

Water and Justice: Towards an Ethics of Water Governance

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Abstract. Water is recognized to pose some very urgent questions in the near future. A significant number of people are deprived of clean drinking water and sanitation services, with an accordingly high percentage of people dying from water borne diseases. At the same time, an increasing percentage of the global population lives in areas that are at risk of flooding, partly exacerbated by climate change. Although it is increasingly recognized that adequate governance of water requires that issues of “equity” or “social justice” are taken into account, political philosophers or applied ethicists have so far not or only barely been involved in the debate on water governance. In this paper, it is argued that political philosophers or applied ethicists should become more involved in the debate on water governance. Their role can be twofold: (1) clarifying the debate; and (2) help analyzing some urgent distributive questions related to water governance. The paper is concluded with an outline for an ethics of water governance.

Key words: risk, scarcity, human rights, distributive justice, responsibility.

I. INTRODUCTION

Water is essential for human life. However, due to its scarcity, the management of water is a topic of great concern. Inadequate management may lead to famines, food insecurity, ecological destruction, and resource-based conflicts (Gleick 1998), and eventually to human suffering and the loss of millions of human lives. Whereas some official organizations speak of a water crisis (World Bank 2006; World Water Forum 2009), others argue that there is sufficient water but that the water sector need to be reformed to avoid a water crisis in the future (FAO/Kijne 2003). Whether or not one uses the term “water crisis,” the numbers are not encouraging. In 2010, one out of nine people (0.8 billion people) lacked access to safe drinking water, and more than one out of three (2.5 billion people) lacked adequate sanitation (WHO 2012). The World Health Organizations has calculated that 2 million people die every year from water borne diseases, most notably diarrhea.¹ There are no official numbers on resource-based conflicts, but fact is that there are over 260 river basins shared by two or more countries, which may provide a source of (regional) instability or even conflict when strong institutions and agreements are missing. In the light of climate change, the impact of the global water crisis is expected to increase in the coming decades.

Traditionally, water management has been seen as a primarily technical issue, belonging to the field of engineers and hydrologists. However, it is increasingly recognized that an adequate management of water requires that the institutional constraints and juridical context be taken into account. Both in academia and policy circles, the attention

[1] http://www.who.int/water_sanitation_health/facts_figures/en/index.html (last accessed: August 24, 2013).

has therefore shifted from water management towards water governance, requiring the combined and coordinated effort of both technical (engineers, hydrologists) and non-technical experts (lawyers, economists, political and social scientists). Although different definitions of water governance exist, most of them refer to something like “the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society” (Rogers and Hall 2003: p. 18), mostly also including a reference to conflicting or diverse interests and cooperative action (cf. Bakker 2003: p. 360; CGG 1995; WWDR 2006: p. 44). With the shift from water management to water governance, the principle of equitable utilization has emerged in the literature as an important principle for allocation.²

Notwithstanding recurrent pleas to include issues of “equity” (Gleick 1998; Rheingans, Dreibelbis, and Freeman 2006; Cai 2008; Gupta and Lebel 2010) and “social justice” (Paavola 2007; Abbott and Vojinovic 2010; Huby 2001; Khepar et al. 2000), or to develop an “ethic of care” in the governance of water (Bakker 2007), political philosophers or applied ethicists have so far not or only barely been involved in the discussion (see also Walsh 2012 for a similar observation). Water or water governance does not seem to be high on their agenda, if discussed at all. This lack of involvement has had consequences for the content of the current literature on water ethics.

In a recent – and thorough – review of the water ethics literature, Martin Kowarsch identifies a lack of comprehensive water ethics. There are only few papers directly about water ethics (cf. Falkenmark and Folke 2002; Anand 2007a; Feldman 1991), but these papers deal with particular aspects of the water crisis only or they mainly aim at defining the ethical issues raised by the water problem, according to Kowarsch. Recent edited volumes and monographs include (Brown and Smith 2010; Anand 2007b; Llamas, Martinez-Cortina, and Mukherji 2009; Sandford and Phare 2011). Though interesting, these books suffer from the same limitations as the academic papers. That is, they do not contain a comprehensive account of water ethics, nor do they provide a clear, consistent, coherent position (Kowarsch 2011). The problem is that most literature on “water ethics” is actually written by scholars that are not trained as philosophers, which may sometimes come at the expense of ethical reflection (Kowarsch 2011: fn. 22).

