## A Political Ecology of 'Apolitical' Water Governance—Lessons Learned from Turkish Experience

Ramazan Caner Sayan

University of Dundee, UNESCO Centre for Water Law, Policy and Science Email: rsayan@dundee.ac.uk; canersayan@gmail.com

#### Abstract

Widely applied water governance practices, like the construction of dams, hydroelectricity power plants, irrigation canals, reservoirs, and water infrastructure/sewage systems are globally regarded as technical, expert-oriented and/or scientific issues. They are rhetorically detached from socio-political contexts. Such governance practices are generalised as apolitical models, in which their technocratic and market-driven natures are emphasised. However, their implementation is frequently met with frustration by the local populations, based on the socio-environmental issues that these practices arise. The water governance practices of Turkey are brought into greater focus to assess these policies and their local implications, prepared with an apolitical understanding. Accordingly, this article reviews the historical-discursive processes through which the current water governance practices of Turkey have been shaped, and presents public reactions against these practices. This article applies a political ecology framework to reinforce the concept of environmental justice as the main social challenge to apolitical water governance practices.

Keywords: Water governance, political ecology, environmental justice, Turkey

#### 1. Introduction

In May 2014, I was wandering around Kargi Brook, which is a small watercourse located in Fethiye, Western Mediterranean Province of Turkey for my research on Turkey's recent small-scale hydroelectricity power plant (HPP hereafter) development policies. Along with the brook, there were touristic entrepreneurships, ranging from eco-tourism hubs to five-star hotels; agricultural activities including citrus yards, olive graves and various fresh vegetables and fruits; and fish farms. Irrigation channels full of water surrounded the brook. Furthermore, *Liquidambar orientalis* trees, which are endemic to the region and are classified as endangered species, were growing along the brook, while pine and plane forests completed the landscape of this small basin. Between 2011 and 2014, the basin witnessed public oppositions against a HPP construction attempt, which was carried to the court by the locals. Although this construction was avoided due to the court decision, there are still three more HPP development plans on this small brook (Demir, 2011). When talking with

the locals about these potential constructions, one interviewee, who had recently settled in this village with his foreign family, angrily stated "I dragged my family here for this [pointing the brook and garden composed of citrus and pomegranate trees], for water. If anyone attempts to take it from me, I would be the frontrunner of a new opposition".

At the end of my field study in this village, I returned to Fethiye, the administrative centre of the region. Whilst interviewing with the lawyers and activists there, my questions were aimed at revealing the HPP processes of the region, but their answers unanimously highlighted the relevant issues of the town. There, they underlined an additional 35 (estimated) HPP development projects, targeting the small brooks around the town. For example, during this visit, a harsh public opposition broke out against an HPP construction in a village around 50 kilometres away from Fethiye. Another peasant in a different village, closer to Saklikent basin, was complaining about the expropriation processes following the construction of an irrigation dam. While interviewing with the local administrators, one local interrupted our conversation to complain about the rehabilitation activities undertaken on the Murt Brook, which flows inside the town.

HPPs, irrigation channels, reservoirs, brook rehabilitations. . . All have two common points: Firstly, they are all part of Turkey's water governance. This is not something peculiar to Fethiye, similar cases exist in the rest of the country. For example, there are controversial inter-basin water transfers designed to provide drinking water to Istanbul from the Melen Stream of Bolu (see Islar & Boda, 2014). In addition, there is an ambitious governmental plan, initiated in the beginning of 2012, entitled "1000 Ponds and Irrigation in 1000 Days". This plan aims to complete the transition to irrigated agriculture in rural Turkey. It is sponsored by the State Hydraulic Works (DSI as Turkish acronym), which is the main bureaucracy responsible for water governance (DSI, 2015). Elsewhere, fights between local communities, the state and creditors continue over the construction of the large-scale Ilisu dam on Tigris River, mainly due to its potential impacts on socio-cultural heritage of the region. The ancient town of Hasankeyf is envisaged to be inundated at the end of the process. Struggles against small-scale HPP developments are being experienced in hundreds of localities. These developments are supervised by DSI, but are implemented by the private sector (see Hamsici, 2010). Furthermore, there are controversies regarding the private sector's involvement in the planning and development of urban water and wastewater, which have been hot topics in cities like Antalya and Kocaeli (see Cinar, 2009).

Second commonality of these water governance practices is their association with socio-environmental inequalities, as demonstrated in this brief introduction. This disentanglement of the implementations of water governance practices demonstrates the nexus between state, society and water, while also reaffirming the socio-political nature of water governance (see Adaman, Akbulut, & Arsel, 2016; Bryant & Bailey, 1997). The concept of environmental justice, which is traditionally perceived as one of the focal points of political ecology tradition (see Martinez-Alier, 2002), can be utilised in revealing this nexus. As a contested concept, environmental justice addresses "questions of inequality, fairness, and rights with respect to environmental conditions and decision-making processes" (Holifield, 2012, p. 592). Schlosberg (2007) and Walker (2012) discuss such environmental decision-making processes, which are shaped through the interplay between multiple scales, actors and

processes. They suggest that they are likely to awaken issues bound to the allocation of environmental burdens and benefits among society; the extent of recognition of marginalised and disempowered communities; and their participation into the policy process. Applying such a perspective in conceiving and analysing water governance emphasises the political underpinnings of policy-making and management processes, which are not particularly weighted by the existing water governance schemes.

Discussing the political and environmental justice aspects of water governance practices in Turkey inevitably leads to deliberation on the influence of modernisation, which has played an essential role in shaping the Turkish state since 1923 (referring to the foundation of the Republican regime after the collapse of Ottoman Empire). Modernisation is a contested concept. On the one hand, modernisation is regarded as "a programmatic vision for social change and progress, linked to industrialization and capitalist expansion, and in effect as an ideology for human emancipation" while on the other hand it is referred to "as the ongoing process that originated with the Enlightenment, but which was realized in the economic, political, and everyday spheres only after industrialization and the expansion of the capitalist world market" (Kaika, 2005, p. 4). Another definition outlines the ideology of modernity, or high-modernity, "as a strong... version of the self-confidence about scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the mastery of nature (including human nature), and, above all, the rational design of social order commensurate with the scientific understanding of natural laws" (Scott, 1998, p. 4). In this article, these two definitions of modernisation are indispensable since they make it possible to see it as a common process, an ideology, and a political agenda in which water is subordinated and externalised through science and technology. In addition, modernisation is seen to justify the exploitation of water resources through monumental engineering projects, for the sake of societal and economic progress (see both Kaika, 2005 & Scott, 1998 for further elaborations). Accordingly, a discussion of modernisation cannot be ignored since it has been seen as the justification for the promotion of large-scale socio-ecological transformations under the pretext of being modern, including issues bound to water governance (see Robbins, 2012).

