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Advancing justice in flood risk management: Leveling political capabilities

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Abstract

Land use change, managed retreat, and relocation programs are examples of exposure reduction measures in flood risk management (FRM). Exposure reduction measures are especially prone to conflict at the local level due to competing interests, values, and attachments. In this paper, we build upon the capability approach to justice and specifically the concept of political capabilities to advance justice in exposure reduction measures in FRM. A capabilities-based approach to justice helps to recognize the multiplicity of valuable ways of life and addresses a wide range of inequalities including concerns related to recognition justice. The innovation of our capabilities-based approach to justice is that we include both actors who have too little political influence as well as those who have too much and can thus excessively steer FRM in their advantage. A political capabilities analysis is different than a focus on principles or rights because it draws attention to realized political influence and includes the informal stages of FRM politics such as lobbying. The political capabilities concept also shifts the focus from vulnerability to human agency, thereby addressing concerns in the FRM literature about the loss of self-determination and misrecognition. The paper concludes with a critical discussion of the opportunities and limitations of using the political capabilities concept in FRM.

KEYWORDS

capability approach, climate adaptation, flood risk management, justice, lobbying, political inequalities

1 | INTRODUCTION

In this paper, we focus on controversies about Flood Risk Management (FRM) strategies that aim to reduce the exposure of inhabitants and infrastructure to flood hazards by means of land use change or relocation. Examples of exposure reduction strategies in FRM are regulations that prevent construction in flood plains,

buy-out programs as part of managed retreat, and coastal realignment in the name of nature restoration (Ajibade et al., 2020; de Bruijn et al., 2022; Haasnoot et al., 2020; van Staveren et al., 2014). The need for FRM is increasing because climate change brings about hazards, in which there may be huge differences in the capacity of groups and individuals to respond to this hazard and the extent to which people are exposed to them (Adger et al., 2006;

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O'Brien et al., 2007; Pelling et al., 2015; Reisinger et al., 2020). In this, uncertainties about the exact nature of climate impacts make it difficult to determine where current land use can be sustained and where this is no longer feasible or desirable (Haasnoot et al., 2020; Klijn et al., 2016; van Alphen et al., 2022). Exposure reduction measures are especially prone to conflicts due to the cultural, emotional, and financial attachments of inhabitants (Adams, 2016), uncertainties about the impacts of natural hazards (Zegwaard, 2016), and conflicting views about the best land usage in the future (Brackel, 2021; Hommes et al., 2016; Morita, 2016).

This paper examines which lessons we need to draw from controversies described in FRM literature and what the political capabilities concept can contribute to advance justice in FRM (Holland, 2017). To reach this objective, we provide a review of how justice is currently approached in FRM scholarship. Our review of FRM controversies results in two gaps that need to be addressed by FRM justice frameworks. Subsequently, we show how the capability approach (CA) to justice can help to address these concerns.

The first key concern is that FRM controversies show salient inequalities in informal political influence in FRM decision-making. However, the FRM justice literature draws heavily on formal principles or rights-based frameworks, which do not sufficiently pay attention to what different people are able to do with the rights and resources provided to them in practice. Political influence, socio-economic inequalities, and patterns of cultural misrecognition are intertwined (Fraser, 1995; Young, 1990), so political inequalities need to be addressed in a comprehensive manner. The CA is context-sensitive and able to capture inequalities as they arise out of a multiplicity of patterns of disadvantage including concerns of recognition justice (Martin et al., 2016; Robeyns, 2003). Building upon the CA, we propose in this paper to resolve this gap and focus on leveling political capabilities to advance justice in FRM.

The second key outcome from the controversies described in FRM literature is the intrinsic value of self-determination for achieving justice in the decision-making about and the implementation of exposure reduction measures. Freedom of choice and self-determination are central concepts in the CA as well, which will be further explained in section three. The CA's focus on the full breadth of people's agency in decision-making processes also resonates well with multiple streams in the recognition justice literature (Anderson & Honneth, 2005; Martin et al., 2016; van Uffelen, 2022).

Subsequently, in section four, we apply the political capabilities concept from the CA to FRM and illustrate the importance of securing sufficient political capabilities

in conflicts about exposure reduction measures. Furthermore, we argue that political capabilities should be guaranteed at the "sufficiency" level and encompass both a lower and upper threshold to address inequalities in political influence. To conclude, we reiterate the main findings, provide suggestions for further research, and reflect upon the usability of sufficient political capabilities as a framework for justice in different FRM policy contexts.

2 | INTEGRATING JUSTICE IN FLOOD RISK MANAGEMENT

This section describes existing approaches to justice in FRM controversies related to exposure reduction measures and subsequent building blocks to advance justice in FRM. There are ample examples of controversies related to land-use change and (in)voluntary relocations in FRM literature (Baker et al., 2018; Begg, 2018; de la Vega-Leinert et al., 2018; Edelenbos et al., 2017; Lynn, 2017; Otto et al., 2018; Roth et al., 2017). A number of lessons can be drawn from literature about these FRM controversies to advance justice in FRM.

2.1 | Competing justice claims and inequalities in FRM decision-making

Justice is a multifaceted normative demand. One way to organize and describe this multifaceted character is to make a distinction between distributive justice, procedural justice, and justice as recognition. In this, distributive justice pertains to situations in which there are competing claims for a certain good or value. In such situations, there will be winners and losers, and the legitimacy of this outcome is decided upon the application of certain distributive principles. The commitment by which these principles are executed and how decision-making takes place determines the degree of procedural justice (or fairness). Finally, there is recognition justice, which relates to the opportunities individuals and groups are given to have their claims being taken seriously.

In the context of FRM, distributive issues pertain to competing values such as safety from flooding, economic development, resource efficiency, ecosystem protection, landscape design, or attachment to place. Thus, we also take (latent) conflict as a starting point for understanding FRM. Starting from the struggles around FRM controversies has a number of implications for integrating "justice" in FRM. Not only do people disagree between the relative priority of different values, also within the larger multifaceted concept of "justice" multiple possibly contesting

conceptions of justice are possible (Hickey & Robeyns, 2020). For instance, articles about economic inequalities in FRM mention a variety of distributive justice principles (Johnson et al., 2007; Rulleau et al., 2017). Distributive justice principles can be complementary to or compete with each other; as is the case with the utilitarian principle (measures should benefit society as a whole), the egalitarian principle (fair distribution between individuals), and prioritarian principle (concern for the most vulnerable) (Thaler, Seebauer, & Schindelegger, 2020, p. 107). Which conception of distributive justice should guide the distribution of risks, costs, and benefits in a society is subject to political debate.

Different justice claims draw attention to specific concerns related to the multi-faceted concept of (in)justice. Beyond distributive justice and procedural justice, other dimensions of justice relevant for FRM are as follows: ecological justice, recognition justice, restorative justice, retributive justice, intergenerational justice, or multispecies justice (Ajibade et al., 2022; Cañizares et al., 2023; Celermajer et al., 2021). Policy arrangements often contain characteristics of multiple principles, trying to find a balance between different justifiable principles and claims of injustice (Clément et al., 2015; Driessen & Van Rijswijk, 2011; Kaufmann et al., 2018; Keessen et al., 2016). For example, FRM policy needs to strike a balance between a utilitarian concern for the wise usage of scarce public funds, prioritarian concerns for the most vulnerable, and concerns about ecological impact. Subsequently, disagreement between actors about which values to prioritize is an inherent part of water management (Joy et al., 2014; Zwarteveen et al., 2017).

With regard to procedural justice, many authors writing about justice in FRM, climate adaptation, or disaster risk reduction focus on FRM governance and processes for fair decision-making (Ajibade et al., 2022; Alexander et al., 2016; Arnall, 2019; Begg, 2018; Tadgell et al., 2018; Wilmsen & Webber, 2015). This focus on procedural aspects of “justice” is understandable considering the contested nature of FRM: conflict between actors and disagreements about competing values are omnipresent. However, as the previous section described, it is important to examine the connections between procedural justice and for instance patterns of misrecognition and other kinds of inequalities. Procedural justice theories can help to design fairer processes to resolve conflicts in FRM, for instance by mitigating the extent to which existing socio-economic and cultural inequalities influence the design of flood-risk management measures and strategies.

