

Supporting the choice of salient methods and tools for adaptation: from climate-oriented to solution-oriented approaches

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Outline

- A diagnostic adaptation framework
- Discussion: from climate-oriented to solution-oriented approaches
- Examples
- Conclusion

Diagnostic adaptation framework

Point of departure

- Diversity of methods/approaches to adaptation
 - Impact analysis, decision analysis
 - Institutional analysis, behavioural analysis
 - Participatory and action research approaches
- Diversity of adaptation situations
 - A farmer deciding on which crop variety to plant
 - A national government developing adaptation policy
 - A co-operative maintaining a communal forest

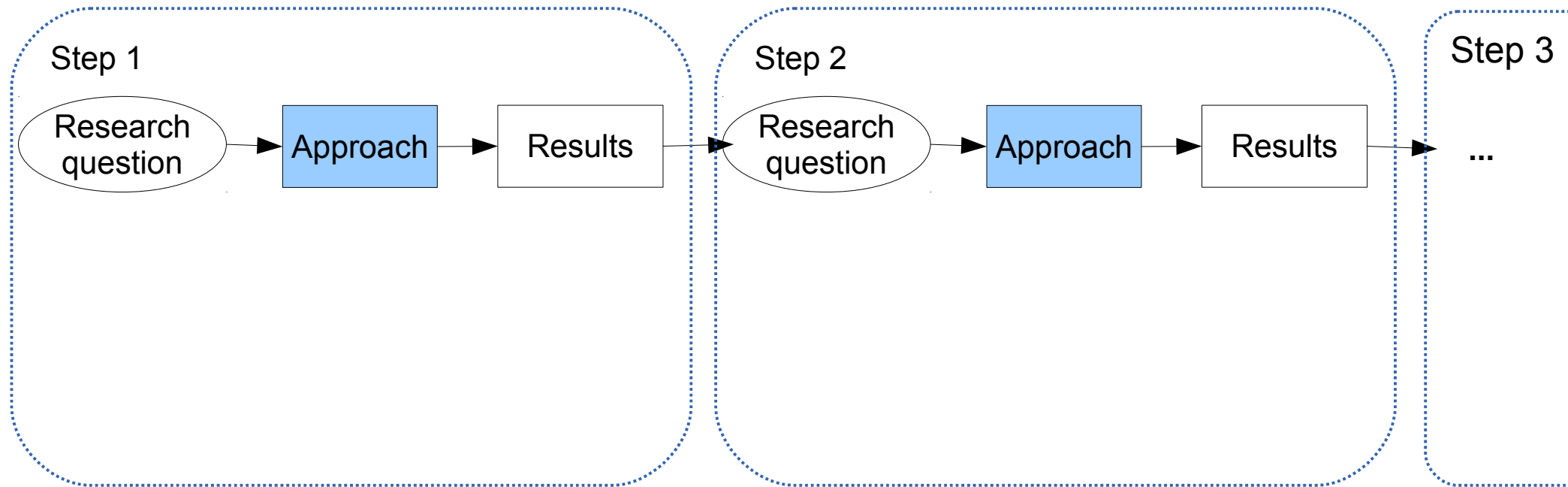
Problem addressed

- Which approach is ***salient*** in which adaptation situation?
- By ***salient*** we mean adequate from a problem-oriented research perspective (Cash et al., 2003)
 - From a **pure research perspective**, all approaches are adequate (as long as they reveal new insights)
 - From a **problem-oriented perspective**, only those approaches are adequate that contribute to “real-world” adaptation practice