In addition to very casuistic papers on specific (local or regional) water issues, Kowarsch distinguishes a third branch of water ethics literature, viz. more general ethical studies about certain aspects related to the water crisis, but which are not applied to water explicitly (for example, the literature on environmental ethics, climate ethics, development ethics). The water crisis is sometimes discussed under the heading of one of these topics (see, for example, (Adger et al. 2006; Broome 2008) on water in relation to climate change; (Pogge 2001a) on the development of a Global Resource Dividend to

²] Cf. Convention on the Protection and Use of Transboundary Watercourses and International Lakes 1992 (“Helsinki Watercourses Convention”) [art. 2]; United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (“UN Watercourses Convention 1997”) [art 5]; ILA Berlin Rules on Water Resources 2004 [art 12].

allow the global poor an inalienable stake in their natural resources; or (Armstrong 2006; Brown 2004) for a non-anthropocentric approach to water derived from environmental ethics). These topics are indeed related to the water crisis: climate change may exacerbate water scarcity; developing countries suffer most from the water crisis, which prompts questions related to global justice; and the various uses of water prompt questions related to its value. As such, these fields may provide a good starting point for developing an account of water ethics. However, as I will argue in this paper, the water crisis is also distinct in several ways and a comprehensive account of water ethics can therefore not straightforwardly be derived from the current debate in these more elaborated fields in applied philosophy. A separate ethics of water governance is needed and this requires the involvement of political philosophers and applied ethicists.

The outline of this paper is as follows. In the section following this introduction, I discuss five characteristics of water, which should be part of a comprehensive ethics of water governance. After having read this section, the reader will hopefully understand why I prefer to talk about water governance rather than water as a topic for reflection. In the subsequent section, I briefly discuss the related fields of climate ethics, environmental ethics, and development ethics. In the current philosophical literature, water or water governance is usually discussed under one of these headings. I show how neither of these fields captures the full characteristics of water governance. A warning is due though. By arguing for the development of an “ethics of water governance,” the reader may mistakenly assume that I deny the relevance of these other topics for water governance or try to create yet another discipline. The opposite is true: I think that water governance includes environmental elements, elements of climate change, and of global development and social justice. What is needed is an integrated account of water governance, linking insights from policy sciences, new institutional economics (which has identified “social justice” as one of the key design principles for the design of governance institutions), (international) law, applied science, technology and engineering, *and* applied philosophy. Ultimately, by including these different perspectives, we can develop conceptually clear and useful moral principles of water governance that are firmly rooted in practice.

II. WATER AND ITS CHARACTERISTICS

I ended the previous section with the plea for an integrated account of water governance. This raises the immediate question: what are the necessary elements of an integrated account of water governance? In other words, what are the characteristic aspects of water that should be captured by such an integrated account? In this section, I discuss five points that are particularly relevant for water (governance). In the current literature on water governance, the discussion of these points is often ambiguous, blurring the debate on what is needed to address the water crisis. In the subsequent section, we can then assess to what extent the related fields in applied ethics (environmental ethics, climate ethics, and development ethics) do or do not capture these aspects.

(i) Water as a risk, a scarce resource, and a service

Water is both a source of risks and a scarce resource. Most of the literature on water governance focuses on the scarcity of water, operationalized in the notion of access to water. Yet the risk of flooding is, in some areas at least, equally or even more urgent. Especially in places where the local hydrological circumstances are affected by large infrastructural projects (such as hydro-power plants), both the risk of flooding and potential water scarcity may be present and solutions to the one problem may exacerbate the other problem.

This brings us to a second point. One of the complicating issues of water governance is that access to water includes the need for an adequate infrastructure for delivery and sanitation services. Discussing access to water solely in terms of available quantities misses (a) the fact that people have to travel unequal distances to collect their water, (b) the importance of water *quality*, and (c) the issue of infrastructure maintenance. Concerning the first point, in most developing countries, an extensive range of people is deprived of adequate access, most notably women, people with disabilities, children, refugees, prisoners, and nomadic communities (Langford 2005).³

Concerning water quality, current discussions on water governance seem too one-sidedly focused on water supply, overlooking sanitation and wastewater management. The latter are equally important for human health and they should therefore be taken into account when talking about water governance. This holds even more in situations where the use of water leads to pollution of traditional water sources, for example due to agricultural run-off or industrial waste. As for the issue of maintenance of water infrastructure, insufficient funding may aggravate water shortage problems. With water services increasingly being privatized, it is important that the different actors' responsibilities are identified and that some regulatory system is put in place to guarantee compliance (Lundqvist 2000; Meinzen-Dick 2007). The issue of maintenance is also important for large water infrastructures intended as flood risk measures (Lejon, Malm Renöfält, and Nilsson 2009).