In FRM literature, the focus is often on procedural justice conceptualized in a more narrow sense as good government conduct during the implementation of FRM

measures. The systematic literature review by Tadgell et al. (2018) provides a synthesis of principles for good conduct in state-led relocation programs in lower-income countries: proactivity (take action before a crisis takes place), participation and communication, permanence (new sites should be habitable for the long-term), adequate compensation, and livelihood protection. Other examples of principles encountered in the literature are voluntariness, the principle of last resort, and that citizens should be “better off” than before the relocation program (Arnall, 2019; Begg, 2018; Cernea, 1997; Doberstein et al., 2020; Hayward, 2008; Tadgell et al., 2018; Wilmsen & Webber, 2015). Ajibade et al. (2022, p. 1) also mention good practices in managed retreat such as “improving community wellbeing, rootedness, and access to livelihoods, while also incorporating diverse justice concerns to different degrees.”

However, it is often debatable which justice claims should be granted priority or how generic principles should be interpreted in specific situations. For example, the “last resort principle” aims to protect people from those in power who might “use the excuse of reducing community exposure to climate change in order to conduct forced migrations for political or economic gain” (Barnett & Webber, 2009, p. 27 as cited in Arnall, 2019). The subsequent question is: are there technically feasible alternatives available that would allow people to stay? And if so, how many resources is a society willing to use for protection measures to ensure that affected communities can continue to live and work in the same place? This openness for debate implies that there remains space for disagreement and discussions while applying proposed principles for good government conduct in FRM at the local level. And again, how these disagreements are settled and the degree to which they are influenced by existing inequalities matters.

Moreover, accounts of procedural justice in FRM too often only cover controversies occurring *after* the decision to implement measure X in a location Y has already been taken by a governing entity. Authors focus on instrumental participation, the mere implementation of government decisions, and formal procedural checkboxes such as the right to appeal and implementation criteria. Yet, procedural justice becomes relevant earlier in the political process: the informal debate about the question of whether measures to reduce exposure are necessary at all and where/how they should be implemented. In an evaluative framework for FRM governance, Alexander et al. (2016) argue that procedural justice contributes to the legitimacy of FRM and consists of three elements: (i) there are opportunities for stakeholders to challenge decisions that have been made, (ii) stakeholders have equal access to the appeal process, and (iii) the process

of resolving disputes is considered to be fair (*ibid.*). These are relevant criteria, but the informal decision-making and lobbying phase *before* FRM measures are implemented also needs to be included in a procedural justice framework.

Social scientists, practitioners, and communities often call for closer involvement of affected citizens in the decision-making process to translate FRM knowledge into action (Binder & Greer, 2016; de Jonge et al., 2022; Priest, 2023; Roth et al., 2017; Thaler, Seebauer, & Schindelegger, 2020). As Cook et al. (2022) point out, these calls should go beyond instrumental participation and also look into real power-sharing. However, strengthening participation and access to formal decision-making processes does not resolve all issues. Attention to a wider spectrum of political influence is required. All inequalities that shape people's ability to exert political influence by advocacy, lobbying, and protesting are important factors to address to achieve justice in FRM. This includes mechanisms of misrecognition that shape people's political capabilities.

2.2 | Recognition justice and the value of self-determination

Building upon critical theorists such as Fraser (1995), Honneth & Fraser, 2003, and Young (1990), Environmental justice literature often refers to the “tripartite” model of justice since struggles for distributive justice, procedural justice, and justice as recognition are in practice connected (Schlosberg, 2007; Zwarteveen & Boelens, 2014). Misrecognition, the social devaluation and marginalization of people's way of being and doing reinforces inequalities and causes real psychological harm (Anderson & Honneth, 2005; Taylor, 1997; van Uffelen, 2022). Manifestations of misrecognition in FRM can for example be found in the negligence of local knowledge and the intrinsic value or spiritual dimensions of ecosystems (Boelens et al., 2010; Stensrud, 2016). Other examples of misrecognition in FRM are disregard for land-based livelihoods, the persistence of mechanisms of coloniality (Sultana, 2022), and the reinforcement of social discrimination through FRM decision-making and outcomes (Martin et al., 2016).¹ The connection works both ways: patterns of misrecognition and cultural injustices shape people's ability to influence FRM decision-making and subsequently cause unequal outcomes, just as economic inequalities influence someone's social standing and opportunities to exert political influence (Fraser, 1995; Robeyns, 2003).

The lack of self-determination is also related to recognition (in)justices, as certain ways of life and relating to water are devalued and marginalized (Boelens et al., 2010;

Eriksen et al., 2015; Martin et al., 2016). Academic literature about FRM controversies shows the need to address the intrinsic value of self-determination, especially in the case of exposure reduction measures and relocations. Self-determination signals the importance of having the opportunity to sketch one's own life trajectory (Minaravesh, 2023). Disregard of self-determination and freedom of choice featured in several studies documenting protests by local inhabitants against involuntary relocation or land use change programs (Bertana, 2020; Tadgell et al., 2018).

In the context of relocation, the distinction between voluntary and involuntary is fuzzy and many FRM governance arrangements consist of a mix of voluntary and involuntary elements (Arnall, 2019). In forced acquisitions, citizens may not even be given the choice to sell and receive compensation. Alternatively, relocation programs that see all other community members relocate or public services phased out may be voluntary on paper, but are often not experienced as such. Moreover, whether justice in FRM requires people to stay or enable them to live in a safer place depends on the specific context. The right against displacement, Nine (2016) argues, should be protected, since the home is constitutive for a person's autonomous agency and identity formation. Other scholars also defend the right of voluntary immobility and staying behind (Farbotko et al. 2020). Koslov et al. (2021), on the contrary, emphasizes the stress inherent in staying put in areas susceptible to flood risk. Yet, in all cases where people are relocated, quality participation in the development of relocation sites is critical, as the new place should allow people to lead a life similar to what they had chosen for themselves in their old location (Nine, 2016). Regardless of whether people choose to stay or go, loss of self-determination and freedom of choice about one's environment, livelihood, and way of life is a special kind of harm that cannot easily be expressed in monetary terms.

Just as with intangible losses such as attachment to place and psychological stress, the infringement of personal autonomy and loss of place or community cannot be fully compensated by buy-out sums and/or cost-benefit analyses based on utilitarian starting points. Moreover, Babicky and Seebauer (2021) demonstrate that psychological indicators are relevant for understanding flood risk impacts on different people and differences in flood preparedness, fear of flooding, and self-efficacy. de la Vega-Leinert et al. (2018, p. 598) also stress that in Europe, transforming coastal land use affects people's “sense of safety and their sense of control over their land, their livelihoods and by extension, their lives.” Hence, taking emotions, human agency, and psychology seriously in FRM is important to reach an integrated understanding of human wellbeing. Drawing lessons from the

practice of development-forced displacement and resettlement for climate adaptation, Wilmsen and Webber (2015) argue that: “Affected people can help to plan, to build their capacities to respond to the difficult condition of resettlement – to engage in practice and not just in principle. This goes beyond participation to ensure that affected persons have control over their own futures” (Wilmsen & Webber, 2015, p. 79).

Existing governance frameworks often fail to include the value of self-determination explicitly enough, while affected citizens often do express their concerns about a lack of self-determination. Despite the literature being full of examples of controversies related to self-determination, existing ethics/governance frameworks in FRM focus primarily on formal participation criteria, principles of distributive justice, communication, or lawfulness. This raises the need for a conceptual framework that includes the full scope of justice, including human agency and self-determination, but is also able to provide guidance on the design and implementation of contested FRM measures.

3 | THE CAPABILITY APPROACH

In the following sections, we propose building on the capability approach to Justice and specifically the concept of sufficient political capabilities as a way to advance justice in FRM. A strong asset of the political capabilities concept is the focus on the agency of people and their ability to engage in FRM politics, rather than on their vulnerability (Holland, 2017). Securing sufficient political capabilities does not only have instrumental value to reduce inequalities in FRM conflicts (§2.1), but also intrinsic value as it can help to mitigate psychological harm and protect the value of self-determination (§2.2).

3.1 | Foundations

The capability approach (CA) is a framework for ethical and political analysis developed by Sen (1985, 1999, 2009) and Nussbaum (2000, 2011), and elaborated by among others Holland (2008, 2017) and Robeyns (2017). The CA is a comprehensive method of analyzing and promoting human wellbeing by expanding people's capabilities (Alkire, 2008). The CA defines capabilities as what “people are able to be or to do” (Robeyns, 2017, p. 38). In other words, capabilities are a person's real opportunities to achieve personally valuable ways of being and doing (Holland, 2017, p. 397). The CA is deliberately open-ended about what these valuable beings or doings are (Robeyns, 2017).

