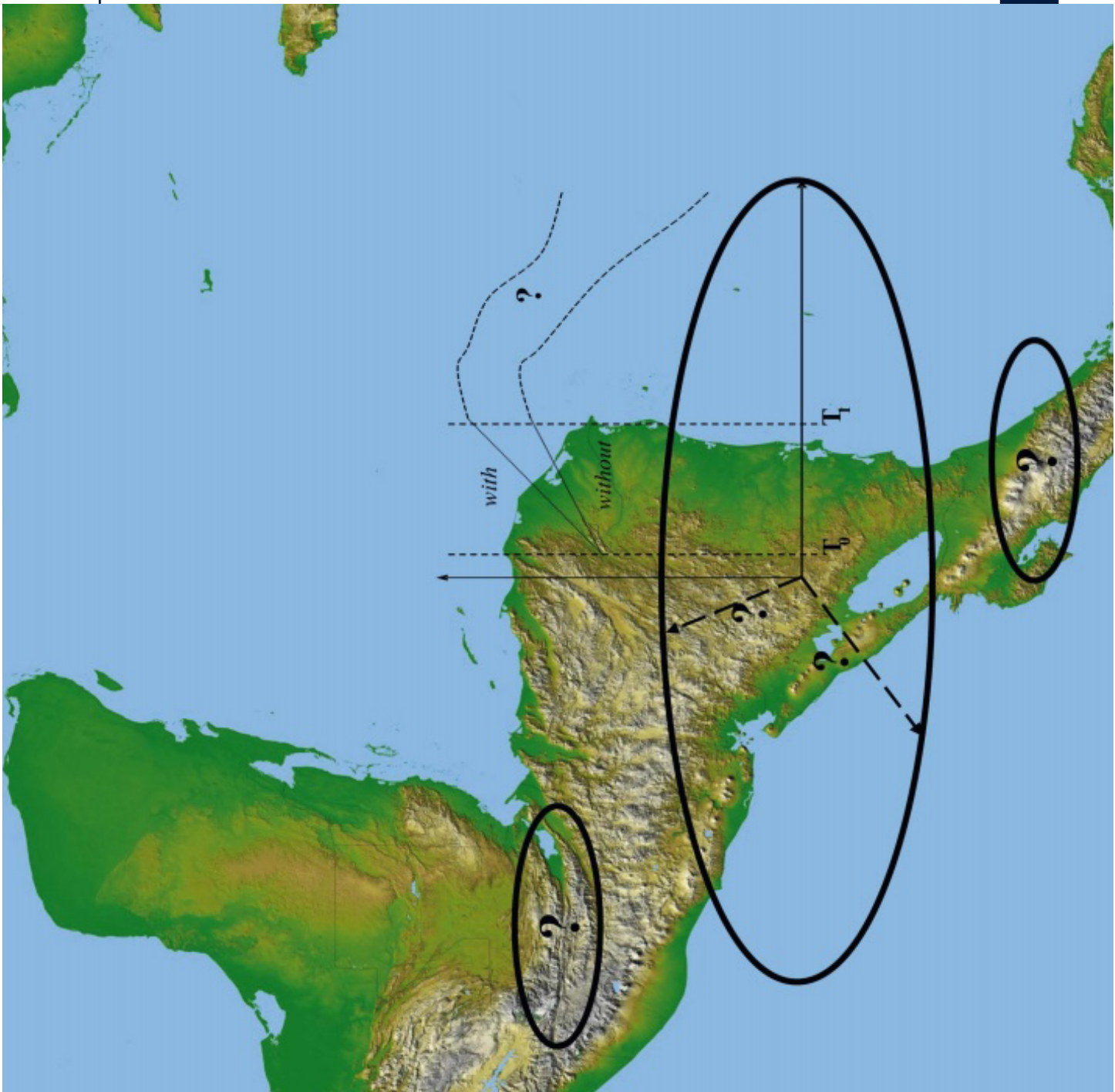
Measurement

- Sources of data

- Data gaps

- Reliability
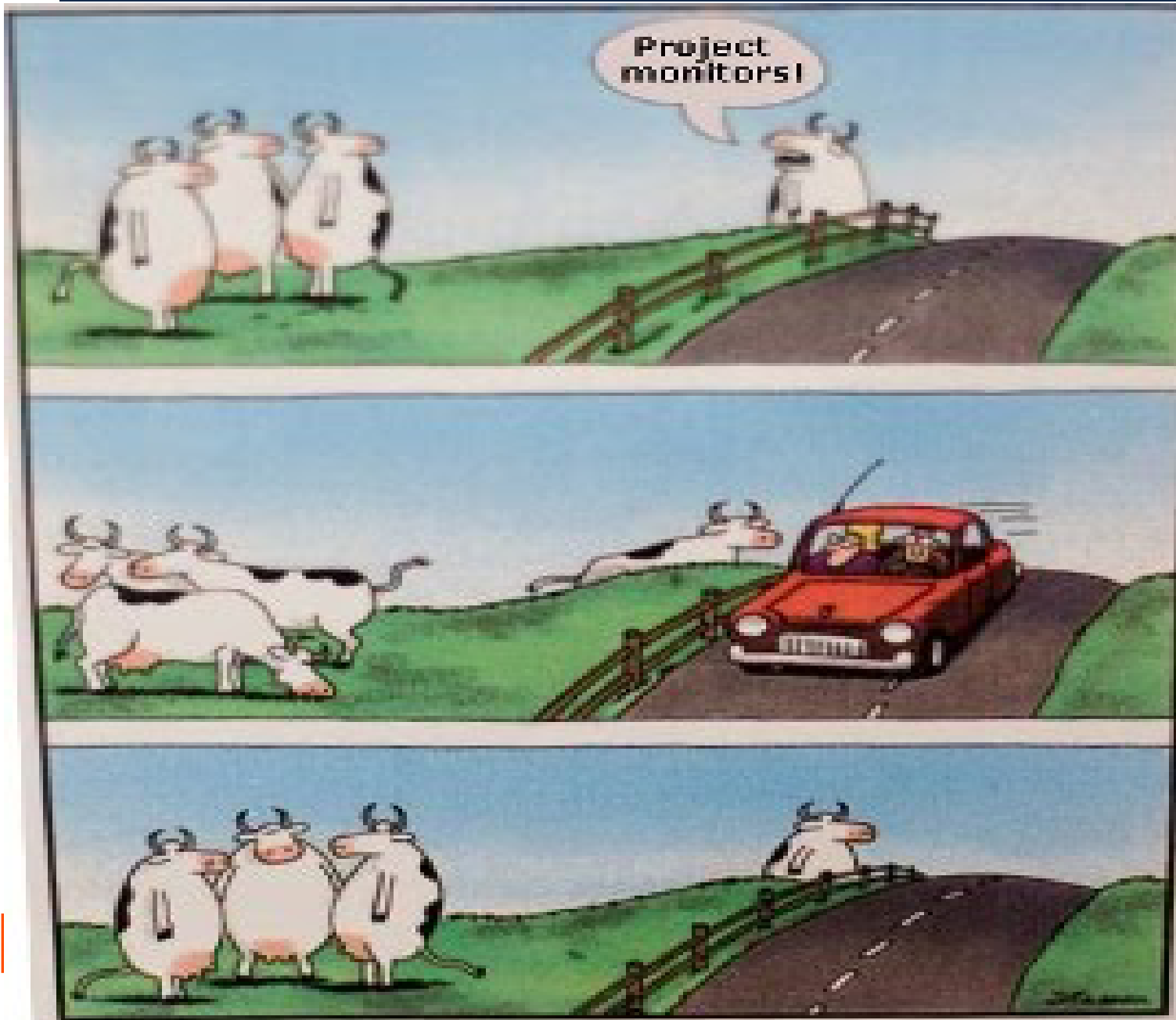
- How to deal with these (and other) challenges?

- A 'complexity' perspective in evaluation is needed

Dealing With
COMPLEXITY in
DEVELOPMENT
EVALUATION
A Practical Approach

Michael Bamberger | Jos Vaessen | Estelle Raimondo
Editors

Seven manifestations of complexity in evaluation (Pawson, 2013)

- Volition

- Implementation

- Context

- Time

- Outcome

- Rivalry

- Emergence

Making sense of complexity in evaluation

EMBEDDEDNESS AND THE NATURE OF THE SYSTEM
- Historical, economic, political, socio-cultural, administrative and organizational, climatic and ecological, legal and regulatory context
- Norms and beliefs
- Interconnectedness, boundaries, dynamics (e.g. path dependence, system shock)

INTERVENTION
- Design and purpose (e.g. initial logframe, logic model, theory of change)
- Size and scope (e.g. number and types of intervention activities, levels of intervention)
- Data coverage, quality and accessibility

INSTITUTIONS AND STAKEHOLDERS
- Governance, funding, coordination, implementation system
- Number and diversity of stakeholders (e.g. implementing agencies, donors, politicians, beneficiaries, evaluators)
- Stakeholder expectations, demands and 'theories-in-use'
- Conflict, cooperation, evaluation culture

CAUSALITY AND CHANGE
- Causality (e.g. non-linearity, emergence, feedback loops, multiple pathways)
- Attribution and contribution
- Theories, mechanisms, models of behavioral change
- Implementation
- Direct, indirect, intended, unintended, positive, negative effects

challenges in delimitation, sense-making, consensus-seeking, design, implementation and use of evaluations