Since the 1980s, neoliberalism has infiltrated the ideological framework of Turkey's water governance. However, as underlined elsewhere (Adaman et al., 2016; Peet & Hartwick, 2009), neoliberal transformations still hold strong affiliations to modernist ideology, and are even frequently referred to as "neo-modernity". This affiliation is embedded in discourses associated with water governance of Turkey. Disentanglement this affiliation will demonstrate that the active usage of modernist notions, such as economic and social transformations and technocracy, and the subsequent subordination of local communities and knowledge from the water policy-making processes in Turkey, reinforces political characteristics of water governance.

Therefore, this article seeks answers to the following questions by focussing on the central theme of socio-environmental inequalities of water governance practices of Turkey, this article seeks answers to the following questions:

- 1. How are water governance practices shaped in Turkey?
- 2. What are the fundamental reasons of local socio-environmental inequalities, originating from Turkey's water policies?

This article firstly introduces the conceptual framework of political ecology, and related to this, environmental justice. The political ecology approach will be used to deconstruct Turkey's water governance and its social, ideological and discursive dimensions in a broader historical analysis. It also allows focus on localised socio-environmental processes through the environmental justice concept, which is one of the key components of political ecology framework. Secondly, the methodology and methods applied in this article will then be detailed. Thirdly, the history of Turkey's water governance will be narrated based on its modernisation process. This will be complemented by the analysis of the discourses prevailing in Turkey's water governance. This is important, as it shows the socio-political dimensions and administrative traditions of Turkey's water governance. Fourthly, local cases of water governance will be used to underpin the socio-environmental inequalities originating from the mainstream water governance practices in Turkey. The analysis will discuss inequalities within the context of environmental justice. Finally, policy recommendations will be listed to improve Turkey's water governance. The conceptual contributions to the existing environmental justice frameworks will also be justified.

# 2. The Political Ecology of Water Governance: Challenging Apolitical Models through Environmental Justice

The article's conceptual framework depends on the political ecology of water governance, proposing a model to critically appraise the technocratic perceptions of water governance and emphasise the social aspects of the complex water systems.

Mainstream water governance schemes are predominantly shaped by modernist visions and legacies such as the overemphasis on economic development and social transformations and technocracy (see also Boelens, 2013; Kaika, 2005; Molle, Mollinga, & Wester, 2009; Swyngedouw, 2004; Worster, 1985). Baker (2013), for example, reflects that the expansion of hydrology as a scientific discipline has resulted in water governance being seen "as a way to govern and manage water for human benefit", while promoting technological solutions, market approaches, and implementation of these solutions at all scales by hydraulic bureaucracies. All these scholars explicitly state that this understanding promotes policy choices that rely on an oversimplified perception of complex ecosystems and rationality. These choices are inclined to assume "`one` adequate problem framing, `one` true prognosis of consequences, and `one` best way to go that could be identified in an objective manner from a neutral, supervisory outlook on the (social-ecological) system as a whole" (Voß & Bornemann, 2011). However, the political ecology discipline critically appraises such policies where they appreciate the multi-dimensionality, complexity and contextual nature of policy-making. It also strongly endorses the intertwined relationships between social and ecological systems (see Robbins, 2012). Political ecology politicises and socialises water governance practices, which were once regarded as objective and widely applied across the world. Scholars point to the complexity and inherently social and contextual characteristics of water governance, which cannot be detached from its socio-political nature (see, for instance, Swyngedouw's (1999, 2007, 2013) analyses of Spanish water policies).

The socialisation and politicisation of water governance has been discussed by several other scholars, such as Linton (2008, 2010), Budds (2008, 2009), Agnew (2011), and Linton and Budds (2014). Among them, Agnew (2011), for instance, compiles his critiques against the abovementioned apolitical characteristics of water governance, shaped by modernist legacies. Accordingly, he points out that water governance cannot solely be dependent on rational choices, promoted by relevant bureaucracies and market approach with a non-participatory way. There are instances that show how community-based approaches and customary practices are effective in managing water. Relatedly, he highlights the ideological motivations behind national water governance schemes, criticises the unquestioned domination of expert knowledge and science in water governance, and draws attention to the language and discourses applied when framing the existing problems being addressed by water governance (Agnew, 2011). This analysis, which relies on the extensive literature on political ecology, shows how water governance is actually socialised and politicised in practice, as opposed to the gross generalisations applied by water governance practitioners.

The Turkish water governance case demonstrates that an apolitical understanding can be mobilised to promote existing policies, along with the modernisation process. Its implications also reveal its inherently socio-political nature. This becomes evident when the local implications of these practices are analysed in a broader context. These implications can be documented through an extensive literature review to show the ideological, discursive and technocratic nature of the Turkish water governance (see Adaman et al., 2016). They can also be substantiated through localised cases however, where the nexus between state, society and water becomes visible. As stressed in the introduction, the localised cases are centred on the very idea of socio-environmental inequalities, due to the subordination of local communities and the environment in water governance, at the expense of the promotion of development-centric, rational and technocratic (i.e. apolitical) management models. The concept of environmental justice emerges as the central theme, while reinforcing the socio-political dimensions of water governance.

There is a broad range of literature on environmental justice in which there is a disproportionate focus on environmental hazards and benefits across society. This was traditionally considered as the main focus of the concept, originating as it did within the US context, where initial works were predominantly associated with the notion of environmental racism (see Bullard, 2005). With the increasing publicity of the concept, its geographic focus has spread and it has begun to be applied to analyse environmental management cases. Its theoretical focus has been extended towards recognitional and procedural issues in addition to distributional ones (see Sze & London, 2008). In exploring this change in focus of environmental justice, Schlosberg (2007) argues that it is not adequate to merely analyse the disproportionate allocation of environmental benefits and burdens, along with distributive concerns. He maintains that, for an environmentally-just policy-making process, different needs and interests of vulnerable groups and nature have to be recognised, along with participatory mechanisms for the groups included in the policy process. Issues bound to the misrecognition of certain group of people based on their racial, gender, ethnical, age and income-related differences cannot be explained only through the distributional aspects of

justice. The same can be said for non-participatory policy-making processes. Concentrating on these broader environmental justice aspects in Turkey's water governance will form a convincing challenge to the existing water governance practices, which have been shaped by modernist legacies and apolitical notions.