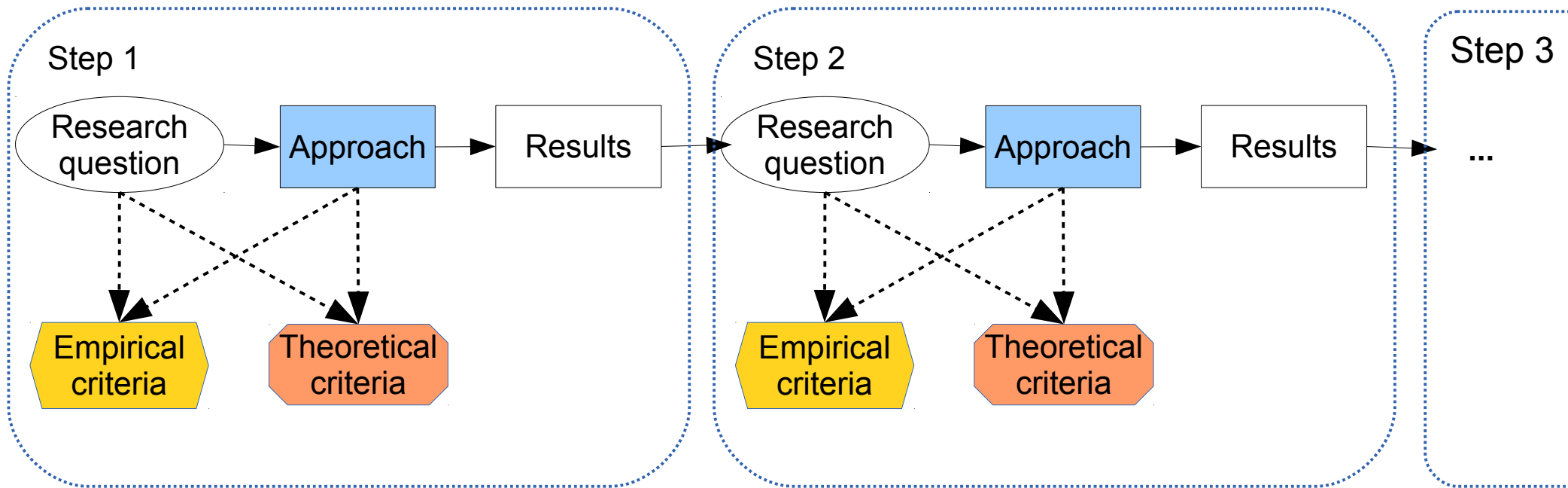
How have we addressed this?

1. We meta-analysed case studies conducted within MEDIATION and taken from the literature and abstracted:
 - Typical **adaptation situations (AS)**
 - Actors involved
 - Stages of the adaptation process
 - ...
 - Typical **research questions** raised
 - Typical **criteria** used for choosing salient questions and approach
 - **Empirical:** related to the specific adaptation situation confronted with
 - **Theoretical:** *not* related to the specific AS; theory applied, school of thought, etc.
 - **Normative**
 - **Pragmatic:** Skills, resources, models available. Disregarded.
2. We then turned this into a series of decision trees that,
 - depending on **empirical, theoretical criteria** and **normative criteria**
 - lead to different **questions** and **approaches**

