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Potentials, limits and context factors of participation for achieving environmental sustainability

Prof. Dr. Jens Newig

Research Group Governance and Sustainability
Leuphana University Lüneburg

Introducing “EDGE”

Evaluating the Delivery of Participatory and Collaborative Environmental Governance with Evidence-based Methods

Jens Newig, Ed Challies,
Nicolas Jager, Elisa Kochskämper

ERC Starting Grant
2011-2016

How does participation function effectively?

Theoretically contested

Conflicting evidence

? Information basis

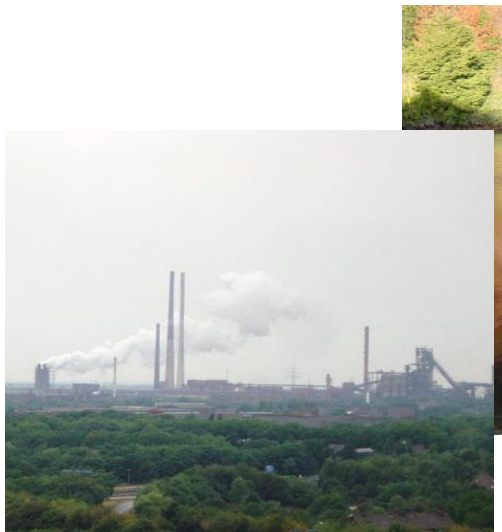
Process → Acceptance → **Outcome**

Public decision-making processes

Public involvement

Collaborative management

"Good" decisions in the sense of environmental and resource protection, sustainability