Therefore, along with this framework criticising apolitical water governance practices, this article will reveal ideological, discursive, subjective and social aspects of Turkish water governance. This will be particularly explained through the examples that were briefly introduced in the introduction.

### 3. Methods

This article applies a qualitative methodology. Building on an extensive literature review of existing academic sources, governmental and non-governmental reports and research projects, this article utilises document, mass media/social media and discourse analysis. The aim is to disentangle the ideological, discursive and social aspects of Turkish water governance by revealing knowledge hidden in the existing sources (see Bryman, 2008; Foucault, 1972).

In addition, the water governance cases from Fethiye, South-western Turkey, empirically support the explanation that socio-environmental inequalities at the local level are caused by the national water policies. This is predominantly true for small-scale HPP cases, since their socio-environmental implications have been long-lasting. This enabled the author to conduct a comfortable field study. For this reason, six group interviews and 25 semi-structured interviews were conducted between May and November 2014 in Fethiye, to understand the socio-environmental controversies originating from small-scale HPP constructions. Local communities were the main group of people who were interviewed, in addition to local NGOs, local administrators and engineers working at the local branch of DSI. In addition, two group interviews and 15 semi-structured interviews were conducted in Ankara and Istanbul, with national NGOs, politicians, private sector and DSI servants. These interviews provided insights about Turkey's water governance and helped the author to understand the main motivations embedded in the water policy-making process. The interview data was transcribed into text and analysed through text analysis technique. These interviews and the field study were crucial in comparing the dominant perceptions and discourses of Turkey's water governance, shaped by politicians, the DSI and the private sector. They also revealed contrasting implications at the local level, based on the cases of South-western Turkey.

Fethiye was selected particularly because of the underrepresentation of South-western Turkey in the academic literature analysing Turkey's water policies, despite the region's expanding record of hydro-constructions (especially small-scale HPP developments). As of May 2016, the water governance cases exemplified in the introduction refer to completed processes in Fethiye. It is crucial to observe the actual long-standing socio-environmental impacts of water policies without being distracted by the high level of tensions that may exist in controversial cases elsewhere. Furthermore, the region's touristic importance depends on its natural beauty, its high agricultural production depends on domestic irrigation (than state-supported ones) and its peculiar environment is classified as a biodiversity hotspot. All of this makes the region attractive when studying the socio-environmental impacts originating from water governance practices.

# 4. Finding "Political" in Turkey's Water Governance: Interplay Between Ideological And Discursive Processes

### 4.1. Ideological Processes of Turkey's Water Governance

Keeping the definitions of modernisation in mind, and its potential impact on water governance (introduced above, this section explores the process of modernisation in Turkey. This underlies the modernisation process stressed by Scott (1998). This may be partly due to a revolutionary change of ideological paradigm (see, for instance Kaika, 2005), and the vehement support for reconstructing nature, (despite the fact that it severs ties with society). This in turn brings about change (mainly political and economic) in Turkey. Indeed, Turkey's water governance cannot be grasped without this ideology, assigning "a linear model of development and societal change" for Turkey while shaping its water policies reflecting technocratic notions (Venot & Clement, 2013, p. 19).

Modernisation has become a state ideology since the foundation of the modern Turkish state, and is seen as a means of "reaching the contemporary level of civilisation", in accordance with a widely known quotation from Kemal Ataturk, the founder of modern Turkey. In this context, the socio-economic policies of the early republican regime aimed to create a secular state on the basis of Turkish identity, complete its industrialisation, and transform its society from a traditional to a Western one. It is presumed that modernisation could only be achieved through Westernisation, which would eventually be expected to promote richness, prosperity, welfare, science, knowledge, freedom, and advanced civilisation in Turkey (see Bozdogan & Kasaba, 1997). Such an understanding has resulted in the implementation of top-down pro-modernist policies by the state elites, which still dominate Turkish political and socio-economic circles (see Adaman & Arsel, 2005).

When discussing how modernisation is related to water governance, it is evident that since the birth of the Republic of Turkey, particular attention has been paid to the utilisation of water. Although the Turkish Republic had very limited social, economic, and political resources prior to its foundation in 1923, it is important to note that it was during the early Republican regime that many important and influential water-related institutions were established. These organisations conducted feasibility studies measuring the country's hydropower and irrigation potential, including the Ministry of Public Works (1920), Expert Committee of Water (1925), the General Directorship of Water (1929), and the Electrical Power Resources Survey and Development Administration (1935) (Tigrek & Kibaroglu, 2011). Early governance practices demonstrate that water and, in particular, its imminent hydro-technology capacity could provide an unequivocal vehicle towards economic development and social progress. For example, as Demirtas (2013) argues, water governance has

become a tool to shape societal life and habits, through constructions such as the Ataturk State Farm Reservoir (1925), Cubuk Dam (1930) and Youth Park (1942) in Ankara. For instance, through these constructions, the Anatolian population was introduced to leisure activities like sailing and swimming. Modern Turkish women were also frequently featured in official publications undertaking such activities in those constructions, as an indicator of societal transformation. Demirtas (2013, pp. 27, 28) elaborates on the modernist views embedded in the early water governance practices as follows:

"They [referring to these constructions] are celebrations of both the technological object and artificial nature in terms of their aesthetic statements and functions. Although they are expressions of social engineering and state power, they also operate as places of popular empowerment, for they seek to transform everyday life as well. They are ambivalent in what they represent: modern and innovative spaces of a new nation, yet with allusions to the lost past and its capital."

Water governance in Turkey gained momentum in 1954, when the abovementioned institutions were formally merged into the foundation of the DSI – an engineer-dominated water bureaucracy responsible for centrally planning of water policies. This accelerated the spread of expert knowledge-oriented water governance practices based on hydro-constructions in Turkey. Following the foundation of another technocratic organisation in Turkey, the State Planning Organisation (DPT, the Turkish acronym) in 1960, water has been frequently referred to as an important energy and irrigation source, whilst constituting an indisputable vehicle in achieving DPT's development plans. This has been particularly true since 1962, following the formation of the DPT's first five-year-development plan (see DPT, 1963 and DPT, 1967). Through the institutionalisation of these two organizations into the policy process, the construction of dams, irrigation constructions, canals, sewage systems, urban water infrastructure and reservoirs has become an integral part of Turkey's economic development policies (see DPT's development plans). This can be best understood through the introduction of the iconic Southeast Anatolia Project (GAP, the Turkish acronym) in 1980.

