



UvA-DARE (Digital Academic Repository)

Engaging with the politics of water governance

Zwarteveen, M.Z.; Kemerink-Seyoum, J.S.; Kooy, M.; Evers, J.; Guerrero, T.A.; Batubara, B.; Biza, A.; Boakye-Ansah, A.; Faber, S.; Flamini, A.C.; Cuadrado-Quesada, G.; Fantini, E.; Gupta, J.; Hasan, S.; ter Horst, R.; Jamali, H.; Jaspers, F.; Obani, P.C.; Schwartz, K.H.; Shubber, Z.; Smit, H.; Torio, P.; Tutusaus, M.; Wesselink, A.

Published in:
Wires Water

DOI:
[10.1002/wat2.1245](https://doi.org/10.1002/wat2.1245)

[Link to publication](#)

Citation for published version (APA):

Zwarteveen, M., Kemerink-Seyoum, J. S., Kooy, M., Evers, J., Guerrero, T. A., Batubara, B., ... Wesselink, A. (2017). Engaging with the politics of water governance. *Wires Water*, 4(6), [e1245].
<https://doi.org/10.1002/wat2.1245>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <http://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.



Engaging with the politics of water governance

Margreet Zwarteveen,^{1,2*} Jeltsje S. Kemerink-Seyoum,^{1,2} Michelle Kooy^{1,2},^{1,2} Jaap Evers¹,¹ Tatiana Acevedo Guerrero,¹ Bosman Batubara,¹ Adriano Biza,¹ Akosua Boakye-Ansah,¹ Suzanne Faber,¹ Andres Cabrera Flamini,¹ Gabriela Cuadrado-Quesada,¹ Emanuele Fantini,¹ Joyeeta Gupta,^{1,2} Shahnoor Hasan,¹ Rozemarijn ter Horst,¹ Hameed Jamali,¹ Frank Jaspers,¹ Pedi Obani,¹ Klaas Schwartz,^{1,2} Zaki Shubber,¹ Hermen Smit,¹ Phil Torio,¹ Mireia Tutusaus¹ and Anna Wesselink¹

The goal of the study is to strengthen the analytical purchase of the term water governance and improve the utility of the concept for describing and analyzing actual water distribution processes. We argue this is necessary as most writing on water governance is more concerned with promoting particular politically inspired agendas of what water governance should be than with understanding what it actually is. We believe that water governance at heart is about political choices as to where water should flow; about the norms, rules and laws on which such choices should be based; about who is best able or qualified to decide about this; and about the kind of societal future such choices support. We identify distributions—of water, voice and authority, and expertise—as the empirical anchor and entry-point of our conceptualization of water governance. This usefully allows foregrounding questions of equity in water governance discussions and provides the empirical foundation for a meaningful engagement with the politics of water governance. © 2017 The Authors. *WIREs Water* published by Wiley Periodicals, Inc.

How to cite this article:

WIREs Water 2017, 4:e01245. doi: 10.1002/wat2.1245

INTRODUCTION

We, the authors of this Opinion Piece, are members of the Water Governance chair group at the IHE Delft Institute for Water Education. We work as educators, researchers, and advisors on a wide variety of water questions, ranging from instrumental puzzles about the design of legal or operational arrangements for delivering water services, sharing waters, reducing pollution or mitigating flood risks to more analytical explorations of the entanglements between water and society. Although

we all work on similar water problems, our disciplinary backgrounds are diverse—ranging from civil engineering, public administration and law to human geography, anthropology, and the political sciences. Talking to and understanding each other about our dealings with water forces us to continuously make our own assumptions as explicit as possible and to keep on scrutinizing what we mean. Being forced to continuously compare and contrast our different views and approaches also serves as an inspiration to develop a truly interdisciplinary water governance research and action agenda.