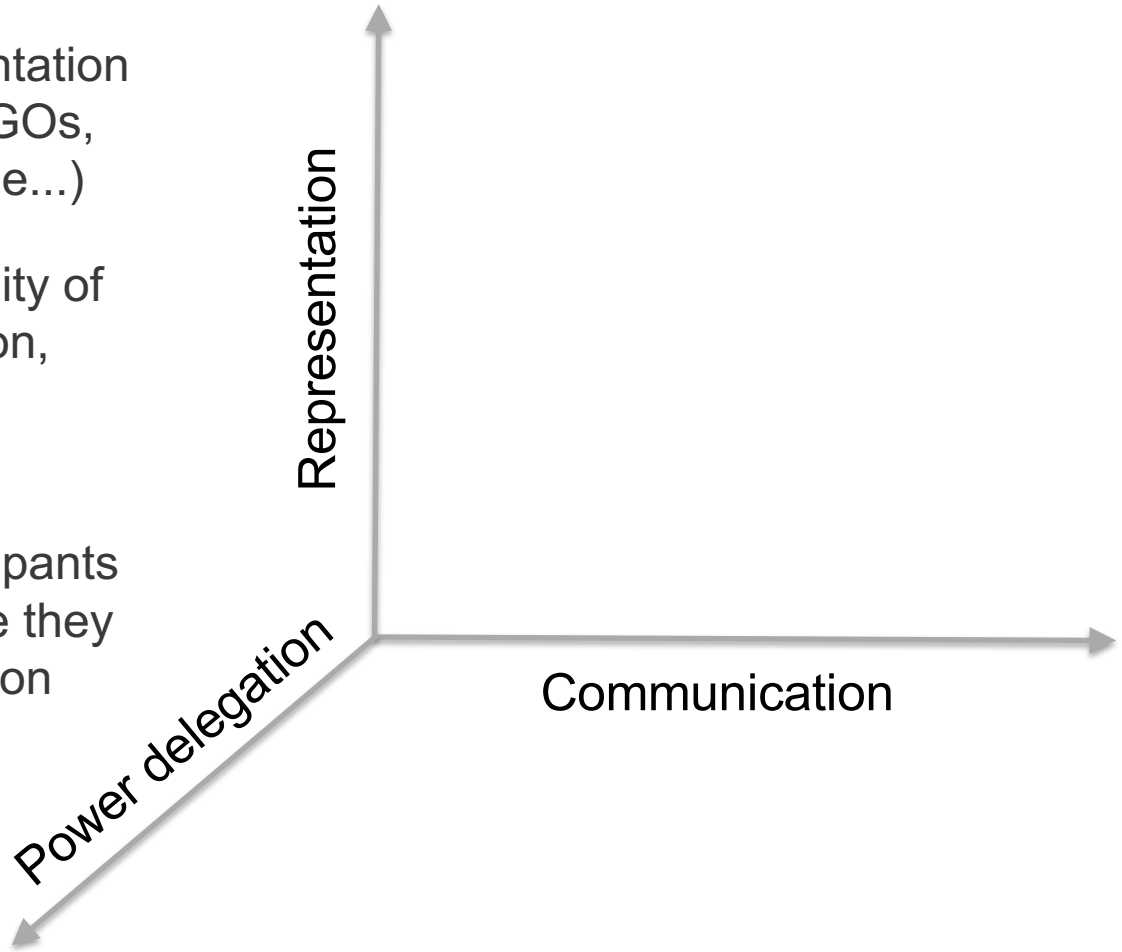


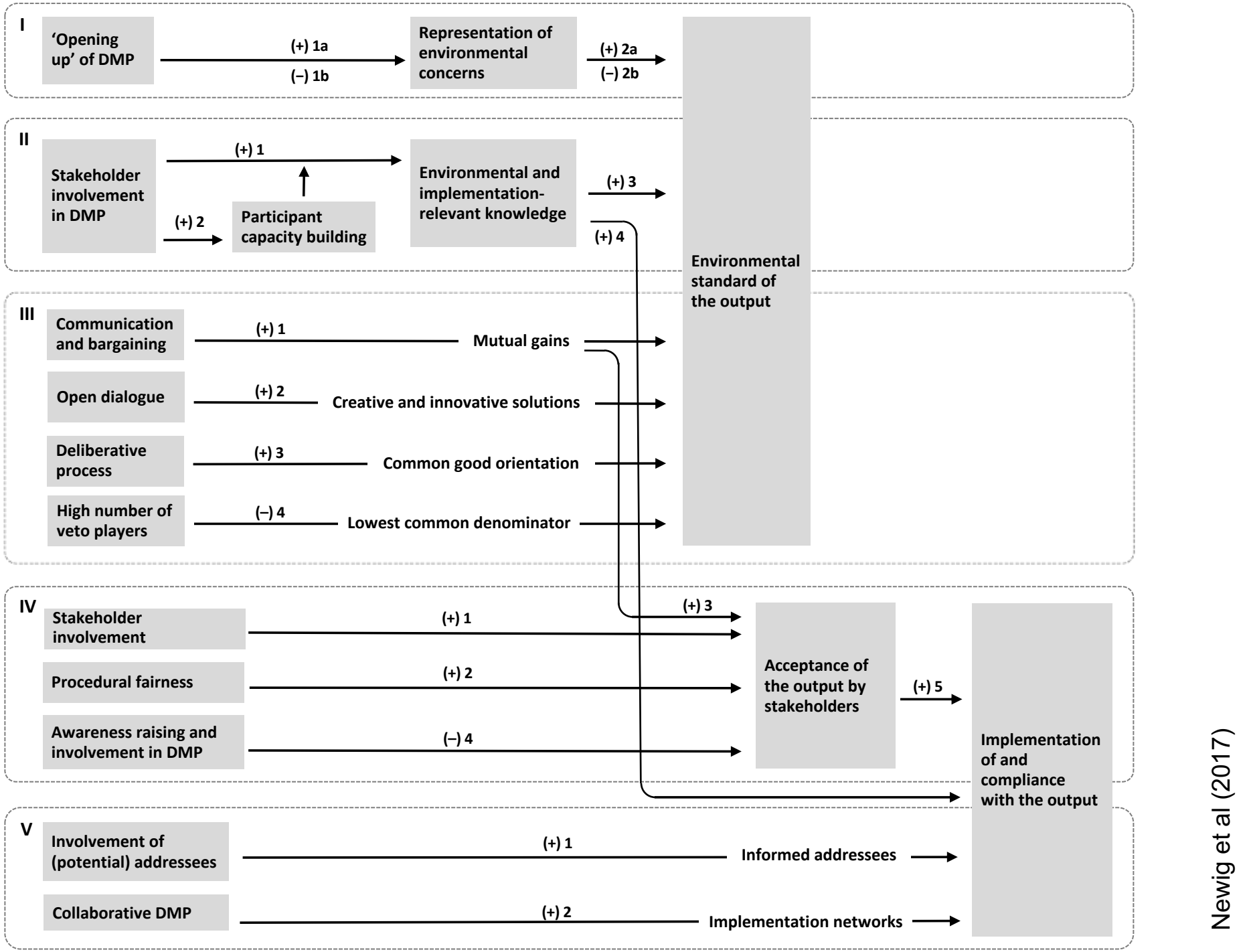
Conceptual framework

Participation as three-dimensional concept

Drawing on ideas by Fung (2005), Newig & Kvarda (2012)

- **Who?** Scope and representation of participants (citizens, NGOs, industry, geographical scale...)
- **How?** Direction and intensity of information flow (information, consultation, face-to-face deliberation...)
- **On what?** Influence participants are given and the influence they actually exert on the decision at stake



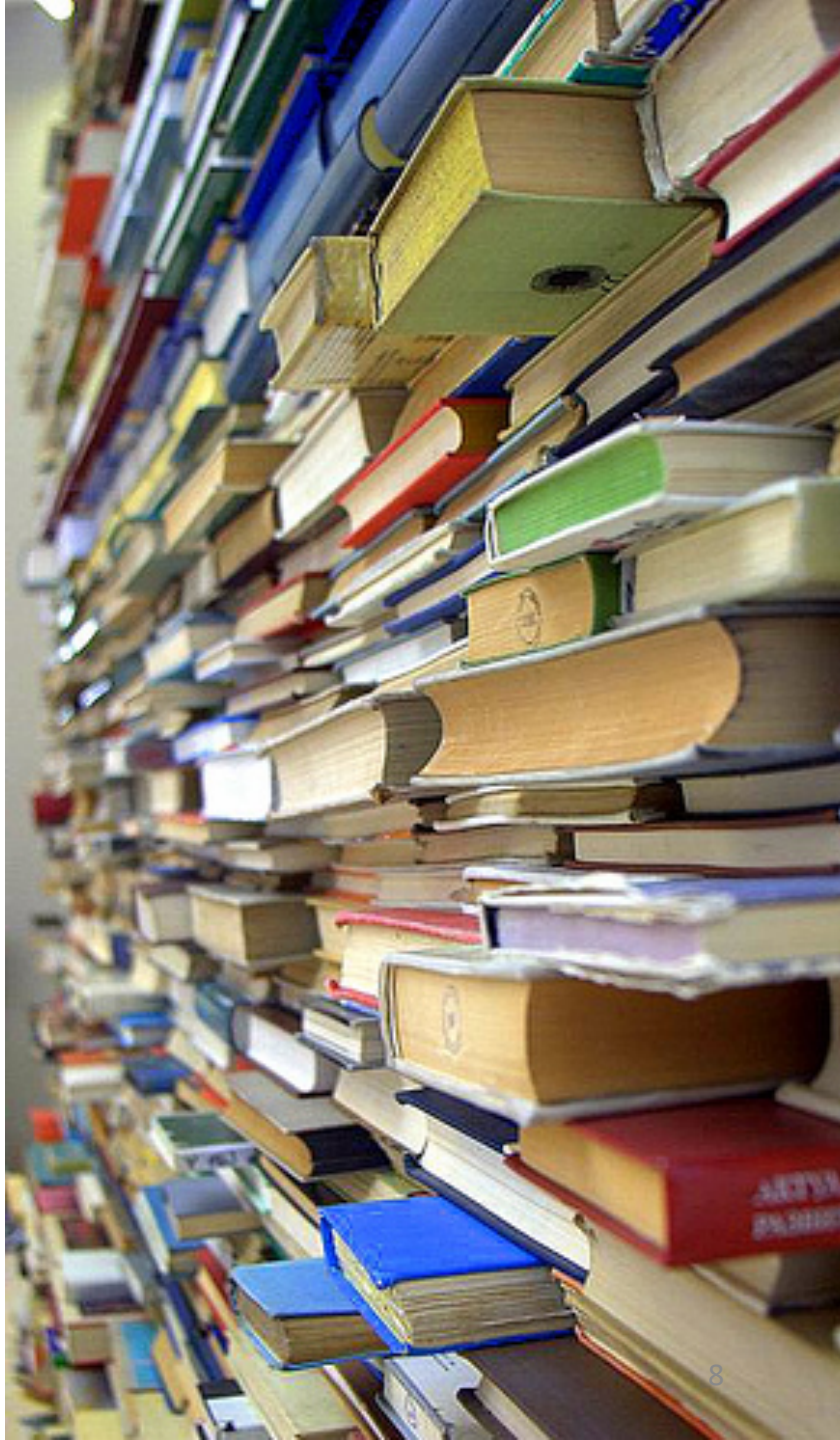


Newig et al (2017)

Case survey – methodology

The need for evidence-based approaches

- Much empirical research scattered among a myriad of - mostly case-based - single studies
- Great potential to aggregate and integrate this case study knowledge in systematic ways
- Transformation of qualitative narratives into quantitative data
- *Analytical basis: theoretically informed and well elaborated scheme for analysis*



Knowledge aggregation and integration: Meta-analysis

Source of data / *Method of integration*	Qualitative case studies (unit = case)	Quantitative studies (unit = article)
Narrative / ad hoc	Traditional review	
Qualitative, interpretive	Meta-synthesis	---
Systematic, but not quantitative	Systematic review	
Quantitative or otherwise highly structured (statistical or QCA)	Meta-analysis (in a broader sense): Case survey (case meta-analysis)	Meta-analysis (in the narrowest sense)

Newig & Fritsch 2009

Sampling: Environmental decision-making processes

Real-world cases [N = ?]