(ii) Type of good and property rights (the nature of water)

The second point relevant for water governance concerns the type of good that water actually is (its attributes), and the related question of property rights. Although often taken together, these are two separate questions. The debate concerning the

3] Apart from the fact that some people do not have access of water at all, inadequate access has some indirect effects as well. In most developing countries, women are responsible for collecting water. Oftentimes, the women spend considerable time collecting the water without any saying in the decision making on water issues. Time spent on the collection of water cannot be spent on work, education, or other activities, which may preserve or even increase gender inequalities. In 1992, at the UN International Conference on Water and the Environment (ICWE), the role of women was explicitly recognized in the principle stating that "[w]omen play a central part in the provision, management and safeguarding of water" (third of the four "Dublin Principles").

typology of goods mainly takes place in economics and public administration, with an ongoing discussion on the role of government on allocating resources. In these fields, it is common to classify goods along two dimensions. The first is the “subtraction criterion,” proposed by Samuelson (1954) for distinguishing private consumption goods from public consumption goods. In case of private consumption goods, each individual’s consumption of the good leads to subtraction of the amount of that good available for others. Common or collective goods, to the contrary can be enjoyed “in common in the sense that each individual’s consumption of such a good leads to no subtraction from any other individual’s consumption of that good” (p. 387). The second criterion is the exclusion criterion, proposed by Richard Musgrave (1959), indicating whether or not someone can be excluded from benefiting once the good is produced. Combining the two criteria yields a two-by-two matrix with four types of goods, as shown in Table 1: Typology of goods (Source: Ostrom and Ostrom 1977). (Ostrom and Ostrom 1977).

Table 1: Typology of goods (Source: Ostrom and Ostrom 1977).

	One person’s consumption subtracts from total available to others	One person’s consumption does not subtract from total available to others
Exclusion is feasible	Private goods	Toll goods
Exclusion is not feasible	Common-pool resources	Public goods

Although classification along the subtraction criterion seems more or less given, property regimes and both technical and physical boundaries can affect the capacity to exclude potential beneficiaries (Cornes and Sandler 1994; Ostrom, Gardner, and Walker 1994). Hence, it is possible – to some extent at least – to shift between the rows in Table 1: Typology of goods (Source: Ostrom and Ostrom 1977).. Unlike public goods, common-pool resources face problems of overuse, because they are both subtractable and without exclusion mechanisms to limit individual people’s use, which may ultimately lead to a tragedy of the commons (Hardin 1968). In order to avoid or solve this problem, it has been proposed to implement exclusion mechanisms such that the common-pool resources turn into private goods. This “common-versus-commodity” controversy is now also topic of debate in water governance. Given the scarcity of water, water should be assigned a price in order to avoid overuse, some people argue (cf. the fourth of the Dublin principles stating that “Water is a public good and has a social and economic value in all its competing uses”).

Empirical data suggest that some exclusion mechanism is indeed required for the sustainable management of scarce resources (cf. Agrawal and Goyal 2001; Twyman 2001). However, exclusion has its price, be it not (only) in monetary terms. Treating water primarily as an economic good in an attempt to accommodate its value may result in affordability problems and paradoxically deprive people of access to water, even

though the exclusion mechanism was implemented to reduce water scarcity. Alternative exclusion mechanisms are therefore required to allocate the scarce water resources and this is where the property rights come into play. Especially in the field of economics, work is undertaken to show how differentiation between various forms of property regimes can affect the incentives that people face to manage scarce resources (cf. Aggarwal and Dupont 1999; Ostrom, Gardner, and Walker 1994; Ostrom and Ostrom 1977; Schlager and Ostrom 1992; Ostrom 2003).

Although space does not allow going into detail about the particularities of the different property rights, the key message here is that the *type of good* – though related – is conceptually distinct from the *property rights* that people can exercise on these goods. However, the two are related in the sense that the different property regimes affect the possibilities of effective management and the question to what extent the good is prone to collective action problems. The fact that water management requires allocating property rights for both the water resource and the infrastructure further complicate this already complex topic.