Individuals who belong to different communities and live in different contexts can decide for themselves what constitutes a valuable way to live (Deneulin, 2011; Rawls, 1993; Robeyns, 2017; Schlosberg, 2012). Because the CA is able to incorporate contextual differences and is open to value pluralism, many scholars highlight the CA as a suitable approach for dealing with inequalities in climate adaptation (Doorn et al., 2018; Dryzek & Pickering, 2018; Holland, 2012; Jepson et al., 2017; Kronlid, 2014; Schlosberg, 2012; Sheller & Leon, 2016; Walker, 2009). The open-ended nature of the concept of capabilities enables flexibility and creates space for the democratic determination of the most highly valued capabilities in a specific context (Deneulin, 2011; Walker, 2009).

The capability approach addresses inequalities in a comprehensive manner, including patterns of social marginalization and discrimination. Capabilities are the opportunities or freedoms to realize valuable functionings (ways of being or doing). Just as there is a difference between a country's GDP and its citizens' wellbeing, there is a difference between the resources provided to people and what different people can actually do with these resources (Sen, 2009). The CA can be used to analyze people's differentiated abilities to use resources to achieve ways of being and doing. Conversion factors describe how inequalities manifest in FRM because different people have unequal abilities to mobilize resources and rights, also due to social norms and patterns of marginalization (Robeyns, 2003, 2017).

All kinds of inequalities need to be accounted for to level political capabilities in FRM. Conversion factors represent the social, personal, and environmental context in which individuals operate: including historical inequalities that shape differences between people's capabilities. In her response to Fraser's critical theory critique of the capability approach, Robeyns (2003) employs gender inequality examples to explain that the CA also integrates concerns related to recognition justice, although not exclusively. The capability approach to justice “offers a comprehensive view of the conditions needed for a good life that incorporates aspects of recognition, participation and distribution” (Martin et al., 2016, p. 258). The CA also acknowledges the salience of physical or mental (dis)abilities² that shape people's opportunities to realize basic needs (Robeyns, 2003). Capabilities are defined as opportunities because freedom is a central concept for Sen (1999).

Sen stressed the importance of the “process of choice” with the following thought experiment: If someone does not leave their room all day because they prefer to stay inside, that is fundamentally different then if they do not leave their room all day because there is a gunman in

front of their door (Sen, 2009, p. 228). This thought experiment shows that a situation's "justness" cannot only be determined based upon the substantive outcomes and that the process needs to be considered as well to characterize a situation as just. A situation can still be just when someone has the capability to do X, but chooses not to do X. This is relevant for FRM, since exactly this dimension of the "process of choice" chimes with the concerns identified in the literature review about involuntary relocations and self-determination.

3.2 | Reducing inequalities with the capability approach

The capability approach to justice can highlight differences between the needs of individuals/communities in climate adaptation and FRM and can subsequently justify additional government support for more disadvantaged groups (e.g., tools, additional money, or adjusted training courses). For instance, some people require additional support and resources to reach a similar level of flood resilience as other people who are given the same resources. Intersectional perspectives on adaptation justice can be incorporated into the CA, because an analysis of people's differentiated capabilities acknowledges all axes of existing social inequality, such as class, race, gender, age, ableness, geography, natural resource dependency, and their interrelations with other (dis)advantages (Ajibade et al., 2022; Mikulewicz et al., 2023; Wolff & De-Shalit, 2007).

Even though a plurality of capabilities has intrinsic value,³ public resources are limited. Hence, difficult choices often have to be made about which capabilities to prioritize in public policy. Focusing on the fertility of the capability, or how this capability can mitigate other disadvantages, is helpful to determine effective policy interventions (Nussbaum, 2011, p. 45). In their empirical research, Wolff and De-Shalit (2007) describe multiple (dis)advantages and how they interrelate to create unequal outcomes. They empirically identify fertile capabilities (those that help to create more capabilities) and corrosive disadvantages (those that spill over to other domains).

Political capabilities are an example of a fertile functioning (Wolff & De-Shalit, 2007), because people with high political capabilities can engage successfully in decision-making processes about resource distributions and subsequently change policy conditions that shape other capabilities. Next, we will argue that considering the contested nature of exposure reduction measures, the concept of political capabilities is well-suited to advancing justice in Flood Risk Management.

4 | LEVELING POLITICAL CAPABILITIES

4.1 | Political capabilities

Nussbaum (2011) defines political capabilities as "having political control over one's environment." The first fleshed out paper on political capabilities in climate adaptation and water management was written by Holland (2017). She critiques top-down initiated participatory fora and public consultations, as these do not truly advance procedural justice. Public participation has been reported to falsely legitimize expert-driven FRM and transform into lip service of government agencies (Bertana, 2020), while in other cases it has failed to represent all citizens equally. For Holland, empowering vulnerable communities to shape adaptation decisions is an indicator of procedurally just climate adaptation (Holland, 2017). For disadvantaged groups "having the political capability to adapt means being able to apply enough political pressure within unjust adaptation decision processes to successfully push decisions in a particular direction" (ibid., p. 397). Transformative adaptation, according to Holland, is a continuous process of decision-making in which citizens have real opportunities to influence decision-making processes. A procedural justice approach harnessing political capabilities focuses on the agency of individuals, while acknowledging that these individuals function within a web of asymmetric power relations and structural injustices (Arts & van Tatenhove, 2004; Eriksen et al., 2015; Grin, 2012). Power asymmetries and existing inequalities can be challenged by strengthening conditions for political equality (Srinivasan, 2007). However, focusing solely on the lower threshold and disadvantaged communities produces a limited understanding of political capabilities.

In her 2017 article, Holland (2017) does not consider the opposite possibility that some actors have *too much* power to shape adaptation decisions (Brackel et al., 2021). Capability scholars were initially most concerned with bringing all human beings above capability thresholds, so that their most basic needs are secured. Yet, a more recent development in capability scholarship is to not only include thresholds, but also capability ceilings (Baard & Melin, 2022; Holland, 2008, 2014; Robeyns, 2022). If people harm other people, future generations, or the environment by employing their capabilities to the fullest, posing limits to their capabilities may be justifiable (Holland, 2012, 2022; Robeyns, 2022). We argue that this principle should also be applied to political capabilities.

4.2 | Political inequalities in flood risk management

A capabilities-based framework for procedural justice in FRM should be applicable to situations in which people have too much political capability and situations in which people have too little political capability to shape FRM decision-making. An example of people having “too little” political capability would be marginalized communities that are subject to state-led relocation processes and hardly have the means to oppose or steer developments (Ajibade, 2022; Wilmsen & Webber, 2015). On the other end of the spectrum, we can find resourceful actors such as second-home owners and capital-rich companies that are able to secure high-value buy-out sums or flood protection measures funded with public money (Alexander et al., 2016; Brady, 2015; Fouqueray et al., 2018; Schakel, 2021).

Capabilities should be understood and analyzed in a contextually embedded fashion (Robeyns, 2017). Especially when looking at political capabilities, we should examine existing power structures, institutions, and power asymmetries to understand opportunities and obstacles that different actors experience. People's abilities to influence decision-making intersect with patterns of (mis)recognition and social discrimination. In the USA, several geographers describe racial patterns in buy-out locations and investments in flood protection (Hardy et al., 2017; Loughran et al., 2019). Another example is the disparity between flood protection levels in the Dutch Delta and the Caribbean islands part of the Dutch kingdom (Haringsma, 2023). Moreover, highly educated and elderly citizens are overrepresented in participation sessions and FRM decision-making (van Buuren et al., 2012; van der Meer, 2018; Warner et al., 2020). In the Netherlands, only the highly educated appear to have independent influence on public policy (Schakel, 2021; Schakel & van der Pas, 2021).