- Public decision-making process (not mere 'engagement')
- Deals with an environmental issue
- Participatory or could have been participatory = sufficiently local process
- Case from a 'Western', democratic, industrialized country (Europe, US/CA, AUS, NZ)

Published cases [>2000]

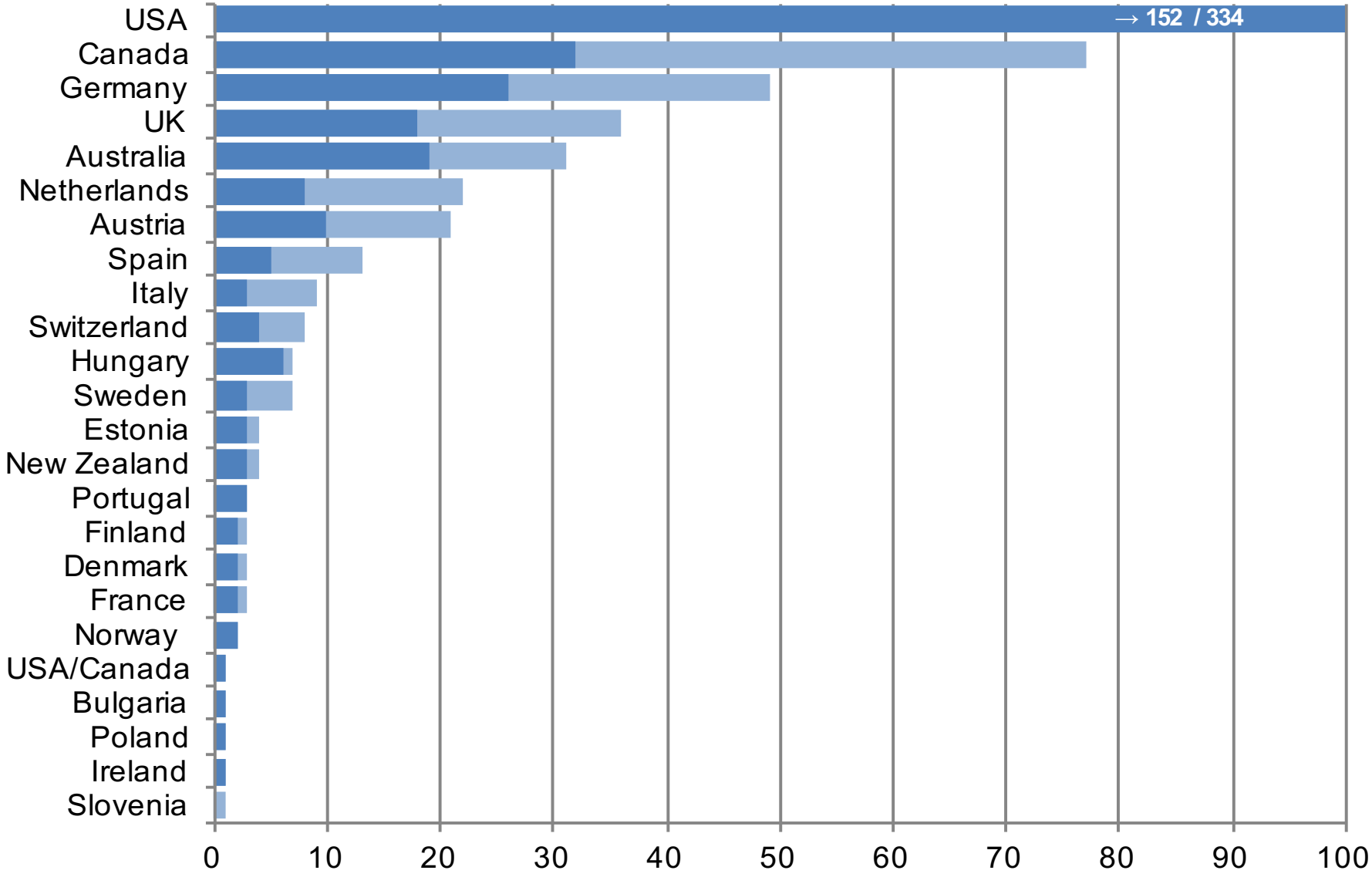
- Identified in > 3000 different texts in a two-year search process

Codable cases [641]

- Sufficient information about context, process and results
- Languages: English, German, French, Spanish

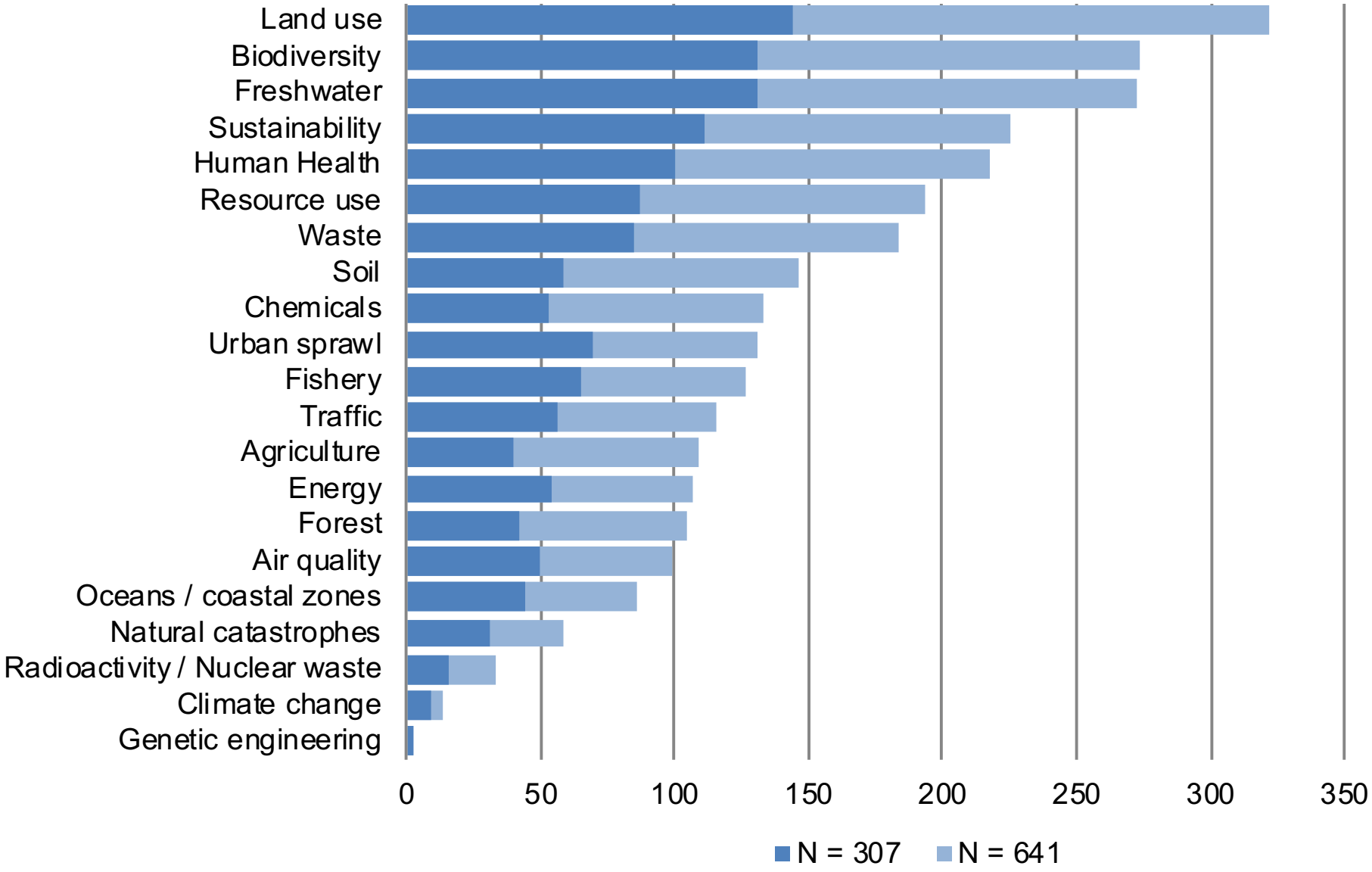
Random sample [n = 307]

Countries represented (n > 1)



The whole bar denotes the extended dataset, the dark blue area the respective share of the core dataset.