(iii) *The human right to water*

The third point related to water governance concerns its relation to fundamental human rights. Over the past decade, and partly as a response to the economic approach to water governance, the discussion on access to water is increasingly framed in terms of human rights. Although often presented as an antidote to a pure economic approach to water governance, the human right approach to water does not exclude an economic or commodity approach to water. Whereas water as a human right refers to *people's* legal endowments, the common-versus-commodity controversy is an issue of property regime, which is applicable to *resources* (Bakker 2007).

In 2010, the human right to water was officially recognized by both the UN's General Assembly⁴ and the Human Rights Council.⁵ In the resolution by the Human Rights Council, it was explicitly stated that "States have the primary responsibility to ensure the full realization of all human rights, and that the delegation of the delivery of safe drinking water and/or sanitation services to a third party does not exempt the State from its human rights obligations." Although the discussion on the human right to water has its origin in the late 20th century, the first step to political recognition of this human right came in 2002, when an expert body of the UN Economic and Social Council (ECOSOC) assessed the implementation of the International Covenant on Economic, Social and Cultural Rights (ICESCR). In its now famous General Comment 15 (GC 15), the committee asserted that "[t]he human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses."⁶ The GC 15 prompted

4] General Assembly Resolution 64/292 of July 28, 2010.

5] Human Rights Council Resolution 15/9 of September 30, 2010.

6] Committee on Economic, Social and Cultural Rights (2002). Right to Water, General Comment

discussion on the nature of this right; the formulation was not clear on whether it was to be interpreted as a subordinate right necessary to achieve a primary human right (e.g., the right to food, health, or life) or as an independent human right (Bluemel 2004). The committee was explicit, though, in the obligations it imposed on States.

Irrespective of the (in)dependency of the human right to water, the ECOSOC Committee identified four key elements to provide normative content to this particular right.⁷ First, water should be available in sufficient quantity for personal and domestic use. Second, water required for each personal or domestic use should be safe. Third, water and water facilities and services have to be accessible to everyone without discrimination. This element is further specified in terms of (i) physical accessibility (distance from each household, educational institution and workplace); (ii) economic accessibility (affordability); and (iii) non-discrimination (accessibility to all). Fourth, information concerning water issues should be accessible.

The idea of water as a human right has also been criticized because it lacks (1) enforcement mechanisms and arrangements concerning water use (Grafton 2000); and (2) specificity and detail. Equity and sustainability, for example, would seem to require specific mid-level principles concerning “minimum water rights” and “maximum water use” (Hoekstra and Chapagain 2008). Concerning the first point, whatever one’s view on water as a human right, it *is* a legal endowment that will probably gain importance in the coming years now the right is explicitly recognized by the UN’s General Assembly and Human Right Council. The second point (the lack of specificity and detail) should be taken into account when further substantiating the human right to water on the basis of philosophical theories of justice and human rights.

(iv) Transboundary flow and the global dimension of water

A fourth characteristic of water (governance) is its global dimension. Only rarely is water flow confined within state boundaries. In most situations, rivers flow through several countries, making water essentially a global issue. Upstream activities in one country may affect water availability in downstream countries, which may pose a source of potential conflict. In international law, the principles of equitable and reasonable utilization and of diligent prevention of significant transboundary harm have been introduced to facilitate peaceful cooperation with respect to scarce water resources (Dellapenna 2003). These global arrangements seem indispensable for coordinating water withdrawals with transboundary impact.

However, at the institutional level, the subsidiarity principle requires addressing water issues at the lowest community level possible. As a result, the water sector has seen a significant change, with water users and other stakeholders gradually playing a much

No. 15, 20 January 2003, E/C.12/2002/11 (Geneva: CESCR).

⁷ ECOSOC (2002), paragraph 12.

more active and constructive role; a trend which is widely supported by academics and field workers alike. There is a potential tension between the need for global arrangements and a meaningful mandate at the lower community levels. The question how to strike the balance between local and global arrangements and how to distribute the responsibilities (between states and between the different management levels) is one of the pressing challenges for water governance at this time (Hoekstra and Chapagain 2008).