In this short article, we combine our shared experiences and knowledge to propose ways to strengthen the capacity of the concept of water governance to describe and analyze actual processes of governing water. Our proposal is particularly informed by, though not restricted to, our desire to

*Correspondence to: m.zwarteveen@un-ihe.org

¹Water Governance Chair Group, IHE Delft Institute for Water Education, Delft, The Netherlands

²Governance and Inclusive Development Group, University of Amsterdam, Amsterdam, The Netherlands

better recognize equity as a distinct and central concern of water governance analyses and debates. In prevailing water policy and governance parlance—with its reliance on metaphors of markets, competition and its emphasis on individual economic rationality when describing human behavior—equity and justice either appear as after-thoughts, or are simply assumed to synergistically happen alongside or even because of improvements in efficiency or sustainability. We find this disturbing, as declining quantities and qualities of water prompt reallocations that inevitably favor some uses and users over others. The increased incidence of floods and droughts, or proposed ways to deal with those, likewise affects different groups of people differently. How water-related costs, incomes, and risks are distributed is shaped by prevailing institutions and political-economic structures that are often marked by class, religion, gender, and ethnicity. Equity, therefore, should be at the heart of contemporary water governance concerns. This is why we think it is important to develop a conceptual language that helps interrogating or contesting, rather than simply assuming, the linkages between the goals of equity, sustainability, and efficiency in water governance. In illustration and substantiating our arguments, we draw on insights derived from our own diverse research projects on water governance practices. More detailed accounts of the outcomes of these projects are reported and published elsewhere.

WATER GOVERNANCE

The term water governance has rapidly gained popularity in the last two decades. In parallel to its increased prominence in policy documents, the term has also come to refer to an area of academic research, with its own journals, such as the *International Journal of Water Governance and Water Governance and Policy*, and with a plethora of books that have the term in their title. This popularity can be traced to two related meanings and uses of the term. First of all, in water policy circles which are still largely dominated by natural scientists and engineers, it indicates a broad acknowledgment that water is not just natural, but also highly social. The term governance thus marks a change in policy emphasis from infrastructure to the organizational, financial, and institutional arrangements needed to regulate and order flows of water. The phrase: ‘the water crisis is a crisis of governance’ famously captures this shift.¹

The second source of the term lies with economists and political scientists, who started using the word governance to capture the diminishing direct role of the state in arranging the distribution of welfare, with private sector and civil society actors taking over responsibilities in allocating resources, delivering ‘public’ services and exercising control and coordination. Here, the term governance thus denotes a reform of the public sector; it refers to ‘a *new* process of governing, or a *changed* condition of ordered rule; or the *new* method by which society is governed’ (Ref 2, p. 652–653). More broadly, international relations scholars wrote about ‘governance without government’ to denote the construction of regimes of rule which do not rely on claims of sovereignty of states. This meaning of the term governance was both attractive for proponents of neoliberal reforms, who emphasized the need to have lean states and deregulation, as well as for those who identified with the deep democracy movement, striving for space to allow bottom-up development.

In water, these two meanings and uses of the term governance have come together in the World Bank and other funders’ lending policies towards developing countries. Here, the term ‘good governance’—associated with the promotion of transparency, accountability, and integrity—has become the seemingly neutral title for a distinct political reform agenda (Ref 3, p. 308). This agenda marries New Public Management to the advocacy of liberal democracy (Ref 2, p. 656) through the encouragement of competition and markets; the privatization of public enterprises; reforms of the civil service by reducing alleged over-staffing; the introduction of budgetary discipline; the decentralization of administration and the greater reliance on nongovernmental organizations. One notorious operationalization of this reform agenda consists of the creation of markets for water or water rights, something that is expected to both improve the productivity of water uses and address concerns about environmental degradation.⁴ It is perhaps this particular political-ideological use of the term water governance that has most fiercely marked discussions and debates, as the reliance on markets or quasi-market mechanisms for regulating resources is deeply contested on many accounts.^{5,6}