The FRM literature presents several examples of situations in which it can be argued that individual citizens or local action groups had too much political power. For example, in the context of the 13/14 winter floods in England, the inhabitants of Somerset were able to attract a lot of attention through political networks and media (Alexander et al., 2016, pp. 45–46). Consequently, 10 million GBP of central government disaster relief funds were spent on only 150 homes in Somerset, while 4000 victims of flooding in the north of England did not receive this kind of compensation. Talking about the situation, an English NGO employee remarked: “large floods do become political footballs” (Alexander et al., 2016, p. 45). Similarly, in France, there have been reports of rich coastal communities pressuring local decision-makers to

choose sea defenses over managed retreat (Clément et al., 2015; Fouqueray et al., 2018). In this French case, mayors used coastal land as electoral bait, since it helps to create employment and population growth, despite the associated risk of unsustainability and maladaptation considering long-term sea-level rise and coastal erosion (Fouqueray et al., 2018).

In the future, it is imaginable that powerful local action groups will obstruct climate adaptation measures or leverage funds to realize their desired type of adaptation or FRM project. In some cases, these local community efforts are much needed and can help to realize just climate adaptation, but this is not always the case. Handing over power to “the community” might sound laudable, but it is worth remembering that local populations are not monolithic. The local community level is fraught with competing interests and values. Hence, it is important to consider the distribution of political influence within and between communities when analyzing procedural justice in FRM.

Inequalities in political influence should at least be monitored to render visible which groups are systematically underrepresented in a FRM policy process. In response to a relocation process in Dhaka, Bangladesh, for instance, more affluent private landowners were able to write petitions and appeal to the Supreme Court claiming that their rights had been violated, while lower-income people from the same area were simply displaced (Nijhum et al., 2019). In New York, wealthy communities were found to have more capacities to leverage funds and lobby for voluntary buy-outs (Brady, 2015; Siders, 2022). And in their review of managed retreat cases, Ajibade et al. (2022, p. 3) find that “wealthy and white communities are often protected through in-site adaptation [...] [whereas] ‘the poor often have little control over where they live’.”

A contextual political capabilities analysis should be performed to ascertain whether to prioritize raising people above a basic political capability threshold or creating political capability ceilings. The legal-institutional context provides the conditions for citizens' political capabilities. For instance, according to Dutch law, it is possible to expropriate citizens in the name of flood management (Thaler, Doorn, & Hartmann, 2020). Hence, relevant questions of procedural justice include: which situations merit this measure and how can a just process be guaranteed considering the immense impact on the lives of affected citizens. In Austria, for example, landowners cannot be involuntarily expropriated and thus have a stronger bargaining position. Subsequently, the prices for voluntary buy-outs of agricultural land that is set to be repurposed as a retention area for flood risk management tend to be higher (ibid). In a situation like this, different

concerns of justice become relevant, such as the costs of flood risk management for society as a whole, and how to secure other important values such as flood safety, resource efficiency, and sustainability (de la Vega-Leinert et al., 2018). In sum, excesses in either direction – having too much or too little political capability – create the risk of unjust situations in FRM. In certain contexts, solely focusing on strengthening political capabilities does not resolve the issue of political inequality and the resulting injustices in FRM.

4.3 | Leveling political capabilities

Substantive commitments to strengthen political equality in flood risk management are necessary since existing inequalities and informal politics influence the outcomes of formal procedures. An account of justice that is concerned with the actual opportunities for political participation protects “equality of substantive political freedom seen properly in the perspective of capabilities, not merely civil liberties and political rights.” (Srinivasan, 2007, p. 457). Procedural justice is not only about good government conduct in the implementation of projects but also about citizens’ ability to propose alternative plans and amend government plans. Some people have good knowledge of how government and the wider planning system work and can mobilize relevant networks, while others feel that “the government” is a threatening, black-boxed institution. Despite the usefulness of trying to develop substantive principles of good FRM, what matters most for application in practice is identifying which actors are able or unable to push, prioritize, and interpret the range of values, norms, and principles that apply to FRM (Holland, 2017). Creating more equality in terms of political influence might help to settle disagreements about FRM in a more just manner.

A contextual analysis of political capabilities can help to show which actors are below or above the threshold of sufficient political control over their environment. This information can help to develop tailored mitigation measures to create a level playing field and remove barriers to influence FRM and climate adaptation decisions. Scholars should take into consideration the following elements to operationalize the concept of political capability: (a) the ability to mobilize expertise and/or counter expertise, (b) the possibility of alliances with other (more powerful) stakeholders, (c) the ability to learn media and presentation skills, (d) knowledge of government procedures and timing of decision-making processes, (e) resources: time to attend meetings and organize activities, funds to support lobbying activities, and relevant network to strengthen lobbying efforts, (f) social/cultural

capital and social cohesion of a community (Edelenbos et al., 2017; Holland, 2017) (Figure 1). These informal dimensions of having sufficient political capabilities, next to formal political rights, can also help to guide scholars and policy-makers on how to implement political capability thresholds and ceilings.⁴

Assessments of what constitutes “too much” political capability will vary by place, policy domain, and time, sometimes even within the same country. Nevertheless, we can learn from the experiences and justice claims voiced by people affected by (in)voluntary relocations in the past all over the world. In situations where basic civil rights and legal protections are not respected or enforced, securing sound procedures/institutions for information, compensation, and appeal require attention (political capability thresholds). Hard-fought political freedoms, which are still contested around the globe, should not be thrown away, so securing the lower threshold of sufficient political capabilities remains vital. In contexts where civil rights are generally respected and sound procedures have been implemented, more attention can be paid to improving procedural justice related to unequal lobbying power and limiting the opportunities of certain actors that harm other beings and have too much influence in FRM decision-making (political capability ceilings).

In order to balance people's political capabilities, a range of context- and power-sensitive planning and implementation tools should be developed to mitigate possible biases and structural barriers. For example, the right regulations within a democratic state can help to create a more level playing field for lobbying activities. Options to be investigated are increasing avenues of contestation (Gaventa, 2006; Stirling, 2008), increasing the transparency of the policy process, rules for funding interest groups and political parties, capacity building activities, and the provision of expertise or financial resources. Which support tools are most needed and helpful will have to be decided on a case-by-case basis. Nevertheless, the first step consists of analyzing the distribution of political capabilities in a specific FRM controversy.

5 | CONCLUSION: SUFFICIENT POLITICAL CONTROL OVER ONE'S ENVIRONMENT

In this paper, we proposed the capability approach (CA) as a framework to address questions of justice in FRM. Inequalities in political influence are often present in FRM controversies and especially relevant in the case of contested exposure reduction measures and involuntary

relocations. Assessing people's political capabilities can help to analyze and possibly address inequalities in political influence in FRM in a way that also acknowledges broader social and cultural inequalities through the conversion factors. We propose defining political capabilities as having sufficient political control over one's environment. In this way, the analysis can include both actors that have too little as well as those that have too much political influence. Besides, the literature also highlights the relevance of the value of self-determination in flood risk controversies. The importance of self-determination is well reflected in notions that are fundamental to the CA, such as freedom and human agency, and also reflects concerns related to recognition justice. People want to have sufficient control over their environment and to choose their preferred livelihood and way of life. Our analysis also shows that self-determination does not imply unlimited political control, as this necessarily comes at the expense of others. Key is that all people reach a level of sufficient political control.

5.1 | Limitations

A limitation of our conceptualization of political capabilities is the underrepresentation in political decision-making of other species and future generations. There are interests and values that span beyond the geographic boundaries of communities, but still should be included in adaptation decisions, such as environmental integrity or resource efficiency. Exposure reduction measures may be justified out of concerns for future generations, public resource efficiency, or ecological justice. Currently, these non-human concerns are only accounted for as far as humans advocate for these interests.