Issue areas



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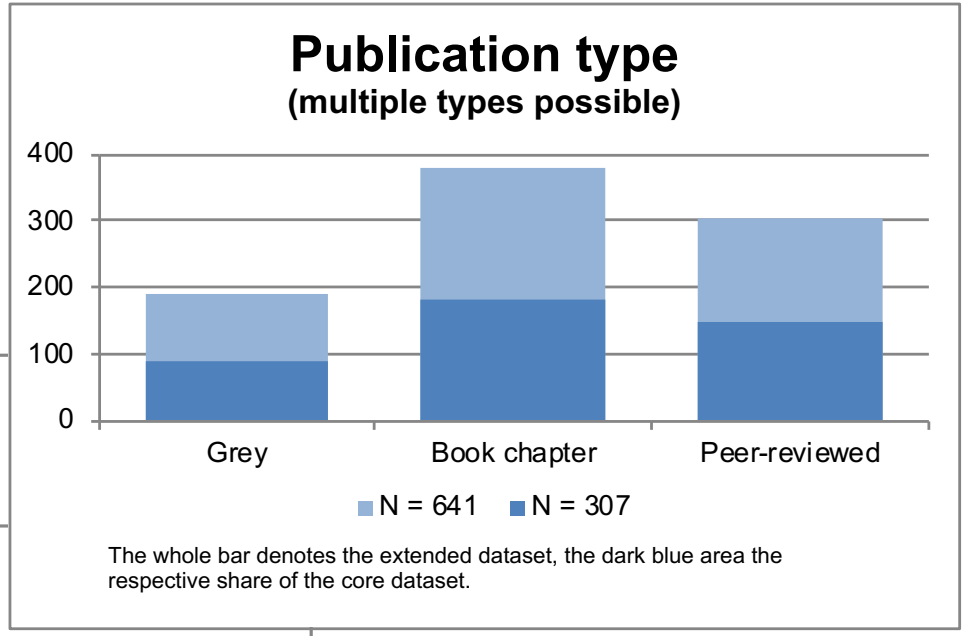
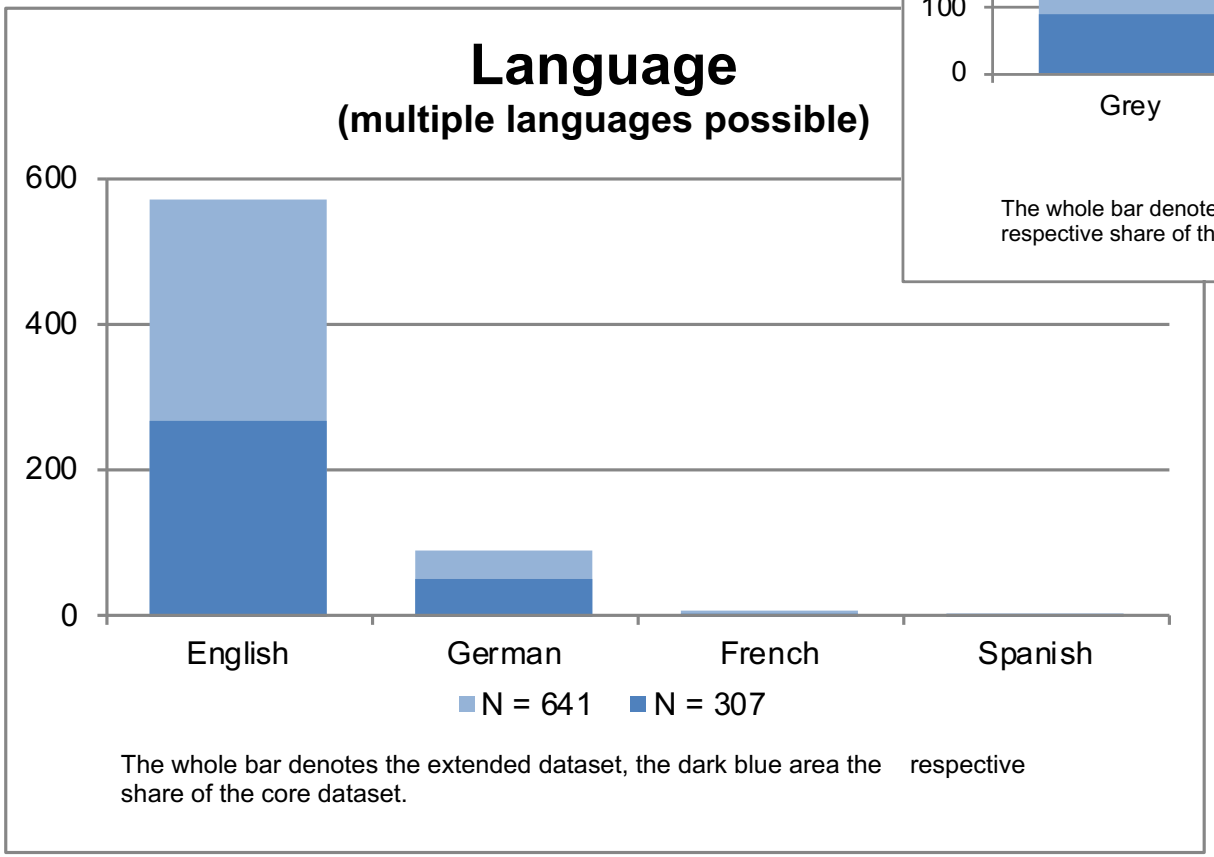
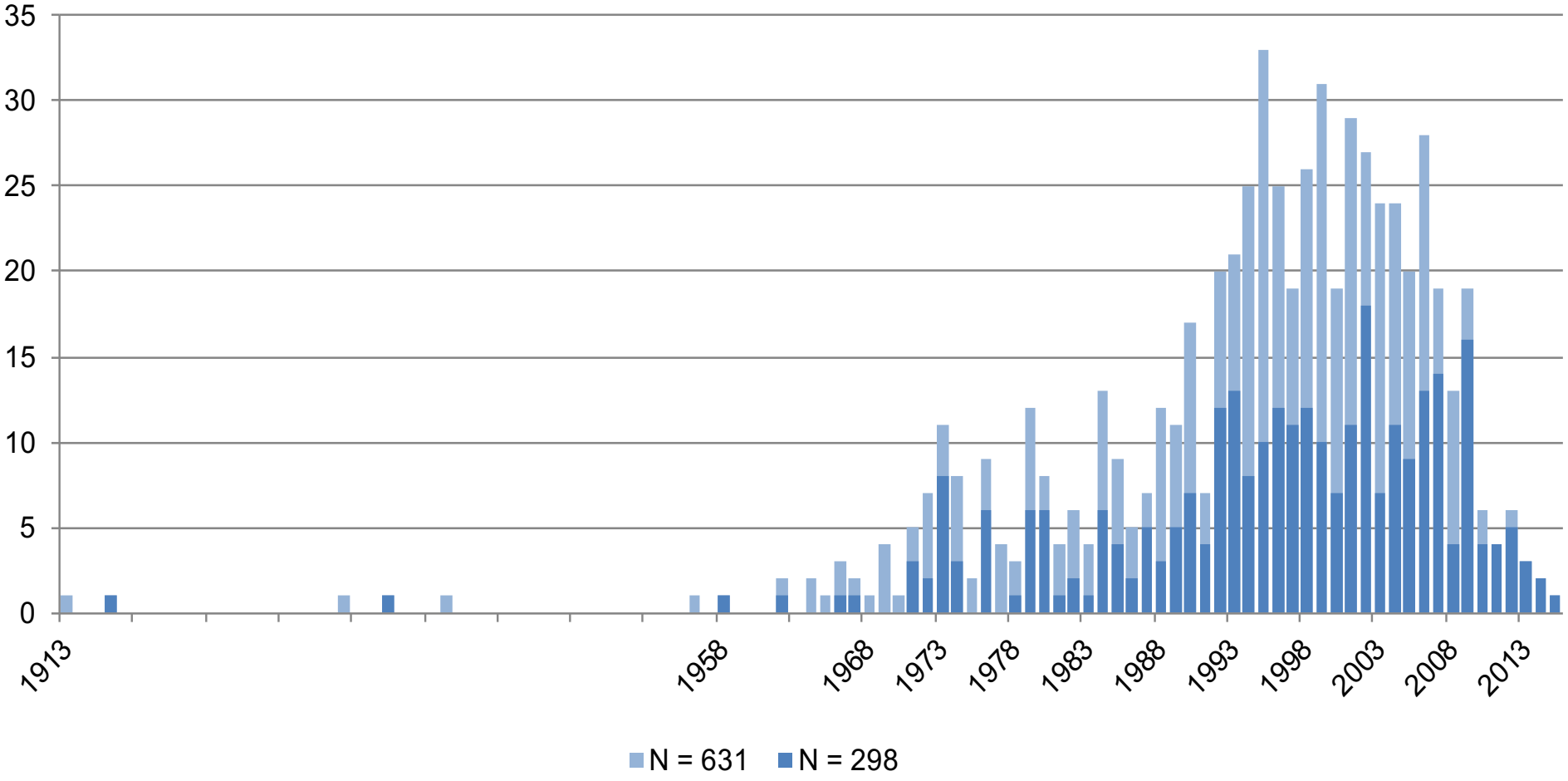
Types of publications