GAP presents an iconic case showing the modernist affiliations of Turkey's water governance. It was one of the largest-scale hydropower development projects in the world, integrating previous large-scale dam and reservoir projects on the Euphrates and Tigris rivers into a larger-scale regional development project (Çarkoğlu & Eder, 2005; Kibaroğlu, 2007). This extensive project consisted of "22 dams, 19 hydropower plants, and excessive irrigation and drainage networks", which was "expected to generate annually 27 billion kilowatt-hours of hydroelectric energy, and irrigate 1.7 million hectares of land" in the Euphrates and Tigris river basins (Kibaroglu, 2007). In addition, GAP also aimed to transform local societies, mainly populated by Kurdish people, by initiating a series of social empowerment goals in the region. These though are still under dispute in domestic politics due to social impacts like the resettlement of displaced people and damage to cultural assets (Carkoglu & Eder, 2005; Kadirbeyoglu, 2010; Scheumann et al., 2014). The development of this large-scale project also highlights that "technical decisions" (in water governance) remain subject to the discretion of the centralised authorities in fulfilling the country's economic needs at any time (Kaygusuz & Arsel, 2005). In this sense, GAP not only constitutes a monumental

construction and a reason for national pride, but also demonstrates Turkey's ambition to maximise the utilization of natural resources to achieve societal transformation, in line with its modernist political agenda.

In the 1980s, neoliberal notions were introduced to Turkish water policies under the military regime along with the similar global trends of that time (Boratav, 2012). In effect, these complemented and further strengthened the existing modernist policies (Harris & Islar, 2013). In water governance, the ultimate goals of the state, to attain economic development and social transformation, still dominated the policy agenda. However the role of the state in the process seemed, at least in principle, to decrease by allowing more actors to be included in the process. It could be argued that the state remained the most important actor in the process, but, at the same time, it introduced further procedures and bureaucracy to water governance (Kibaroglu, Baskan, & Alp, 2009). It was during this period, stretching towards current water governance practices, when privatisation in water governance was introduced, however the state's central role in planning, financing and operating still remains (see Kibaroglu, Baskan, & Alp, 2009). The implications of neoliberalism in Turkey's water governance, and its legal evolution through neoliberal notions, are widely explored in academic literature for the hydropower sector (see Harris & Islar, 2013; Kibaroglu, Scheumann, & Sumer, 2012; Sayan & Kibaroglu, 2016), for municipal water governance (see Cinar, 2009) and for irrigation (see Svendsen & Nott, 2000). Based on these examples, it can be seen that Turkey's water governance has centred on "the assurance of liberalization and privatization activities" (Sen, 2011, p. 78), while simultaneously strengthening modernist legacies embedded within it.

This brief historical account of Turkey's water governance demonstrates that water governance practices have been shaped by an enduring modernist vision, which has been later complemented by a neoliberal one. This shows that water governance has gradually become a centralised-technocratic process in which expert knowledge, hydro-technologies and market mechanisms are introduced as the key components of those practices, channelled to fulfil long-lasting modernist dreams of Turkey, namely economic development and social progress. This view of historical process can be better understood when complemented by a discourse analysis.

### 4.2. Discourses Embedded in Turkish Water Governance

The evolution of Turkey's water policies along with modernist notions such as technocracy, national pride, centralised governance and human superiority over nature can be furthered through careful analysis of the language used by policy-makers. Throughout Turkey's republican history, along with its overarching modernist objectives of economic development and social progress, water governance has been rhetorically confined as a matter to be left under the mandate of state institutions and, later, the private sector (see Islar, 2012a, 2012b; Sayan & Kibaroglu, 2016). This ultimately detaches water from its socio-political nature, and reinforces the modernist-orientation of water governance in Turkey despite its recent affiliations with neoliberal notions. In one of the earliest examples, a quote by Kemal Ataturk, the founder of the Republic of Turkey, can be viewed, which is placed in the upper banner of the DSI's website, as well as in the entrance of the headquarters of DSI in Ankara (DSI, 2015; emphasis added):

"... Scientific capacity and strength of public administration of water works has to be established reliably since it is among *one of the main precautions of our economy*."

This statement suggests that water governance was mobilised in state policies as a fundamental sector, ensuring its economic status, while also hinting at the necessity to improve technical and scientific capacity and institutional framework, for its governance. As indicated in the previous section, it was this understanding that led to the establishment of water governance institutions, which have centred on engineering-dominated policy practices. This understanding, initially correlating water governance to economic development and regarding water works as issues requiring technical capacity, was further underlined in state policies in the following years. For example, in the DPT`s first five-year-development-plan, water that had not mobilised for energy generation and irrigation was called "flowing water in vain", while explicitly highlighted the economic importance of water, and called for the construction of more hydro-engineering projects such as dams, irrigation canals and reservoirs (DPT, 1962). These notions are further presented in DSI`s missions, where "the main mission" of DSI is officially stated as "benefiting from our nation`s water sources, avoiding from its harms, improving our water and associated soil sources in accordance with science and technology by protecting our national interests" (DSI, 2015).

As inferred above, the missions and notions associated with modernisation and water governance were embodied in an iconic manner through the initiation of GAP. Suleyman Demirel (1997), who was the first Director General of DSI and then-Prime Minister and 9<sup>th</sup> President of Turkey, reportedly described GAP as "the biggest project of the Republic", "the biggest project of the world" and as a source of national pride when he toured the GAP region with his official guests during his presidency (SABAH, 1997). Despite the recent domination of neoliberal models in Turkey's water governance, this type of "national pride" still dominates the rhetoric, justifying the recent construction boom in water sector. For example, the recent construction boom, especially in country's hydropower sector, has been constantly praised by high-level politicians since this has changed the perception of "water flows, Turk watches" to "water flows and Turk constructs" through the planning and constructions of thousands of HPPs, dams and reservoirs since 2001 (see, Erdogan, SABAH, 2016).

The other continuity in Turkey's water governance is its technocratic nature, leading to the consideration of water governance merely as an expert issue. During the interviews undertaken with DSI officials in May and November 2014, it was observed that the attitude in conceiving water governance policies centres on the ideas that "DSI knows the best about water" and "if DSI approves a [water] project, it means it is [socially, economically and ecologically] feasible". For instance, two high-ranked DSI officials in Ankara and two others in the local branch of Fethiye unanimously dismissed my question on the potential benefits of local knowledge in water governance by asserting that locals are not competent

to be involved in these issues. Similar sentiments can be found elsewhere in Mine Islar's (2012b) analysis on Turkey's water governance, where she shows that the dominant actors of water governance, like state officials and company representatives, consider locals as "illiterate", their interests and recommendations are devalued without doubt.

