Knowledge and science-policy nexus for cross-sector adaptation

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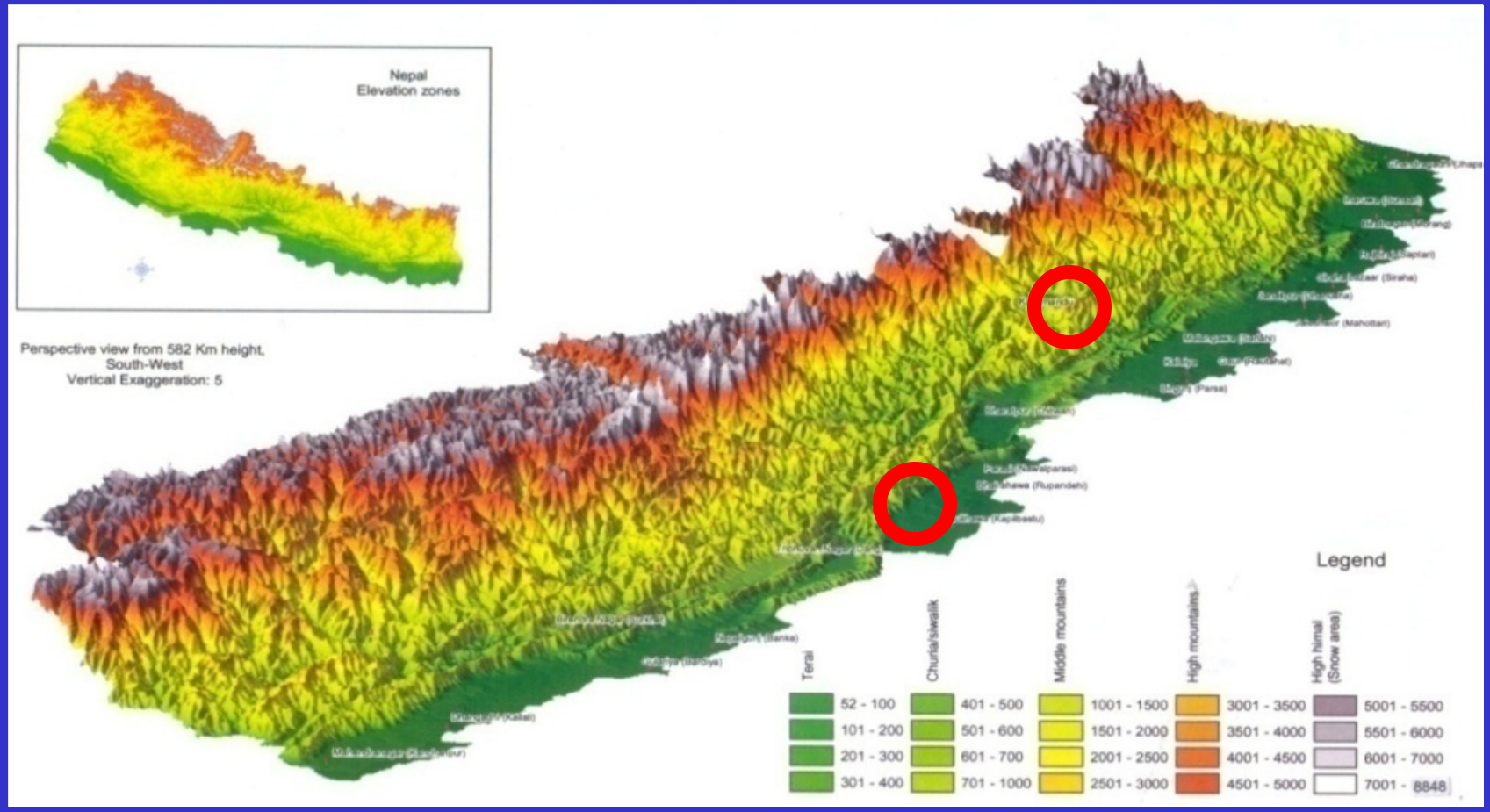
Two cases from Nepal: One in the plains and one in the mid hills