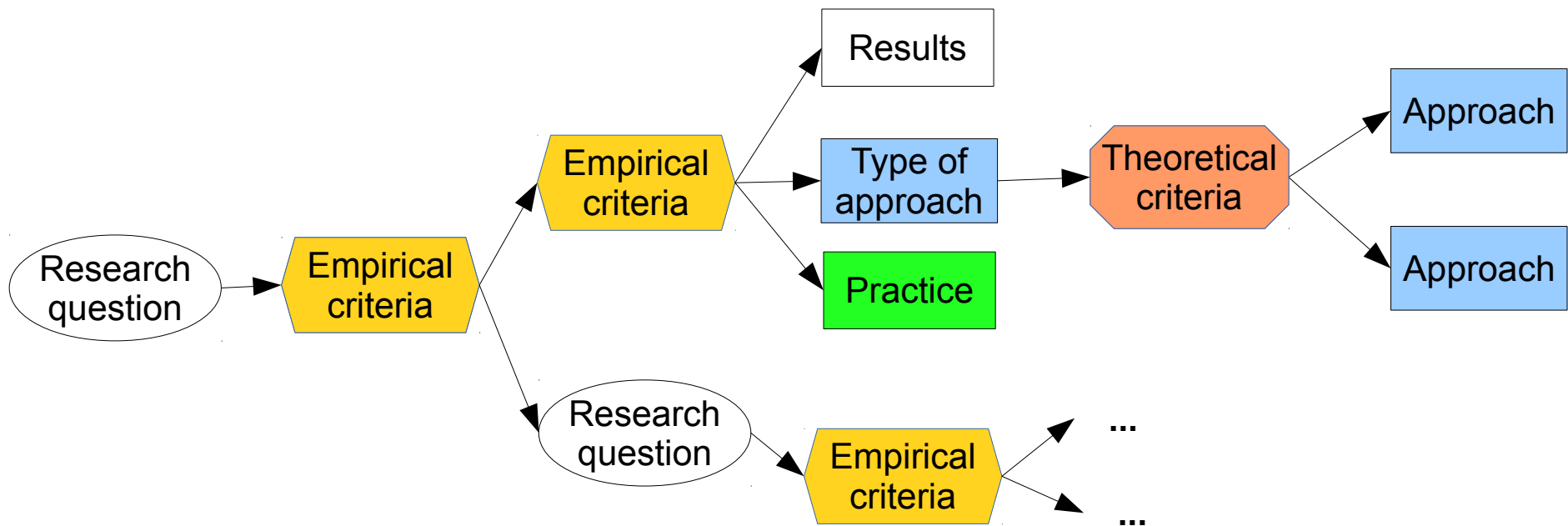
Case studies



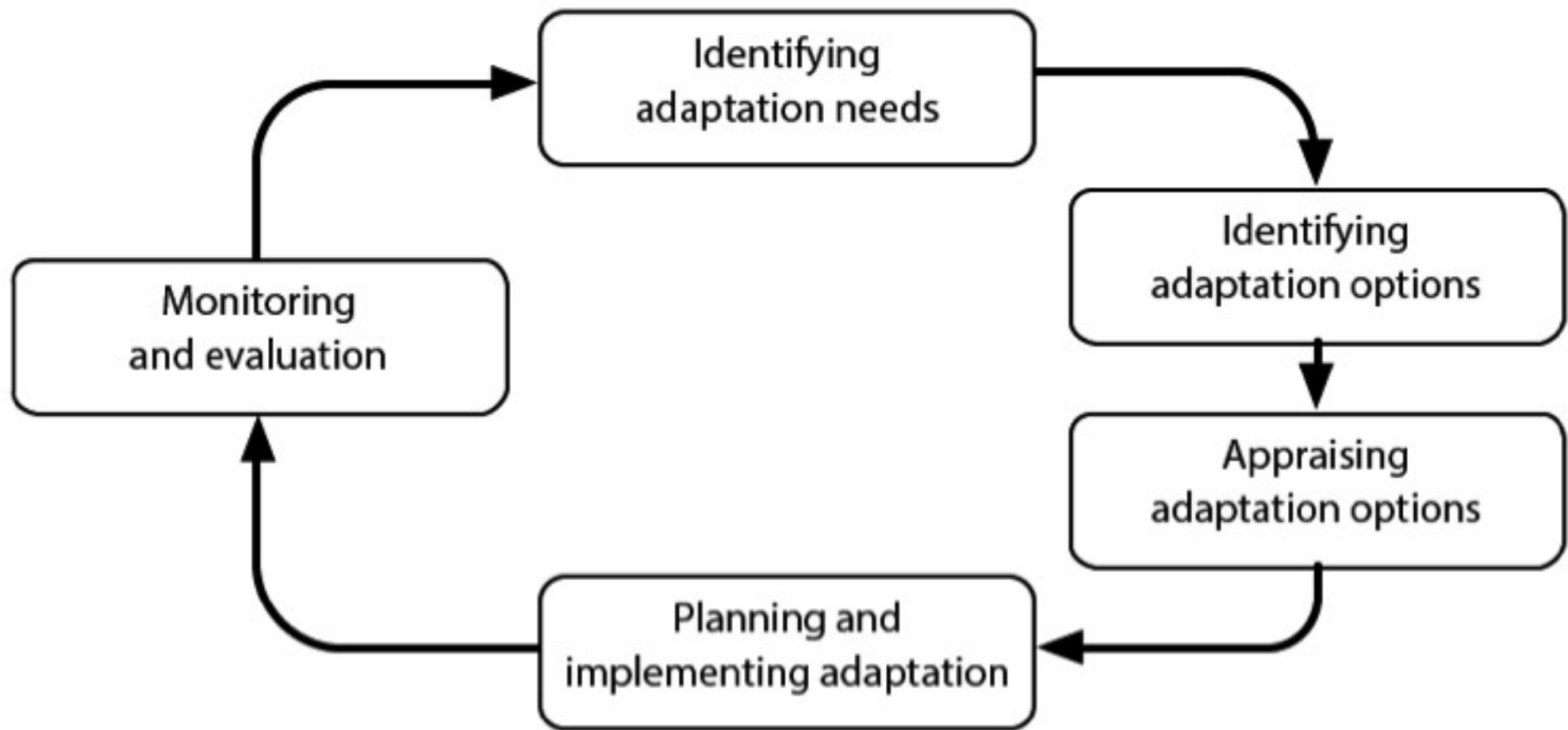
Case studies

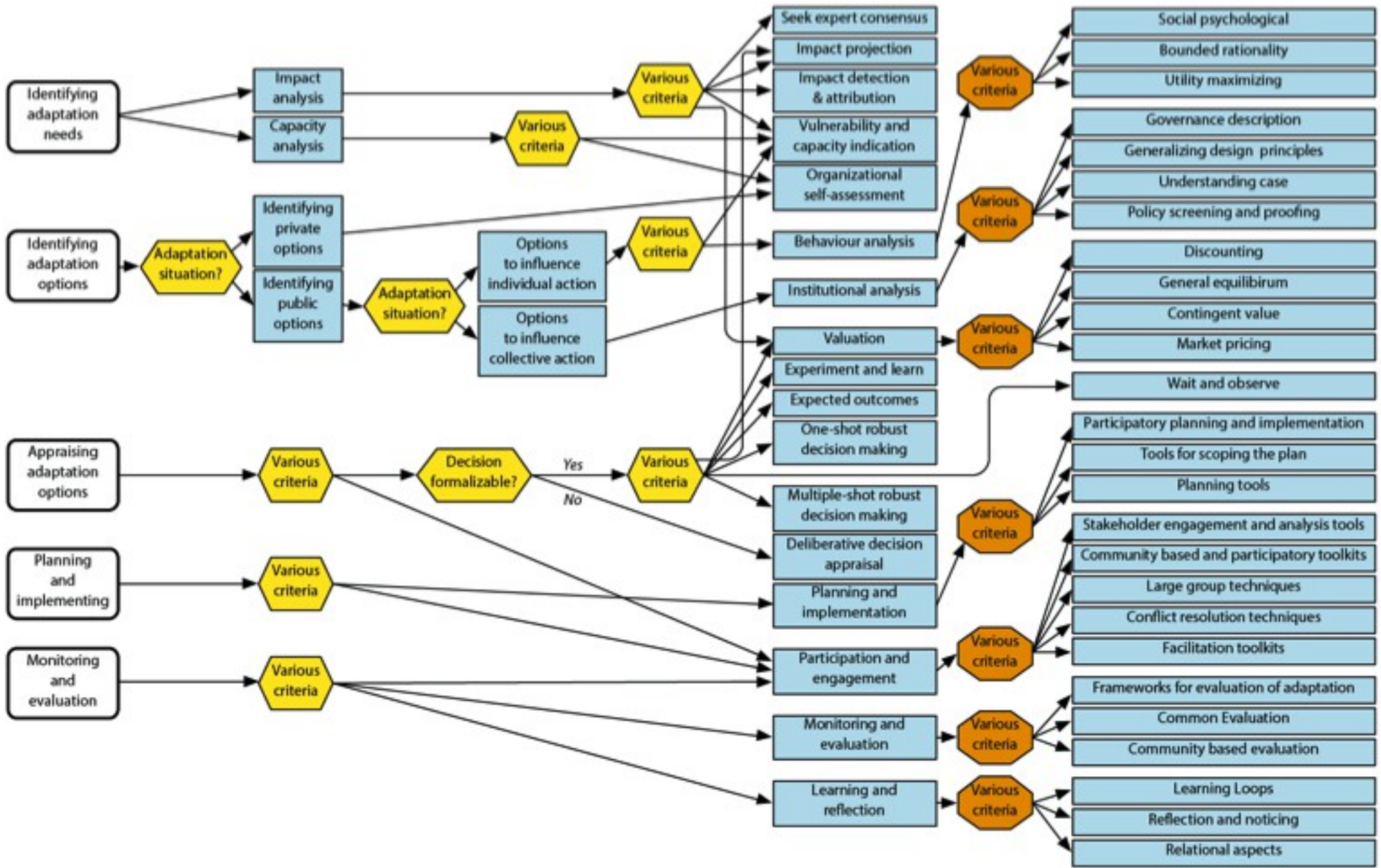


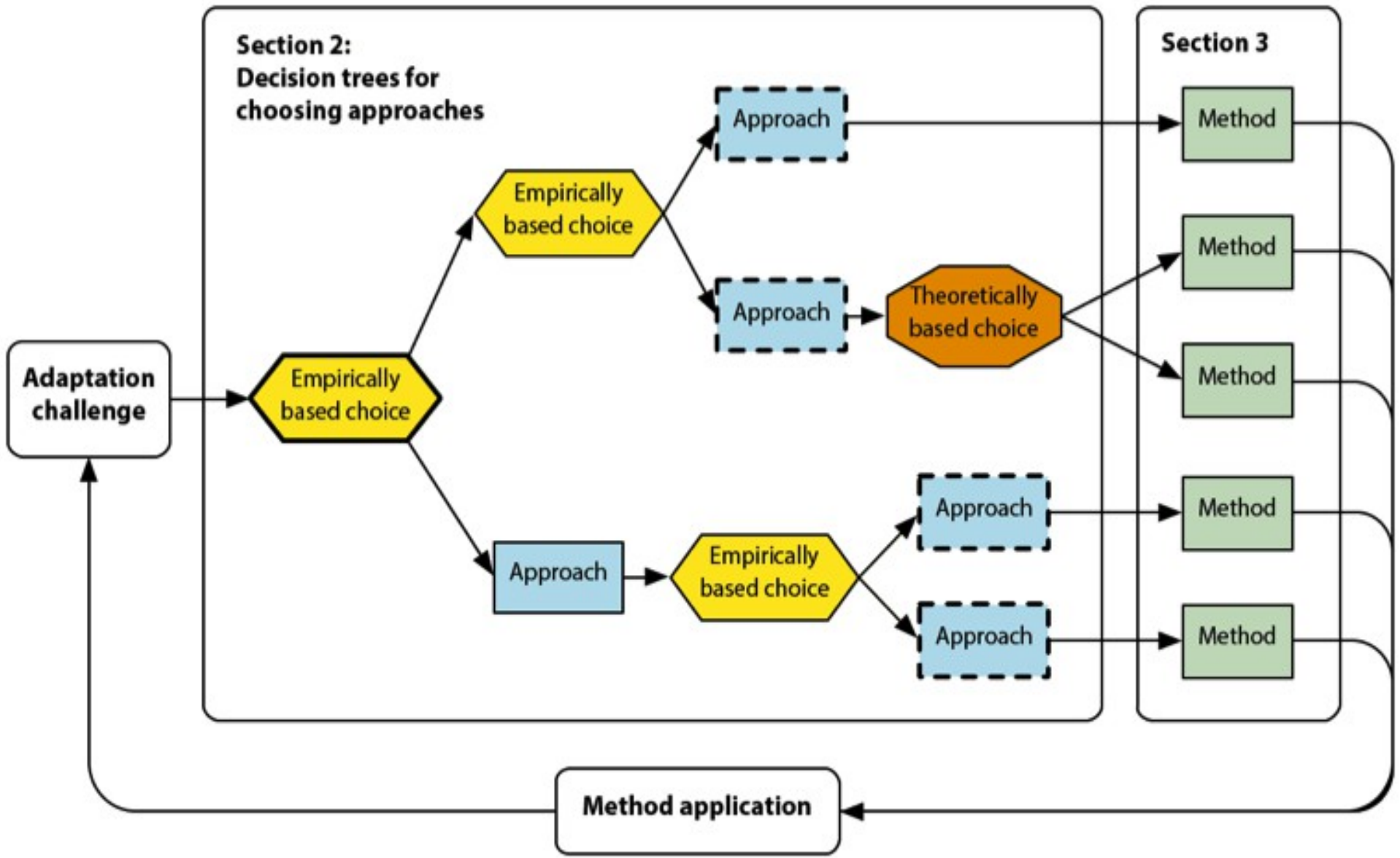