EVALUATION
- Purpose
- Time, resources and data
- Methodology
- Participation and process
- Values and ethics

Source: Bamberger, Vaessen and Raimondo (2015)

Complexity-responsive evaluation

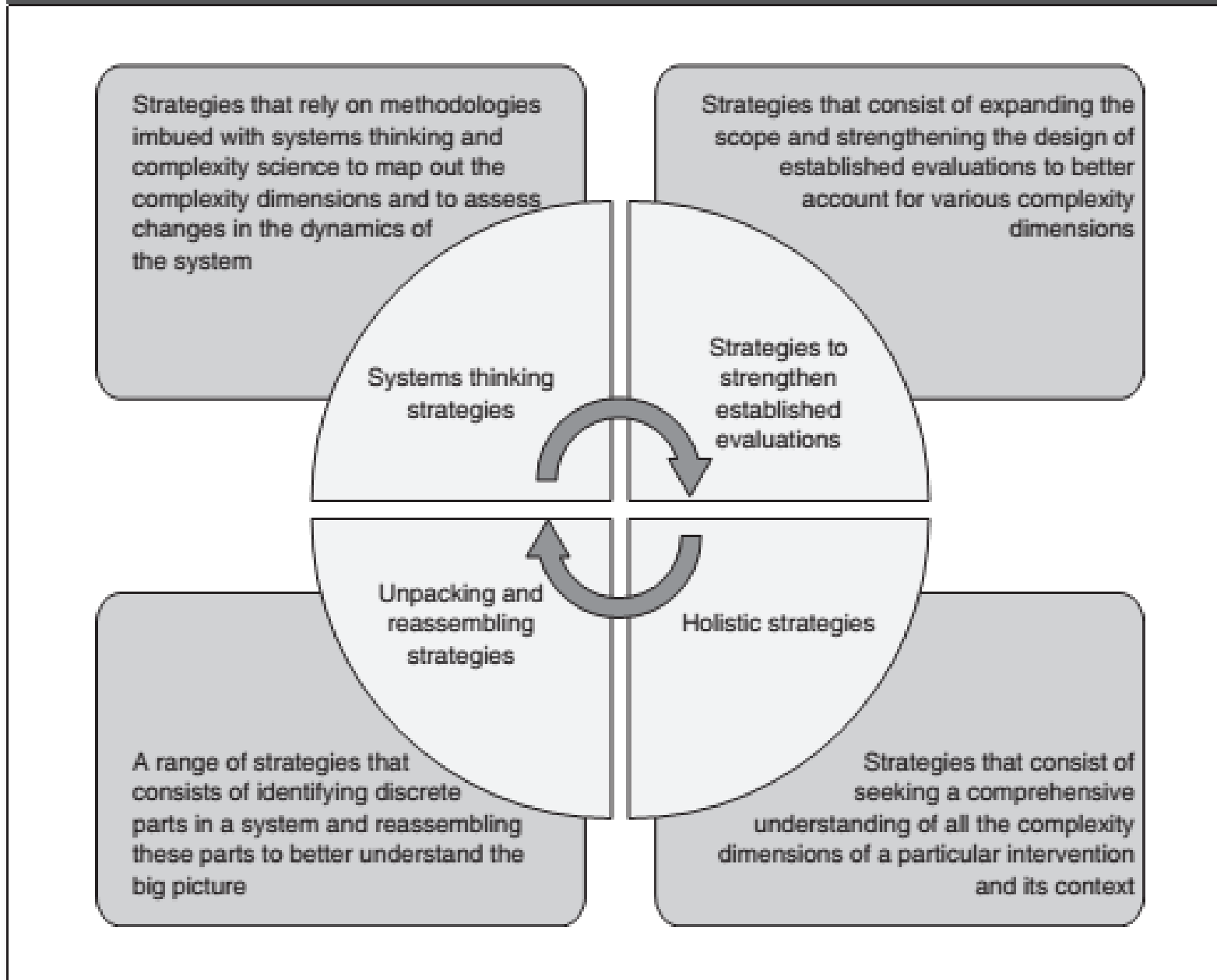- "An evaluation that explicitly addresses complexity issues. It usually builds on (a combination of) established evaluation approaches, methods from complexity science, and principles such as unpacking"
  (Bamberger, Vaessen and Raimondo, 2015)

Figure 2.3 Four Strategies for Complexity-Responsive Evaluation

Strategies that rely on methodologies imbued with systems thinking and complexity science to map out the complexity dimensions and to assess changes in the dynamics of the system

Strategies that consist of expanding the scope and strengthening the design of established evaluations to better account for various complexity dimensions