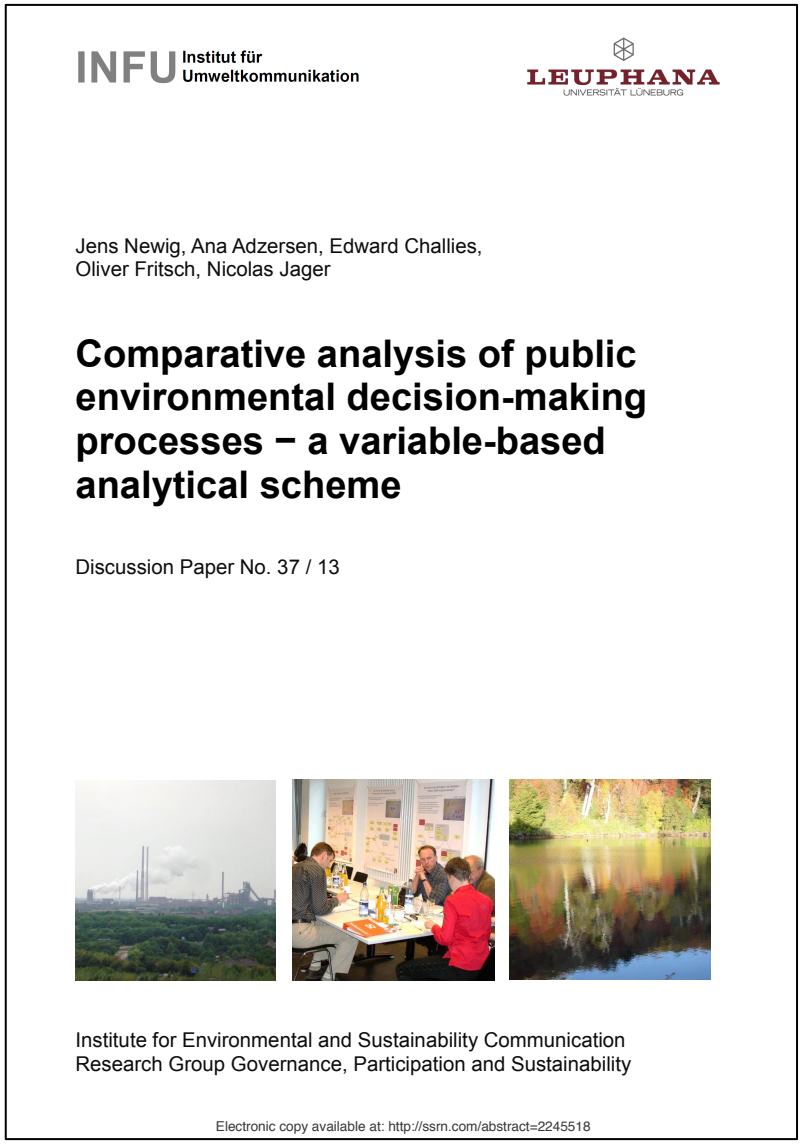




Case end dates



Translation of concepts: Coding scheme



INFU Institut für Umweltkommunikation

LEUPHANA UNIVERSITÄT LÜNEBURG

Jens Newig, Ana Adzersen, Edward Challies,
Oliver Fritsch, Nicolas Jager

Comparative analysis of public environmental decision-making processes − a variable-based analytical scheme

Discussion Paper No. 37 / 13

Institute for Environmental and Sustainability Communication
Research Group Governance, Participation and Sustainability

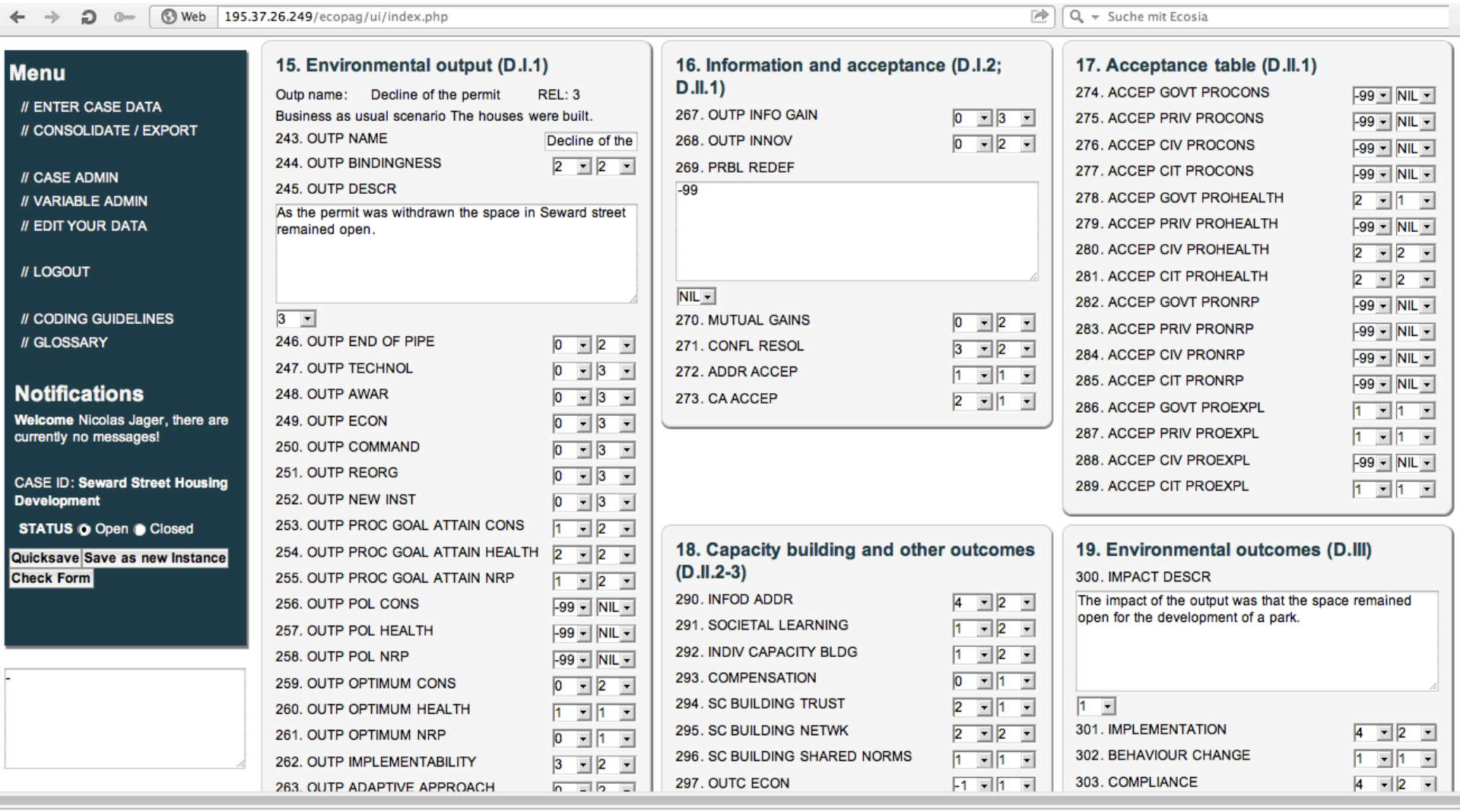
Electronic copy available at: http://ssrn.com/abstract=2245518

