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# Water Ethics

A Values Approach to Solving the Water  
Crisis

David Groenfeldt

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A Values Approach to Solving  
the Water Crisis

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# Water Ethics

This book introduces the idea that ethics are an intrinsic dimension of any water policy, program, or practice, and that understanding what ethics are being acted out in water policies is fundamental to an understanding of water resource management. Thus, in controversies or conflicts over water resource allocation and use, an examination of ethics can help clarify the positions of conflicting parties as preparation for constructive negotiations.

The author shows the benefits of exposing tacit values and motivations and subjecting these to explicit public scrutiny where the values themselves can be debated. The aim of such a process is to create the proverbial "level playing field," where values favoring environmental sustainability are considered in relation to values favoring short-term exploitation for quick economic stimulus (the current problem) or quick protection from water disasters (through infrastructure which science suggests is not sustainable).

The book shows how new technologies, such as drip irrigation, or governance structures, such as river basin organizations, are neither "good" nor "bad" in their own right, but can serve a range of interests which are guided by ethics. A new ethic of coexistence and synergies with nature is possible, but ultimately depends not on science, law, or finances but on the values we choose to adopt. The book includes a wide range of case studies from countries including Australia, India, the Philippines, South Africa, and the United States. These cover various contexts including water for agriculture, urban, domestic, and industrial use, the rights of Indigenous Peoples, and river, watershed, and ecosystem management.

**David Groenfeldt** is the founder and Director of the Water-Culture Institute in Santa Fe, New Mexico, and Adjunct Associate Professor, Department of Anthropology, University of New Mexico, USA. He has previously worked on irrigation research at the International Water Management Institute (Sri Lanka), the design and management of irrigation projects for the World Bank, and rural development consulting for various international agencies. More recently, he directed a watershed NGO in New Mexico, and in 2010 founded the Water-Culture Institute to address the underlying causes of unsustainable water management: our own values and ethics.

# Acknowledgments

This book combines three genealogical strands of my professional experience which deserve to be acknowledged separately. The first strand is my graduate studies in anthropology and most especially my PhD field research along the northern fringe of the Thar Desert in Rajasthan and Haryana, India. My interest then focused on the cultural values that gave a particular stamp to the farming communities I studied, and how those values changed when irrigation canals brought new agricultural opportunities. My mentors during that period have already been thanked once in the acknowledgments to my dissertation, but warrant a renewed recognition here, both my professors, and even more importantly, my mentors in the study villages whose lives were temporarily intertwined with my own. The village life I experienced as pastoral and romantic (depicted in the cover photograph) can also be viewed as limiting and backward, yet there was no doubt in my mind that village life contained deeply important qualities that faded in the face of economic development. Was development simply incompatible with that pastoral quality, or could the two coexist with a more nuanced approach to development?

The second strand of experience leading to this book is my professional work in the social dimensions of irrigation management, and particularly on farmers' management participation in irrigation systems. Here I want to recognize my mentors and colleagues within the orbit of the International Water Management Institute in Sri Lanka, and later at the World Bank: Tom Wickham, Roberto Lenton, David Seckler, and Robert Chambers, who introduced me to the idea that management principles could be applied to an understanding of how irrigation networks operated; Doug Merrey, Namika Raby, Bob Yoder, Ed Martin, and my late wife, Pam Stanbury, whose work on a range of social issues in irrigation expanded my horizons; and many others, including Jean Verdier, Lucas Host, Geert Diemer, Ruth Meizen-Dick, Doug Vermillion, Bryan Bruns, Uraivan Tan-kim Yong, Walt Coward, Jayanta Perera, Shamila Abeyratne, Abdullah Herzenni, Rachid Abdelloui, Nyoman Sutawan, Prachanda Pradhan, Ujjwal Pradhan, Romana de los Reyes, and Sylvia Jopillo. During my time at the World Bank (1994–2001) my thinking about the roles and levels of participatory irrigation management was broadened by Hatsuya Azumi, Peter Sun, Keith Oblitas,

Ashok Subramanian, Richard Reidinger, and outside the Bank, Jose Trava, Atef Hamdy, Mark Svendsen, Paul Van Hofwegen, Peter Mollinga, Karin Roelofs, Raymond Peter, Sithapathi Rao, and Linden Vincent. The basic question that all these people helped me address was, "What is irrigation for?" Clearly it had utility beyond the raw production of food, to include social and even environmental benefits.

