

Policy instrument selection in adaptation policies: the performance of publicly and privately steered instruments



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1. Background

- Literature and practice propagate involvement of public and private actors in the governance of adaptation
- Involvement of private actors comes with potential benefits & drawbacks:
 - eg. Efficiency, Legitimacy ↑ Securing adaptation action ↓
- Policy instruments help to stimulate and secure public & private action on adaptation



2. Research question

Which policy instruments can be envisioned for climate adaptation, and how can these instruments be assessed?



3.1 Methodology

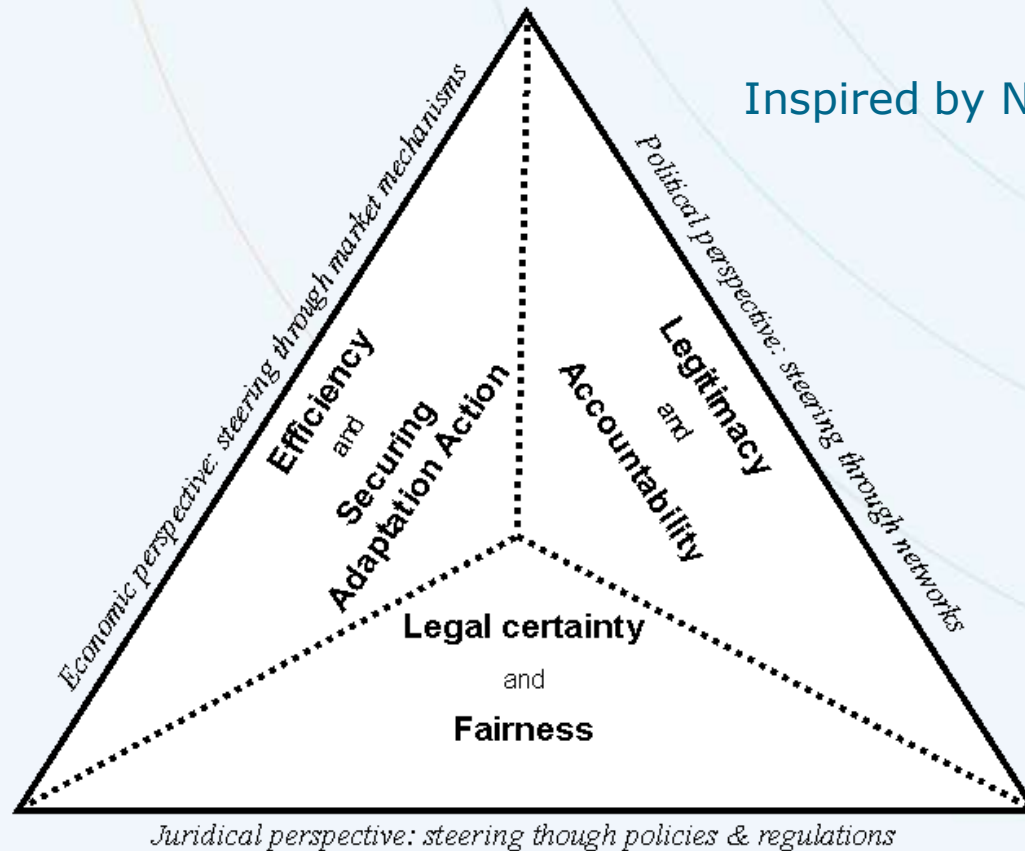
- Theoretical exercise: holistic evaluation of policy instruments for adaptation from 3 perspectives:
 - Economic perspective – economics
 - Legal perspective – law
 - Political perspective - public administration
- Applied to two different adaptation case studies:
 - eco-friendly river banks (as a rural water retention measure)
 - green roofs (as an urban water retention measure)
- Ranking: relative scores of suitable policy instruments vis-à-vis each other, per criterion.