- 315 single variables
- (Mostly) on a semi-quantitative scale [0;4]
- Covers context, process design & implementation, env.and social outputs, impacts
- Variable value & reliability
- 27 codable hypotheses considering counterfactual scenarios
- Available at: http://ssrn.com/abstract=2245518

D.II SOCIAL OUTCOMES

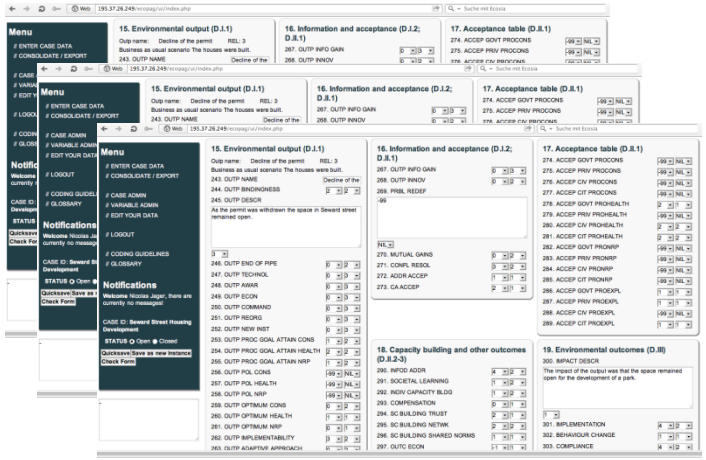
D.II.1 Acceptance of output

270. MUTUAL GAINS	s-q	[0..4]	**Mutual gains:** Degree to which win-win solutions were developed during the DMP (i.e. degree to which the output provided mutual gains). Win-win (or Pareto optimal) solutions are those that provide gains (or at least: no losses) to all involved parties. These are always positive-sum solutions compared to the non-collaborative alternative. Win-win solutions include solutions where compensation is provided to those who would otherwise suffer losses. Win-win solutions are not necessarily limited to the environmental issue at hand, but may be linked to alternative issues and competing interests on and off the table, as well as to future decisions (Wondolleck & Yaffee 2000: 50). 0 = output provided no mutual gains; 2 = output provided moderate gains for some stakeholder groups; 4 = output provided high gains for all stakeholder groups. Code -99 if there was no output.
271. CONFL RESOL	s-q	[-4..4] (~~99~~)	**Conflict resolution:** Degree to which an existing conflict was resolved or worsened or a new conflict developed. Consider the nature of change in any pre-existing conflict of values and/or distribution identified in variables 77. CONFL VALUES and 78. CONFL DISTN. -4 = conflict severely intensified or developed in the first place; 0 = degree of conflict did not change during the process; 4 = existing conflict was fully resolved.
272. ADDR ACCEP	s-q	[0..2]	**Addressees acceptance:** Acceptance of the decision on the part of those actors who had to comply with and implement the decision (i.e. those actors coded in 222. POL ADDR). 0 = decision was opposed;


Web
195.37.26.249/ecopag/ui/index.php
Suche mit Ecosia
Menu
// ENTER CASE DATA
// CONSOLIDATE / EXPORT
// CASE ADMIN
// VARIABLE ADMIN
// EDIT YOUR DATA
// LOGOUT
// CODING GUIDELINES
// GLOSSARY
Notifications
Welcome Nicolas Jager, there are currently no messages!
CASE ID: Seward Street Housing Development
STATUS Open Closed
Quicksave Save as new Instance
Check Form
15. Environmental output (D.I.1)
Outp name: Decline of the permit REL: 3
Business as usual scenario The houses were built.
243. OUTP NAME Decline of the
244. OUTP BINDINGNESS 2 2
245. OUTP DESCR
As the permit was withdrawn the space in Seward street remained open.
3
246. OUTP END OF PIPE 0 2
247. OUTP TECHNOL 0 3
248. OUTP AWAR 0 3
249. OUTP ECON 0 3
250. OUTP COMMAND 0 3
251. OUTP REORG 0 3
252. OUTP NEW INST 0 3
253. OUTP PROC GOAL ATTAIN CONS 1 2
254. OUTP PROC GOAL ATTAIN HEALTH 2 2
255. OUTP PROC GOAL ATTAIN NRP 1 2
256. OUTP POL CONS -99 NIL
257. OUTP POL HEALTH -99 NIL
258. OUTP POL NRP -99 NIL
259. OUTP OPTIMUM CONS 0 2
260. OUTP OPTIMUM HEALTH 1 1
261. OUTP OPTIMUM NRP 0 1
262. OUTP IMPLEMENTABILITY 3 2
263. OUTP ADAPTIVE APPROACH
16. Information and acceptance (D.I.2; D.II.1)
267. OUTP INFO GAIN 0 3
268. OUTP INNOV 0 2
269. PRBL REDEF
-99
NIL
270. MUTUAL GAINS 0 2
271. CONFL RESOL 3 2
272. ADDR ACCEP 1 1
273. CA ACCEP 2 1
17. Acceptance table (D.II.1)
274. ACCEP GOVT PROCONS -99 NIL
275. ACCEP PRIV PROCONS -99 NIL
276. ACCEP CIV PROCONS -99 NIL
277. ACCEP CIT PROCONS -99 NIL
278. ACCEP GOVT PROHEALTH 2 1
279. ACCEP PRIV PROHEALTH -99 NIL
280. ACCEP CIV PROHEALTH 2 2
281. ACCEP CIT PROHEALTH 2 2
282. ACCEP GOVT PRONRP -99 NIL
283. ACCEP PRIV PRONRP -99 NIL
284. ACCEP CIV PRONRP -99 NIL
285. ACCEP CIT PRONRP -99 NIL
286. ACCEP GOVT PROEXPL 1 1
287. ACCEP PRIV PROEXPL 1 1
288. ACCEP CIV PROEXPL -99 NIL
289. ACCEP CIT PROEXPL 1 1
18. Capacity building and other outcomes (D.II.2-3)
290. INFOD ADDR 4 2
291. SOCIETAL LEARNING 1 2
292. INDIV CAPACITY BLDG 1 2
293. COMPENSATION 0 1
294. SC BUILDING TRUST 2 1
295. SC BUILDING NETWK 2 2
296. SC BUILDING SHARED NORMS 1 1
297. OUTC ECON -1 1
19. Environmental outcomes (D.III)
300. IMPACT DESCR
The impact of the output was that the space remained open for the development of a park.
1
301. IMPLEMENTATION 4 2
302. BEHAVIOUR CHANGE 1 1
303. COMPLIANCE 4 2