(v) *The values of water*

A last aspect which is typical for water is the multitude of meanings attached to water. Water is recognized to be essential for life, a basic human need, both in terms of drinking water and in terms of sanitation. Additionally, water is equally important for agriculture and, in some countries, for transportation as well. In its most simple form, the debate on water scarcity is about prioritizing different kinds of water use. In this discussion, the value of water is primarily instrumental, a basic human need indeed, yet a relatively tangible one. This holds for the environmental value of water as well. With utilitarianism as the dominant principle in modern resource policy, attempts have been made to quantify the environmental values of water in order to include them in economic analysis (cf. Bateman et al. 2006; Anderson and Leal 2001). However, other values are still excluded from the debate about priorities for water use and water management. In many cultures and religions, water has a symbolic meaning or value as well (Gerten and Bergmann 2011; Chamberlain 2008; Sandford and Phare 2011). In many religions, the symbolic meaning of water is associated with its ability to remove sin and purify (Pradhan and Meinzen-Dick 2010). In the Hindu tradition, for example, ritual bathing in sacred rivers is considered to purify the soul and the body (cf. the famous *Kumbh Mela* in the river Ganges, where up to 60 million pilgrimages gather). Additionally, in both Hindu, Muslim, and Christian tradition, water is associated with social relations of cooperation and conflict. Providing thirsty people with water is an important religious imperative that may trump a person's right to quench one's own thirst first.

Both from a liberal perspective but also for reasons of efficacy, it seems necessary to take these religious and cultural values into account as well. Liberalism requires that people should have the freedom – within limits – to practice their own religion, including the associated rituals. From a more pragmatic point, it has been argued that interaction between the different values and water claims may provide leverage to empower marginalized groups, such as women or poor households, especially if religious and community norms contribute to better stewardship of water resources (Farouqui, Biswas, and Bino 2001; Sadeque 2000; Gerten 2010). Adequate water governance principles could therefore not be formulated on the basis of instrumental considerations alone.

III. DISCUSSION OF WATER GOVERNANCE IN THREE FIELDS OF APPLIED ETHICS

In the previous section, I discussed five points that should be taken into account when developing a comprehensive account of water ethics. Let me briefly summarize these points:

Water governance is both about risks and scarce resources, and it requires an adequate infrastructure for delivery, sanitation, and flood protection;

Different property regimes may affect the possibilities of effective management of scarce resources;

Access to water has recently be recognized as a human right. This right is currently still rather ill-defined and should be further substantiated;

The transboundary flow of water requires global agreements on water governance issues, while taking into account the subsidiarity principle;

Water represents a multitude of meanings or values, which cannot be reduced to one overarching value.

From this overview, one could derive some urgent distributive questions: distribution of risks, distribution of access rights, allocation of resources, and distribution of responsibilities.⁸

When we look at the literature on water governance, we see two dominant sets of criteria for adequate governance. Not surprisingly, the empirical literature has a focus on efficiency and efficacy (instrumental values), whereas most legal literature is focused on equity and reasonableness (normative values). However, these latter terms are only weakly substantiated, whereas it is recognized that they play a vital role in building cooperative relations in water networks (Meinzen-Dick 2007). Given the urgency of the water crisis, it is remarkable how little attention political philosophers or applied ethicists have paid to these distributive questions or have tried to substantiate criteria for equal and reasonable utilization.

My claim is that political philosopher and applied ethicists should become more involved in the discussion on water governance, in particular for (1) clarifying the debate, and (2) analyzing the distributive questions that are characteristic for water. As explained in the introduction, these questions pertaining to water ethics are, if discussed at all, usually treated under the heading of environmental ethics, climate ethics, or more general theories of global justice or development ethics (mostly in relation to or derived from the discussion on food and famine). In the remainder of this paper, I argue that water governance is currently not adequately discussed in any of these other fields. In order to do so, I explore how the five characteristics of water are currently discussed in the three fields.

⁸ Cf. (Gupta and Lebel 2010), who derive a similar set of questions from a more general analysis of earth system governance.

My discussion is supported by a rough inventory of the debates in the respective domains (see the Appendix for brief description of this inventory). The aim of this inventory was not to obtain a full review of the current literature, but rather a representative sample of articles on the basis of which I could derive the current focus of the ongoing debates in the respective fields.