Decision trees



Results





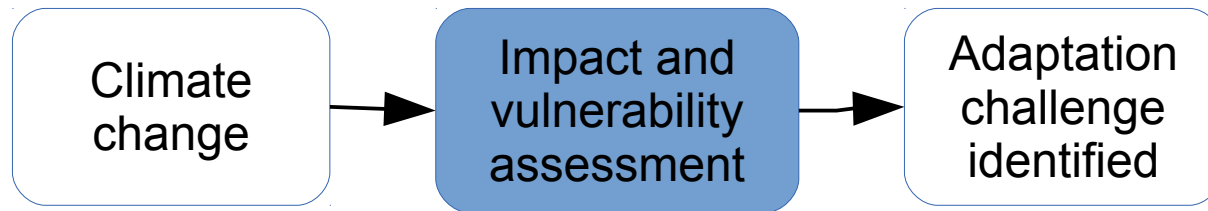


Discussion:
From climate-oriented to solution-
oriented approaches

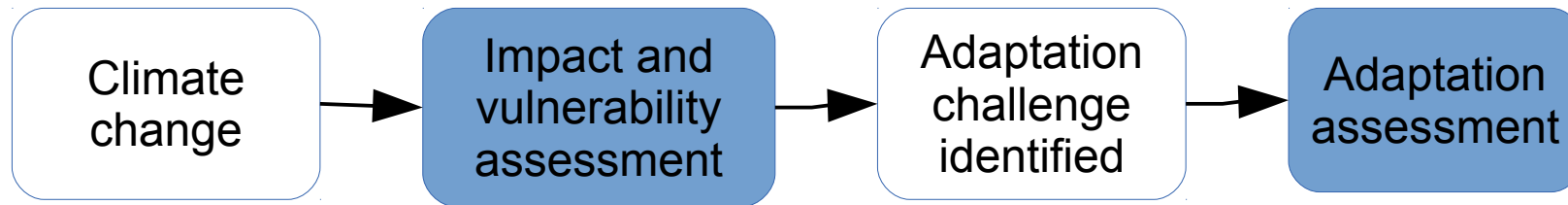
The VIA Mantra

- VIA = “Vulnerability, impacts and adaptation”
- It is widely accepted that research aiming at supporting climate change adaptation needs to start off with an assessment of impacts and vulnerabilities (I&V).
 - IPCC Working Group II
 - UNEP/UNDP Programme PROVIA on Assessing Vulnerability, Impacts and Adaptation to Climate Change