Map source USAID

Dubiya VDC Kapilbastu Tarai

Northern portion of Indo Ganga plains

100-200 m (Regional climate)

Awadhi/Tharu

Rice cultivation

Very hot and dry summer, cold winter

Brush wood dam

Context	When
Deficit Rainfall	8 years ago

Mid Hills' Panchkhal Valley

East of Kathmandu

400-2000 m (micro climate)

Mixed population

Paddy and commercial vegetable farming

Hot summer and mild cold winter

Context	When
Deficit rainfall	2 years ago

Responses:

Digging river bed and pumping
At household level: RWH
At community level pond
Selling buffaloes
Move to Kathmandu/urban areas seeking jobs

Not planned by the central government

- Largely local initiative create systems for responding to stresses.
- Local governments provide support
- Resources came from other sources
- Locals contribute labor
- Intermediaries help

- Community based natural resources management approaches are also going on in forest, drinking water, irrigation, trail bridges, community electricity distribution, and micro hydro development etc as basis of collective actions.

Response of state

- Provides overall framework

  - Sectoral policies
  - Invested in building systems
  - Decentralisation
  - Financial resources transfer to local government.
  - Funds to parliamentarians

  Community can organise into groups

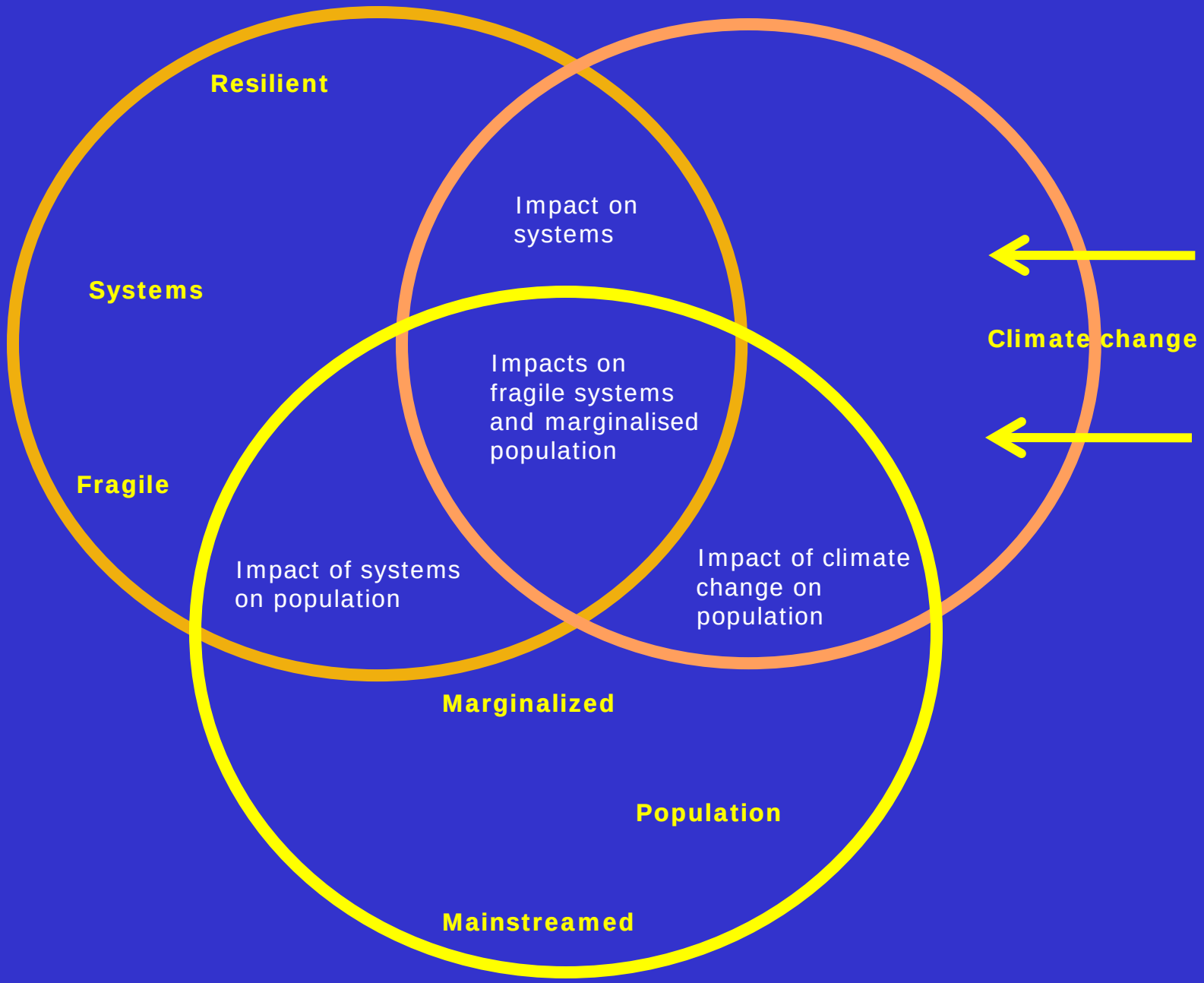
  Community based initiatives on forestry, drinking water, electricity distribution