This inventory led to the following findings. In the literature on environmental ethics and climate ethics, the terms risk and resource frequently occur. However, only rarely are these topics discussed in relation to a service. Neither are the risks of abundance and the scarcity of resources discussed in one and the same paper. Resource scarcity is discussed in the development ethics literature, most notably in relation to food scarcity. There is also a more general field of food ethics, in which genetically modified (GM) crops and organisms are often presented as a possible solution to food scarcity. The potential risks of these GM crops and organisms are widely discussed in this branch of applied ethics literature, be it only scarcely in relation to food scarcity in developing countries (see (Millar and Tomkins 2007) for an exception). The discussions in food ethics often focus on risk perception by the public (Guehlstorf 2008; Myhr and Traavik 2003) and epistemic controversies on how the risks are assessed (Devos et al. 2008; Korthals and Komduur 2010) rather than the alleged moral acceptability of particular risks and the distributive aspects of risks. The “service-aspect” is to some extent discussed in development ethics, be it in different phrasings and focusing on different questions.⁹

To recap, neither of the three fields (environmental ethics, climate ethics, and development ethics) has a debate that reflects the intricate relation between resource scarcity, abundance (or risks), and the importance of infrastructure or service. The debate on GM crops and organisms comes closest, but this debate seems too much focused on risk communication and epistemic controversies to be fully comparable to the questions that need to be addressed in relation to water.

Property rights are discussed in all three fields. In environmental ethics and climate ethics, property rights are discussed in relation to the management of scarce resources and prevention of the tragedy of the commons (cf. Sagoff 2010; Rose 2009; Sheard 2007). However, property rights are certainly not at the heart of the debate (also witnessing the relatively low percentage of papers addressing this issue). This is different for development ethics, where much has been written on intellectual property rights and pharmaceuticals and ways to provide poor people with access to the most necessary drugs. The field of water governance will probably gain most from this debate in development ethics.

9] Although the combined search terms “risk”, “resource,” and “service” did not lead to any hits in the literature search on development ethics, these topics are to some extent discussed, be it with a different terminology. The topic in relation to which the “service-aspect” is most widely discussed, is the so-called ICT4D movement, a general term that stands for the application of Information and Communication Technologies (ICTs) in development aid (Cf. Unwin 2009). However, the infrastructure needed for water delivery is also significantly different from the infrastructure needed for ICT infrastructure, which therefore prompts different questions.

Not surprisingly, the discussion to what extent access to water is a human right is to a large extent similar to the discussion on the human right to food (cf. Anderson 2008; McMichael and Schneider 2011; Pogge 2001b). However, there are also differences. We could both argue that the right to food is more complex to substantiate (adequate food requires that the food must satisfy certain dietary needs, taking into account the individual's age, living conditions, health, occupation, sex, etc.), but also that the right to water is more complex (for example because drinking water may compete with agricultural use, required to grow crops). Hence, substantiating the human right to water seems to involve more questions related to prioritization of *different* uses. In climate ethics, we also see a rights-based discussion, viz. the right to safety against harm (cf. Bell 2011; Turnheim and Tezcan 2010) and the rights of future generations (cf. Davidson 2008; Caney 2009; McKinnon 2009). With its aversion for anthropocentrism, human rights are not central to environmental ethics.

Similar to water, both environmental degradation, climate change, and human development have an explicitly global dimension. This aspect is central to any of the three fields. The fact that this global dimension poses a potential source of conflict is also a recurring theme in the respective fields. What is lacking in the debate in environmental and climate ethics, though, is the need to balance local and global governance arrangements. Climate change and environmental degradation are often seen as problems requiring a global approach. One uncontested lesson from the past decades is the need to address water issues at the lowest community level possible (subsidiarity principle). This means that water governance, more than solutions to climate change and environmental degradation, requires a mixture of local and global solutions, a principle which is also widely accepted in development ethics (Goulet 2006: p. 202). Hence, also with respect to this element of water governance, the overlap with development ethics is more profound than with environmental or climate ethics.

Lastly, in terms of the diverse values and uses attached to water, it seems that water is most comparable to the environment. Although values are widely discussed in relation to development ethics as well, these discussions seem to focus more on the diversity of value systems between different countries and the need to adapt development aid to these local cultural and religious value systems (which is of course a very wise and important lesson to bear in mind but it is different from the point I tried to make when I discussed the different values and meanings attached to water). Focusing on values in the debate in the environmental ethics, we see that both the environment (or "nature") and water are recognized to have more than strictly utility value (cf. Thompson 2000; Bhagwat 2009). However, where the debate in environmental ethics is primarily about the value of biodiversity and wilderness, water governance also has to deal with the question how to prioritize competing utility values (e.g., clean drinking water versus agricultural use). This suggests that this question of prioritization in relation to water governance is presently not fully captured by the ongoing debate in environmental ethics.