The third strand of experience reflected in this book has to do with cultural values, which I later came to label as "ethics." My foray into the indigenous world of water was facilitated by Rutgerd Boelens, Darlene Sanderson, Tom Goldtooth, Vicki Corpuz, Joji Carino, Vernon Masayesva, Jose Lucero, Ellen Lutz, Ameyali Ramos Castillo, Zheng Xiao Yun, and Emigdio Ballon. My understanding of agricultural values and multifunctionality owes much to discussions with Kazumi Yamaoka, Riota Nakamura, and Itaru Minami. The direct impetus for this book, however, comes from the nearly four years (2006–09) I spent as Executive Director of the Santa Fe Watershed Association in New Mexico. Here I encountered the limits of cultural romanticism in the cold reality of local water policies, and the cultural values supporting those policies. I would like to acknowledge particularly Paige Grant, Francois-Marie Patorni, Dale Lyons, Claudia Borchert, Sandy Hurlocker, Jerrey Jacobi, Mayor David Coss, Staci Matlock, Melissa Savage, Laura McCarthy, Neil Williams, John Horning, Terry Sullivan, Alan Hamilton, Steve Harris, and Mark Smith. With so many talented people working to restore their local river, why was it so difficult? The answer that slowly emerged in my mind was, and still is, "cultural values." I founded the Water-Culture Institute (<http://www.waterculture.org>) to explore the dynamics between values and water policies, and discovered that others had already been working on that relationship under the name of "water ethics." This is where I owe a debt of gratitude for their intellectual inspiration, to Sandra Postel, Jerry delli Priscoli, Jeremy Schmidt, Peter Brown, Adrian Armstrong, Dieter Gerten, Martin Kowarsch, Cynthia Barnett, Irene Klaver, Janos Bogardi, Ramon Llamas, Bill Cosgrove, Kathryn Kintzele, and Curt Meine.

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During the overly long process of writing, I took inspiration from two very different water ecosystems with "whom" I feel a deep personal connection. One is the dammed and usually dry Santa Fe River near my home, and the other is the voluminous but also stressed Lake Michigan where my family spends time each year on the Wisconsin shore. To both these ecosystems I feel a debt of responsibility to try to right, or at least to mitigate, the many wrongs of the past. I hope this book might make some small contribution to that effort.

# Preface

## Why Water Ethics?

In March 2008, I was in a conference room in Santa Fe, New Mexico, listening to a discussion about the water laws of the western United States. Those laws were born out of the California Gold Rush in the 19th Century and designed to avoid bloodshed when miners fought about who had priority to divert the streams needed for mining operations. The courts came up with a solution based on the mining law itself. The first person to divert the stream and use the water for beneficial use (i.e. for his mining operations) could claim that water for his own use. If another miner started a mine upstream, he could also claim the right to divert water from the same stream, but his diversion could not interfere with the water supply of the earlier claimant downstream. This is more or less how the legal principle of “prior appropriation” began in the American West. The same solution that helped miners avoid killing each other in water disputes was applied to irrigation disputes as well, and later on it was applied to the water rights of towns and cities.

There were, and still are, two big problems with water law based on prior appropriation. The first is equity. The lucky few who staked early claims, appropriated most of the water rights. (The customary water claims of the Native Americans were totally ignored when these laws were being developed and were later retrofitted in.) The second problem is environmental. Under Western water law the entire flow of water in a given stream could be claimed by people (and corporations and municipalities that the law also considers to be “persons”). The rivers that the water comes from have no claim to their own water. Miners, farmers, and cities are legally entitled to scoop out the last bit of water in the river, if they possess priority water rights.

The discussion I was listening to that evening was being led by a water law expert from a national environmental organization. I had invited her to speak in Santa Fe, because I thought she could offer insights about our local Santa Fe River. I was director of the Santa Fe Watershed Association at the time, and our river had just been declared as the “Most Endangered River” in the country.<sup>1</sup> I had nominated our river to draw national attention to its plight. Dammed upstream of the historic state capitol of New Mexico, only a

dry dusty ditch marked the path of the once vibrant river, a tributary to the Rio Grande. The city-owned water utility had the legal right to dam the river and suck out all the water because of the principle of water rights based on prior appropriation. If water law was the problem, the solution, it seemed to me, would be to change the laws. That's the question I asked.

"What do you see as the long-term evolution of our water laws," I asked the speaker, "How will the principle of prior appropriation be overturned?" My question assumed that this principle is so dysfunctional for sensible water management, that eventually it will simply have to change. The speaker did not share my views. It cannot change, she said. There is too much institutional and political inertia, too many interests vested in the way things are; it will not change and we will just have to accept it and try to work around it as best we can.