- Intermediaries operate

Context		Domain	
Current	Scenario	Science	Policy/ies
Temperature Rainfall Evaporation Flow Sediment flow Crop type Etc.	How will each is likely to alter in 2030, 2060, 2090	How many stations, regularly collecting facts, analysis, forecasting,	Dissemination plan End users Households and community response Decision making

Who are involved in the process of knowledge generation, sharing, formulating and implementing policies

- National government (framework, monitoring and evaluation, level playing field)
- Sectoral departments (resources, skills sets)
- Local government units (some local governance)
- CBOs (as intermediaries)
- Local community organisations) (local knowledge and
- Researchers (Donors) ((CCS, downscaling, methods, new insights, gaps, translation engaging, (funding))
- Private sector (local entrepreneurship, incubation, expansion of local market new employment, higher wage)
- Media: print, TV, radio (communicating research to public)


Resilient
Systems
Fragile
Impact on systems
Impacts on fragile systems and marginalised population
Impact of systems on population
Impact of climate change on population
Climate change
Marginalized
Population
Mainstreamed

In all of above we have not touched upon the dominant discourse in climate change one main drivers of adaptation processes.

Mitigation, adaptation, development and emerging global systems imply growing complexity and wickedness.

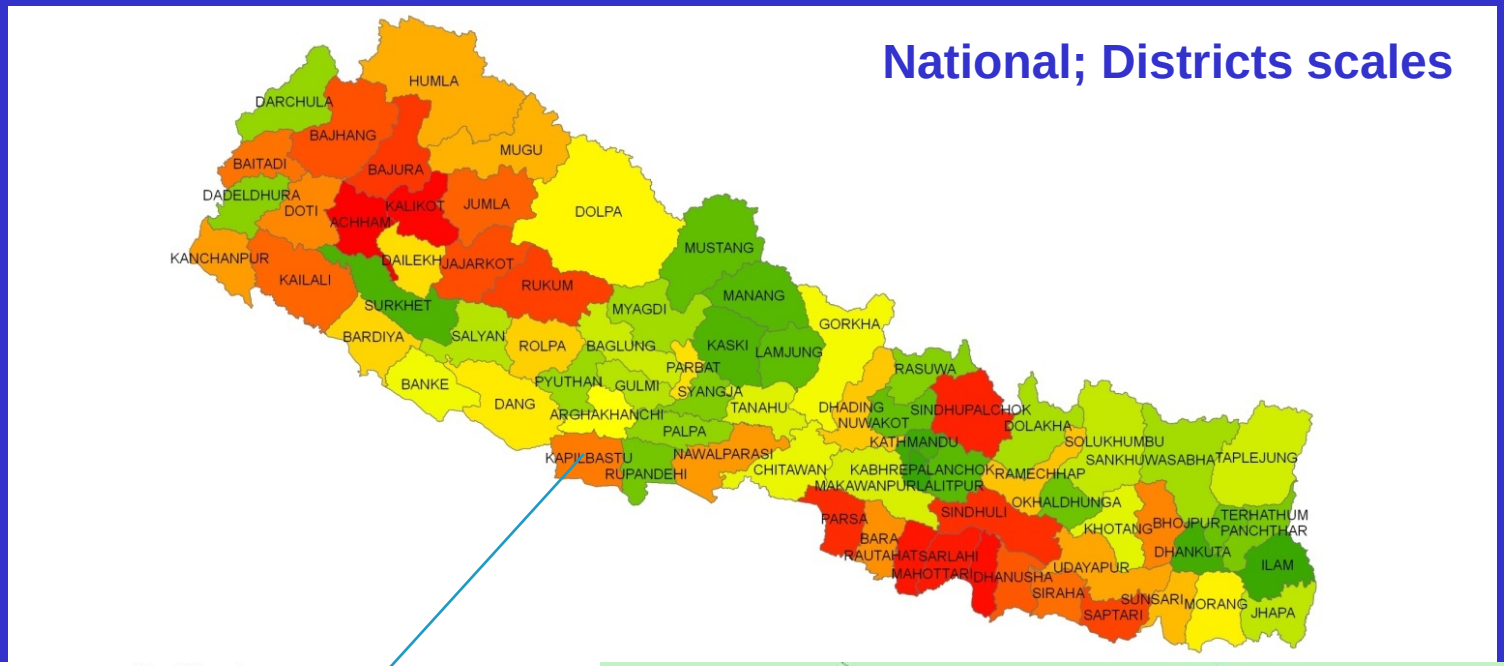
Climate change is a wicket problem requiring uncomfortable knowledge and plural solutions.