Systems thinking strategies

Strategies to strengthen established evaluations

Unpacking and reassembling strategies

Holistic strategies

A range of strategies that consists of identifying discrete parts in a system and reassembling these parts to better understand the big picture

Strategies that consist of seeking a comprehensive understanding of all the complexity dimensions of a particular intervention and its context

Source: Bamberger, Vaessen and Raimondo (2015)

Unpacking and reassembling

Level 1: Mapping the complexity dimensions
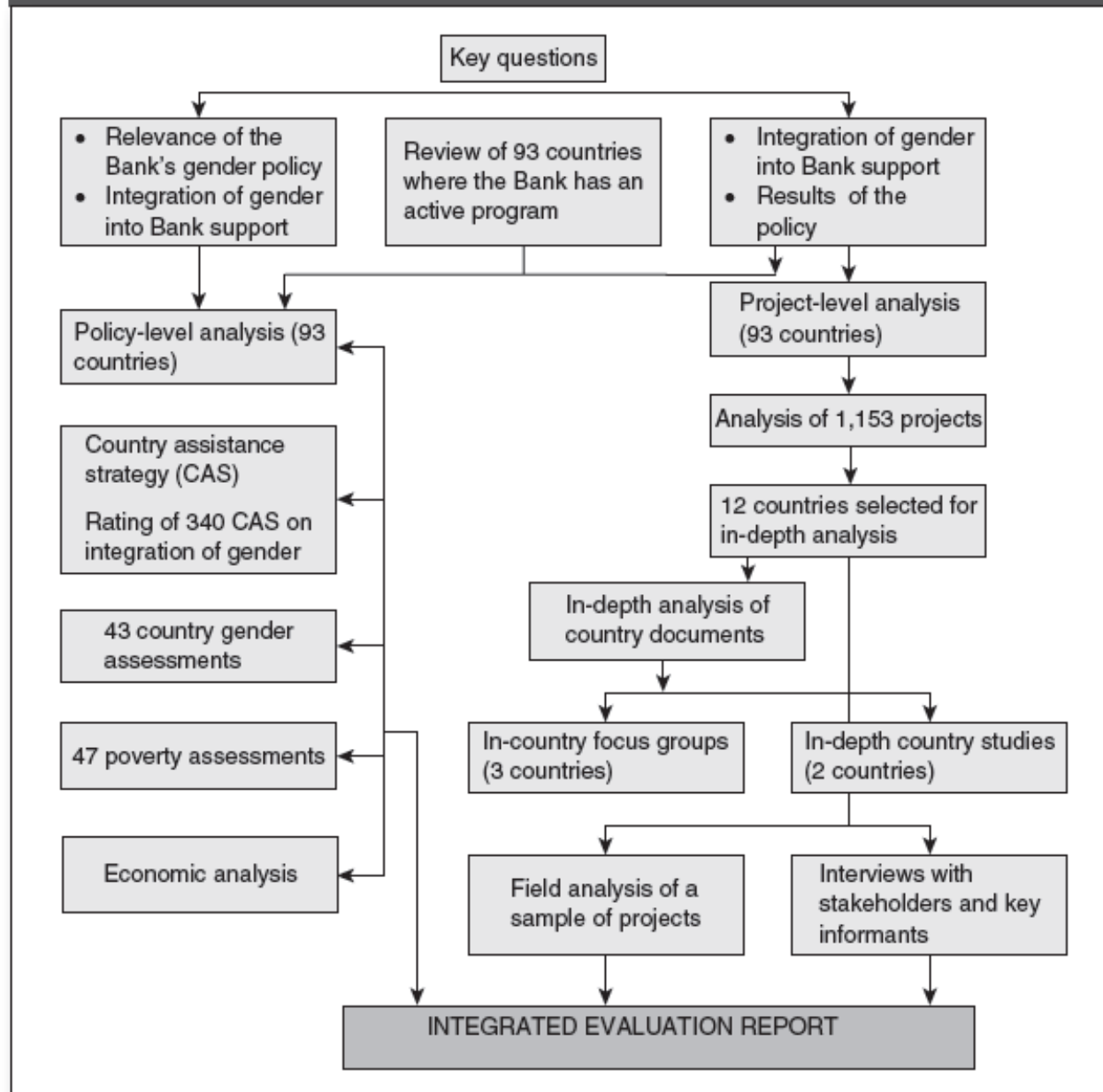
Level 2: Selecting a unit of analysis