A possible objection against using the CA is that the analysis of inequalities in political capabilities and providing differentiated public support is information and resource-intensive. It is important to acknowledge multiple dimensions of social inequality and contextual differences, but practitioners often struggle with limited time and resources. While this objection applies – in differing

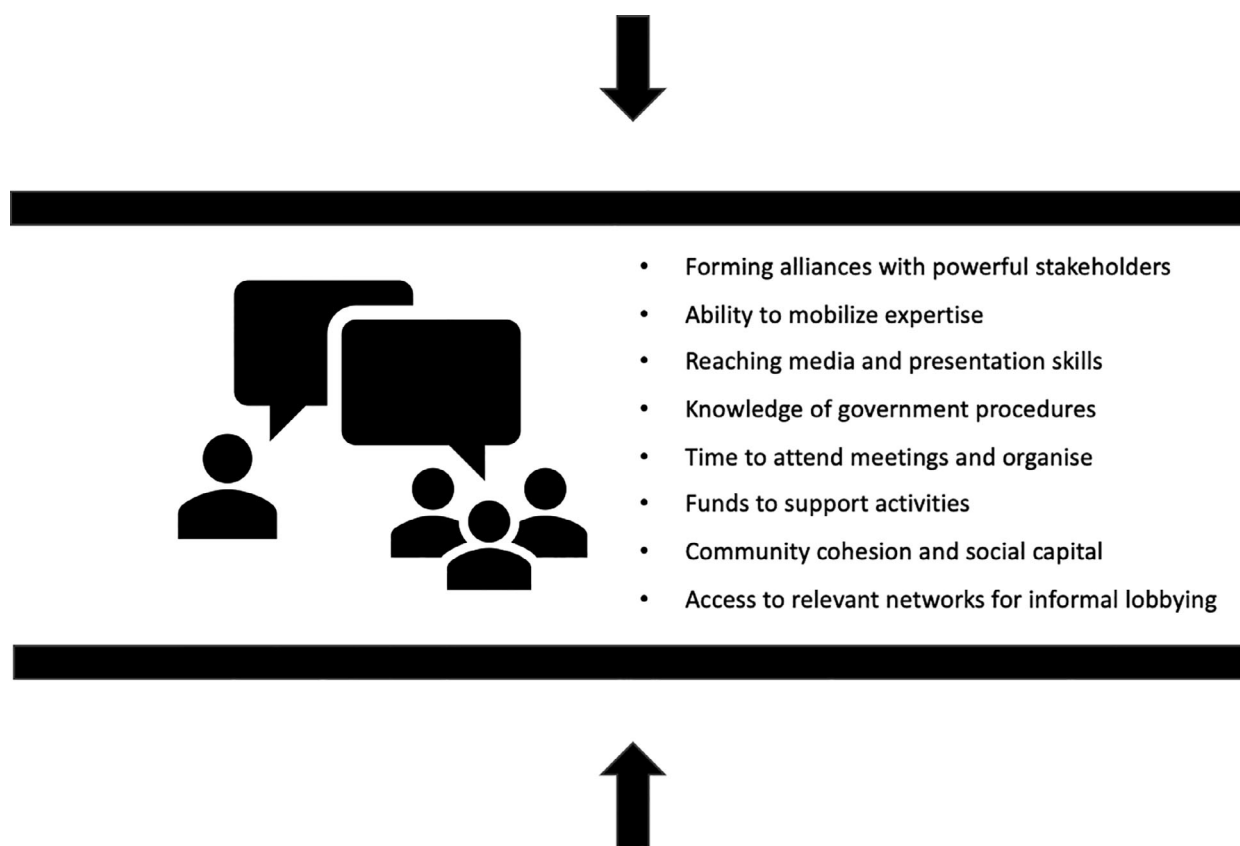


FIGURE 1 The icons represent people debating/involved in FRM politics. The bullets with text show an illustrative and non-exhaustive list of informal dimensions of political capabilities. The lower line and arrow represent the lower threshold of political capabilities that needs to be secured for all citizens in a capabilities-based approach to justice in FRM. The upper line and arrow represent the need for an “upper ceiling” of political capabilities. Considering the inequalities in FRM decision-making, and especially in the informal phase, to guarantee a level playing fields requires not only securing that people are above some level of political capabilities but also that they are not above a – to be specified – upper limit.

degrees – to all interventions aimed at strengthening procedural justice, the context-sensitivity of the CA is a strength but also resource-intensive. Apart from the moral reasons that dictate why disadvantaged communities deserve sufficient resources to be invested in these procedures, there are also more pragmatic reasons for doing so. The resources invested in strengthening procedural justice may have a positive impact on the communities affected and strengthen people's capabilities also beyond achieving flood resilience.

5.2 | Future research

Future research should delve into determining what constitutes as just political capability thresholds and ceilings in different contexts. What is “too much” and who gets to decide what is “too much” are important questions for further scholarly reflection. A key question in research into limitarianism and capability ceilings is how to establish upper limits and how to draw these boundaries in a legitimate manner. We need to avoid falling in the trap of technocratic top-downism, while at the same time not shying away from reconsidering existing power asymmetries and innovating institutions. New kind of institutional mechanisms and yet-to-be-developed interventions can help to implement just capability ceilings. Structural changes in a country's legal-institutional framework may sometimes be needed to guarantee political equality. For example, policies could aim at empowering citizen lobbying groups (Alemanno, 2017), but if large corporations have significantly more lobbying power (Schakel, 2021), such an effort is insufficient to reduce power asymmetries and improve democratic equality. Flood risk practitioners by themselves cannot eliminate existing socio-economic and political inequalities. However, they can help to prevent reinforcing these inequalities and perhaps create a more level playing field in terms of political influence in FRM. This is relevant, because we need to avoid scenarios in which “big fish devour the small fish” (Sen, 2009), while deciding upon the best approach to mitigate flooding in the future.

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DATA AVAILABILITY STATEMENT

No primary data was collected for this study.

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ENDNOTES

- ¹ Which kind of inequalities and patterns of disadvantage are most salient varies per FRM controversy, as a wide range of inequalities affect people's political influence in FRM conflicts.
- ² Although this article focusses on exposure reduction measures in FRM, the CA has potential added value in the evaluation and promotion of capabilities related to flood safety and disaster preparedness as well. Especially considering differences in someone's physical abilities related to age or illness are relevant considering inequalities in flood preparedness and resilience during flooding events.
- ³ Nussbaum developed a list of 10 central capabilities: 1. Life, 2. Bodily health, 3. Bodily Integrity, 4. Sense, Imagination, and Thought, 5. Emotions, 6. Practical Reason, 7. Affiliation, 8. Other Species, 9. Play, 10. Control over one's environment (political and material). This list influenced indicators for the United Nations Human Development Index, an alternative for cross-country comparisons based on the Gross Domestic Product. (Nussbaum, 2011).
- ⁴ The political capability thresholds and ceilings are represented by the lines above and below the icons of people debating/conversing in Figure 1.

REFERENCES

- Adams, H. (2016). Why populations persist: Mobility, place attachment and climate change. *Population and Environment*, 37(4), 429–448. <https://doi.org/10.1007/s11111-015-0246-3>
- Adger, W. N., Paavola, J., Saleemul, H., & Mace, M. J. (2006). *Fairness in adaptation to climate change*. The MIT Press.
- Ajibade, I. (2022). The resilience fix to climate disasters: Recursive and contested relations with equity and justice-based transformations in the global south. *Annals of the American Association of Geographers*, 112(8), 1–18. <https://doi.org/10.1080/24694452.2022.2062290>
- Ajibade, I., Sullivan, M., & Haefner, M. (2020). Why climate migration is not managed retreat: Six justifications. *Global Environmental Change*, 65(October), 102187.
- Ajibade, I., Sullivan, M., Lower, C., Yarina, L., & Reilly, A. (2022). Are managed retreat programs successful and just? A global mapping of success typologies, justice dimensions, and trade-offs. *Global Environmental Change*, 76(June), 102576. <https://doi.org/10.1016/j.gloenvcha.2022.102576>
- Alemanno, A. (2017). *Lobbying for change: Find your voice to create a better society*. ICON.
- Alexander, M., Priest, S., & Mees, H. (2016). A framework for evaluating flood risk governance. *Environmental Science and Policy*, 64, 38–47. <https://doi.org/10.1016/j.envsci.2016.06.004>