Overall, in water the term governance has mostly been used to normatively prescribe or help design particular institutional, organizational, and financial arrangements for making water decisions and regulating water. Much of the scientific foundation for such prescriptive governance recipes comes from often ideologically informed speculations about what society or development should be, rather than

from in-depth empirical understanding of how water governance actually occurs. To rescue the term's analytical purchase—i.e., its ability to make sense of and help understand actual processes of governing—we posit that it is fruitful, first of all, to make the question of what governance means and for whom itself the object of critical investigation: how and by whom is the term water governance used, and for what political or analytical goals? Here, it is useful to keep in mind Colebatch' observation that some people have an interest in referring to (often simple and straightforward) definitions of governance to denote or indeed justify what they do.³ This is particularly true for formally designated governance actors (usually the government) who are under pressure from their constituency to describe what they do in terms of its functional concern for matters to be governed (Ref 3, p. 311). The mobilization of particular accounts of governing is thus itself part of the practice of governing, with that what constitutes a 'good account' depending on context (Ref 3, p. 312). In their attempts to construct authoritative accounts of problem-solving, formally designated governance actors often closely collaborate with those who observe and make sense of governance from a relative or supposed outsider position—academic researchers and writers, journalists, other commentators. By locating official acts in narratives of coherence, intention, and improvement, these outsiders both inform but also actively help perform and legitimize processes of governing.

This brings us to the second element of our proposal for an analytical approach to describe and analyze water governance. Acknowledging the many recursive linkages between *knowing* water governance and *governing* water—or indeed recognizing how the two coshape each other—means accepting that any account of water governance is always deeply concept-dependent. The terms, categories, and measurements used to describe and assess water governance are themselves, at least partially, informed by particular views of which form of governing (or governance structure) is best—be it the government, the market, or networks. Efforts to study governance therefore need to explicitly include this ideological discussion, attempting to pry open the political opinions, interests, and motivations that inform preference for some conceptual abstractions or theorizations of behavior over others. What do conceptualizations and definitions help do, for whom, how, and with what effect(s)? How is the theoretical-discursive construct of governance related to the exercise of power? Here, we think there is merit in investing more research effort in the detailed

documentation of everyday dealings with water, anchoring reflections about water governance in everyday water practices. Instead of just describing and analyzing governance from the perspective of those who (are supposed to) govern, this implies asking how slum dwellers, farmers, water operators, government officials, researchers, educators, representatives of funding organizations, and others engage, deal, and live with water in their daily routines and interventions? Reinserting the analysis of water governance in a broader analysis of how society functions and universality (truth) is produced, we hope to reinvigorate the concept's capacity for critiquing and challenging water-based inequities.

In our attempts to operationalize this approach to water governance in our research and education endeavors, we propose empirically anchoring investigation and debate in the pragmatic study of *distributions*. With distributions we not only refer to how water resources or services are allocated through dynamic interactions of humans with their biophysical environment, but also to how voice and authority, as well as (water knowledge and expertise)⁷ are distributed. Hence, we define water governance as 'the practices of coordination and decision making between different actors around contested water distributions' (Ref 7, p. 19). Such practices are thick with politics and culture; they are linked to creative processes of imagining and producing collective water futures, and combine political problems of *scale* (spatial, ecological, administrative, and temporal), with problems of *coherence* (the durable alignment of different people and different waters despite problems of commensurability and political tensions) (cf. Ref 8).

Documenting and interrogating distributions allows foregrounding questions of equity when studying water governance, and usefully moors debates about how governance should happen in an understanding of how water governance actually occurs. Importantly, it also explicitly links the analysis of governance processes to the evaluation of governance outcomes. It is here that we label our approach as pragmatic: in addition to describing and evaluating a particular governance approach in terms of its ideological flavor and the kind of societal-natural orders it promotes, we suggest that assessment should also happen in terms of how a particular way of governing coshapes the direction and nature of water flows and of what this means for whom. In this way, we do not *a priori* qualify a particular ideological model of water governance as best, but instead aspire to normatively assess the merits of specific governance processes and arrangements on

the basis of distributional outcomes. After all, water governance is a practical question, as much as a political one. Foregrounding distributional outcomes in the study of water governance, we hope, provides the basis to inform and advance efforts to redress water-based or related inequities and support transformative struggles for emancipation in water. We discuss and illustrate our suggested approach in greater detail in the next section, zooming in on different forms of distribution.