3.2 Methodology

- 3 perspectives with 2 criteria each → 6 criteria in total
- Based on 3 underlying rationales of public policy

Inspired by Nelissen (2002)



Criteria definitions



Legal perspective:

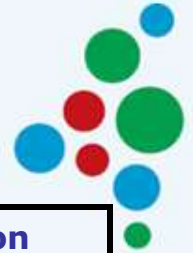
- Legal certainty
 - Rules are of a general character, are published and publicly accessible, understandable, and should not be changed too frequently
- Fairness
 - Rules and laws are proportional, guarantee a fair distribution, are open for all parties, and may be accompanied by a certain degree of solidarity (extent of rebalancing efforts when applies)

Economic perspective:

- Securing adaptation action (or Effectiveness)
 - Certainty that the adaptation goal is reached (also considering moral hazard)
- Efficiency
 - Extent to which least cost parties are selected, public funds are used, and the amount of windfall profits that are left with the private parties (when applies)

Political perspective:

- Legitimacy (acceptance of policy)
 - Extent to which actors have a freedom of choice, and beneficiary consequences for the addressees of the policy
- Political – accountability
 - Extent of clarity of responsibilities for both the initiator and addressees of policy (including controllability/monitoring), and extent to which both parties can hold each other accountable



4.1 Instrument selection

	Centralized top-down	Interactive	Private Regulation
Legal instruments	<ul style="list-style-type: none">-Technical requirement (incl. zoning)-Performance standards-Quotas	<ul style="list-style-type: none">- Contractual agreements / covenants	<ul style="list-style-type: none">- Certification schemes (private performance standards)
Economic instruments	<ul style="list-style-type: none">-Taxes-Subsidies	<ul style="list-style-type: none">-Smart subsidies and auctions-Insurance policies (premium reductions)-Reduction storm water / water board fees	<ul style="list-style-type: none">- Tradable permits
Communication instruments	<ul style="list-style-type: none">-Mandatory labeling-Public information (Stimulating CSR)		<ul style="list-style-type: none">-Corporate Social Responsibility-Product Information



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- Instruments removed that do not fit the adaptation framework



4.2 Instrument typology

Green roofs	type	who governs/initiates	who is governed	purpose
technical requirement	mandatory green roof installations on flat (lightly sloped) roofs of <i>new</i> buildings through a building code, preferably combined with quality norms such as minimum substrate depths	city governments (municipality, borough, ward, canton etc.), or national government	all new property owners (from individual citizens to housing corporations, real estate companies etc.)	maximum installations of green roofs regardless of whether they perform optimally for water retention throughout the city vis a vis other retention measures
	mandatory green roof installations on flat (lightly sloped) roofs of <i>existing</i> buildings that are up for renovation*	city governments	all existing property owners	ensuring maximum water retention capacity and minimum costs for maintenance over the life time of the roof
	zoning: mandatory green roof installations for specific city districts	city governments	all property owners in a specific district/area	targeting areas vulnerable to surface water flooding, and where other measures are hardly feasible
Public Information	general information dissemination through hotlines/demonstration roofs/media campaigns etc.	city governments	all property owners, general public	creation of awareness for green roofs with a wide audience, generate interest for green roofs as water retention measure
	product information	green roof suppliers/green roof industry association	all potential customers, incl. city governments	creation of awareness, persuasion of the benefits of green roofs

Table: Example from the green roofs case: random selection of instruments...

Documented for both cases (and all instruments):

- *Who governs/initiates*
- *Who is governed*
- *Intended purpose*

Case I: Eco-friendly riverbanks

	Criteria					
	Legal perspective		Economic perspective		Political perspective	
	Legal certainty	Fairness	Efficiency	Effectiveness	Legitimacy	Accountability
Legal instruments						
Technical requirements (Zoning and relocation)	1	2	9	1	7	2
Performance standards	2	1	8	6	6	5
Contractual agreements/covenants	3	7	7	2	2	1
Economic instruments	<i>Clear trade-off between efficiency and effectiveness!</i>					
Subsidies	7	5	6	3	3	3
Smart subsidies and auctions	6	4	5	4	4	3
Reduction water board fee	4	3	3	5	3	4
Insurance policy (premiums)	5	6	2	7	3	2
Communication instruments						
Public Information Campaigns (Stim. CSR)	8	8	4	8	5	6
Corporate Social Responsibility	9	9	1	9	1	7

Legal instruments score high, communication instruments score low on the legal criteria!