- Alkire, S. (2008). Using the capability approach: Prospective and evaluative analyses. *Journal of Human Development*, 6(1), 26–50. <https://doi.org/10.1017/CBO9780511492587.002>
- Anderson, J., & Honneth, A. (2005). Autonomy, vulnerability, recognition, and justice. In J. Christman & J. Anderson (Eds.), *Autonomy and the challenges to liberalism: New essays* (pp. 127–149). Cambridge University Press. <https://doi.org/10.1017/CBO9780511610325.008>
- Arnall, A. (2019). Resettlement as climate change adaptation: What can be learned from state-led relocation in rural Africa and Asia? *Climate and Development*, 11(3), 253–263. <https://doi.org/10.1080/17565529.2018.1442799>
- Arts, B., & van Tatenhove, J. (2004). Policy and power: A conceptual framework between the “old” and “new” policy idioms. *Policy Sciences*, 37(37), 339–356. <https://doi.org/10.1007/s11077-005-0156-9>
- Baard, P., & Melin, A. (2022). Max power: Implementing the capabilities approach to identify thresholds and ceilings in energy justice. *Science and Engineering Ethics*, 28(1), 1–18. <https://doi.org/10.1007/s11948-021-00353-2>
- Babicky, P., & Seebauer, S. (2021). People, not just places: Expanding physical and social vulnerability indices by psychological indicators. *Journal of Flood Risk Management*, 14(4), 1–25. <https://doi.org/10.1111/jfr3.12752>
- Baker, C. K., Binder, S. B., Greer, A., Weir, P., & Gates, K. (2018). Integrating community concerns and recommendations into home buyout and relocation policy. *Risk, Hazards and Crisis in Public Policy*, 9(4), 455–479. <https://doi.org/10.1002/rhc3.12144>
- Barnett, J., & Webber, M. (2009). Accommodating migration to promote adaptation to climate change. *Commission on Climate Change and Development*.
- Begg, C. (2018). Power, responsibility and justice: A review of local stakeholder participation in European flood risk management. *Local Environment*, 23(4), 383–397. <https://doi.org/10.1080/13549839.2017.1422119>
- Bertana, A. (2020). The role of power in community participation: Relocation as climate change adaptation in Fiji. *Environment and Planning C: Politics and Space*, 38(5), 902–919. <https://doi.org/10.1177/2399654420909394>
- Binder, S. B., & Greer, A. (2016). The devil is in the details: Linking home buyout policy, practice, and experience after hurricane Sandy. *Politics and Governance*, 4(4DisasterPoliciesandGovernancePromotingCommunityResilience), 97–106. <https://doi.org/10.17645/pag.v4i4.738>
- Boelens, R., Getches, D., & Guevara-Gil, A. (2010). *Out of the mainstream: Water rights, politics, and identity*. Earthscan.
- Brackel, L. (2021). Continuous negotiation in climate adaptation: The challenge of co-evolution for the capability approach to justice. *Sustainability*, 13(23), 18. <https://doi.org/10.3390/su132313072>
- Brackel, L., Pesch, U., & Doorn, N. (2021). Control over one's environment? Leveling political capabilities to advance procedural justice in flood risk management. In F. E. C. on F. R. M (Ed.), *Control over one's environment? Leveling political capabilities to advance procedural justice in flood risk management*. Budapest University of Technology and Economics (BME). <https://doi.org/10.3311/floodrisk2020.22.4>
- Brady, A. F. (2015). *Buyouts and beyond: Politics, planning, and the future of Staten Island's east shore after Superstorm Sandy*. Massachusetts Institute of Technology. <http://dspace.mit.edu/handle/1721.1/98926#files-area>
- Cañizares, J. C., Copeland, S., Doorn, N., Cañizares, J. C., Copeland, S., & Doorn, N. (2023). Embedding justice considerations in climate resilience. *Ethics, Policy & Environment*, 1–26, 63–88. <https://doi.org/10.1080/21550085.2023.2197824>
- Celermajer, D., Schlosberg, D., Rickards, L., Stewart-Harawira, M., Thaler, M., Tschakert, P., Verlie, B., & Winter, C. (2021). Multi-species justice: Theories, challenges, and a research agenda for environmental politics. *Environmental Politics*, 30(1–2), 119–140. <https://doi.org/10.1080/09644016.2020.1827608>
- Cernea, M. (1997). The risks and reconstruction model for resettling displaced populations. *World Development*, 25(10), 1569–1587. [https://doi.org/10.1016/S0305-750X\(97\)00054-5](https://doi.org/10.1016/S0305-750X(97)00054-5)
- Clément, V., Rey-Valette, H., & Rulleau, B. (2015). Perceptions on equity and responsibility in coastal zone policies. *Ecological Economics*, 119, 284–291. <https://doi.org/10.1016/j.ecolecon.2015.09.005>
- Cook, B. R., Cornes, I., Satizábal, P., & de Lourdes Melo Zurita, M. (2022). Experiential learning, practices, and space for change: The institutional preconfiguration of community participation in flood risk reduction. *Journal of Flood Risk Management*, e12861. <https://doi.org/10.1111/jfr3.12861>
- de Bruijn, K. M., Diermanse, F. L. M., Weiler, O. M., de Jong, J. S., & Haasnoot, M. (2022). Protecting the Rhine-Meuse delta against sea level rise: What to do with the river's discharge? *Journal of Flood Risk Management*, 15(3), 1–15. <https://doi.org/10.1111/jfr3.12782>
- de Jonge, A., Klijn, F., & Ellen, G. J. (2022). *Trots en Spijt in de Waterbouw: Lessen uit de Praktijk* (Vol. 19 juli) (Issues 11206879-022-ZWS-0001). Deltares. <https://www.deltares.nl/nieuws/trots-en-spijt-in-de-waterbouw-een-verkennend-onderzoek-van-deltares>
- de la Vega-Leinert, A. C., Stoll-Kleemann, S., & Wegener, E. (2018). Managed realignment (MR) along the eastern German Baltic Sea: A catalyst for conflict or for a coastal zone management consensus. *Journal of Coastal Research*, 34(3), 586–601. <https://doi.org/10.2112/JCOASTRES-D-15-00217.1>
- Deneulin, S. (2011). The capability tradition: A note on two interpretations. In *Conference on Human Development at the University of Bielefeld* (Vol. 25, p. 29). https://scholar.google.nl/scholar?hl=en&as_sdt=0%2C5&q=The+Capability+Tradition%3A+A+Note+on+Two+Interpretations++S%C3%A9verine+Deneulin&btnG=#d=gs_cit&t=1719859113552&u=%2Fscholar%3Fq%3Dinfo%3AxdmKKS_0B7SJ%3A%3Ascholar.google.com%2F%26output%3Dcite%26scirp%3D0%26hl%3Den
- Doberstein, B., Tadgell, A., & Rutledge, A. (2020). Managed retreat for climate change adaptation in coastal megacities: A comparison of policy and practice in Manila and Vancouver. *Journal of Environmental Management*, 253(October 2019), 109753. <https://doi.org/10.1016/j.jenvman.2019.109753>
- Doorn, N., Gardoni, P., & Murphy, C. (2018). A multidisciplinary definition and evaluation of resilience: The role of social justice in defining resilience. *Sustainable and Resilient Infrastructure*, 9689, 1–12. <https://doi.org/10.1080/23789689.2018.1428162>
- Driessen, P. P. J., & van Rijswijk, H. F. M. W. (2011). Normative aspects of climate adaptation policies. *Climate Law*, 2(4), 559–581. <https://doi.org/10.3233/CL-2011-051>
- Dryzek, J. S., & Pickering, J. (2018). *Planetary justice*. Oxford University Press. <https://doi.org/10.1093/oso/9780198809616.001.0001>