IV. CONCLUDING REMARKS

In this paper, I have argued that water has until now not received the attention it deserves in the field of moral or applied philosophy. The line of argumentation was as follows. First, I described five points that should be part of an integrated account of water ethics (or ethics of water governance). Second, I mentioned three fields which could potentially cover water governance as well and I showed that neither of the three fields addresses all five points identified. How are we to proceed? As this paper starts “from a concern with addressing social ills and contributing to justice-enhancing practice” (Robeyns 2008: p. 343), I feel committed to the so-called tradition of non-ideal theory within political theory and philosophy. Addressing real-world problems also requires empirical insight in these processes. I therefore argue for a multidisciplinary approach and to join forces with disciplines like law, hydrology, policy science, and new institutional economics (see (Gupta and Lebel 2010) for a similar plea).

The current debate on water ethics is obscured by unclear conceptions, and consequently false oppositions (for example between commodification and human rights). Here I see a clear role for philosophers. If the ethical aspects of water governance are to be adequately addressed, profound knowledge of water, including partly technical (hydrological) knowledge, knowledge of the prevailing legal constraints and insights from policy sciences and institutional economics, should be applied with philosophical rigor. The fact that this will be a multidisciplinary enterprise does mean that it will be superficial. Addressing the water crisis requires that debate is conducted at various levels of generality and specificity and so must a proper account of water ethics contain various levels of abstraction.¹⁰ At the most abstract level, basic moral concepts, such as justice, autonomy, and democracy need to be developed, which requires the involvement of political philosophers and applied ethicists and scholars of other disciplines with a strong conceptual method (like legal and political theorists). At the mid-level, principles of equity and efficacy need to be taken into account. This cannot be done without also paying attention to local socio-cultural *and* hydrological circumstances. Additionally, the legal context (international treaties, national water law, etc.) determines the room for maneuver and should therefore be taken into account as well. At the most concrete level, specific institutions and strategies need to be designed. At this level, the involvement of policy theorists and scholars from institutional economics may play a crucial role. Only in concert with these other disciplines can we develop an account of water ethics that can help solving the water crisis.

10] Different names for these levels exist. Some prefer to talk about (1) basic ethical principles, (2) development goals and models, and (3) specific institutions, projects and strategies (Crocker 1998), others call these levels (1) moral background theories, (2) moral principles, and (3) considered judgments (Rawls 1999[1971]).

APPENDIX

The aim of this inventory was not to obtain a full review of the current literature, but rather a representative sample of articles on the basis of which I could derive the current topics of discussion in the respective fields.

For the field of environmental ethics, I checked the journals *Environmental Ethics*, *Journal of Environmental and Agricultural Ethics*, and *Environmental Values*. For the field of climate ethics, I did a search in the database Philosopher’s Index on the search term [climate ethics OR climate change]. For the field of development ethics, I did a search in the database Philosopher’s Index on the search string [develop* AND ethic* AND (countr* OR world)]. For all three searches, I limited the time spam to articles between 2000-2011. This resulted in 1183 hits on environmental ethics, 252 hits on climate ethics, and 919 hits on development ethics. In these respective samples, I searched on the five topics with the following search terms: (1) [(risk OR resource) AND service]; (2) [property AND right*]; (3) [human right*]; (4) [global OR transboundary]; and (5) [(cultural OR spiritual) AND value]. This led to the results as shown in Table 2: Number of hits on five search topics in three respective academic fields..

Table 2: Number of hits on five search topics in three respective academic fields.

	Number of articles in sample	Search topic 1: risk/resource/service	Search topic 2: property regime	Search topic 3: human rights	Search topic 4: global/transboundary dimension	Search topic 5: multitude of values
Environmental ethics	1183	-	9	8	53	10
Climate ethics	252	2*	6	8	81	2
Development ethics	919	-	14	50	158	11

*These two articles were not relevant since they referred to the term service as in profession or occupation.

On the first search topic, there were no relevant hits in any of the three fields. I also did a search on the simultaneous occurrence of the terms [risk AND resource]. Only in the field of climate ethics did this lead to two relevant articles.

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