Understanding Stakeholder Perceptions on SRM in the Global South- Findings from a South Africa Workshop

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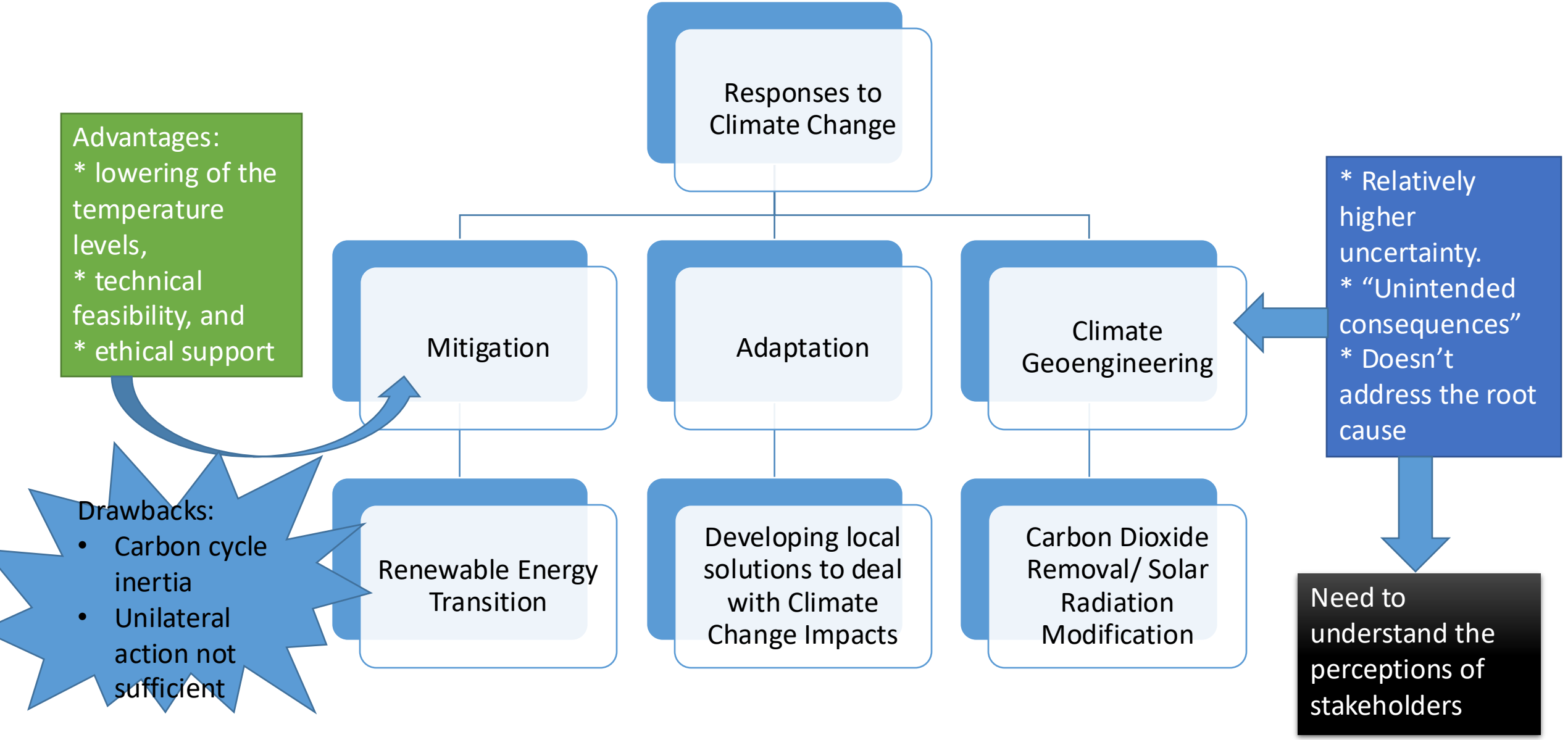