Level 3: Unpacking the system into various parts

Level 4: Reassembling the parts into a whole

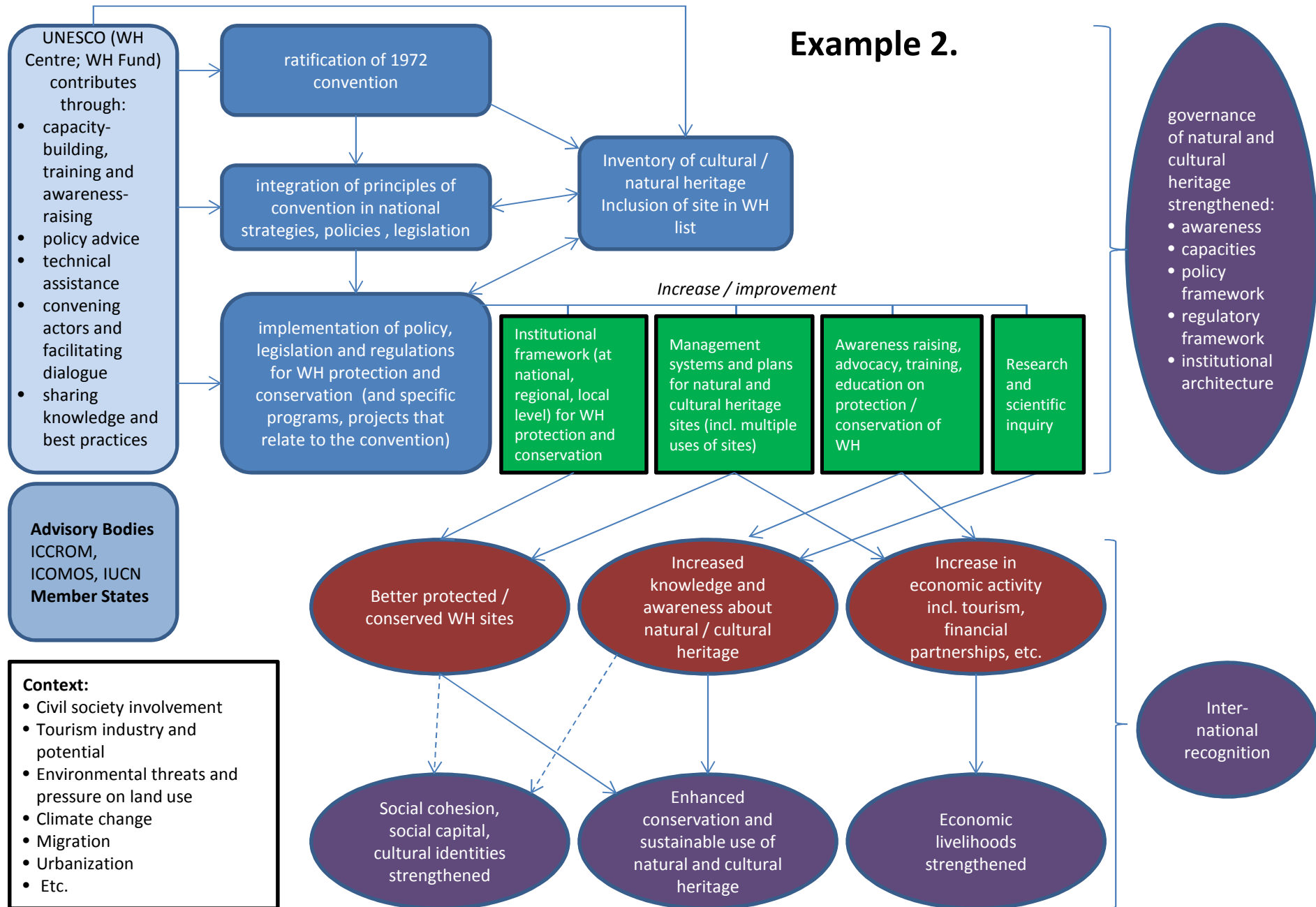Level 5: Going back to the big picture

Example 1.

Figure 7.3 Using Portfolio Analysis to Evaluate the World Bank's Worldwide Gender Policies

Key questions

- Relevance of the Bank's gender policy
- Integration of gender into Bank support

Review of 93 countries where the Bank has an active program

- Integration of gender into Bank support
- Results of the policy

Policy-level analysis (93 countries)

Project-level analysis (93 countries)

Country assistance strategy (CAS)

Rating of 340 CAS on integration of gender

Analysis of 1,153 projects

12 countries selected for in-depth analysis

43 country gender assessments

In-depth analysis of country documents

47 poverty assessments

In-country focus groups (3 countries)

In-depth country studies (2 countries)

Economic analysis

Field analysis of a sample of projects

Interviews with stakeholders and key informants

INTEGRATED EVALUATION REPORT

Source: Bamberger, Vaessen and Raimondo (2015)

Example 2.