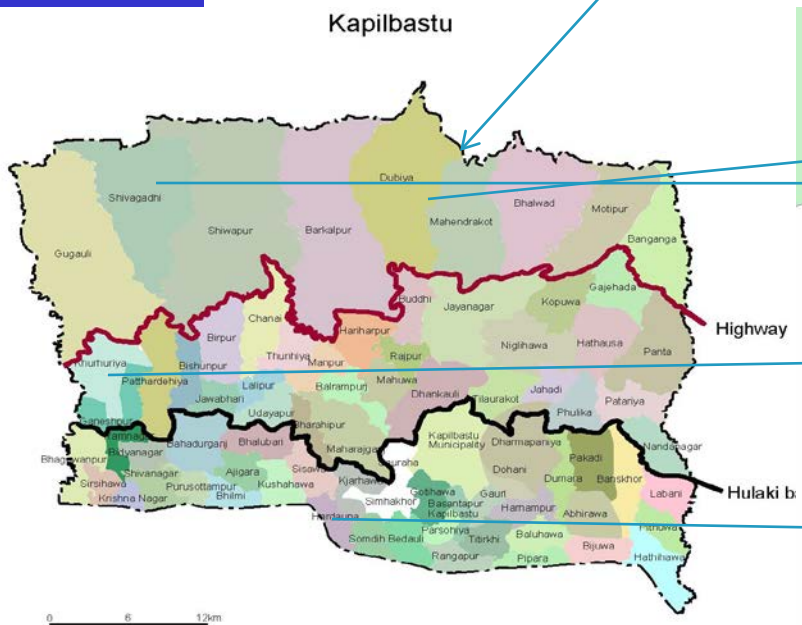
Knowledge in plural

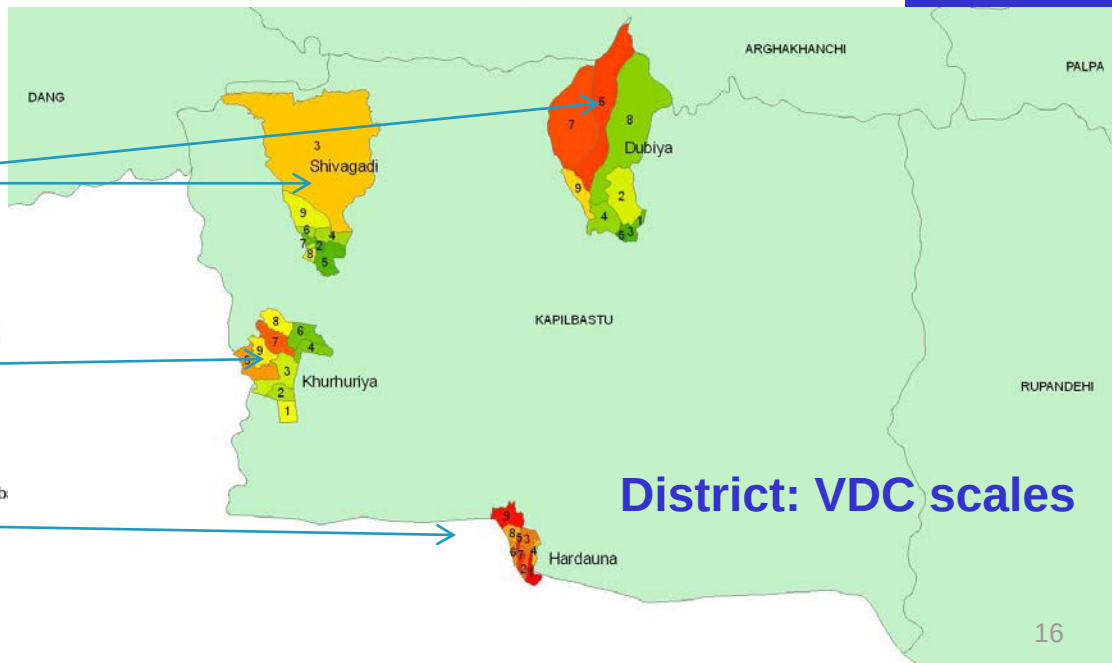
Five issues emerge

- How will the localised character of an area change due to global climate change (Temperature rise, erratic rainfall, flood, droughts, snow melt, GLOF, sea level rise etc) .
- Which specific area is likely to be affected more by a the new hazard than the other
- What are resources, systems within that area that will be affected by the hazards [exposure]
- Who is likely to be more vulnerable to hazard impacts?
- What is to done to reduce vulnerability and by whom?

Vulnerability at different scales







Understanding of knowledge and science-policy nexus is necessary to bring together perspectives from multiple disciplines and stakeholders to:

- **Take effective action**: Make available what is known, including what works and does not work.
- **Avoid mal-adaptation**: Help practitioners of policies be better prepared for unintended consequences of their actions.
- **Harmonise:** Explore limitations and gaps in current policies and practices with the objectives of harmonisation.
- **Synthesise knowledge**: Create space for iterative and shared dialogue methods to identify point of entry for changes in policies and practices.

