Metacoupling: Enhancing equity and resilience in an interconnected world

Working Group Focus:

- Analysing the intricate dimensions of (in)equity within three Southern African case studies linked to export horticultural value chains and transboundary fisheries.

- Employing a 'metacoupling' framework to understand the interconnections and interdependencies of social-ecological systems across local, adjacent, and global levels.

The Metacoupling working group used a metacoupling framework to analyze the complex interconnections and power dynamics in Southern African export horticultural value chains and transboundary fisheries. By examining cross-scale connections and revealing critical intervention points, they provided insights and recommendations to enhance equity and resilience, empowering local actors to navigate the global landscape more effectively.

Engagement Process:

- **Collaborative Analysis:** Involved researchers and practitioners to apply the metacoupling framework in analyzing case studies of export horticultural value chains and transboundary fisheries in Southern Africa.

- **Cross-Scale Connections:** Examined how local governance decisions and global market dynamics influence resource access and distribution, highlighting the interdependencies between local, adjacent, and global levels.

- **Community Empowerment:** Focused on unveiling power dynamics and disparities in value chains to empower marginalized communities and improve equity and resilience.

- **Strategic Dissemination:** Shared findings through research briefs, case studies, and frameworks to provide practical insights and recommendations for policymakers and practitioners.

Key Insights:

- **Understanding Power Dynamics:** The metacoupling framework revealed how power dynamics embedded in global value chains can create inequalities by limiting access to resources and opportunities for local actors.

- **Increased Connectedness:** Increased connectedness in coupled systems alters social structures, access to natural resources, and the livelihoods of smallholder farmers.

- **Equity Considerations:** A metacoupling lens surfaces equity considerations by integrating human-nature interactions within a geographical area, as well as its adjacent and distant areas.

- **Contextual Understanding:** Provides a more contextual and nuanced understanding of how equity issues are impacted by transboundary interactions, identifying nodes of influence and paths of resource distribution.

- **Leverage Points:** Reveals crucial leverage points within a system where interventions can unlock opportunities to build more equitable and resilient social-ecological systems conducive to the thriving of both people and nature.

Key principles for applying a metacoupling framework

Systems thinking - understand social and ecological connections
- Identify the social-ecological systems boundary of interest
- Understand the interconnections between social and ecological dimensions
- Zoom in and out: consider multiple scales 'below' and 'above' your scale of interest

Foreground social justice and equity
- Identify different dimensions of equity in the SES
- Explore vulnerability contexts using an intersectional lens to understand where power mediates SES connections

Ensure more participatory decision-making and collaborative implementation
- Encourage diverse actors to work together across boundaries
- Disrupt inequitable power dynamics and co-develop holistic solutions that consider the interconnectedness of challenges and opportunities
- Collaboratively implement responses across sectors and scales