These examples reaffirm the continuation of the centralised water governance tradition in Turkey with economic development and social progress, as discussed in the previous section. The two high-ranked DSI officials in Ankara, for example, when stating that they support the widespread small-scale HPP development projects of Turkey, said that these constructions, and electricity generation from "national resources", are "essential" and "all the nation's hydroelectricity potential should have been harnessed in the past" for the sake of the "economic development" and "decreasing the energy dependency of the country". It is concluded that modernist notions have been embedded in Turkey's water governance practices since the early periods of the Republican regime, instances of which are still discernible at the administrative and political level. Here, expert-oriented, centralised and economic development- and social progress-driven water governance practices have been widely implemented.

The DSI's Activity Report of 2013, released in 2014, is an important source, summarising the most recent water governance practices published by the key official water governance institution of Turkey. Its preface provides further evidence. In this, the Minister's preface starts with a briefing about how water should be utilised carefully through science and technology, as well as listing the numerical presentation of the institution's "success" in completion of a series of hydro-constructions (DSI, 2014). The preface by the Director General, on the other hand, mostly focusses on how water is key to achieve socio-economic development. He then presents how many hydro-constructions the DSI has completed with the help of the private sector, while celebrating more upcoming constructions (DSI, 2014). These two examples clearly reinforce a view of the infusion of modernist and neoliberal notions in Turkey's water governance, showing that ultimately modernist legacies prevail in Turkey's water governance.

This analysis demonstrates that Turkey's water governance is ideologically and practically shaped by modernist notions, even when neoliberal notions have begun to dominate its water policies. Examining the implementation of water policies at the local level however could shed light on how these practices have not simply been perceived by local communities, as was envisaged. The complex, multi-dimensional and contextual nature of water governance can be demonstrated through the analyses of local cases,.

# 5. Confronting "Apolitical" Water Governance in Turkey: Local Examples of Environmental Justice

The development of water policies in Turkey has been characterised by modernist legacies, leading to the over-prioritisation of apolitical governance models. This intrinsically politicised process claims to benefit the entire country and its citizens, as understood from the discourse analysis conducted in the previous section. However, it has become very common for local communities to oppose water governance practices in Turkey, ranging from large-scale dam constructions (see Harris, 2008) to small-scale HPPs (see Erensu, 2013, Hamsici, 2010; Islar 2012a, 2012b; Sayan & Kibaroglu, 2016). This contradiction between national policy-making processes, which are assumed to deliver justice to all citizens (through state-led, techno-centric and market-oriented policies (see Scoones, Newell, & Leach, 2015), and local opposition movements against hydro-constructions (based on their socio-environmental impacts on local communities and nature), can be best understood through the concept of environmental justice. Such an analysis would also underpin the issues that are neglected, due to modernist legacies, in Turkey's water policy-making process. Therefore, this section exemplifies the once-subordinated socio-environmental dimensions of Turkey's water governance within the context of environmental justice.

The concept of environmental justice was introduced earlier as being multi-dimensional, explaining and revealing socio-environmental dimensions of environmental decision-making processes within the context of distributive, recognitional and participative (procedural) justice (see also Schlosberg, 2004, 2007). These three dimensions of environmental justice also propose a set of patterns, based on which consequences of environmental policies can be assessed. For example, Walker (2009, 2012) suggests that the distribution of environmental benefits and burdens, vulnerabilities and responsibilities across society (in environmental policy-making processes) can be regarded as the pattern of distributive environmental justice. Furthermore, Holifield, Porter, and Walker (2009) argue that the recognition of group differences based on factors such as race, gender, religion, ethnicity and income, is the backbone of environmental justice studies, since such groups are likely to be disproportionately affected by environmental policies.

Schlosberg (2007) and Walker (2012) also discuss that the misrecognition of places, nature and people's attachment to their living spaces plays a key role in shaping the justice understandings embedded in environmental policy-making processes. Finally, the degree of participation of local communities into the environmental governance defines participative (procedural) justice dimensions. This dimension covers a range of patterns of analysis, including, but not limited to, transparency, accountability, legal frameworks and their implementation and public information processes (see, for example, Shrader-Frechette, 2002). These patterns of environmental justice can be broadly used to exemplify socio-environmental implications of Turkey's water policies. This is empirically based on the field visit conducted to analyse socio-environmental impacts of small-scale HPPs in South-western Turkey (namely, Saklikent, Sogutludere, Yuvarlakcay and Kargi-Yaniklar sub-basins).

In terms of distributive environmental justice, examining the distribution of environmental burdens and benefits originating from Turkey's water policies, would underpin the socio-environmental dimensions embedded in water politics across the society. These policies raise strong distributive concerns about the allocation of, and access to, water among the local communities, especially when hydropower development projects are brought into greater focus. For example, the majority of interviewees from South-western Turkey (and similar cases seen in EJOLT, 2015; Hamsici, 2010) indicate that local communities mainly depend on water and water-dependent ecosystem services in their lives and livelihoods. They claim that this dependence is disregarded in Turkey's hydropower development process. Electricity production is instead explicitly prioritised at the national level, as highlighted in the previous section. This is evident in Saklikent, Yuvarlakcay and Kargi-Yaniklar HPP projects (any many others, as seen in Hamsici, 2010), which were strongly opposed by local communities, based on their impact on future water allocation and the potential limitation of water by the HPP constructions. For example, the locals of these areas specified that their economic activities (agriculture, animal husbandry, tourism and farm-fishing) predominantly rely on the existence of the streams, providing their water-dependent ecosystem services, including nature tourism "attracting around a million tourist annually". Once the flow of the streams is intervened by the hydropower plants, locals worry that the water availability and their access to water and water-dependent ecosystem services would be negatively affected. The negligence towards the allocation of and access to water for local communities in Turkey's water governance is pointed by one interviewee: "the state assumes as if the land is empty, when they implement such policies". Here, he was highlighting how their livelihoods were dependent on the stream, and how they are neglected by policy-makers in the policy process. Another interviewee from this basin formulated his concerns over future water allocation and access as follows: "This water is our water. We are struggling for not giving our lands away. . . If there is no water, there is no life. You cannot practise agriculture or you cannot plant fruit trees. If water disappears, what are we going to do? We will have to migrate". Such incidents shows that hydro-construction-oriented water policies, shaped by modernist legacies to ensure socio-economic development of the country, put disproportionate burdens on local communities in Turkey, actually jeopardising locals' socio-economic development, as shown throughout this brief account.