UNESCO (WH Centre; WH Fund) contributes through:
- capacity-building, training and awareness-raising
- policy advice
- technical assistance
- convening actors and facilitating dialogue
- sharing knowledge and best practices

Advisory Bodies
ICCROM, ICOMOS, IUCN
Member States

Context:
- Civil society involvement
- Tourism industry and potential
- Environmental threats and pressure on land use
- Climate change
- Migration
- Urbanization
- Etc.

ratification of 1972 convention

integration of principles of convention in national strategies, policies, legislation

implementation of policy, legislation and regulations for WH protection and conservation (and specific programs, projects that relate to the convention)

Inventory of cultural / natural heritage Inclusion of site in WH list

Increase / improvement

Institutional framework (at national, regional, local level) for WH protection and conservation

Management systems and plans for natural and cultural heritage sites (incl. multiple uses of sites)

Awareness raising, advocacy, training, education on protection / conservation of WH

Research and scientific inquiry

Better protected / conserved WH sites

Increased knowledge and awareness about natural / cultural heritage

Increase in economic activity incl. tourism, financial partnerships, etc.

Social cohesion, social capital, cultural identities strengthened

Enhanced conservation and sustainable use of natural and cultural heritage

Economic livelihoods strengthened

governance of natural and cultural heritage strengthened:
- awareness
- capacities
- policy framework
- regulatory framework
- institutional architecture

Inter-national recognition

Example 2. Simplified structure of the ToC of the UNESCO 1972 World Heritage Convention

UNESCO support → Ratification of convention n_1 countries → effects

Convention reflected in policy strategies $n_2 (< n_1)$ countries

UNESCO support → Convention reflected in policy strategies $n_2 (< n_1)$ countries → effects

Convention integrated into concrete interventions $n_3 (< n_2)$ countries

UNESCO support → Convention integrated into concrete interventions $n_3 (< n_2)$ countries → effects

Preservation and sustainable use of World Heritage sites

UNESCO support → Preservation and sustainable use of World Heritage sites → effects

Example 3. UNESCO's Priority Africa

- Strategic priority of the Organization based mostly on (implicit) strategy

- The evaluation was a classical multi-site evaluation

- Data collection and analysis at different levels of intervention: HQ, institutional entities, Region, regional and country programmes

Evaluation questions

- Does the fact of having a Priority Africa make a difference in comparison to business as usual?

- What are the practical implications of Priority Africa and how do they affect the performance and effectiveness of UNESCO's work in the African Region?

Building Blocks

Special Institutional mechanisms
- Africa Department
- Intersectoral Platform
- Liaison Office
- Special Committees

Higher share of resources
- % of RP budget decentralised
- Mobilization of XB
- Human Resources

Specific programmatic considerations
- Programmes only in Africa
- Intersectoral Programs
- Specific Expected Results

Specific commitments
- Alignment with AU priorities
- Emphasis on CB and policy formulation
- Contribution to regional integration
- Stronger partnerships

Expected Outcomes
- UNESCO's activities in Africa are increasingly relevant, effective, and sustainable
- Stronger relevant partnerships are built and maintained
- More resources are decentralised and efficiently allocated
- UNESCO's contribution to regional integration and South-South cooperation is enhanced

Rationale
- Conclusion from 2005 World Summit: Sub-Saharan Africa is the region the furthest away from achieving MDGs and EFA goals
- Africa is the region with the largest number of LDCs, countries in PCPD, countries with low human development indicators, etc.

Example of a nested theory

Establishment of a Department dedicated to the Region with earmarked human and financial resources

Enhanced quality and frequency of interaction with African MS and donors

Improved coordination of programmes and projects in the Region

Improved monitoring, evaluation and reporting

Increase in external resources

Improved focus and higher relevance of programmes and projects

Increased effectiveness of programmes and projects

Improved collaboration and coordination with political and implementing partners

Increased level of activity by Organization in the Region

Improved delivery upon UNESCO's mandate in the Region

-Clear assignation of roles between institutional entities
-Capacities in place
-Balance between centralization and decentralization

Going back to the big picture...

- To what extent did the evaluation account for the possibility of emergent, spillover, or displacement effects?

- To what extent did the evaluation take due account of coordination issues?

- To what extent did the evaluation take due account of policy coherence?