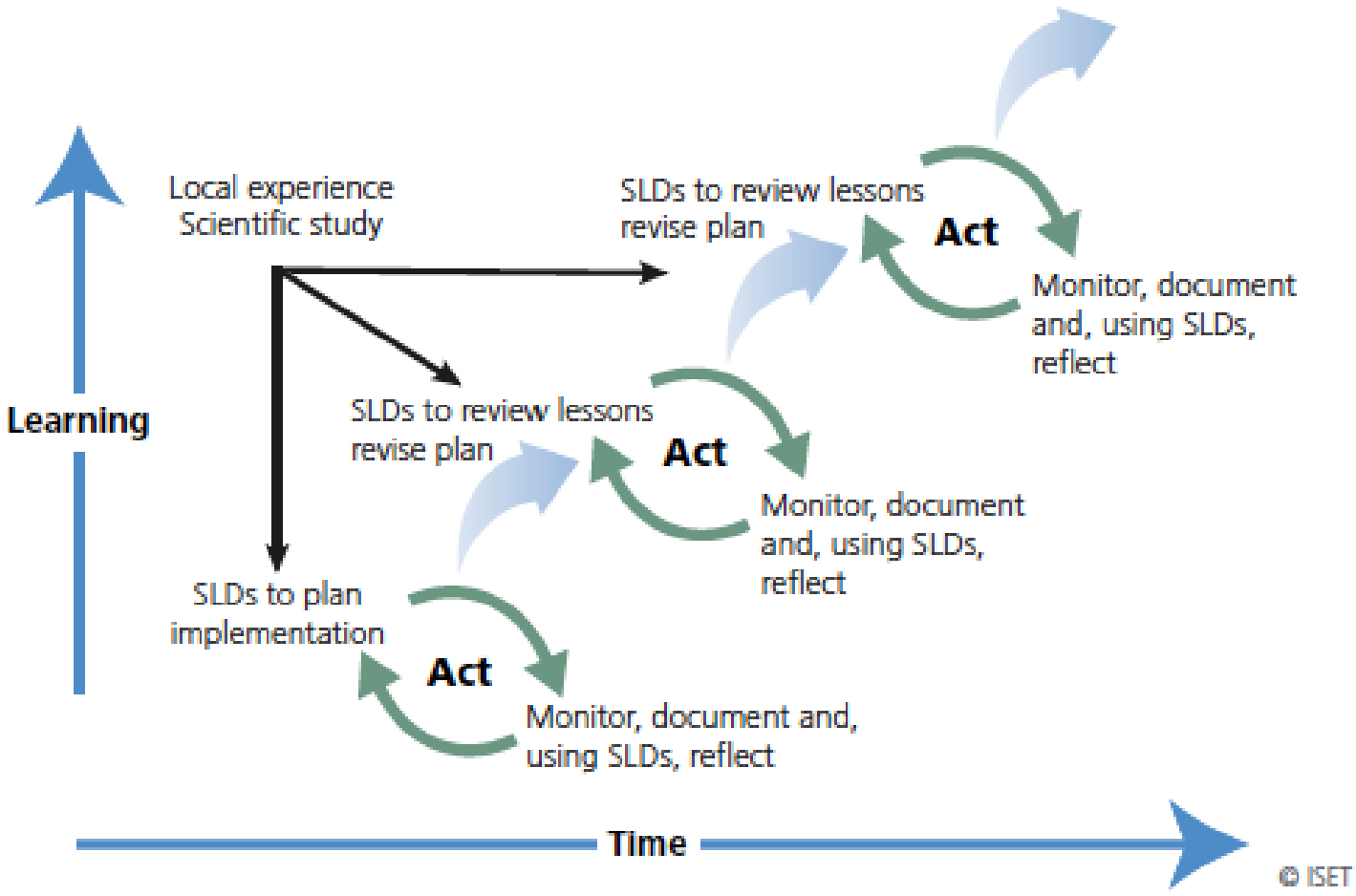
Small, iterative focus group discussions to:

Engage vulnerable groups & assess their capacities.

Cross disciplinary and orgranisational boundaries & scales of governance.