The socio-environmental dimensions of Turkey's water governance can be further revealed by focussing on recognitional environmental justice and participative environmental justice. When assessing the recognition of local people in Turkey's water governance, public information meetings (if conducted) can be very useful. The fieldwork revealed that the public (referring to the local people living around the proposed HPP construction sites) had not been informed properly; this was raised by all interviewees, even by the proponents of HPP constructions. They underlined that neither the state nor the companies informed them about the construction processes and the potential consequences prior to their implementation. They highlighted that the potential negative consequences of the HPPs were never mentioned in the cases involving information processes; instead the state and company informed the public by organising meetings on how the proposed HPPs could contribute to the lives of the locals. For example, a group of farmers in Saklikent basin stressed that the company and state officials told them that the project would create job opportunities, and that it would not have any impact on the water flow and nature. They maintained that both officials and company representatives failed to answer locals' questions about expropriations and potential environmental damage in the public participation meeting.

The recognition of local professionals in Turkey's water governance can broaden the analysis and present a different set of inequalities that have been experienced in this process. The concerns of local professionals regarding their limited (or non-)recognition can be read

through the centralised water governance. In other words, this issue can be perceived as a legacy of modernist policies, which prioritise technocracy and top-down policy implementations. These policies are inclined to govern policy-processes centrally, reflecting the common idea imposed on Turkish society that 'father state knows the best for its citizens' (see Adaman et al., 2016) as also implied by two DSI officials. For example, in these four HPP cases from the South-western Turkey, these legacies can be best understood with the following statement of one of them: 'If DSI approves a project, it is already appropriate'. He also added that the DSI knows (and does) the best for the Turkish citizens.

Professionals from local NGOs and local administrations criticised this tendency, which excludes or limitedly includes local professionals and administrations. They consider this tendency as one of the main reasons that policies fail or lead to socio-ecological controversies and, subsequently, local oppositions. For example, one local administrator indicated that 'if they take the opinions of . . . local administrations when they [the policy-makers] plan the projects, everything will be smoother and there will not be inappropriate projects'. This is supported by another local administrator:

"Any stages of planning and construction of HPPs are asked to the local administrators of Fethiye or the relevant branches of state departments of Fethiye. It is all done from Ankara, from the desks. . . if these projects are discussed publicly at the local level before they are delegated to the private sector, I do not think that such troubles could be experienced."

These examples demonstrate that local communities and professionals are neither recognised nor allowed to participate in water governance, due to the legacies of the centralised governance in Turkey's water policies. This negligence leads to the creation of different socio-environmental controversies at the local level, in terms of recongitional environmental justice implications (see also Islar, 2012b).

The socio-environmental dimensions of Turkey's water governance are also strongly associated with the misperception or ignorance of nature and history by the policy-makers. HPPs on the Saklikent, Yuvarlakcay and Kargi-Yaniklar were planned (and attempted to be constructed) in sensitive ecological areas, including national parks and habitats of endemic species. This reveals a misperception of nature in the governance process. Similar issues are also analysed by Ilhan (2009), who analysed the ongoing fights between local communities, the state and creditors, in realisation of the construction of large-scale Ilisu dam on the Tigris River. These issues have mainly surfaced due to its potential impacts on the socio-cultural heritage of the region, where the ancient town of Hasankeyf is envisaged to be flooded at the end of the process.

#### 6. Discussion and Conclusion

This article has focussed on how Turkey's water policies are shaped within a broader political ecology framework. It has postulated that Turkey's water governance has been strongly influenced by modernist ideology and discourses, reinforcing it as an apolitical model at the national level. It has shown that water policies have been used as a tool to achieve the country's economic development and social progress through centralised, techno-centric, market-oriented and construction-focussed water governance practices. Even when Turkey has been heavily engaged with a neoliberalisation process, these modernist legacies of water governance have not been abandoned. In fact, they have been further fortified.

By using the political ecology framework, Turkey's water governance has been deconstructed at the national level, while the framework has also drawn attention to local processes. When examining the ideological and discursive dimensions of Turkey's water governance, it was understood that the modernist water governance practices have been justified based on their contributions to overall justice. However, the local implications of these practices, exemplified through small-scale HPP development cases, have demonstrated that such a policy-making process has actually led to local socio-environmental inequalities. This contradiction has put the concept of environmental justice to the centre of Turkey's water governance. Given the complexity of water systems (see Linton, 2010), and water's undisputable vitality for human and non-human nature, an approach, based on the modernist legacies, is destined to fail, as seen in the dozens of grassroots protests conceived in Turkey against them (see EJOLT, 2015). Such an approach overlooks the social aspects of water governance. Turkey has witnessed numerous social movements against these water governance practices, essentially calling for fairer access and allocation of water within Turkey, more participatory processes and the recognition of group and local differences. Together, this can be generalised under the banner of a need for more environmental justice.

The local environmental justice cases used in this article explicitly correlate the existing socio-environmental inequalities with Turkey's modernisation process. These centralised, techno-centric, market-oriented and construction-focussed water governance practices are the fundamental reasons for the creation of local socio-environmental inequalities. This article, therefore, calls for an explicit re-focussing on modernisation in explaining the roots of socio-environmental injustices. This is essential, since the existing environmental justice literature's excessive focus on neoliberalisation (as an explanatory framework of socio-environmental inequalities) conceals the explanation of the root causes of socio-environmental injustices. This can be better grasped by focussing on modernisation processes in the cases similar to the Turkish experience.

I argue that the only possible way to address these issues is to consider the socio-environmental justice dimensions prevailing in water governance. Starting from this point, participatory governance practices should be recognised, which include local peculiarities, local knowledge and group differences. They can be promoted at governance process and equitable access to and allocation of water can be prioritised in a manner that may, eventually result in a genuine move towards sustainability. Such a move would be acceptable for farmers, fishermen, endemic species, different ecosystems, displaced people, local populations, local administrations and other stakeholders, as well as policy-makers, politicians and the private sector. Therefore the political ecology approach should be vitalised in the policy processes, while environmental justice should be embedded as the overarching policy objective for a sustainable future in Turkish water governance.