Returning to our three challenges…

- How does a complexity perspective deal with:
  - Measurement
  - Intervention and confirmation bias
  - Attribution/contribution

Measurement

- Employ a mixed method strategy

- Understand the 'social reality' behind the data (collection)

- Explore new technologies

- Explore the potential of big data

Intervention and confirmation bias

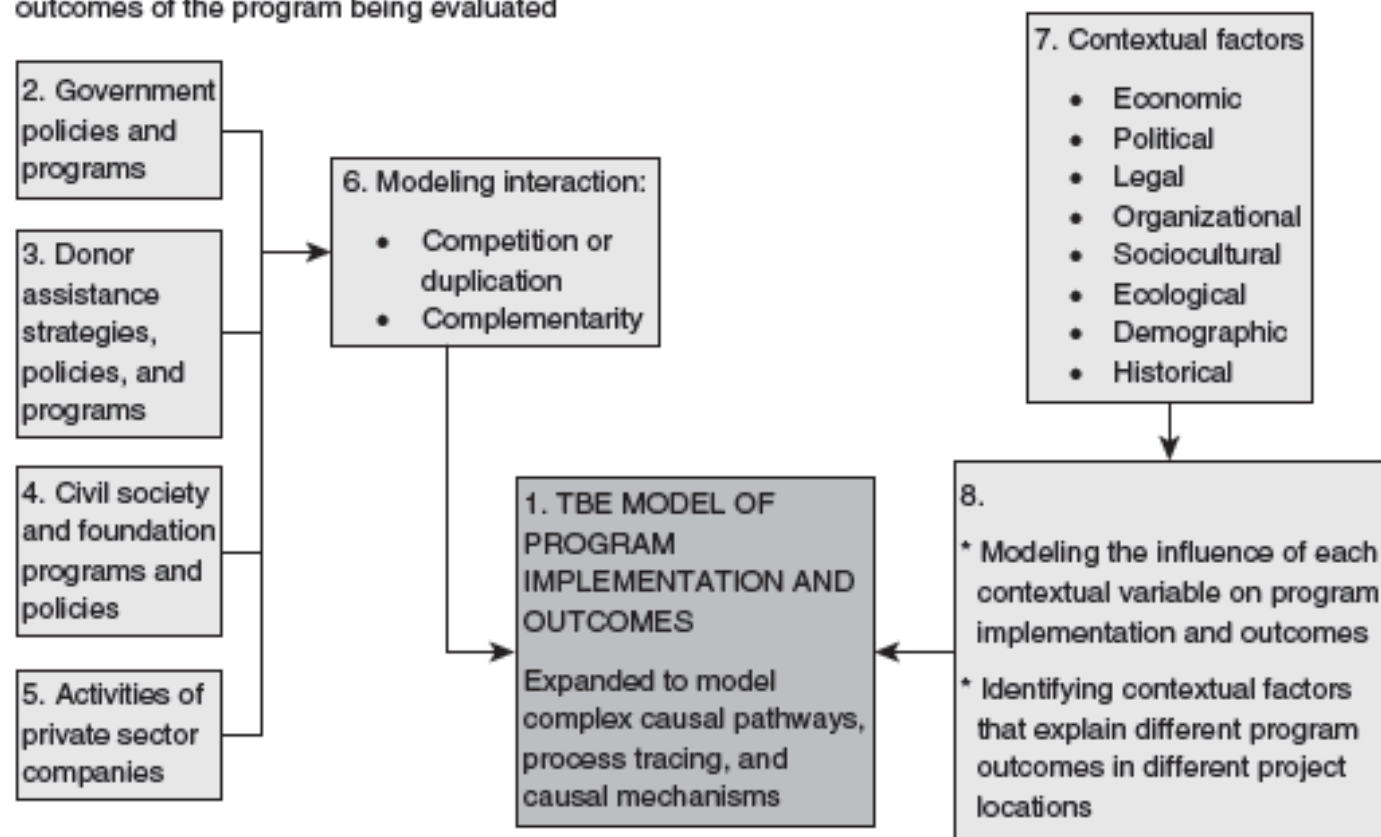The importance of theories of change, but:

- Theories are biased

- The importance of unintended effects

- Without proper empirical analysis theories may reinforce cognitive bias

- The stronger the 'paradigm' or 'cognitive bias' the stronger the need for rigorous empirical analysis

Figure 5.2 Expanding the Conventional TBE Model to Address Issues of Complexity

Activities of other agencies that may affect implementation and outcomes of the program being evaluated

2. Government policies and programs

3. Donor assistance strategies, policies, and programs

4. Civil society and foundation programs and policies

5. Activities of private sector companies

6. Modeling interaction:
- Competition or duplication
- Complementarity

7. Contextual factors
- Economic
- Political
- Legal
- Organizational
- Sociocultural
- Ecological
- Demographic
- Historical

1. TBE MODEL OF PROGRAM IMPLEMENTATION AND OUTCOMES

Expanded to model complex causal pathways, process tracing, and causal mechanisms

8.