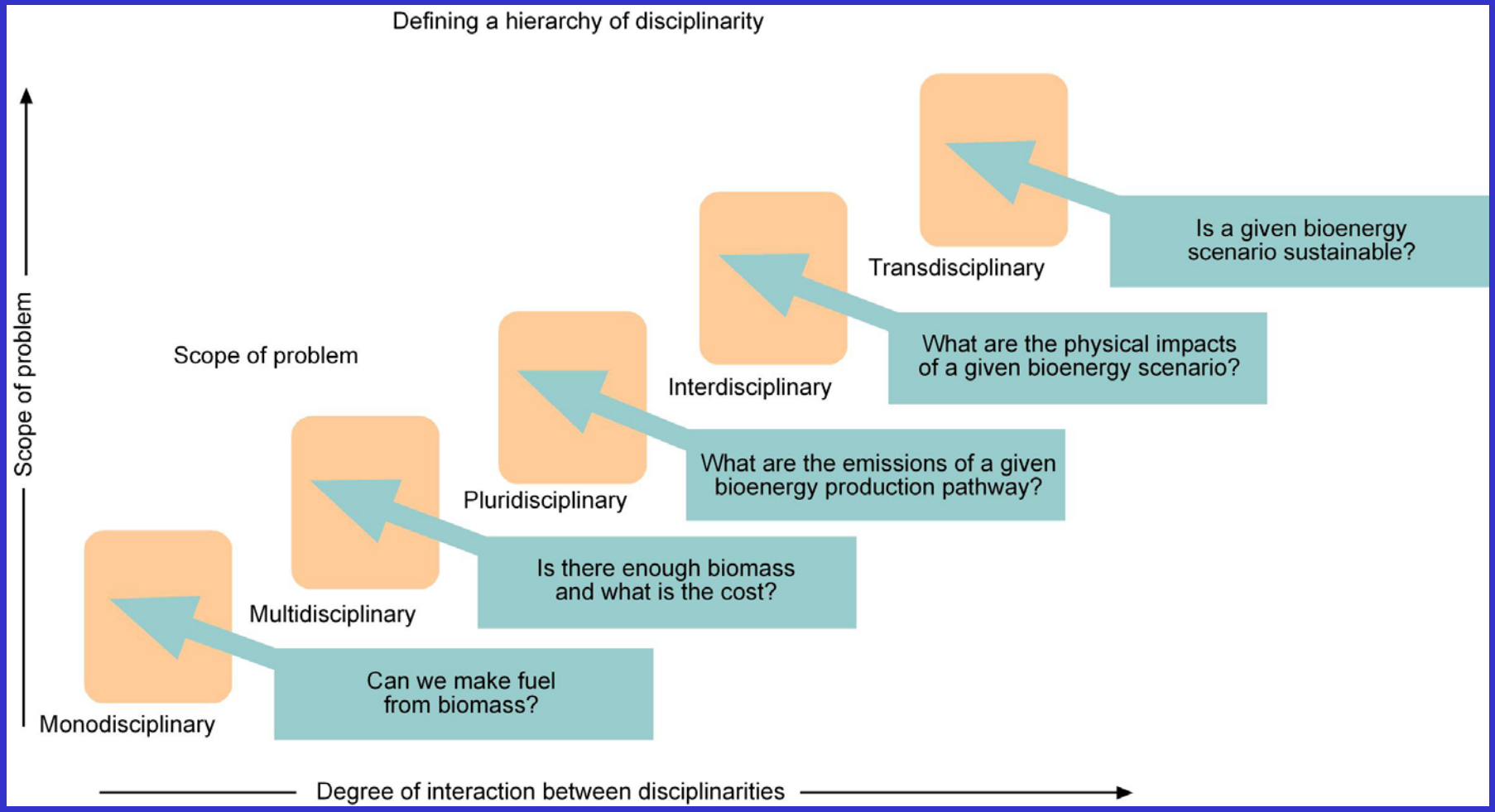
Generate new information & use existing information in new ways.