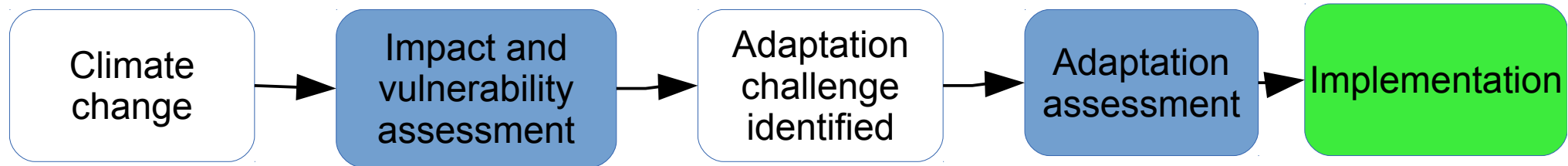
Climate-oriented adaptation research



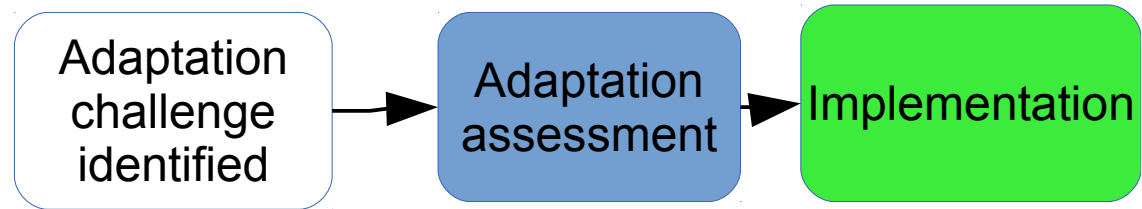
Climate-oriented adaptation research



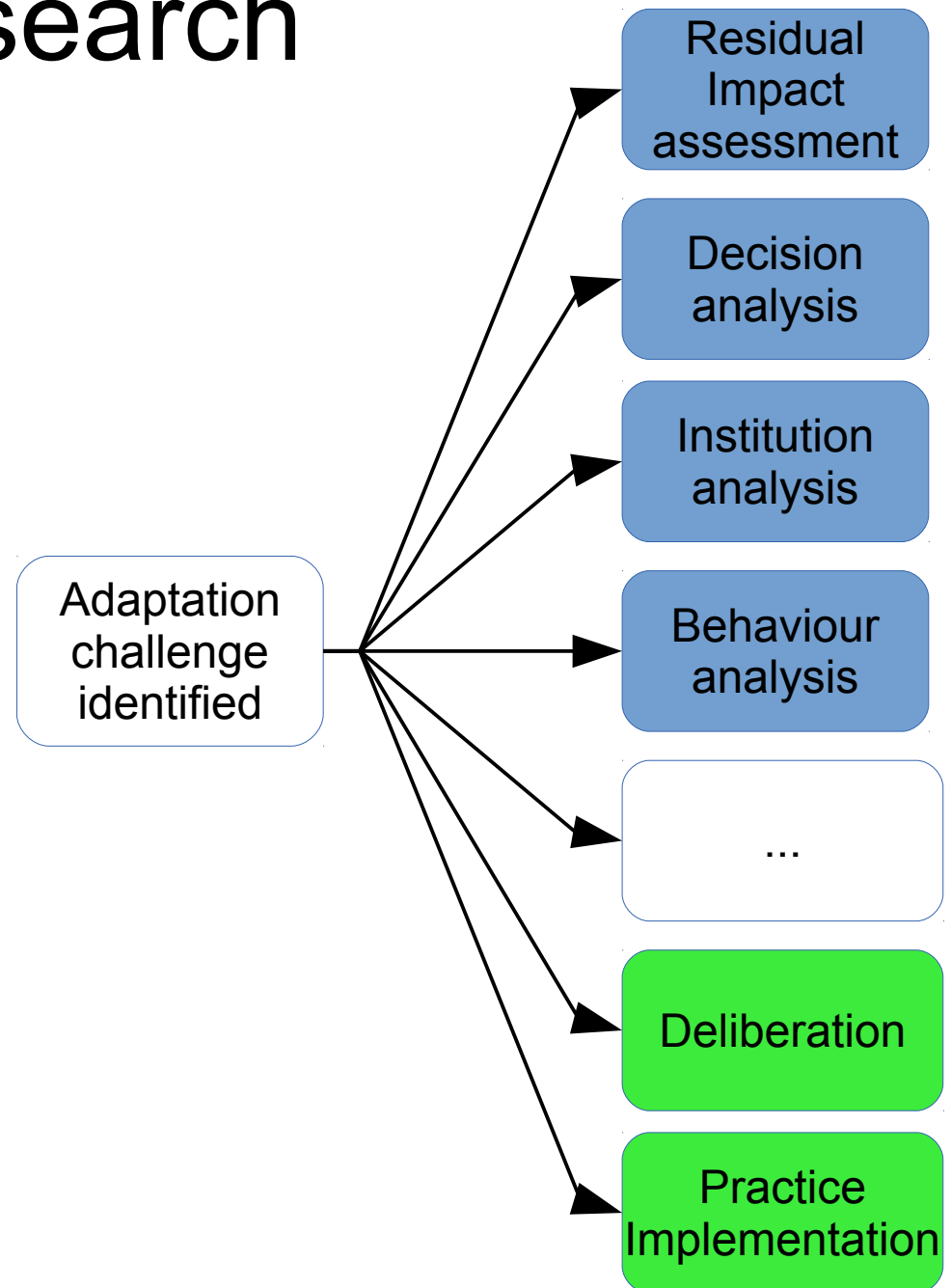
Climate-oriented adaptation research



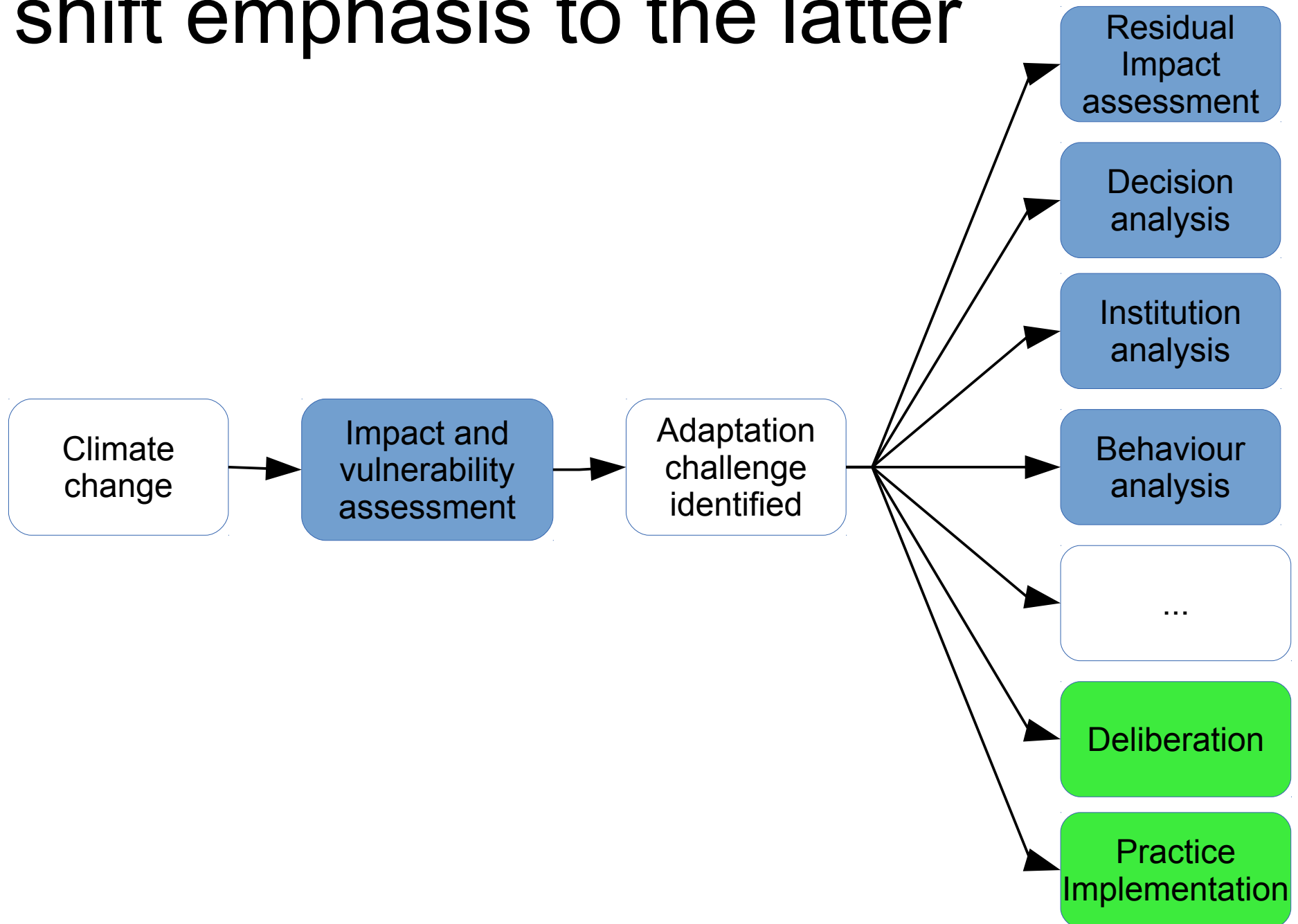
Solution-oriented adaptation research



Solution-oriented adaptation research



Both are needed, but we need to shift emphasis to the latter



Two examples

Heat-waves in Europe

- Impact story
 - The 2003 heatwave thousands of elderly people in Europe died.
 - Heat-waves are *very likely* to become more frequent in the future.
 - Many of these deaths could have been prevented if people would have consumed more water or been brought into shelters.
- Adaptation challenges **and approaches**
 - How can we get elderly people to drink more during heat-waves? → **Behavioural analysis**
 - How can the urban heat island effect be reduced? → **Adaptation pathways; residual impact assessment: how does urban form influences city heat?**

Food Security

- Impact story

- The magnitude of climate impacts will be small compared with the impacts of socio-economic development.
 - Demand may increase by 14% per decade (Alexandratos and Bruinsma, 2012)
 - Climate change may reduce yields by 0-2% per decade under RCP8.5 (Rosenzweig et al 2013)
- Climate change introduces additional disparities in production potential between mid and low-latitudes.
- A range of local factors including access to resources, technology and knowledge determine whether people are threatened by food-insecurity (Morton, 2007; Godfray et al., 2010).

- Adaptation challenges and approaches

- Intensifying food production in a sustainable manner → R&D
- Maintaining the security of the global food market and transport system → Robustness analysis, institutional and policy analysis
- Reducing poverty, fostering equitable development and ensuring access to the food market → Practice, action research

Conclusions

Two distinct starting points for adaptation research

- Climate-oriented adaptation research
 - Goal: to identify the adaptation challenges
 - Method: I&V assessments
 - Stories instead of numbers; numbers are more important for mitigation.
 - Stories are usually more robust than numbers.
 - This is NOT the canonical starting point for adaptation: I&V is applicable if we don't know much about the adaptation challenges we are facing
- Solution-oriented adaptation research
 - Goal: to contribute to solving adaptation challenges
 - If we have a rough idea of the adaptation challenge, then we should start here.
 - Method: diverse
 - May include include (residual) impact assessment but not necessarily so.
 - Emphasis is more on social science methods AND/OR practice
 - Which approach to apply is a case by case decision.