Case II: Green roofs

	Criteria					
	Legal perspective		Economic perspective		Political perspective	
	Legal certainty	Fairness	Efficiency	Effectiveness	Legitimacy	Accountability
Legal instruments						
Technical requirement (specific zones, new and existing buildings)	1	2	11	1	9	1
Performance standards	2	1	10	8	8	5
Certification schemes	4	4	4	7	5	7
Contractual agreement/covenant	3	7	9	2	2	1
Economic instruments	<i>Clear trade-off between legitimacy and accountability!</i>					
Subsidies (installation)	6	5	8	3	3	3
Smart subsidies and auctions	5	6	7	4	4	3
Insurance Policy (premiums)	3	4	3	6	3	2
Reduction of storm water fee	5	3	5	5	3	4
Communication instruments						
Public information campaign (Stim. CSR)	8	9	6	9	6	6
Product information	7	8	2	10	7	6
Corporate Social Responsibilities	9	10	1	11	1	6

However this depends on the instrument selected: high rank on both criteria here!

5.1 Results (Legal Criteria)



- The ranking of the instruments on the legal criteria is more or less similar for the two different case studies
 - In general, formal rules (e.g. technical requirements) offer most legal certainty.
 - Private agreements offer legal certainty for participants but not for other interested parties
 - Fairness offers the greatest opportunities and the greatest problems when ranking instruments due to its normative value

5.2 Results (Economic Criteria)



- There is a clear trade-off between the Effectiveness and Efficiency of instruments in both cases
 - Instruments that score relatively high on efficiency and effectiveness in both cases:
 - smart subsidies and auctions, insurance premium reductions, and reductions in the storm water fee / water board fee
 - Minor differences in the ranking between cases stem from the necessity to perform maintenance (and monitor behavior) in order to reach adaptation goals
 - Eco-friendly riverbanks require maintenance to improve water quality / biodiversity (moral hazard).



5.3 Results (Political Criteria)

- Insignificant difference between the two cases: Policy instruments themselves appear to be more discriminating
 - Legal instruments show most disparity
 - Technical requirements score highest on accountability, while lowest on legitimacy (as defined in this research); Performance requirement score high on accountability, but low on legitimacy
 - Contractual agreements rank high on both legitimacy & accountability
 - Economic instruments score average on both criteria
 - Communication instruments score low on both criteria
 - Exception is high score for CSR on legitimacy (due to our interpretation of legitimacy in terms of beneficiary consequences for the recipients)

6. Conclusion (I)



- Little difference between the case studies
 - Instruments appear to have more influence on the criteria
- Legal instruments polarize the most
 - They score high on legal certainty, fairness, and effectiveness
 - They score low on efficiency and legitimacy
- Economic instruments rank in the middle
 - They score average on most criteria
 - They score relatively low on efficiency
- Communication instruments rank low
 - CSR scores high on efficiency & legitimacy



6. Conclusion (II)

- Bundle of instruments required
 - Activate different actors (differently)
 - Strike a balance among the criteria
 - E.g. Technical requirement for green roof installation, combined with a storm water fee reduction (Basel & Stuttgart) → high effectiveness & low legitimacy of the requirement compensated by the fee reduction
- The governance of climate adaptation as a field does not require the use of specific 'climate adaptation instruments'
 - However: specific subsidies (e.g. reduction water board fee)

6. Conclusion (III)



- Strengths of this study
 - Holistic / multidisciplinary approach
 - Wide range of (public and private) instruments studied
- Future research
 - Can we generalize results? (other adaptation cases)
 - Which combination(s) of instruments deserve more attention?

Questions / suggestions



Thank you!

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