Water conflict and policy analysis:
A new methodology to identify conflict free policy mixes

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I. Motivation

Practical challenge: (Latent) **water use conflicts** in the catchment of the river Lurín, Perú: How to fulfill needs of different users in the upper and lower catchment at the same time - and sustainably?

Academic challenges:

- Reach multiple (interrelated) goals at the same time ➔ research on **SDG interactions** (e. g. ICSU 2017, Weitz et al. 2018)
- Avoid contradiction and foster mutual support between interdependent policies ➔ research on **policy packaging** (e. g. Taeihagh et al. 2009, Justen et al. 2014)

II. Research questions

1. What are the (different) **goals** of different water users (e. g. households, agriculture, industry and ecosystems)? What are (potential) conflicts between them?
2. What **policies**/ measures could be applied to reach the individual goals? How could conflict free policy mixes for the entire catchment look like?
3. What **effects** could different policy mixes have on SDG6?

III. Methodology

Using a qualitative but semi-formalized, expert based form of systems analysis: **Cross-Impact Balance analysis CIB** (Weimer-Jehle 2006).

Process

completed

1. Identify **central goals** of different water users

- Policy reports & literature
- Interviews with stakeholders (n= 33) and TRUST partners

2. Define **alternative policies** to reach these goals

- One-day workshop with local experts in Lurín (n= 30)

ongoing

3. Assess **impacts** between policies (pairwise)

- Expert interviews: Germany (n= 10) and Peru (n= 10)
- Ensemble analysis and dissent workshop

planned

4. Identify conflict free **policy mixes** (multi-goal optimization)

- Desk research: CIB algorithm to identify internally consistent constellations

5. Assess **feasibility** (e. g. political will, acceptance)

- Stakeholder dialogue in Lurín

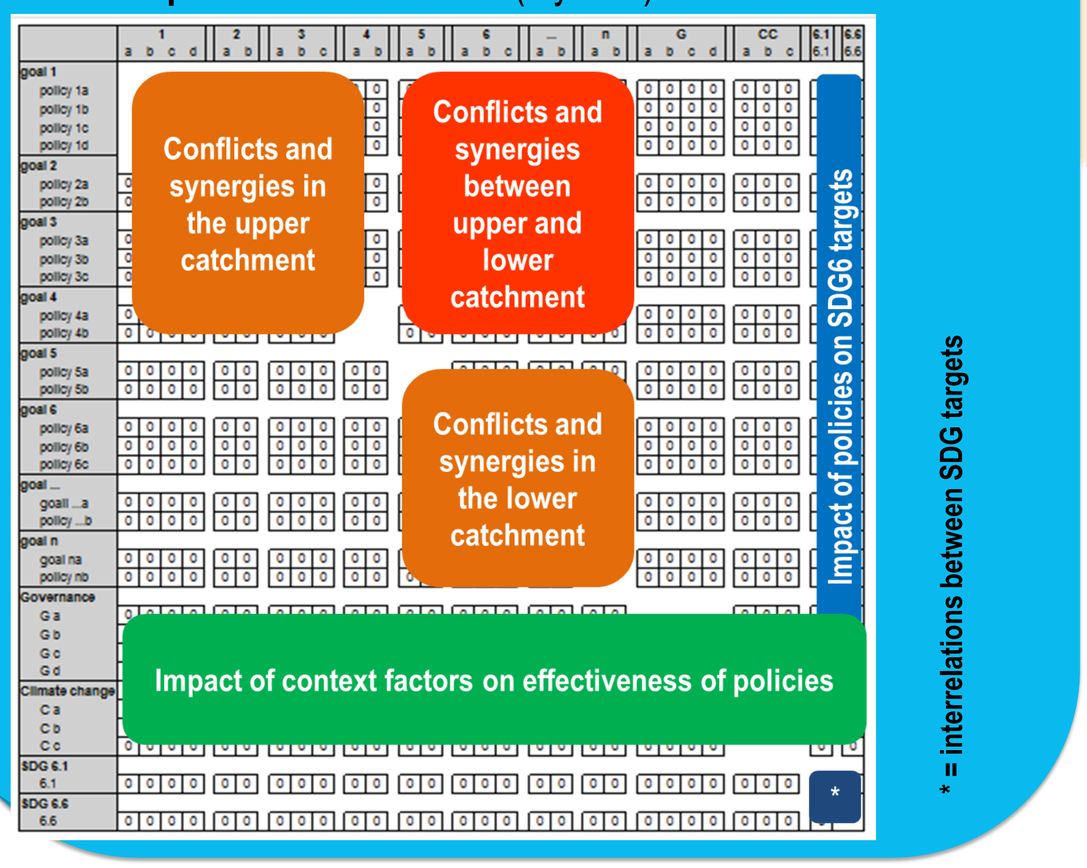
Empirical design

„What effect does policy b) have on the effectiveness of policy a)?“

Impact scale (based on Weimer-Jehle 2006, Nielsson et al. 2016)

-99	-3	-2	-1	0	1	2	3	99
cancel-ling	strongly hindering	hinde-ring	weakly hindering	no impact	weakly promoting	promo-ting	strongly promoting	indi-visble

Cross-impact matrix: content (stylized)



IV. First conclusions

- CIB suitable to analyze goal conflicts on the level of policies
- Systematic analysis of (non-intended) effects of policies
- Challenge to formulate alternative policies: “rather a) than b)”
- Supports design of policy mixes for Lurín and beyond
- Fosters mutual understanding between disciplines and actors

Acknowledgements

We would like to thank all TRUST partners and experts in Perú for their very valuable contributions!

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Federal Ministry of Education and Research