KNOWING WATER AND INTERDISCIPLINARITY

As much of the literature on (water) governance draws on social and political sciences, analytical attention tends to focus on the behavior of humans or societies. We contend that a sound understanding of the materiality of water—its properties and behavior—is also needed to inform attempts to understand and improve its governance. Knowledge of water is seldom straightforward and conclusive enough to provide an unequivocal basis for decision making. This is partly because water is notoriously capricious. Its behavior is difficult to precisely predict, not only in general terms of quantity and quality, but also in terms of its physical appearance, its specific location and its precise timing. Water drizzles down, trickles into aquifers and evaporates when it flows from mountain ranges to oceans, processes that are affected by changes in climatic conditions. Dynamic practices of water use—in which people actively respond to changing physical conditions, and in turn alter these conditions by abstracting, redirecting, storing, transforming, polluting, damming, and consuming water—further complicate the knowability of water. It is because of these interactions that we propose a conceptualization of water (and by implication of water governance) as simultaneously social and natural: actual water flows happen as the result of the always evolving relations between people and their environment. The characterization and conceptualization of water when transported from source to tap, when redirected through pipes and canals, when it seeps through soils and cracks, is itself also a deeply human and social endeavor, with numbers and data often becoming part of what is contested and in need of some form of governance. Categorizations, such as those in blue, green, and gray water or the expression of water in terms of environmental services, basic human needs or in different legal terms are abstractions that foreground particular aspects or characteristics of water (the

different origin of waters used in agriculture; the importance of ecosystems; the importance of water for human health and survival, respectively) and are useful for some purposes and agendas but not for others. Similarly, although calculations of water-use efficiency, productivity, or human water needs, as well as assessments of estimates of water footprints (i.e. the quantity of virtual water used to produce consumer goods) or predictions of future flood risks are getting ever more accurate, they continue to rely on assumptions and some degree of speculation. Rather than accepting scientific assessments based on such categorizations as undisputable matters of fact, it is therefore important to remain vigilant about how they are themselves the product of particular knowledge traditions or associated with political agendas.

Our plea to anchor the study of water governance in a sound, interdisciplinary understanding of water therefore is not a plea to justify far-reaching political water decisions with supposedly objective natural facts about water. On the contrary, it is a call to firmly link assessments and measurements of water quantities and qualities—of floods, droughts, and scarcity—to the ways in which these waters are experienced and given meaning in behaviors, processes of decision making and projects of improvement. And vice-versa: it is a call for showing how particular water experiences, meanings, and visions of futures inform scientific measurements.

DISTRIBUTIONS OF WATER

A myriad of questions arise when studying how the capricious and ever-changing source of water is distributed among various agricultural, industrial, commercial, domestic, and ecological users. These include questions about the distributional consequence and implications of efforts to improve the productivity and efficiency of its use, or to ‘protect’ ecosystems and future flows or stocks. Moving water from upstream to downstream; from farmers to bottled water producers; from lower-value crops to high-value commercial crops; from one river basin to another will almost always benefit some while depriving or even harming others. These questions of water distributions are not just about water itself, but also include those about how laws and norms justify patterns of access to water or water services. The characterization of existing water uses in rural areas and slums as nonproductive and wasteful may thus legitimize reallocations to supposedly more efficient agri-businesses or wealthy neighbourhoods.

Questions of water distribution include those about the distribution of water related risks, again keeping in mind how the use of water in one location affects possibilities of use elsewhere: the discharge of wastewater pollutes rivers affecting downstream uses; the salinization of groundwater through over-abstracted aquifers has negative implications for future possibilities to irrigate; while increasing piped water supply to some areas may result in negative water pressure and contamination from subsurface flows in others. Indeed, the focus on distributions entails an active invitation to trace how water that flows to one place carries implications for its quality and quantity in other places. Mapping such interdependent connections provides an empirical foundation to start unravelling the formal and informal governance arrangements that made them possible, also providing a useful entry-point for laying bare the politics of such arrangements. Whose actions and behaviors allowed them to happen? How are these mediated by technologies, laws, or funds, and shaped by institutional and technological path-dependencies? What larger stories of progress or development support them or are promoted through them?