Implementation: Coding procedure

Case (published studies)



Triple case Data Set

EDGE Case Database

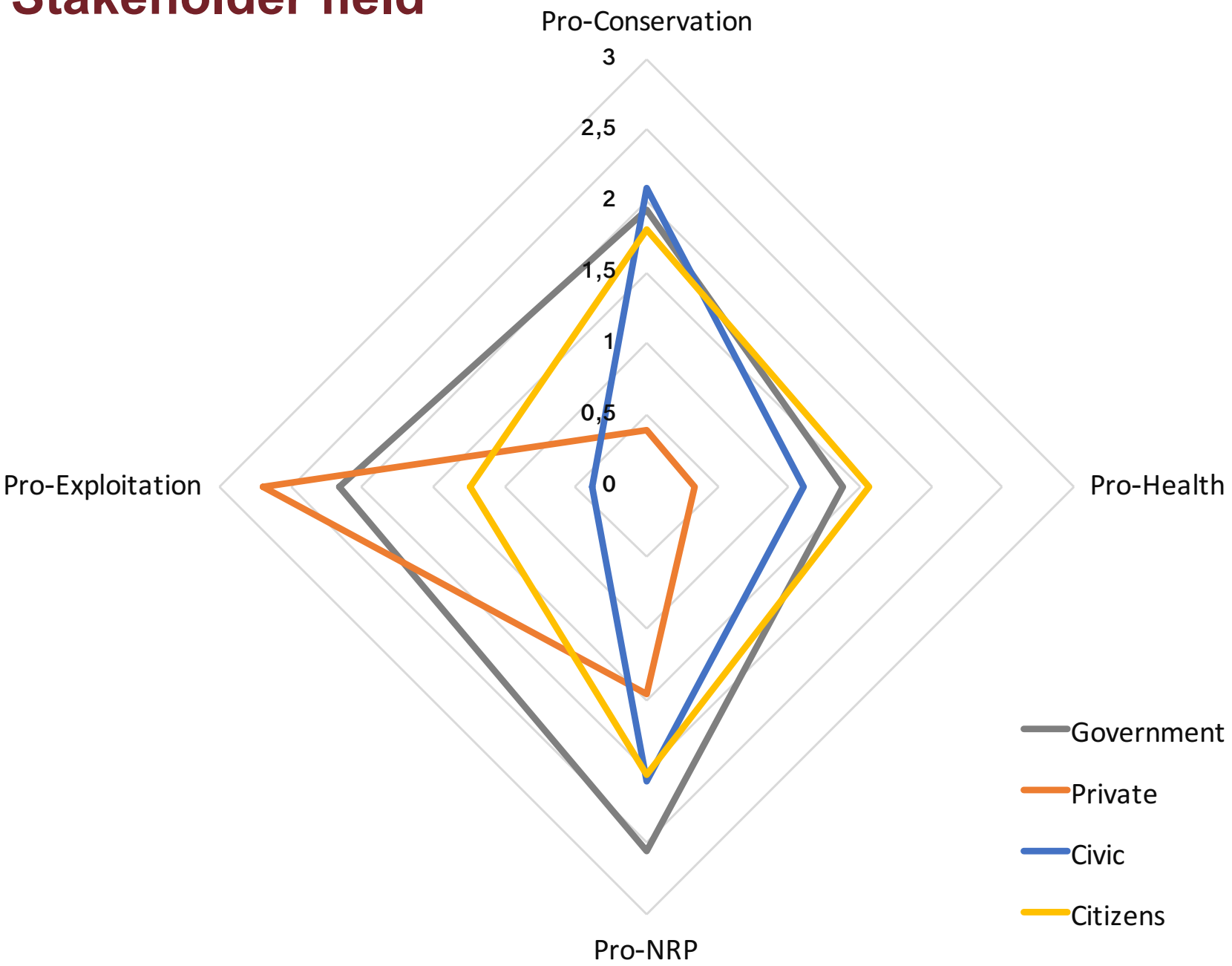
Consolidated quantitative and qualitative fields, incl. consolidated summaries

Descriptive results

Studied cases...

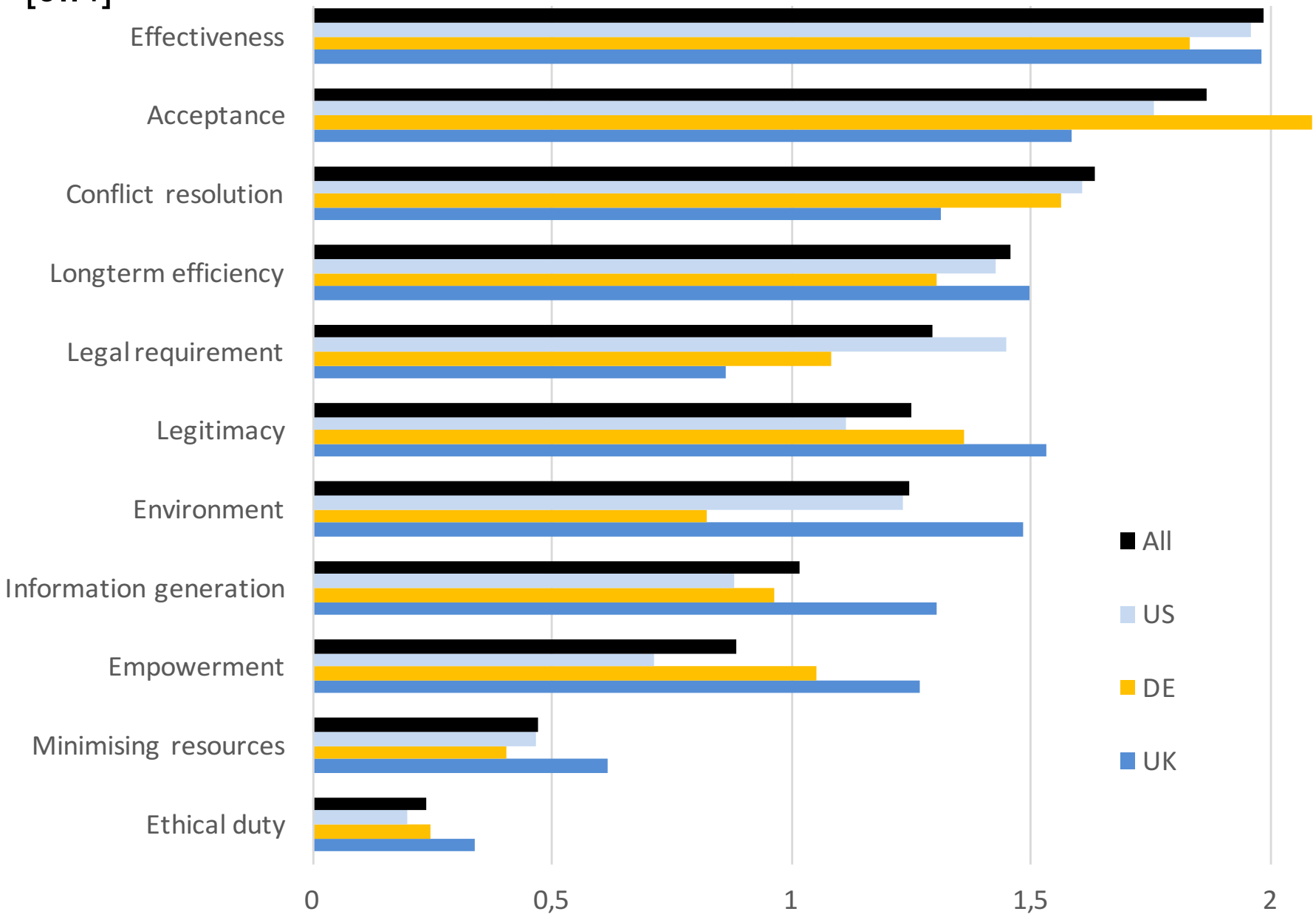
- have on average **15‘817** words
- were coded by a total of **22** different coders
- present public decision-making processes with a tangible output (only **19** out of 307 do not produce an output)
- are on average **45** months long (DMP)