* Modeling the influence of each contextual variable on program implementation and outcomes

* Identifying contextual factors that explain different program outcomes in different project locations

Source: Bamberger, Vaessen and Raimondo (2015)

Causal change

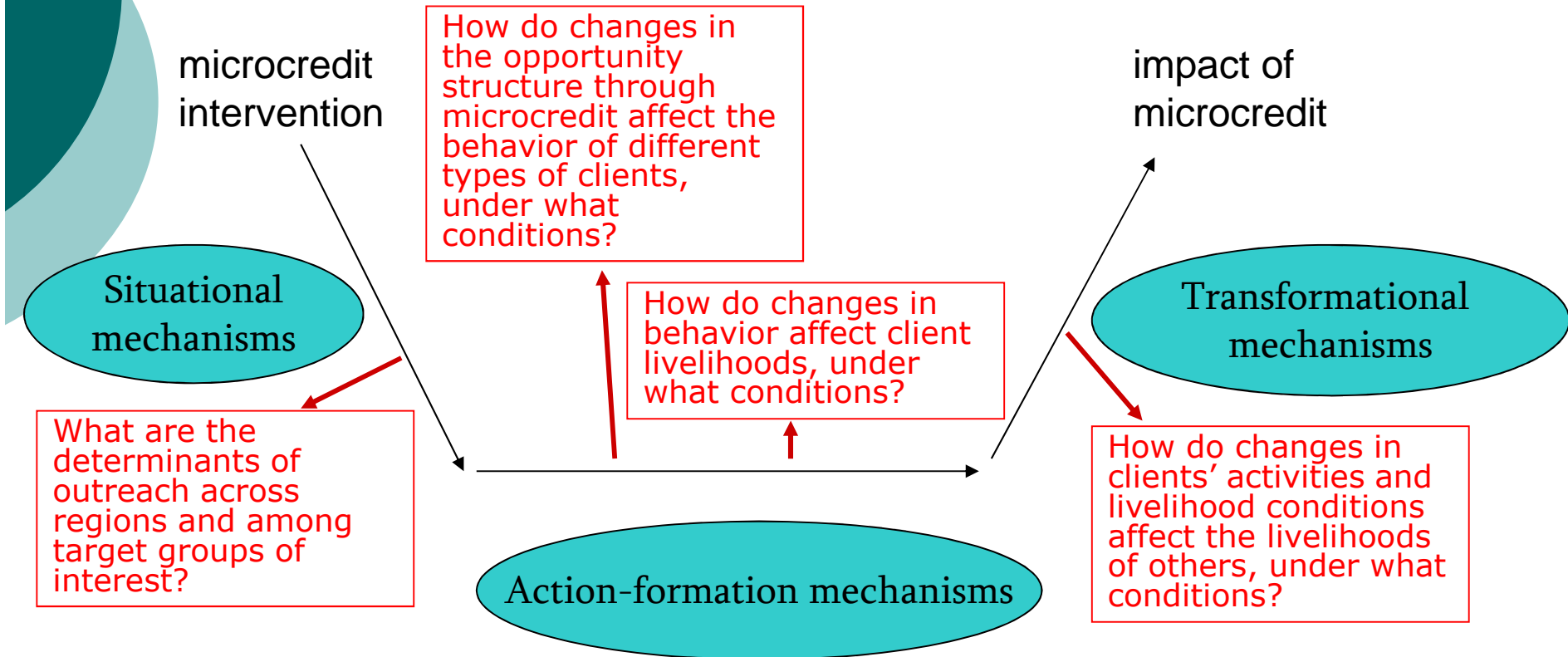Causal process of change are more often than not:

- Non-linear

- Emergent

- Interconnected at multiple levels

- Uncertain

- (sometimes) Irreversible

Solutions...

- Explanation: rival theories of change, systems perspectives of change processes: not just 'opening the black box' but thinking 'outside the box'

- Measurement: triangulation and multiple data points over time

- Method: deconstruct causal processes

Impact theory - microcredit

Based on Coleman (1986, 1990); Hedström and Swedberg (1998), see also Leeuw (2008)

microcredit intervention

impact of microcredit

How do changes in the opportunity structure through microcredit affect the behavior of different types of clients, under what conditions?

Situational mechanisms

Transformational mechanisms

How do changes in behavior affect client livelihoods, under what conditions?

What are the determinants of outreach across regions and among target groups of interest?

How do changes in clients' activities and livelihood conditions affect the livelihoods of others, under what conditions?

Action-formation mechanisms

T0

Tn

Concluding remarks (1)

- Evaluators make abstractions of reality

- These abstractions are often formalized as 'theories of change'

- 'Theories of change' can be traps of cognitive bias

- These have to be broken by adopting a broader 'complexity' perspective on interventions and processes of change

Concluding remarks (2)

- Adopt a pragmatic approach to complexity-responsive evaluation:

  – Context-specificity, emergence and historical embeddedness are important to understand…

  Yet…

  – Avoid the trap of *complexification*

  – not all complexity needs to be unearthed for evaluation purposes

  – There are patterns of semi-regularity on which evaluators can (and should) build

THANK YOU FOR YOUR ATTENTION

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