Responses to Climate Change
Mitigation
Adaptation
Climate Geoengineering
Renewable Energy Transition
Developing local solutions to deal with Climate Change Impacts
Carbon Dioxide Removal/ Solar Radiation Modification
Advantages:
* lowering of the temperature levels,
* technical feasibility, and
* ethical support
Drawbacks:
• Carbon cycle inertia
• Unilateral action not sufficient
* Relatively higher uncertainty.
* "Unintended consequences"
* Doesn't address the root cause
Need to understand the perceptions of stakeholders

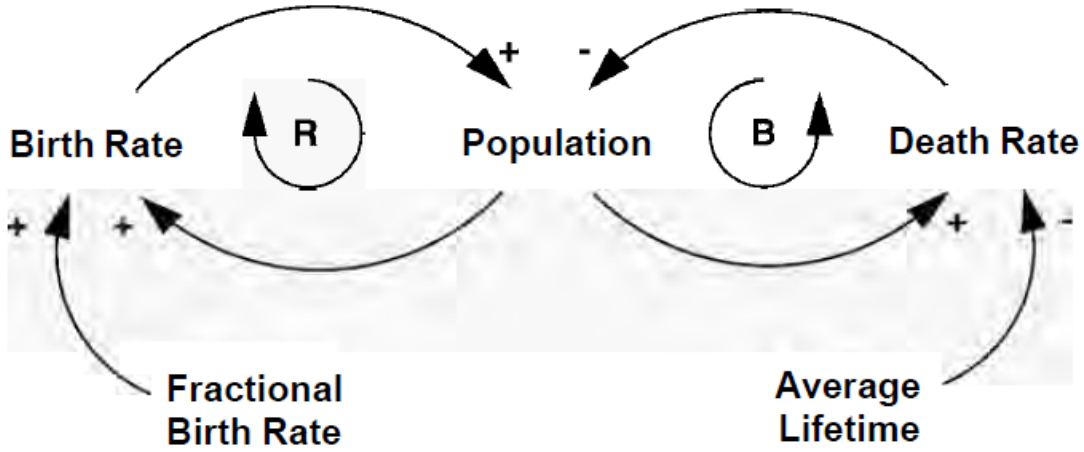
Workshop on stakeholder perceptions of SRM

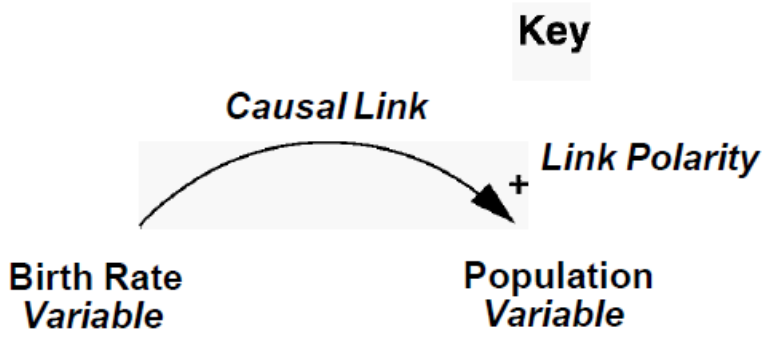
- Held in South Africa, on the sidelines of Degrees Global Forum
- ~ around 20 climate and policy experts from Global South
- The workshop was centered around answering the following 3 questions:
  1. What are the important obstacles and opportunities to advance African leadership on SRM research and its engagement with decision-making?
  2. What perceptual concerns and effects (positive and negative) are particularly important to address in Africa within government and society to advance informed action on SRM risks and impacts?
  3. Who needs to be part of the discourse, and how can they be effectively engaged?
- Overall Question: How can we make SRM research societally relevant and impactful?