Stakeholder field



Average rationales for the chosen process type

[0..4]



Statistical analysis

N = 307

Regression analysis: Environmental quality of the output

	(1)	(2)
Communication (PCA)	0.298***	0.207***
Power Delegation (PCA)	0.383***	0.302***
Repr. Private	-0.040	
Repr. Civic	0.058	
Repr. Citizens	-0.038	
Repr. Nature		0.238***
Repr. Exploitation		-0.240***
Authority Interest Nature		
Environmental Rationale		
NIMBY		
Previous Attempt		
Bottom-up triggered		
Europe		
NIMBY x Repr. Citizens		
Bottom-up trigg x Repr. Priv.		
Prev. Attempt x Communic.		
Europe x Power Delegation		
Constant	-0.000	0.000
Observations	279	279
R^2	0.246	0.334
Adjusted R^2	0.232	0.324

Regression analysis: Environmental quality of the output

	(1)	(2)	(3)
Communication (PCA)	0.298***	0.207***	0.144**
Power Delegation (PCA)	0.383***	0.302***	0.217***
Repr. Private	-0.040		
Repr. Civic	0.058		
Repr. Citizens	-0.038		
Repr. Nature		0.238***	0.074
Repr. Exploitation		-0.240***	-0.107*
Authority Interest Nature			0.212***
Environmental Rationale			0.281***
NIMBY			
Previous Attempt			
Bottom-up triggered			
Europe			
NIMBY x Repr. Citizens			
Bottom-up trigg x Repr. Priv.			
Prev. Attempt x Communic.			
Europe x Power Delegation			
Constant	-0.000	0.000	0.000
Observations	279	279	279
R^2	0.246	0.334	0.446
Adjusted R^2	0.232	0.324	0.434

Regression analysis: Environmental quality of the output

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Communication (PCA)	0.298***	0.207***	0.144**	0.141**	0.144**	0.150**	0.150**	0.142**	0.136**
Power Delegation (PCA)	0.383***	0.302***	0.217***	0.221***	0.225***	0.219***	0.210***	0.203***	0.210***
Repr. Private	-0.040								
Repr. Civic	0.058								
Repr. Citizens	-0.038								
Repr. Nature		0.238***	0.074	0.075	0.073	0.070	0.052	0.046	0.052
Repr. Exploitation		-0.240***	-0.107*	-0.110*	-0.116*	-0.126*	-0.128*	-0.130**	-0.131**
Authority Interest Nature			0.212***	0.196***	0.192**	0.181**	0.176**	0.179**	0.193***
Environmental Rationale			0.281***	0.277***	0.276***	0.279***	0.278***	0.287***	0.295***
NIMBY				-0.019	-0.011	-0.035	-0.042	-0.040	-0.032
Previous Attempt				-0.007	-0.014	-0.025	-0.016	-0.013	-0.0004
Bottom-up triggered				-0.050	-0.052	-0.043	-0.050	-0.067	-0.066
Europe					-0.042	-0.053	-0.049	-0.052	-0.050
NIMBY x Repr. Citizens						0.131**	0.134**	0.128**	0.124**
Bottom-up trigg x Repr. Priv.							-0.111*	-0.115*	-0.109*
Prev. Attempt x Communic.								0.106*	0.103*
Europe x Power Delegation									0.110*
Constant	-0.000	0.000	0.000	0.000	0.000	-0.023	-0.031	-0.034	-0.034
Observations	279	279	279	279	279	279	279	279	279
R^2	0.246	0.334	0.446	0.449	0.450	0.465	0.477	0.487	0.498
Adjusted R^2	0.232	0.324	0.434	0.430	0.430	0.443	0.453	0.462	0.471

Regression analysis: Human health quality of the output

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Communication (PCA)	0.126	0.122*	0.033	0.033	0.034	0.046	0.055	0.042	0.039
Power Delegation (PCA)	0.263***	0.296***	0.210***	0.209***	0.212***	0.210***	0.204***	0.198***	0.204***
Repr. Private	0.0002						-0.061	-0.066	-0.053
Repr. Civic	0.043								
Repr. Citizens	0.105								
Repr. Health		0.340***	0.260***	0.269***	0.267***	0.263***	0.275***	0.292***	0.288***
Repr. Exploitation		-0.218***	-0.110*	-0.109*	-0.114*	-0.117*	-0.101	-0.105	-0.112*
Authority Interest Health			0.218***	0.206**	0.206**	0.221***	0.211***	0.215***	0.208***
Environmental Rationale			0.213***	0.215***	0.214***	0.200***	0.202***	0.210***	0.221***
NIMBY				-0.035	-0.027	0.028	0.011	0.008	0.009
Previous Attempt				-0.060	-0.066	-0.047	-0.041	-0.036	-0.028
Bottom-up triggered				0.024	0.022	0.011	0.005	-0.012	-0.012
Europe					-0.035	-0.048	-0.041	-0.044	-0.042
NIMBY x Power Delegation						0.206***	0.198***	0.203***	0.184***
Bottom-up trigg. x Repr. Prv							-0.112*	-0.115*	-0.112*
Previous Attempt x Comm.								0.111*	0.107*
Europe x Power Delegation									0.087
Constant	0.000	0.000	0.000	0.000	0.000	0.051	0.041	0.040	0.034
Observations	279	279	279	279	279	279	279	279	279
R^2	0.117	0.233	0.329	0.334	0.335	0.374	0.387	0.398	0.404
Adjusted R^2	0.101	0.222	0.314	0.312	0.310	0.348	0.356	0.366	0.370

Key messages

- *Power Delegation* with very strong influence on environmental and health standards of the output.
- *Representation* of interests rather than social sectors as predictor for the quality of output.
- *Communication* influential for social outcomes, but also for the environmental standard of the output.
- Difference between *environmental* and *human health* dimensions.
- Importance of contextual conditions, e.g. role of *citizen* participation in NIMBY situations

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