

# Science for Policy Making: Gaps and Pathways

Ailikun

Institute of Atmospheric Physics  
Chinese Academy of Sciences

# Questions by Integrated Research on Disaster Risk (ICSU-IRDR)



*We need an integrated approach to research on disaster risk through: an international, multidisciplinary (natural, health, engineering and social sciences, including socio-economic analysis) collaborative research programme (IRDR vision)*





# Future Earth Vision:

- ✓ How to fill the gaps between scientific research and social needs?
- ✓ And how to transfer the scientific knowledge to the stakeholders?

ed

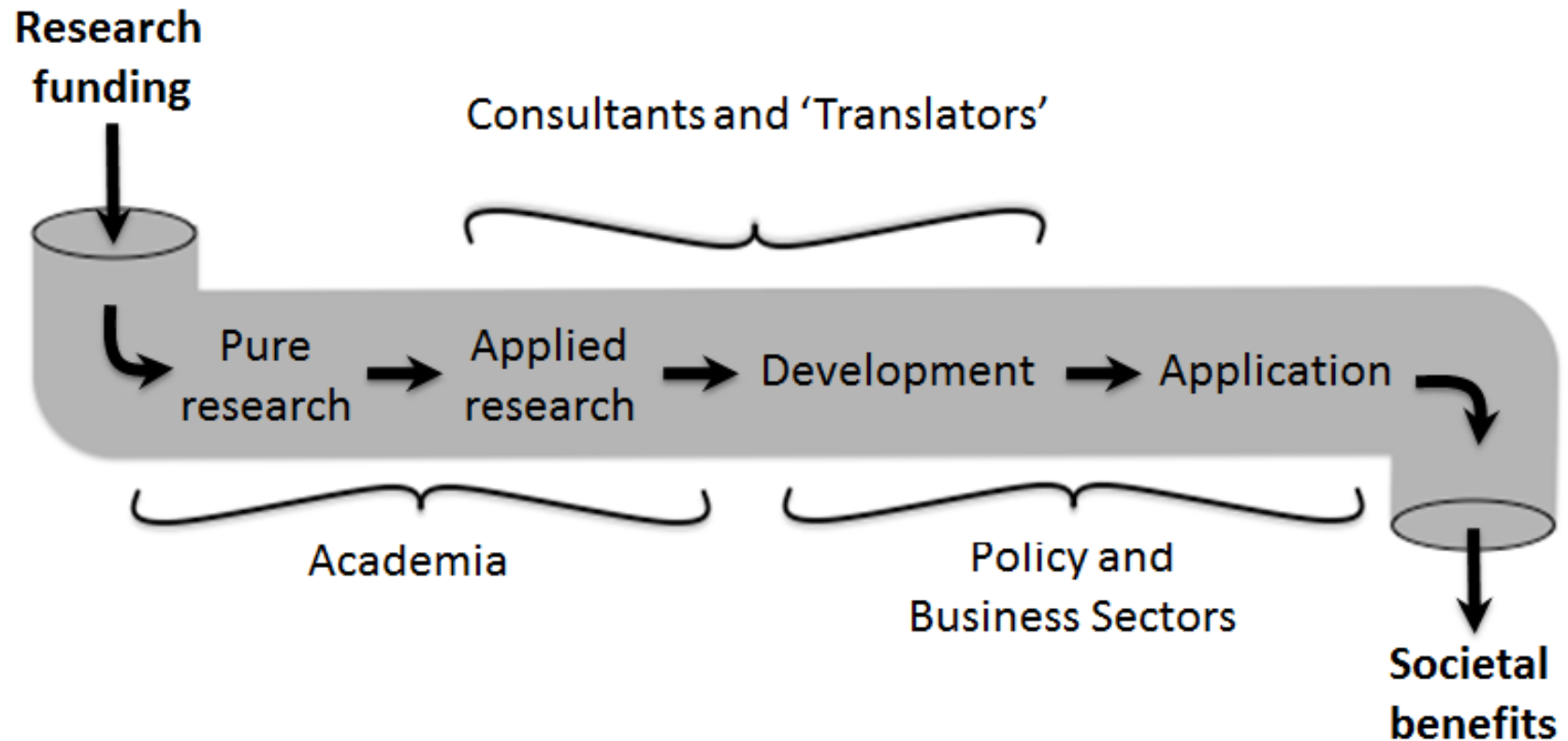
ze

**Future Earth is a 10-year international programme initiated by ICSU and ISSC**

# Gaps Between Science and Policy Making

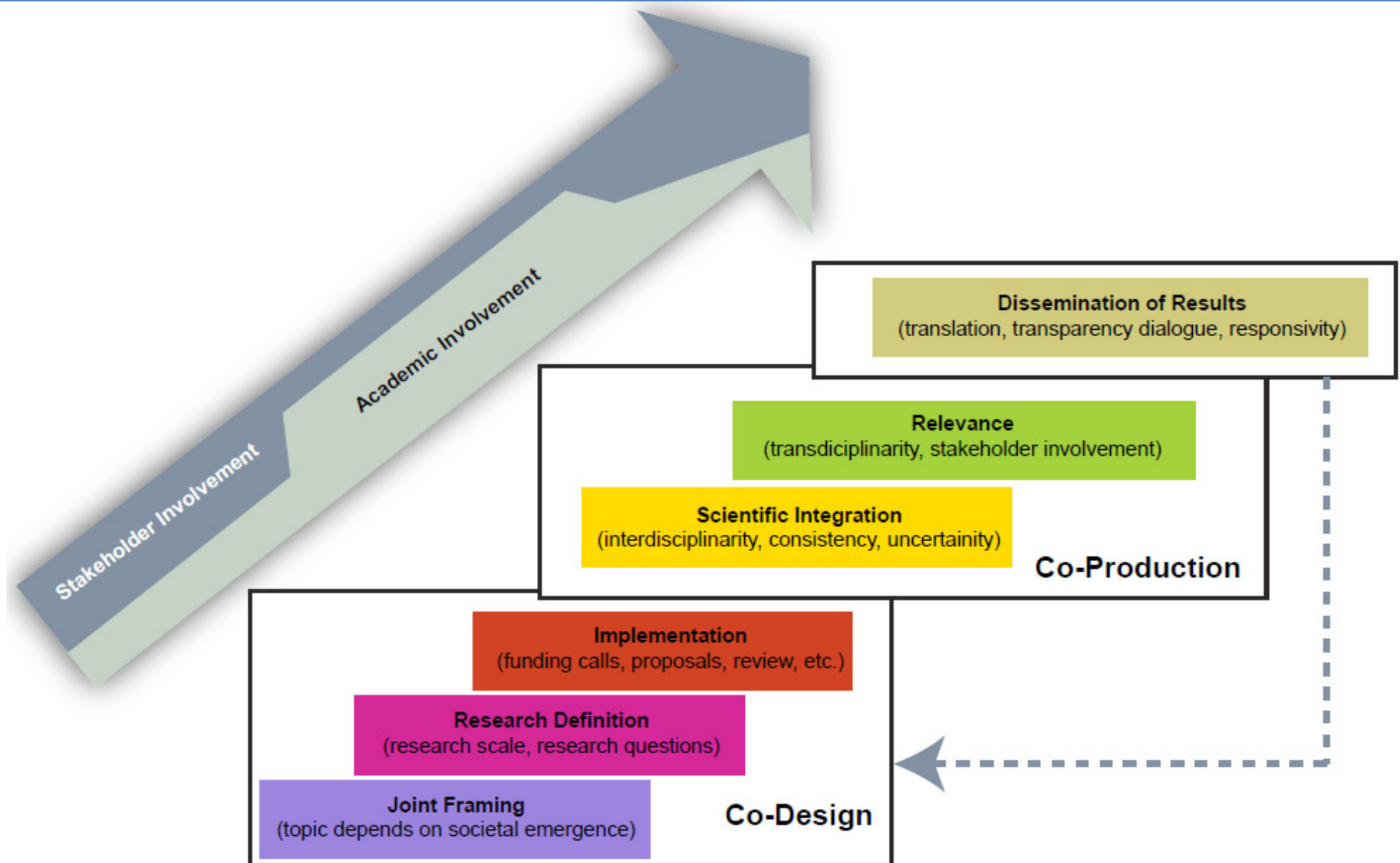
- ✓ Vocabulary and definition
- ✓ Knowledge of uncertainties
- ✓ Science is not easily to be accessed by policy makers
- ✓ Scientists don't understand the information needs by policy makers
- ✓ Time limits for policy making and scientific research
- ✓ Policy making largely influenced by individual's beliefs and values