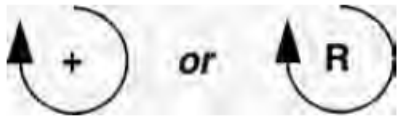
System Dynamics: Causal Loop Diagrams

- Causal Loop Diagrams (CLDs) are one of the fundamental conceptual tools used in the System Dynamics approach.
- They serve as a way to visualize and organize the feedback structures that govern system behaviour.
- At their core, CLDs are simple diagrams made up of variables connected by arrows that indicate causal relationships.
- Each arrow is labelled with a polarity—positive (+) or negative (–)—to show whether an increase in one variable causes an increase (positive relationship) or a decrease (negative relationship) in another.
- Through this interconnected network of variables, CLDs make feedback loops explicit, helping modelers and stakeholders understand the dynamic complexity of systems beyond simple linear cause-and-effect thinking.

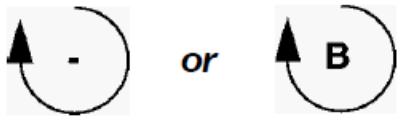
CLD: Example







Loop Identifier: Positive (Reinforcing) Loop

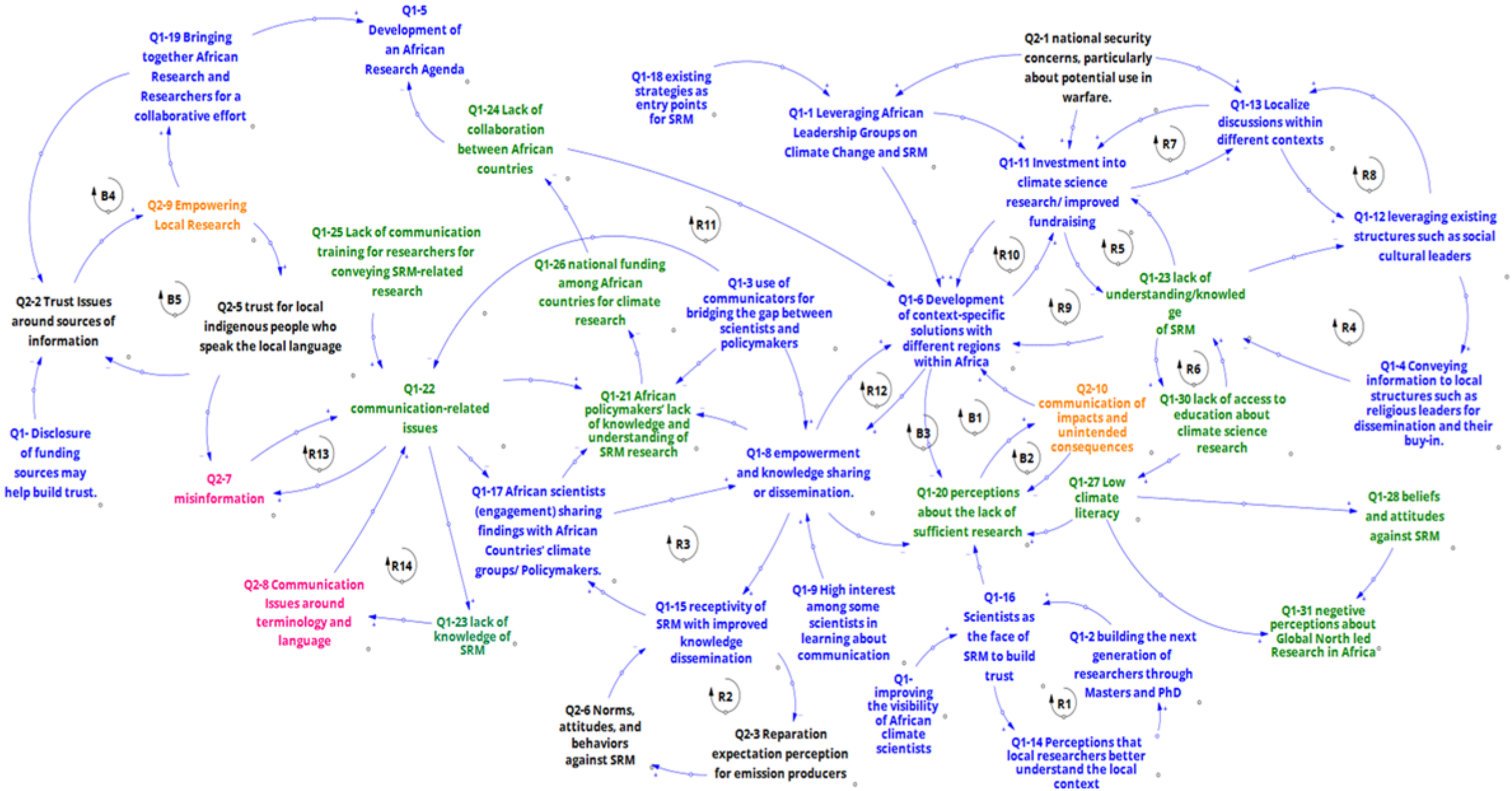


Loop Identifier: Negative (Balancing) Loop

Source: Sterman (2000)