An example of what such a mapping of interdependent distributions and their politics may entail is illustrated by our work in Jakarta, Indonesia. Here we examine how inequities in access to urban water are shaped by the intertwined distributions of groundwater, floodwater, wastewater, and piped water. In Jakarta, the poorest residents of the city are most dependent on shallow groundwater sources. However, these are contaminated by subsurface flows of wastewater, polluted surface water which overflows during frequent flood events, and the intrusion of saline sea water.⁹ The ecological connections between these different water flows are the consequence of the over-abstractation of deep groundwater by industrial, commercial and high-end residential users over the last fifty years. The possibility to access these high quality deep groundwater sources is the combined function of access to capital (needed to drill deep tube-wells) and political connections (to obtain formal or informal authorization to drill) and therefore only open to elite water users. Their intensive use of groundwater is preventing the distribution of piped water to poorer sections of the city. Also, because they can rely on their own groundwater sources, high end users opt out of the public system. This lowers the utility's revenue, thereby slowing down or altogether halting network maintenance, rehabilitation, or expansion, with particular negative effects for those without their own access to good sources of groundwater: the poor. How

groundwater sources are distributed is difficult to measure, even more so in the case of deep groundwater. The distribution of groundwater is also contested, with huge differences between government accounts of abstraction and availability and those produced by civil society movements. Although the majority of Jakarta's residents have never accessed water through a central network and even though it is highly improbable that this will ever be the case in the future, actively upholding the possibility of the central piped network as a future possibility—the urban infrastructural ideal—also makes such measurements seem irrelevant.¹⁰ It is ironic in this regard that most scholarly and practitioners' efforts to address equity in access to urban water in Jakarta focus exclusively on the piped network, neglecting equity issues in the quality and quantity of groundwater or in the distribution of risks from wastewater contamination. Attention to the over-abstractation of deep groundwater has only come to the fore in recent years as a result of the urgent need for flood management. Likewise, there is little attention by government or civil society actors to monitoring the quality and quantity of shallow groundwater, which is the *de facto* source of water for many of Jakarta's poorer residents.

What the case of Jakarta highlights is the interdisciplinary work needed to map how surface and underground water flows overlap and intersect ecologically, technically, and socially in ways that are often contingent and escape strict infrastructural containment or formal governance control. Resulting water distributions, as a consequence, seldom adhere to original plans or legal prescriptions but are ambiguous and, at least to some extent, unruly. Such work is important in view of rethinking ways to organize and govern interventions in the provision of water services in cities in support of more equitable distributions (see e.g., also our work on small-scale water operators in Maputo, Mozambique.¹¹

DISTRIBUTIONS OF VOICE AND AUTHORITY

Questions about distributions of water such as those in Jakarta automatically lead to questions about how voice, responsibilities, and authority related to water are distributed in society. How are possibilities to steer and control distributions of water coordinated and organized, and on what are they based? Whom to approach or hold accountable if water distributions are unjust, inefficient, or unsustainable? Decisions about water distributions occur in complex

sociopolitical environments in which numerous social actors strategize with varying degrees of influence and certainty. These actors do not only have widely differing perspectives and interests, but are also drawing on different resources, norms and legal repertoires to articulate, frame, and defend their positions. The Jakarta example draws attention to how the (historical) accumulation of water shapes both access and authority, with differences in access to water in turn co-shaping social identities and forms of citizenship. Acknowledging these interrelations prompt modesty in terms of what can be changed or improved and within which time frame, but also directs research attention away from only the formally designated water governance domains or actors. Indeed, research such as that done in Jakarta may well lead to the conclusion that actively resisting and opposing government-based water laws and governors is most effective when the goal is to make distributions more equitable.