### References

- Adaman, F., Akbulut, B., & Arsel, M. (2016). Türkiye'de KalkrnmacıligT Yeniden Okumak: HES'ler ve Dônûsen Devlet-Toplum-Doğa Hiçkileri [Re-reading Turkey's Developmentalism: Hydro-Power Plants and Changing State-Society-Environment Relationships]. In E. Evren, S. Erensu, & C. Aksu (Eds.), Sudan Sebepler: Kalkınma ve Çevrecilik Kıskacında Hidro-Enerji ve HES Karsiti Mücadelenin Ekoloji Politiği [Hydro-power between Development and Environmentalism and the Political Ecology of the Struggles against Hydro-Power Plants]. İstanbul, Turkey: Hetişim.
- Adaman, F., & Arsel, M. (Eds). (2005). *Environmentalism in Turkey: Between democracy and development?* Aldershot, UK: Ashgate.
- Agnew, J. (2011). Waterpower: Politics and the geography of water provision. Annals of the Association of American Geographers, 101(3), 463–476.
- Baker, L. A. (2013). Hegemonic concepts and water governance from a scientific-engineering perspective. In L. M. Harris, J. M. Goldin, & C. Sneddon (Eds.), *Contemporary water governance in the Global South: Scarcity, marketization and participation* (pp. 25–32). Oxon, UK: Earthscan.
- Boelens, R. (2013). Cultural politics and the hydrosocial cycle: Water, power and identity in the Andean highlands. *Geoforum*, 57, 234–247.
- Boratav, K. (2012). Turkiye Iktisat Tarihi: 1908–2009 [Economic History of Turkey: 1908–2009]. Ankara, Turkey: Imge.
- Bozdogan, S., & Kasaba, R. (Eds.). (1997). *Rethinking modernity and national identity in Turkey*. Seattle: University of Washington Press.
- Bryant, R. L., & Bailey, S. (1997). Third World political ecology. Oxon, UK: Routledge.
- Bryman, A. (2008). Social research methods (3rd ed.). New York, NY: Oxford University Press.
- Budds, J. (2008). Whose scarcity? The hydrosocial cycle and the changing waterscape of La Ligua River Basin, Chile. In M. K. Goodman, M. T. Boykoff, & T. Evered (Eds.), *Contentious geographies: Environmental knowledge, meaning, scale* (pp. 59–78). Aldershot, UK: Ashgate.
- Budds, J. (2009). Contested H2O: Science, policy and politics in water resources governance in Chile. *Geoforum*, 40(3), 418–430.
- Bullard, R. D. (Ed.). (2005). The quest for environmental justice. San Francisco, CA: Sierra Club Books.
- Carkoglu, A., & Eder, M. (2005). Development alla Turca: The Southeast Anatolia Development Project (GAP). In F. Adaman & M. Arsel (Eds.), *Environmentalism in Turkey: Between democracy and development?* (pp. 167–184). Aldershot, UK: Ashgate.
- Cinar, T. (2009). Privatisation of urban water and sewerage services in Turkey: Some trends. *Development in Practice*, 19(3), 350–364.
- Demir, N. (2011). *Parliamentary inquiry* (Republican People's Party [October 12, No. 75]). Ankara: Turkey Grand National Assembly.
- Demirtas, A. (2013). Rowing boats in the reservoir: Infrastructure as transplanted seascape. In P. Pyla (Ed.), Landscapes of development: The impact of modernization discourses on the physical environment of the Eastern Mediterranean (pp. 16–35). Cambridge, MA: The Harvard University Graduate School of Design.
- DPT (Devlet Planlama Teskilati [State Planning Organisation]). (1963). Kalkinma Plani (Birinci Bes Yil) 1963–1967 [Development Plan (The First Five Years) 1963–1967]. Ankara, Turkey: Devlet Planlama Teskilati.
- DPT (Devlet Planlama Teskilati [State Planning Organisation]). (1967). Ikinci Bes Yillik Kalkinma Plani 1968–1972 [The Second Five-Year Development Plan 1968–1972]. Ankara, Turkey: Devlet Planlama Teskilati.
- DSI (Devlet Su Isleri [State Hydraulic Works]). (2014). 2013 Faaliyet Raporu [2013 Activity Report]. Ankara, Turkey: Devlet Su Isleri.
- DSI (Devlet Su Isleri [State Hydraulic Works]). (2015). Hakkimizda [About us]. Retreived from http://www. dsi.gov.tr/kurumsal-yapi/hakkimizda#misyon].
- EJOLT (Environmental Justice Organisations, Liabilities and Trade). (2015). Maps. Retreived March 24, 2015 from http://www.ejolt.org/maps/
- Erensu, S. (2013). Abundance and scarcity amidst the crisis of 'modern water': The changing water-energy nexus in Turkey. In L. M. Harris, J. A. Goldin, & C. Sneddon (Eds.), *Critical perspectives on contemporary water governance: Scarcity, marketization and participation*. Oxon, UK: Earthscan.

Foucault, M. (1972). The archeology of knowledge. London, UK: Routledge.

Hamsici, M. (2010). Dereler ve Isyanlar [Brooks and Revolts]. Ankara, Turkey: NotaBene.