CLD on Stakeholder Perceptions of SRM

- A Causal Loop Diagram (CLD) was used to understand the complex interactions of the identified key elements from the workshop discussions.
- The data was collected from discussions from two groups, coded using Atlas.ti.
- A CLD was then developed from the coded data.
- Policymaking and governance-relevant insights were then drawn from the CLD.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Q1-19 Bringing together African Research and Researchers for a collaborative effort
Q1-18 existing strategies as entry points for SRM
Q2-1 national security concerns, particularly about potential use in warfare.
Q1-1 Leveraging African Leadership Groups on Climate Change and SRM
Q1-13 Localize discussions within different contexts
Q1-24 Lack of collaboration between African countries
Q1-11 Investment into climate science research/ improved fundraising
R7
R8
B4
Q2-9 Empowering Local Research
Q1-12 leveraging existing structures such as social cultural leaders
R11
Q1-25 Lack of communication training for researchers for conveying SRM-related research
Q1-26 national funding among African countries for climate research
Q1-3 use of communicators for bridging the gap between scientists and policymakers
R10
R5
Q1-6 Development of context-specific solutions with different regions within Africa
Q1-23 lack of understanding/knowledge of SRM
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Q2-2 Trust Issues around sources of information
Q2-5 trust for local indigenous people who speak the local language
R9
R4
Q1-4 Conveying information to local structures such as religious leaders for dissemination and their buy-in.
R6
Q1-30 lack of access to education about climate science research
Q1-22 communication-related issues
Q1-21 African policymakers' lack of knowledge and understanding of SRM research
R12
Q2-10 communication of impacts and unintended consequences
B1
B3
B2
Q1- Disclosure of funding sources may help build trust.
Q2-7 misinformation
R13
Q1-8 empowerment and knowledge sharing or dissemination.
Q1-20 perceptions about the lack of sufficient research
Q1-27 Low climate literacy
Q1-28 beliefs and attitudes against SRM
Q1-17 African scientists (engagement) sharing findings with African Countries' climate groups/ Policymakers.
R3
R14
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Q1-9 High interest among some scientists in learning about communication