That institutional and technological path-dependencies that are embedded in larger geometries of power pose challenges to efforts to redistribute voice and authority in decision-making processes over water also becomes crucially apparent in the water reform process of post-apartheid South Africa. A cornerstone of this reform process was the establishment of racially inclusive water user associations. These replaced existing irrigation boards, and were envisioned as vehicles for making water decision making at catchment level more democratic, thereby also partly redressing the legacy of racial discrimination of the apartheid era. In the tertiary catchment in the Thukela Basin where we carried out research, white owners of large-scale farms had a long tradition of organizing themselves around water within irrigations boards. They effectively mobilized their experience and networks to forge intricate arrangements to share water infrastructure, and to creatively frame the agenda. In this way, these farmers managed to tweak the reform process in such a way that they maintained the *de facto* riparian water rights and increased their control over the development of water for historically disadvantaged water users.¹² Our analysis thus underscores that powers of water control are the product of complex negotiations that only partly occur in formally designated water governance domains. The agency that different actors can exercise and wield in these negotiations stems from historically produced norms, which are tied up with deeply ingrained social identities and associated structures of authority. For example, a government official involved in the reform process in our study area used his own interpretation of the government

guidelines that stipulate the need for a balanced representation of users in the water users' organization. He interpreted balanced representation to mean the categorization of water on the basis of racial groupings, rather than on the basis of the similarity of water uses. Despite the fact that he himself is of the same race that the apartheid regime so brutally oppressed, his categorization had the effect of reproducing apartheid thinking: it legitimized the overrepresentation of large-scale farmers in the executive committee of the water user association. Our case cannot be generalized; the South-African reform process did open up spaces of manoeuvre for historically marginalized actors in other instances, effectively producing a redistribution of voice. One example of how this happened concerns the unexpected result of South African policy documents categorize the rural residents of former homelands as smallholder farmers. Despite having a small vegetable garden, many of these rural dwellers in our study catchment did not identify themselves as farmers. For their livelihoods, they largely depend on social security grants and remittances of family members residing in urban areas. They nevertheless actively used their policy-given identity to consciously choose when to participate in water reform processes and when not, depending on what they can gain or lose.¹³

Mapping and interrogating distributions of voice and authority, like we did in our studies in South Africa, reveals how new and inherited identities and social categories may (re-)produce social hierarchies of power, even when new governance arrangements are designed to challenge these. Over time, water governance decisions become embedded in often unconscious routines and ritualized ways of doing things, which form part of the ways in which actors perceive themselves, others, and the social and material environment around them. This sheds light, but also raises further questions, on how institutions materialize in water distributions (and vice-versa), and on how agency and social constraints dynamically shape different actors' abilities to influence where water flows.

DISTRIBUTIONS OF KNOWLEDGE AND EXPERTISE

The questions of distributions of water and distributions of voice and authority highlighted above are closely linked to questions of knowing, and intervening in, water governance processes. As noted in the introduction, ways of knowing and forms of

expertise are always part of distributional orders, rather than external to them. Acknowledging the mutually constitutive relationship between power and knowledge is crucial in unravelling linkages between the interests that actors pursue and the normative frames and descriptive terms they draw on to represent reality.¹⁴ It helps unearth how unequal social relations may become normalized through the use of particular categories or normative frames, and how unequal distributions of knowledge and expertise are part of broader structures of social and economic dominance. The question of why some knowledges are or become more mobile, and which experts carry greater authority than others and why is intrinsic to such explorations.

These questions are central in our analysis of the journey of the Dutch delta approach to other delta countries around the world (e.g. Bangladesh, Vietnam, the United States of America, Mozambique, and Indonesia) (see amongst others Ref 15). The transfer of knowledge on delta planning and management from the Netherlands to other countries is financially supported by the Dutch government, amongst others via public research funds, which have prioritized water as a focus area, and through its development aid agenda which pro-actively ties aid to trade. Building on the well-known and oft-repeated stories of how the Dutch successfully conquered their waters, the Dutch government hopes to export the experience and expertise that the Netherlands developed during centuries of protecting its delta against flooding. It is thus actively using the Dutch-ness of its own delta expertise to mark it as superior, suggesting that other deltas can make use of it.

When looking more closely at the precise contents of Dutch delta knowledge, it appears difficult to precisely pin down what characterizes it. In the Netherlands itself, ideas about what constitutes the best approach for living in a delta are continuously changing and subject to debate, for instance under the influence of environmental movements or because of climate change. Where in the past the Dutch focused on constructing dikes and other engineering works to keep the water out, more recent Delta plans prefer 'softer' solutions that allow to 'live with' water, such as the widening of riverbeds, creating retention basins and beach nourishment.¹⁶ When traveling to other countries, Dutch delta knowledge also seems to come in many shapes and forms.