- Edelenbos, J., van Buuren, A., Roth, D., & Winnubst, M. (2017). Stakeholder initiatives in flood risk management: Exploring the role and impact of bottom-up initiatives in three 'room for the river' projects in The Netherlands. *Journal of Environmental Planning and Management*, 60(1), 47–66. <https://doi.org/10.1080/09640568.2016.1140025>
- Eriksen, S. H., Nightingale, A. J., & Eakin, H. (2015). Reframing adaptation: The political nature of climate change adaptation. *Global Environmental Change*, 35, 523–533. <https://doi.org/10.1016/j.gloenvcha.2015.09.014>
- Farbotko, C., Dun, O., Thornton, F., McNamara, K. E., & McMichael, C. (2020). Relocation planning must address voluntary immobility. *Nature Climate Change*, 10(8), 702–704.
- Fouqueray, T., Trommetter, M., & Frascaria-Lacoste, N. (2018). Managed retreat of settlements and infrastructures: Ecological restoration as an opportunity to overcome maladaptive coastal development in France. *Restoration Ecology*, 26(5), 806–812. <https://doi.org/10.1111/rec.12836>
- Fraser, N. (1995). From redistribution to recognition? Dilemmas of justice in a "post socialist" age. *New Left Review*, 1(212), 68–93. <https://doi.org/10.1134/S0362119715050035>
- Gaventa, J. (2006). Finding the spaces for changes: A power analysis. *IDS Bulletin*, 37(6), 23–33. <https://doi.org/10.1111/j.1759-5436.2006.tb00320.x>
- Grin, J. (2012). The politics of transition governance in Dutch agriculture: Conceptual understanding and implications for transition management. *International Journal of Sustainable Development*, 15(1–2), 72–89.
- Haasnoot, M., Biesbroek, R., Lawrence, J., Muccione, V., Lempert, R., & Glavovic, B. (2020). Defining the solution space to accelerate climate change adaptation. *Regional Environmental Change*, 20(2), 1–5. <https://doi.org/10.1007/s10113-020-01623-8>
- Hardy, R. D., Milligan, R. A., & Heynen, N. (2017). Racial coastal formation: The environmental injustice of colorblind adaptation planning for sea-level rise. *Geoforum*, 87(October), 62–72. <https://doi.org/10.1016/j.geoforum.2017.10.005>
- Haringsma, P. (2023). Deze Nederlandse gemeente dreigt onder water te lopen (maar een klimaatplan is er niet). *De Correspondent*. <https://decorrespondent.nl/14180/deze-nederlandse-gemeente-dreigt-onder-water-te-lopen-maar-een-klimaatplan-is-er-niet/70299507-77c3-00c0-0d1a-b747ed2fcd6%0ALeestijd>
- Hayward, B. (2008). "Nowhere far from the sea": Political challenges of coastal adaptation to climate change in New Zealand. *Political Science*, 60(1), 47–59. <https://doi.org/10.1177/003231870806000105>
- Hickey, C., & Robeyns, I. (2020). Planetary justice: What can we learn from ethics and political philosophy? *Earth System Governance*, Xxxx, 100045, 100045. <https://doi.org/10.1016/j.esg.2020.100045>
- Holland, B. (2008). Ecology and the limits of justice: Establishing capability ceilings in Nussbaum's capabilities approach. *Journal of Human Development*, 9(3), 401–425. <https://doi.org/10.1080/14649880802236631>
- Holland, B. (2012). Environment as meta-capability: Why a dignified human life requires a stable climate system. In A. Thompson & J. Bendik-Keymer (Eds.), *Ethical adaptation to climate change* (pp. 145–164). The MIT Press.
- Holland, B. (2014). *Allocating the earth: A distributional framework for protecting capabilities in environmental law and policy*. Oxford University Press.
- Holland, B. (2017). Procedural justice in local climate adaptation: Political capabilities and transformational change. *Environmental Politics*, 26(3), 391–412. <https://doi.org/10.1080/09644016.2017.1287625>
- Holland, B. (2022). Capabilities, future generations, and climate justice. In S. M. Gardiner (Ed.), *The Oxford handbook of intergenerational ethics (online edn, Oxford Academic, 10 Mar. 2021)*. <https://doi.org/10.1093/oxfordhb/9780190881931.013.13>
- Hommes, L., Boelens, R., & Maat, H. (2016). Contested hydrosocial territories and disputed water governance: Struggles and competing claims over the Ilisu dam development in southeastern Turkey. *Geoforum*, 71(March 2007), 9–20. <https://doi.org/10.1016/j.geoforum.2016.02.015>
- Honneth, A., & Fraser, N. (2003). Redistribution or recognition? A political-philosophical exchange. In *North* (Vol. 74, Issue 6, pp. 1337–1346). Verso. <https://doi.org/10.1111/j.1095-8649.2009.02189.x>
- Jepson, W., Budds, J., Eichelberger, L., Harris, L., Norman, E., O'Reilly, K., Pearson, A., Shah, S., Shinn, J., Staddon, C., Stoler, J., Wutich, A., & Young, S. (2017). Advancing human capabilities for water security: A relational approach. *Water Security*, 1, 46–52. <https://doi.org/10.1016/j.wasec.2017.07.001>
- Johnson, C., Penning-Rowsell, E., & Parker, D. (2007). Natural and imposed injustices: The challenges in implementing "fair" flood risk management policy in England. *Geographical Journal*, 173(4), 374–390. <https://doi.org/10.1111/j.1475-4959.2007.00256.x>
- Joy, K. J., Kulkarni, S., Roth, D., & Zwartveen, M. (2014). Repoliticising water governance: Exploring water re-allocations in terms of justice. *Local Environment*, 19(9), 954–973. <https://doi.org/10.1080/13549839.2013.870542>
- Kaufmann, M., Priest, S. J., & Leroy, P. (2018). The undebated issue of justice: Silent discourses in Dutch flood risk management. *Regional Environmental Change*, 18(2), 325–337. <https://doi.org/10.1007/s10113-016-1086-0>
- Keessen, A. M., Vink, M., Wiering, M. A., Boezeman, D., Ernst, W., Mees, H., van Broekhoven, S., & van Eerd, M. C. J. (2016). Solidarity in water management. *Ecology and Society*, 21(4), 1–10. <https://doi.org/10.5751/ES-08874-210435>
- Klijn, F., Asselman, N. E. M., de Kruif, A., Bloemen, P. J. T. M., & Haasnoot, M. (2016). Implementing new flood protection standards: Obstacles to adaptive management and how to overcome these. In *E3S Web of Conferences* (Vol. 7). <https://doi.org/10.1051/e3sconf/20160721003>
- Koslov, L., Merdjanoff, A., Sulakshana, E., & Klinenberg, E. (2021). When rebuilding no longer means recovery: The stress of staying put after hurricane Sandy. *Climatic Change*, 165(59), 59. <https://doi.org/10.1007/s10584-021-03069-1>
- Kronlid, D. (2014). *Climate change adaptation and human capabilities: Justice and ethics in research and policy*. Palgrave Macmillan.
- Loughran, K., Elliott, J. R., & Kennedy, S. W. (2019). Urban ecology in the time of climate change: Houston, flooding, and the case of Federal Buyouts. *Social Currents*, 6(2), 121–140. <https://doi.org/10.1177/2329496518797851>
- Lynn, K. A. (2017). Who defines "whole": An urban political ecology of flood control and community relocation in Houston, Texas. *Journal of Political Ecology*, 24(1), 951–967. <https://doi.org/10.2458/v24i1.20977>
- Martin, A., Coolsaet, B., Corbera, E., Dawson, N. M., Fraser, J. A., Lehman, I., & Rodriguez, I. (2016). Justice and conservation:

- The need to incorporate recognition. *Biological Conservation*, 197(2016), 254–261. <https://doi.org/10.1016/j.biocon.2016.03.021>
- Mikulewicz, M., Caretta, M. A., Sultana, F., & Crawford, N. J. W. (2023). Intersectionality & climate justice: A call for synergy in climate change scholarship. *Environmental Politics*, 1–12, 1275–1286. <https://doi.org/10.1080/09644016.2023.2172869>
- Minaravesh, B. (2023). The multi-scalar relationship between children's self-determination and environmental justice in the United States. *Local Environment*, 1–15, 1097–1111. <https://doi.org/10.1080/13549839.2023.2187360>
- Morita, A. (2016). Infrastructuring amphibious space: The interplay of aquatic and terrestrial infrastructures in the Chao Phraya Delta in Thailand. *Science as Culture*, 25(1), 117–140. <https://doi.org/10.1080/09505431.2015.1081502>
- Nijhum, F. Q., Rahaman, S. T., Hossain, M. J., & Islam, I. (2019). Participatory democracy or state-induced violence? Resettling the displaced people of Hatirjheel in Dhaka. *South Asia Research*, 39(2), 202–217. <https://doi.org/10.1177/0262728019843715>
- Nine, C. (2016). Water crisis adaptation: Defending a strong right against displacement from the home. *Res Publica*, 22(1), 37–52. <https://doi.org/10.1007/s11158-015-9310-1>
- Nussbaum, M. C. (2000). *Women and human development: The capabilities approach*. Cambridge University Press.
- Nussbaum, M. C. (2011). *Creating capabilities: The human development approach*. The Belknap Press of Harvard University Press.
- O'Brien, K., Eriksen, S. H., Nygaard, L. P., & Schjolden, a. N. E. (2007). Why different interpretations of vulnerability matter in climate change discourses. *Climate Policy*, 7(1), 73–88. <https://doi.org/10.1080/14693062.2007.9685639>
- Otto, A., Hornberg, A., & Thieken, A. (2018). Local controversies of flood risk reduction measures in Germany. An explorative overview and recent insights. *Journal of Flood Risk Management*, 11, S382–S394. <https://doi.org/10.1111/jfr3.12227>
- Pelling, M., Brien, K. L. O., & Matyas, D. (2015). Adaptation and transformation. *Climate Change*, 133, 113–127. <https://doi.org/10.1007/s10584-014-1303-0>
- Priest, S. (2023). Flood risk research for improving flood risk outcomes. *Journal of Flood Risk Management*, 16(1), 2–3. <https://doi.org/10.1111/jfr3.12888>
- Rawls, J. (1993). *Political liberalism (expanded edition)*. Columbia University Press.
- Reisinger, A., Howden, M., Vera, C., Garschagen, M., Hurlbert, M., Kreibiehl, S., Mach, K. J., Mintenbeck, K., O'Neill, B., Pathak, M., Pedace, R., Pörtner, H.-O., Poloczanska, E., Rojas Corradi, M., Sillmann, J., van Aalst, M., Viner, D., Jones, R., Ruane, A. C., & Ranasinghe, R. (2020). *The concept of risk in the IPCC sixth assessment report: A summary of cross-working group discussions* (p. 15). Intergovernmental Panel on Climate Change. September, 15.
- Robeyns, I. (2003). Is Nancy Fraser's critique of theories of distributive justice justified? *Constellations*, 10(4), 538–554. <https://doi.org/10.1046/j.1351-0487.2003.00352.x>
- Robeyns, I. (2017). Wellbeing, freedom and social justice: The capability approach Re-examined. In *Wellbeing, freedom and social justice: The capability approach Re-examined*. Open Book Publishers. <https://doi.org/10.11647/obp.0130>
- Robeyns, I. (2022). Why Limitarianism?*. *Journal of Political Philosophy*, 30(2), 249–270. <https://doi.org/10.1111/jopp.12275>
- Roth, D., Vink, M., Warner, J. F., & Winnubst, M. (2017). Watered-down politics? Inclusive water governance in The Netherlands. *Ocean and Coastal Management*, 150, 51–61. <https://doi.org/10.1016/j.ocecoaman.2017.02.020>
- Rulleau, B., Rey-Valette, H., & Clément, V. (2017). Impact of justice and solidarity variables on the acceptability of managed realignment. *Climate Policy*, 17(3), 361–377. <https://doi.org/10.1080/14693062.2015.1119097>
- Schakel, W. (2021). Unequal policy responsiveness in The Netherlands. *Socio-Economic Review*, 19(1), 37–57. <https://doi.org/10.1093/ser/mwz018>
- Schakel, W., & van der Pas, D. (2021). Degrees of influence: Educational inequality in policy representation. *European Journal of Political Research*, 60(2), 418–437. <https://doi.org/10.1111/1475-6765.12405>
- Schlosberg, D. (2007). *Defining environmental justice: Theories, movements and nature*. Oxford University Press.
- Schlosberg, D. (2012). Climate justice and capabilities: A framework for adaptation policy. *Ethics & International Affairs*, 26(4), 445–461.
- Sen, A. (1985). *Commodities and capabilities*. Oxford University Press.
- Sen, A. (1999). *Development as freedom*. Alfred A. Knopf, Inc.
- Sen, A. (2009). *The idea of justice*. Penguin Books.
- Sheller, M., & Leon, Y. (2016). Uneven socio-ecologies of Hispaniola: Asymmetric capabilities for climate adaptation in Haiti and The Dominican Republic. *Geoforum*, 73, 32–46.
- Siders, A. R. (2022). The administrator's dilemma: Closing the gap between climate adaptation justice in theory and practice. *Environmental Science and Policy*, 137, 280–289. <https://doi.org/10.1016/j.envsci.2022.08.022>
- Srinivasan, S. (2007). No democracy without justice: Political freedom in Amartya Sen's capability approach. *Journal of Human Development*, 8(3), 457–480. <https://doi.org/10.1080/14649880701462395>
- Stensrud, A. B. (2016). Climate change, water practices and relational worlds in the Andes. *Ethnos*, 81(1), 75–98. <https://doi.org/10.1080/00141844.2014.929597>
- Stirling, A. (2008). "Opening up" and "closing down": Power, participation, and pluralism in the social appraisal of technology. *Science, Technology & Human Values*, 33(2), 262–294. <https://doi.org/10.1177/0162243907311265>
- Sultana, F. (2022). The unbearable heaviness of climate coloniality. *Political Geography*, 99(102638), 1–14. <https://doi.org/10.1016/j.polgeo.2022.102638>
- Tadgell, A., Doberstein, B., & Mortsch, L. (2018). Principles for climate-related resettlement of informal settlements in less developed nations: A review of resettlement literature and institutional guidelines. *Climate and Development*, 10(2), 102–115. <https://doi.org/10.1080/17565529.2017.1291401>
- Taylor, C. (1997). The politics of recognition. In *New contexts of Canadian criticism* (pp. 25–73). Broadview Press.
- Thaler, T., Doorn, N., & Hartmann, T. (2020). Justice of compensation for spatial flood risk management – Comparing the flexible Austrian and the structured Dutch approach. *Die Erde*, 151(2–3), 104–115. <https://doi.org/10.12854/erde-2020-467>
- Thaler, T., Seebauer, S., & Schindelegger, A. (2020). Patience, persistence and pre-signals: Policy dynamics of planned relocation in Austria. *Global Environmental Change*, 63(June), 102122. <https://doi.org/10.1016/j.gloenvcha.2020.102122>

- van Alphen, J., Haasnoot, M., & Diermanse, F. (2022). Uncertain Accelerated Sea-level rise, potential consequences, and adaptive strategies in The Netherlands. *Water MDPI*, 14, 1527. <https://doi.org/10.3390/w14101527>
- van Buuren, A., Klijn, E.-H., & Edelenbos, J. (2012). Democratic legitimacy of new forms of water management in The Netherlands. *International Journal of Water Resources Development*, 28(4), 629–645. <https://doi.org/10.1080/07900627.2011.627756>
- van der Meer, T. (2018). De participatie-elite en de participatieparadox. Stuk Rood Vlees. <http://stukroodvlees.nl/de-participatie-elite-en-de-participatieparadox/>
- van Staveren, M. F., Warner, J. F., van Tatenhove, J. P. M., & Wester, P. (2014). Let's bring in the floods: de-poldering in The Netherlands as a strategy for long-term delta survival? *Water International*, 39(5), 686–700. <https://doi.org/10.1080/02508060.2014.957510>
- van Uffelen, N. (2022). Revisiting recognition in energy justice. *Energy Research and Social Science*, 92(December 2021), 102764. <https://doi.org/10.1016/j.erss.2022.102764>
- Walker, G. (2009). Environmental justice and normative thinking. *Antipode*, 41(1), 203–205. <https://doi.org/10.1111/j.1467-8330.2008.00663.x>
- Warner, J. F., Wester, P., Vink, M., & Dewulf, A. (2020). The politics of scale framing, ambiguity and uncertainty: Flood interventions in The Netherlands. In C. Norman & E. S. Cook (Eds.), *Negotiating water governance* (pp. 101–120). Routledge. <https://doi.org/10.4324/9781315597720-13>
- Wilmsen, B., & Webber, M. (2015). What can we learn from the practice of development-forced displacement and resettlement for organised resettlements in response to climate change? *Geoforum*, 58, 76–85. <https://doi.org/10.1016/j.geoforum.2014.10.016>
- Wolff, J., & De-Shalit, A. (2007). *Disadvantage*. Oxford University Press. <https://doi.org/10.16309/j.cnki.issn.1007-1776.2003.03.004>
- Young, I. M. (1990). *Justice and the politics of difference*. Princeton University Press. (ed. 2011). 1–305.
- Zegwaard, A. (2016). *Mud: Deltas dealing with uncertainties*. Vrije Universiteit.
- Zwarteveen, M., & Boelens, R. (2014). Defining, researching and struggling for water justice: Some conceptual building blocks for research and action. *Water International*, 39(2), 143–158. <https://doi.org/10.1080/02508060.2014.891168>
- Zwarteveen, M., Kemerink-Seyoum, J. S., Kooy, M., Evers, J., Guerrero, T. A., Batubara, B., Biza, A., Boakye-Ansah, A., Faber, S., Cabrera Flamini, A., Cuadrado-Quesada, G., Fantini, E., Gupta, J., Hasan, S., ter Horst, R., Jamali, H., Jaspers, F., Obani, P., Schwartz, K., ... Wesselink, A. (2017). Engaging with the politics of water governance. *Wiley Interdisciplinary Reviews Water*, 4, e01245. <https://doi.org/10.1002/wat2.1245>

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