- Harris, L. M., & Islar, M. (2013). Neoliberalism, nature and changing modalities of environmental governance in contemporary Turkey. In Y. Atasoy (Ed.), *Global economic crisis and the politics of diversity* (pp. 52–80). London, UK: Palgrave MacMillan.
- Holifield, R. (2012). Environmental justice as recognition and participation in risk governance: Negotiating and translating health risk at a superfund site in Indian country. *Annals of the Association of American Geographers*, 102(3), 591–613.
- Holifield, R., Porter, M., & Walker, G. (2009). Spaces of environmental justice: Frameworks for critical engagement. Antipode, 41(4), 591–612.
- Ilhan, A. (2009). Social movements in sustainability transitions: Identity, social learning & power in the Spanish and Turkish water domains. Unpublished PhD thesis, Universitat Autonoma de Barcelona, Barcelona, Spain.
- Islar, M. (2012a). Privatised hydropower development in Turkey: A case of water grabbing? *Water Alternatives*, 5(2), 376–391.
- Islar, M. (2012b). Struggles for recognition: Privatisation of water use rights of Turkish rivers. Local Environment: The International Journal of Justice and Sustainability, 17(3), 317–329.
- Islar, M., & Boda, C. (2014). Political ecology of inter-basin water transfers in Turkish water governance. *Ecology & Society*, 19(4), 15–23.
- Kadirbeyoglu, Z. (2010). In the land of ostriches: Developmentalism, environmental degradation, and forced migration in Turkey. In T. Afifi & J. Jager (Eds.), *Environment, forced migration and social vulnerability* (pp. 223, 234). Heidelberg, Berlin: Springer-Verlag.
- Kaika, M. (2005). City of flows: Modernity, nature and the city. New York, NY: Routledge.
- Kaygusuz, K., & Arsel, M. (2005). Energy politics and policy. In F. Adaman & M. Arsel (Eds.), Environmentalism in Turkey: Between democracy and development? (pp. 149–166). Aldershot, UK: Ashgate.
- Kibaroglu, A. (2007). Politics of water resources in the Jordan, Nile and Tigris-Euphrates: Three river basins, three narratives. *Perceptions*, (Spring), 143–164.
- Kibaroglu, A., Baskan, A., & Alp, S. (2009). Neo-Liberal transitions in hydropower and irrigation water governance in Turkey: Main actors and opposition groups. In D. Huitema & S. Meijerink (Eds.), Water policy entrepreneurs: A research companion to water transitions around the globe (pp. 287–303). Cheltenham, UK: Edward Elgar.
- Kibaroglu, A., Scheumann, W., & Sumer, V. (2012). Fundamental shifts in Turkey's water policy. *Journal of Mediterranean Geography*, 119, 27–34.
- Linton, J. (2008). Is the hydrologic cycle sustainable? A historical-geographical critique of a modern concept. *Annals of the Association of American Geographers*, 98(3), 630–649.
- Linton, J. (2010). What is water? The history of a modern abstraction. Vancouver, BC: UBC Press.
- Linton, J., & Budds, J. (2014). The hydrosocial cycle: Defining and mobilizing a relational-dialectical approach to water. *Geoforum*, 57, 170–180.
- Martinez-Alier, J. (2002). The environmentalism of the poor. Cheltenham, UK: Edward Elgar.
- Molle, F., Mollinga, P. P., & Wester, P. (2009). Hydraulic bureaucracies and the hydraulic mission: Flows of water, flows of power. *Water Alternatives*, 2(3), 328–349.
- Peet, R., & Hartwick, E. (2009). *Theories of development: Contentions, arguments, alternatives*. New York, NY: The Guilford Press.
- Robbins, P. (2012). Political ecology. Sussex, UK: Wiley-Blackwell.
- SABAH. (1997, 30 May). Demirel`in Sevdasi: GAP [Demirel`s Desire: GAP]. Retrieved February 15, 2014, http://arsiv.sabah.com.tr/1997/05/30/r11.html
- SABAH. (2016, 17 May). Erdogan: Su akar, Turk bakar dusuncesini ortadan kaldirdik [We have change the motto of "Water flows, Turk watches"]. Retreived 25 May, 2016, from http://www.sabah.com.tr/gundem/2016/05/17/ erdogan-su-akar-turk-bakar-dusuncesini-ortadan-kaldirdik
- Sayan, R. C., & Kibaroglu, A. (2016). Understanding water-society nexus: Insights from Turkey's small-scale hydroelectricity policy. *Water Policy*, 1–16.

- Scheumann, W., Baumann, V., Mueller, A., Mutschler, D., Ismail, S., & Walenta, T. (2014). Sustainable dam development in Turkey: Between europeanization and authoritarian governance. In W. Scheumann & O. Hensengerth (Eds.), *Evolution of dam policies: Evidence from the big hydropower states* (pp. 131–172). Heidelberg, Berlin: Springer.
- Schlosberg, D. (2007). Defining environmental justice. UK: Oxford University Press.
- Scoones, I., Newell, P., & Leach, M. (2015). The politics of green transformations. In I. Scoones, M. Leach, & P. Newell (Eds.), *The politics of green transformations*. London, UK: Earthscan.
- Scott, J. C. (1998). Seeing like a state: How certain schemes to improve the human condition have failed. New Haven, CT: Yale University Press.
- Sen, Z. (2011). Water for energy: Hydropower is vital for Turkey. In A. Kramer, A. Kibaroglu, & Scheumann, W. (Eds.), *Turkey's water policy* (pp. 69–81). New York, NY: Springer.
- Scheumann, W., Kramer, A., & Kibaroglu, A. (Eds.). (2011). Turkey's water policy: National Frameworks and International Cooperation (pp. 69–82). Heidelberg, Berlin: Springer-Verlag.
- Shrader-Frechette, K. S. (2002). *Environmental justice: Creating equality, reclaiming democracy.* UK: Oxford University Press.
- Svendsen, M., & Nott, G. (2000). Irrigation governance transfer in Turkey: Process and outcomes. In D. Groenfeldt & M. Svendsen (Eds.), *Case studies in participatory irrigation governance* (pp. 27–88). Washington, DC: The World Bank Institute.
- Swyngedouw, E. (1999). Modernity and hybridity: Nature, regenerationism and the production of the Spanish waterscape, 1890–1930. Annals of the Association of American Geographers, 89, 443–465.
- Swyngedouw, E. (2004). Social power and the urbanization of water. UK: Oxford University Press.
- Swyngedouw, E. (2007). Technonatural revolutions: The scalar politics of Franco's hydro-social dream for Spain, 1939–1975. Transactions of the Institute of British Geographers, 32, 9–28.
- Swyngedouw, E. (2013). Into the sea: Desalination as hydro-social fix in Spain. Annals of the Association of American Geographers, 103, 261–270.
- Sze, J., & London, J. K. (2008). Environmental justice at the crossroads. Sociology Compass, 2(4), 1331–1354.
- Tigrek, S., & Kibaroglu, A. (2011). Strategic role of water resources for Turkey. In A. Kibaroglu, W. Scheumann, & A. Kramer (Eds.), *Turkey's water policy: National Frameworks and International Cooperation* (pp. 27–42). Berlin, Heidelberg: Springer-Verlag.
- Walker, G. (2009). Beyond distribution and proximity: Exploring the multiple spatialities of environmental justice. Antipode, 41, 614–636.
- Walker, G. (2012). Environmental justice. London, UK: Routledge.
- Worster, D. (1985). *Rivers of empire: Water, aridity, and the growth of the American West.* New York, NY: Pantheon Books.
- Venot, J. P., & Clement, F. (2013). Justice in development? An analysis of water interventions in the rural South. *Natural Resources Forum*, 37, 19–30.
- Voß, J. P., & Bornemann, B. (2011). The politics of reflexive governance: Challenges for designing adaptive governance and transition governance. *Ecology and Society*, 16(2), 9.