One possible form Dutch Delta knowledge may take is participatory tools for delta planning. The official reason for the travels to other countries is the expectation that these tools can, elsewhere just as in

the Netherlands, support processes of creating consent and solving local delta issues. However, and less officially, they also serve the purpose of strengthening the presence and fame of Dutch expertise in these delta regions. In our research, we study for instance how Dutch experts use their participatory scenario planning tools to support the Vietnamese government in developing a vision for the Mekong delta. As the tools were also used in the latest Dutch Delta Plan, they are thought to embody advanced contemporary delta management expertise. In the Netherlands, use of the tools supported the development of different contextual future scenarios, with different climate change and economic growth predictions as the variables. They thus supported as well as embodied the notion of adaptive and participatory delta management. In the socialist-inspired planning culture of Vietnam, the tool instead served the purpose of helping those with political power choose and legitimize one favored future, based on an analysis of the trade-offs between industrial versus agribusiness development. When used in the Vietnam context, the tools thus became instruments to pave the way for future Dutch projects, while also allowing some Vietnamese politicians and government officials to develop and promote a particular water agenda.

What then traveled when the tool traveled? Many like to see the deployment of Dutch participatory planning tools elsewhere as further evidence of the superiority and marketability of Dutch delta planning knowledge. Yet, a more detailed investigation of how water expertise supports or justifies water governance decisions usefully opens up the debate about which types of knowledge are mobilized in the making of governance decisions, also diversifying the possible performances of tools. As for Dutch delta expertise, active financial support for their application was perhaps more important in allowing the tools to travel than some kind of intrinsic superiority or inherent characteristics. Such conclusions also invite further explorations into how scientific knowledge bears the marks of its origins and of how it compares to possible other knowledges about ways to live with (or stay away from) water in deltas.

CONCLUSIONS

In this article, we have made a proposal to strengthen the analytical purchase of the term water governance: its ability to help describe and analyze actual processes of organizing the distributions of water in society. This is needed, as (with some notable exceptions) many

writings on water governance are more concerned with promoting particular politically inspired agendas of what water governance should be than with understanding what it actually is. Hence, while there is a lot of interesting and useful debate about what the best ideological foundations are for governing water—should water be treated as a commodity, a basic need, a human right—much less systematic scholarly effort goes into documenting the actual workings of particular institutional, financial and organizational governance arrangements and processes. Even less systematically analyzes such practice-based descriptions in terms of how they reconfigure distributions of water.

Our proposal is inspired by our conviction that water governance at heart is about politics. With this we mean that water governance concerns deeply political choices about where water should flow; about the norms, rules and laws on which such choices should be based; about who is best able or qualified to decide about this; and about the kind of societal future such choices support. This is why we make distributions—of water, voice and authority, and expertise—the empirical anchor and entry-point of our conceptualization of water governance. Our approach is pragmatic in that it tries avoiding a strong identification with or preference for a particular governance model in the choice of descriptors or frames of assessment. One way in which we do this is by emphasizing the importance of also assessing the value of specific governance arrangements on their practical merits: how do they interfere with or modify distributions of water, voice and authority and expertise? Hence, in addition to evaluating the ‘goodness’ of water governance in terms of process (integrity, accountability, transparency), we make a plea to also evaluate it in terms of distributional outcomes. This, we hope, will both allow foregrounding questions of equity in water governance discussions as well as provide the empirical foundation for more meaningfully engaging with the politics of water governance.