The Shared Learning Dialogue Process



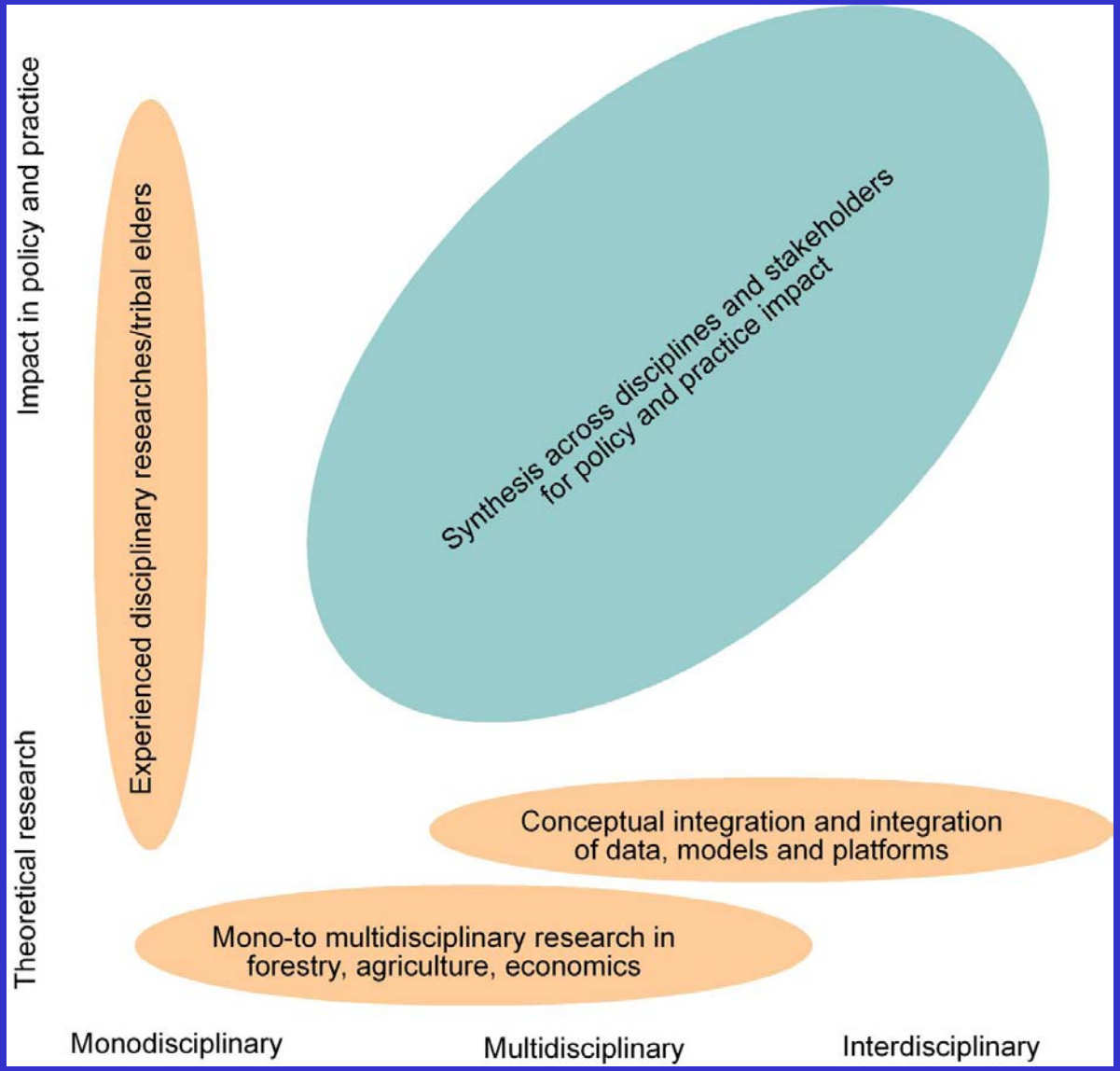
Adapted from Lewin 1946: "Action research and minority problems"

Different levels of synthesis and disciplinarity



(adapted from Farine and O'Connor *under review).*

Actual and desirable research impact by research style



Source: Deborah O'Connell, with Damien Farine, Michael O'Connor, Michael Dunlop

Thank you