Identify leverage points
- Understand that small shifts in the right place can result in big changes
- Embrace and try to map out the complexity
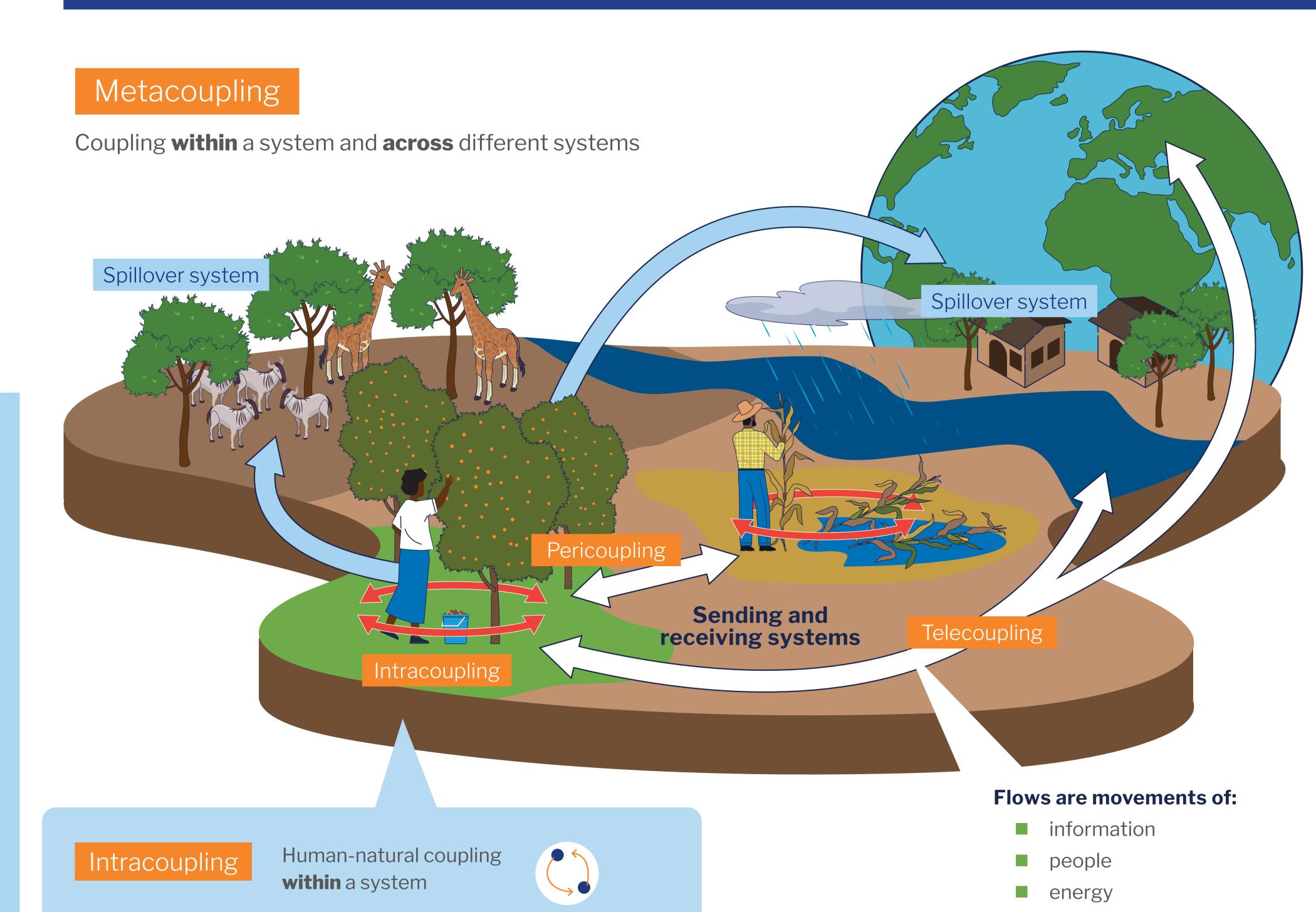- Accept that solutions might lie outside your system of interest

Foster adaptive planning and management
- Embed a continuous monitoring, reflection and learning culture in project activities
- Adopt participatory planning methods that involve diverse actors in the co-creation of management plans
- Establish learning networks for sharing knowledge and experiences

Metacoupling Framework

Metacoupling
Coupling **within** a system and **across** different systems

Spillover system

Spillover system

Pericoupling

Sending and receiving systems

Intracoupling

Telecoupling

Intracoupling	Human-natural coupling **within** a system
Pericoupling	Human-natural coupling among **adjacent or nearby** systems
Telecoupling	Human-natural coupling among **distant** systems

Flows are movements of:
- information
- people
- energy
- organisms
- matter
- products
- capital, etc.

Each flow is affected by:

Effects (ecological and socioeconomic consequences of the flows)

Causes (reasons behind the flows)

Power (reflects the relative ability of agents to influence effects in a system)

Agents (decision-making entities that facilitate the flows)

Human systems include:
- Households
- Urbanisation
- Agriculture
- Disease spread
- Governance
- Trade

Natural systems include:
- Water
- Land
- Plants
- Animals
- Natural capital
- Biodiversity

Key Outputs:

Research Summary Brief: Spotlighting power dynamics: Metacoupling as a lens for understanding equitable resilience in Southern Africa

Case Study: Empowering marginalised communities in biosphere reserves through a metacoupling approach

Framework: Key principles for applying a metacoupling framework

Key principles for applying a metacoupling framework

To read the briefs and learn more on the Metacoupling working group scan this code