# The traditional linear model of knowledge production



**Designed and implemented by science group**

# Promoting Co-design and Co-production Research



Source: Mauser et al., *COSUST*,  
2013



# Co-design with stakeholders



Science community



Policy makers



Funding agency



Development organizations



Private sectors



NGO/NPO



Public/Media



# Key points on “how to Co-design & Co-production”

1. Establish solution-oriented research
2. Top-down and bottom-up approach
3. Communicate the uncertainty issues
4. Build trust with stakeholders
5. No fixed model, learning by doing

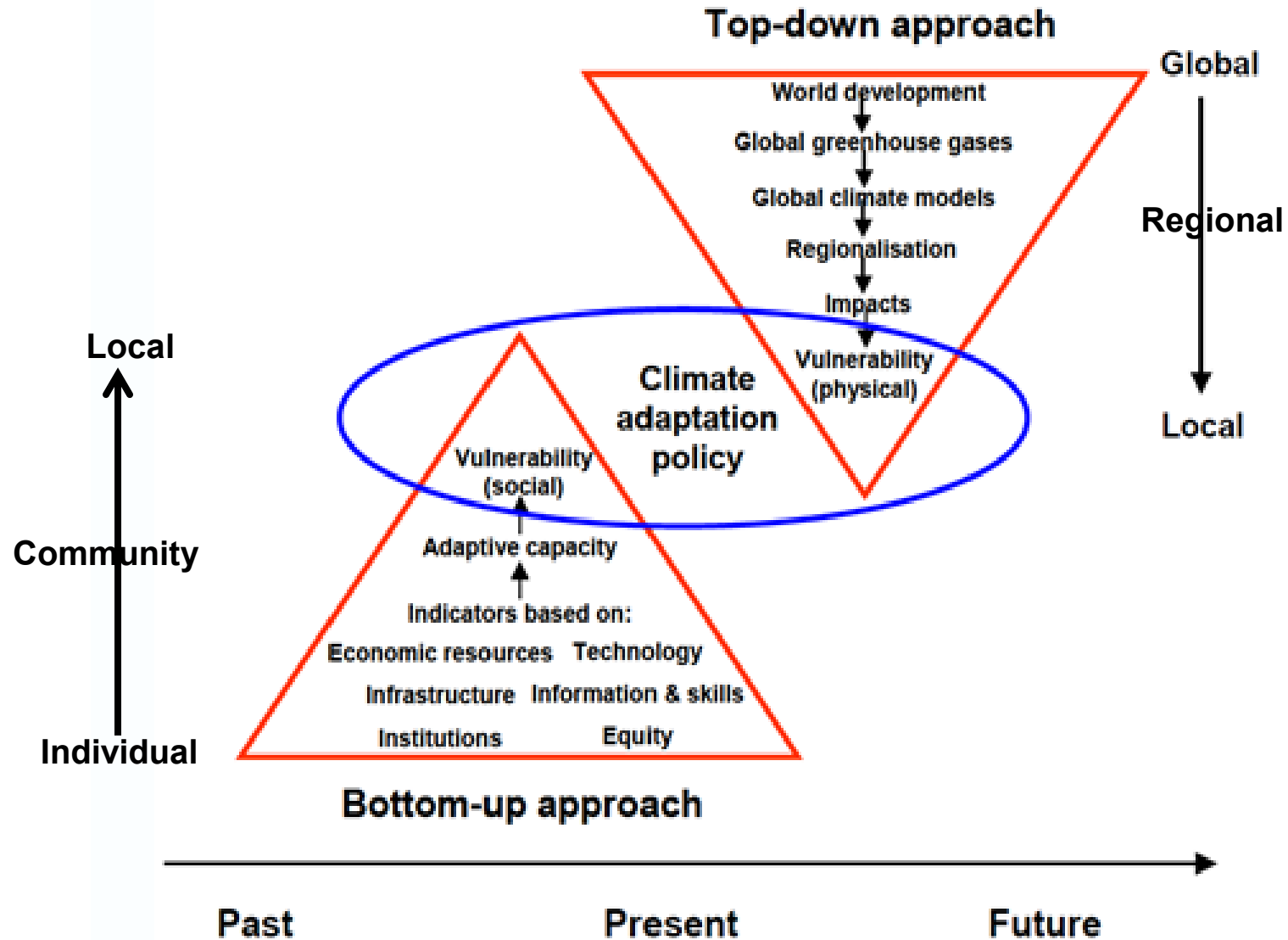


# Co-design and co-production of knowledge



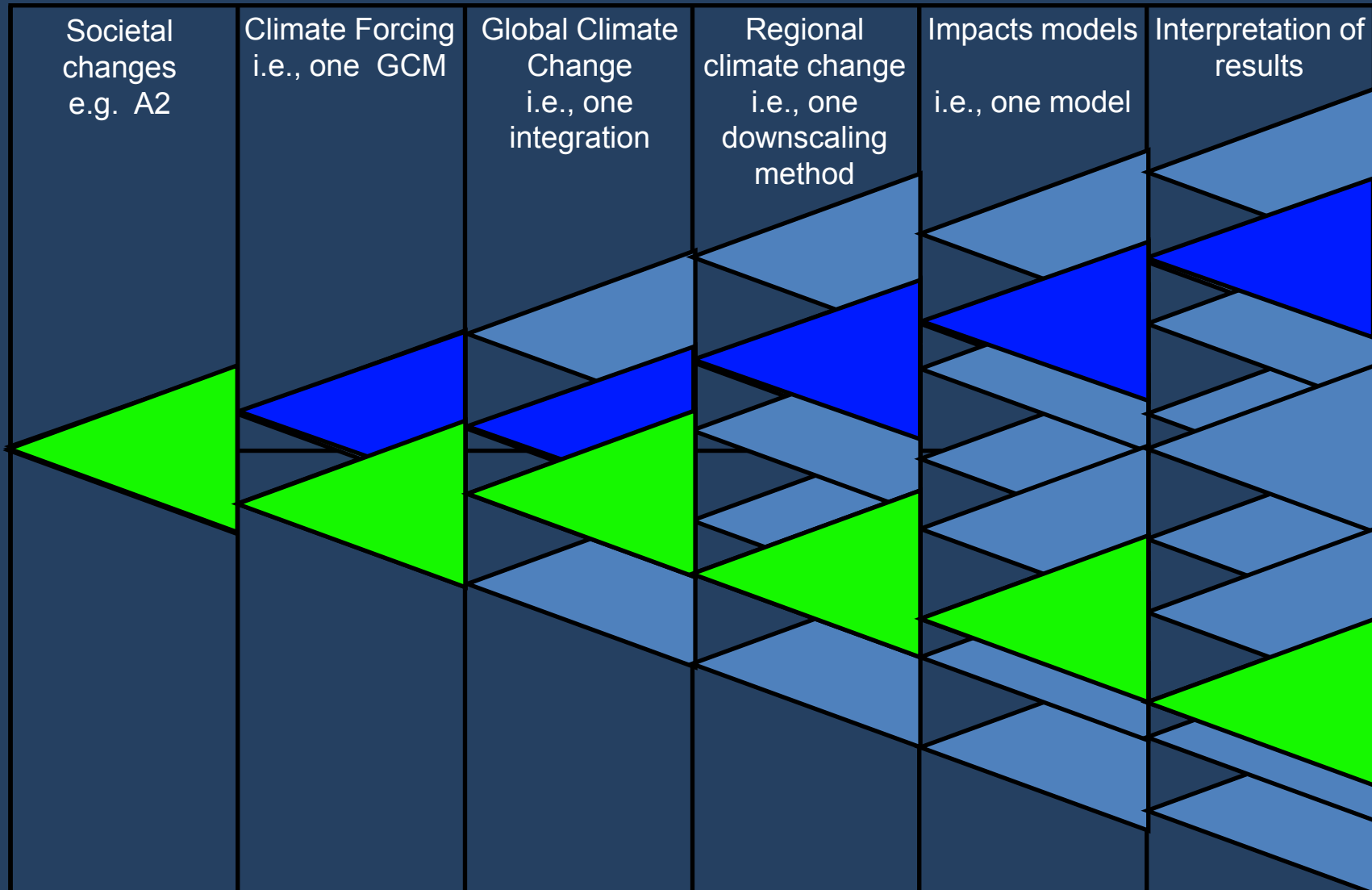
**Establish the solution-oriented research**  
**Meet the requests of stakeholders by co-design and co-production**

# Top-down and Bottom-up Approach



**top-down and bottom-up approaches to assessing vulnerability and adaptation.** Dessai and Hulme, 2004.

# Communication of Uncertainties



Quote from Declan Conway

# Build mutual trust with stakeholders

- ✓ Information transparency
- ✓ Mutual benefit
- ✓ Long-term engagement
- ✓ Co-dissemination

No fixed model,  
Learning by doing