Our approach to water governance entails an invitation to literally follow the water, yet without falling into the trap of considering water as a purely or solely natural phenomenon. Anchored in and inspired by emerging theorizations of water that emphasize how it is simultaneously social and natural, following the water is something that requires to cross borders: administrative boundaries, as when water flows from cities to rural areas or from one state to the other; sectoral borders that divide flows of water into different infrastructural networks of water, separating water supply from wastewater and drainage, irrigation from drinking water, hydropower reservoirs from environmental flows, or floodplains from navigation channels. Following the water also involves tracing the connections between more visible waters in wetlands, floodplains and rivers with less visible waters in shallow, and even deep, aquifers. It requires understanding technically mediated socio-natural dependencies and relations between water users and actors at different scales, even if not always immediate or obvious. It means tracing how water is redirected by infrastructures and rearranged and given meaning by diverse groups of actors including policy makers, operators, water users and scientists. It includes scrutinizing how scientific knowledge claims and empirical evidence are themselves tied up with particular political visions of better futures, and critically following blueprints for interventions when they commute between science, policy and practice. It also calls for crossing disciplinary boundaries: our approach to water governance rests on and crucially requires insights from different academic domains, including public administration, anthropology, (geo)hydrology, civil engineering, law, human geography, ecology, political sciences, and economy. We call on all readers of this Opinion Article to join us in further developing this truly interdisciplinary research agenda on water governance, to collaboratively lay the basis both for steering governance practices and arrangements in more just directions as for challenging unjust water governance orders.

REFERENCES

1. Organization for Economic Collaboration and Development (OECD). *Water Governance in OECD Countries: A Multi-Level Approach*. Paris: OECD; 2011.
2. Rhodes RAW. The new governance: governing without government. *Polit Stud* 1996, XLIV:652–667.
3. Colebatch HK. Making sense of governance. *Policy Soc* 2014, 33:207–216.
4. Bakker K. The “commons” versus the “commodity”: alterglobalization, anti-privatization and the human right to water in the global south. *Antipode* 2007, 39:430–455.

5. Ahlers R, Zwarteveen M. The water question in feminism: water control and gender inequities in a neo-liberal era. *Gender Place Cult* 2009, 16:409–426.
6. Boelens R, Zwarteveen M. Prices and politics in Andean water reforms. *Dev Change* 2005, 36: 735–758.
7. Zwarteveen M. *Regulating Water, Ordering Society: Practices and Politics of Water Governance (Inaugural Lecture)*. Delft: University of Amsterdam and UNESCO-IHE; 2015, 35.
8. Bridge G, Perreault T. Chapter 28: environmental governance. In: Castree N, Demeritt D, Liverman D, Rhoads B, eds. *A Companion to Environmental Geography*. Oxford: Wiley-Blackwell; 2009, 475–496.
9. Kooy M, Walter C, Prabaharyaka I. Inclusive development of urban water services in Jakarta: the role of groundwater. *Habit Int* 2016. <https://doi.org/10.1016/j.habitatint.2016.10.006>.
10. Furlong K, Kooy M. Worlding water supply: thinking beyond the network in Jakarta. *Int J Urban Reg Res* 2017. In print.
11. Schwartz K, Tutusaus Luque M, Rusca M, Ahlers R. (In)formality: the meshwork of water service provisioning. *Wiley Interdiscip Rev Water* 2015, 2:31–36.
12. Mendez LE, Kemerink JS, Wester P, Molle F. The quest for water: strategizing water control and circumventing reform in rural South Africa. *Int J Water Resour Dev* 2016, 1–14. <https://doi.org/10.1080/07900627.2016.1253544>.
13. Kemerink JS, Mendez LE, Ahlers R, van der Zaag P. The question of inclusion and representation in rural South Africa: challenging the concept of Water User Associations as a vehicle for transformation. *Water Policy* 2013, 15:243–257. <https://doi.org/10.2166/wp.2012.127>.
14. Foucault M. Two lectures: selected interviews and other writings 1972–1977. In: Gordon C, ed. *Power/Knowledge*. New York: Pantheon; 1980, 78–165.
15. Wesselink A, Warner J, Abu Syed S, Chan F, Duc Tran D, Haq H, Huthoff F, Le Thuy N, Pinter N, Van Staveren M, et al. Trends in flood risk management in deltas around the world: are we going ‘soft’? *Int J Water Gov* 2015, 4:25–46.
16. Gupta J, Bergsma E, Termeer CJAM, Biesbroek GR, van den Brink M, Jong P, Klostermann JEM, Meijerink S, Nooteboom S. The adaptive capacity of Dutch institutions in the Dutch spatial planning, water, agriculture and nature sectors. *Mitig Adapt Strat Glob Change* 2016, 21:883–903.