Q1-16 Scientists as the face of SRM to build trust
Q1-31 negetive perceptions about Global North led Research in Africa
Q1-2 building the next generation of researchers through Masters and PhD
R2
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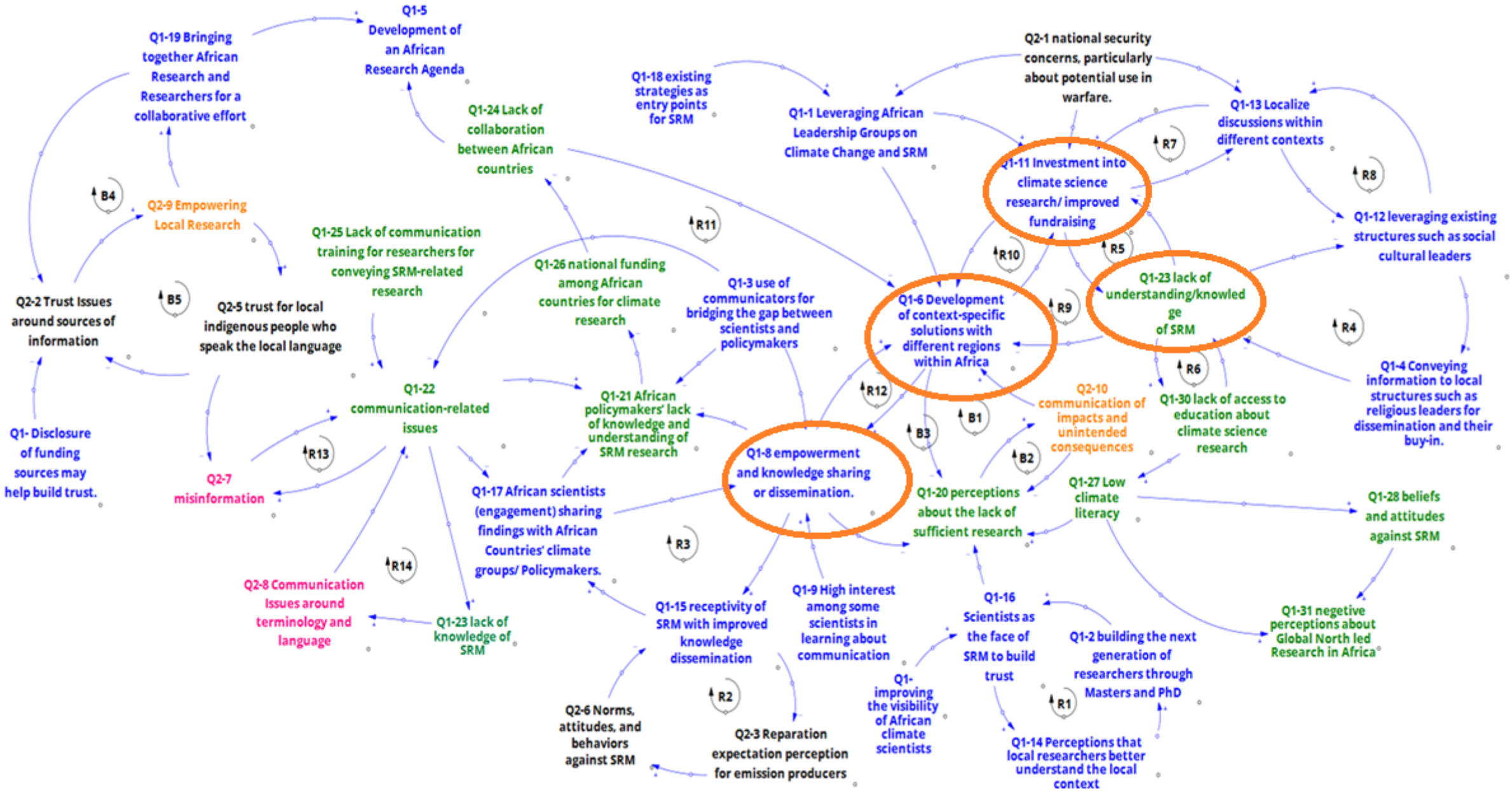
Q2-6 Norms, attitudes, and behaviors against SRM
Q2-3 Reparation expectation perception for emission producers
Q1- improving the visibility of African climate scientists
Q1-14 Perceptions that local researchers better understand the local context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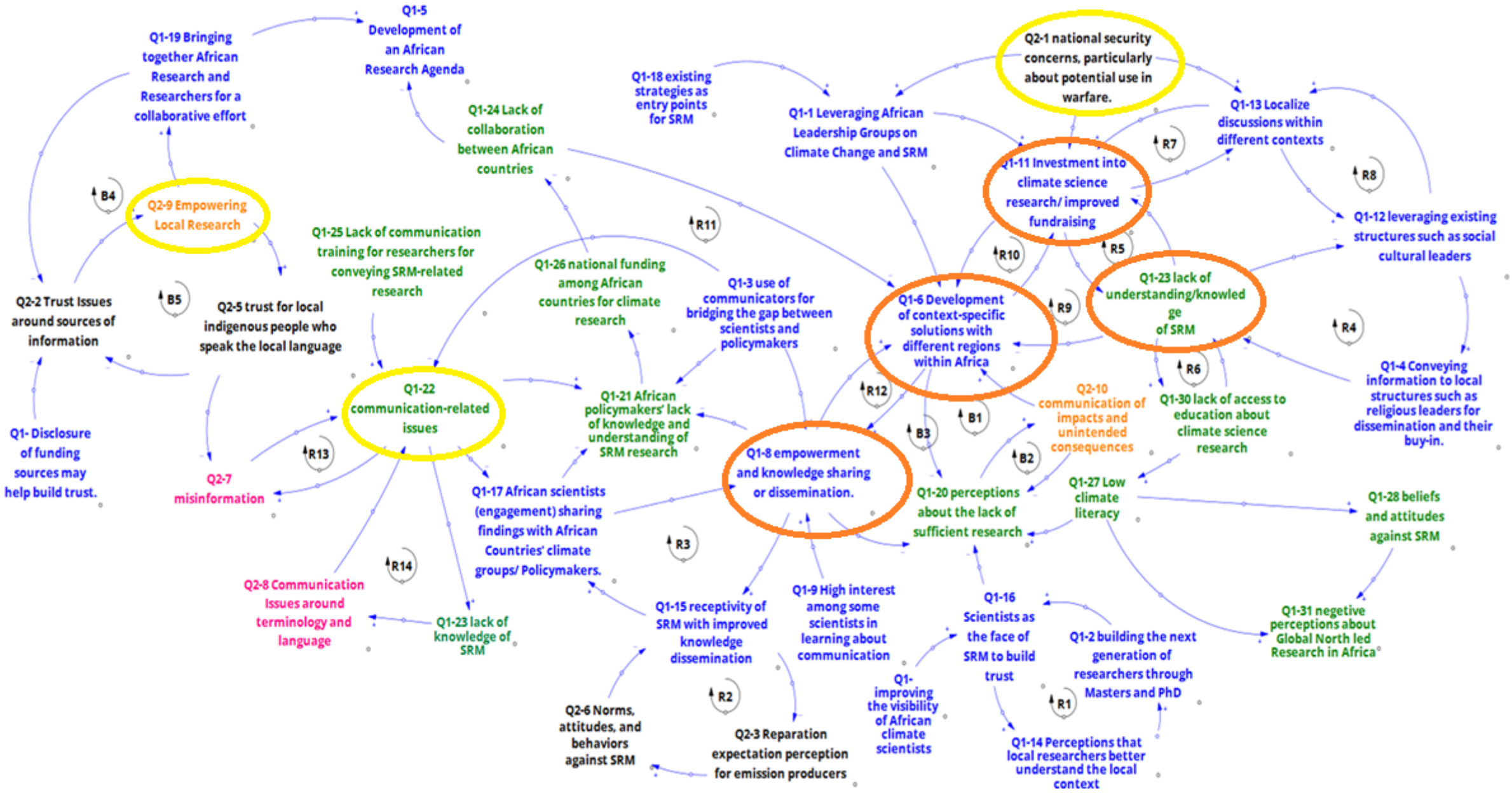
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Conclusions

- Key leverage points for improving SRM perception in Global South:
  - Development of context-specific solutions (for Global South)
  - Empowerment and knowledge sharing (with regard to SRM)
  - Alleviating lack of understanding around SRM
  - Investment into climate science research

- Other potential intervention points:
  - Empowering local research
  - Alleviating communication-related issues
  - Delving into national security concerns (around SRM)