That, coming from a fellow environmentalist, who was personally committed to using the law for environmental ends, was not what I wanted or expected to hear. Are we born to serve the imperfect laws our forefathers came up with 150 years ago just because it is too inconvenient to change them? The answer, incredibly, seemed to be, "Yes." We will live with the social inequity and environmental destruction of our water laws because, overall, the system works well enough. We will reform the edges but we will not challenge the core principles because we would almost certainly fail.

The conundrum facing rivers in the American West is an extreme form of the conundrum facing rivers around the globe. The laws and policies governing water seem incompatible with the sustainable stewardship that we know is needed, but changing those policies is simply too big a task. The policies are not stagnant; they are evolving and becoming greener overall. Particularly in Europe, but even in the American West and in the emerging powers of China, India, and Brazil, water policies are shifting to acknowledge the importance of flowing rivers and relatively clean water. But the changes are too small, too slow, and most critically, too "shallow." With some important exceptions, the changes are not rooted in fundamentally new principles; rather, the new and slightly greener policies are being grafted onto the existing principles that caused the current crisis. The response to supply shortages emphasizes efficiencies, new technologies, and more investment in water infrastructure: dams, pipelines, desalination plants, and wastewater treatment facilities. The response to floods is bigger levees; the response to water-starved crops is bigger canals.

Most of my professional water experience has been international in focus, and I felt reasonably confident that the professional water world was evolving along the right track. The rise of major water research institutes and UN water centers, the sophistication of professional associations and the involvement of universities, think tanks, and environmental organizations were encouraging signs that bright minds and well-intentioned political forces would keep our water resources reasonably well governed. The World Water Forum held in The Hague in 2000 reinforced the message that



the world was on track to preserve our freshwater resources. The World Water Vision produced for the Forum laid out a 40-year vision for balancing the needs of nature, people, agriculture, and industry. There was much work to do, but we have the vision and the specifics can be worked out as we go along. Yes, there is a water crisis, but we can handle it. That was the basic message I derived from the Water Forum.

Since that Water Forum in 2000, I have changed my views for two reasons. One is that I moved to New Mexico where I experienced the extremes of water policies that promote dewatered rivers, while local Pueblo Indian culture reveres those same rivers as sacred. Which worldview makes more sense from a water perspective? The second reason is the way climate change is reframing water policy discourse. Who is going to support living rivers as the climate becomes hotter and drier, without carefully considered ethical principles already in place that recognize a human responsibility to nature?

My view of water in the American West, as well as globally, is that the incremental policy changes we are making will not be enough to avert disaster. We are using water too fast, protecting it too little, and meanwhile the climate is going to make everything even more challenging. We need to manage water not only differently, but on the basis of different principles – ethical principles.

We face a water crisis, but not because of a lack of water. It is a moral crisis that is being expressed through fear-based water management. The picture, of course, is complicated, and along with moral crisis there are a great many moral success stories of innovative pilot programs and even some elements of national and global water policies. What we are experiencing as a “crisis” is a manifestation of weak, bad, or ignored ethical principles. By addressing those ethics directly, identifying what they are, asking ourselves whether those are the ethics we wish to live by, and then figuring out what our improved set of ethics might be and how to operationalize them through policy and legal reforms, by doing all these things, I believe we will discover that we no longer have a water crisis! We will face shortages, but we will be clear about how to meet those shortages. We will not face scarcity because we will already be living within our means. And I don’t think we will have to be water-poor either, because we do have technology. With carefully adjusted water ethics, we will be clear about how best to incorporate technology into our water management strategies to produce enough water for ourselves, and for nature as well.

This is my vision which has inspired this book. This vision hinges on getting the ethics right as the first step, which then helps determine the specifics of planning, managing, and overall water governance. It starts with ethics.

*David Groenfeldt*

## Note

- 1 This was an annual designation by American Rivers, a national environmental group (<http://www.americanrivers.org>).

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# 1 Introduction to Water Ethics

What do you call the principles, the values, that form the basis of water policies, or that motivate us to use or not use water in certain ways? How do we judge whether our use of water – whether for brushing our teeth or irrigating a farmer’s field – is wasteful or necessary? When we read about the proposed dam that the government of Laos wants to build on the Mekong river, what determines whether we feel that is a good idea or a terrible one? I use the term “water ethics” to denote these underlying principles that influence our own water behavior and our reaction to other people’s behaviors.

The kind of ethics I am talking about are rarely black and white. We usually need more information to form a judgment about the dam, or even about whether we are using too much water in brushing our teeth: What is the source of the water flowing out of the tap, and what will happen to it when it goes down the drain? What sort of dam is being proposed on the Mekong? What will be the impacts on the river’s fish, and on the traditional communities and cultures that depend on fishing? What will the electricity from the dam be used for and what are the alternative energy options? What will happen to the people who live in the proposed reservoir area?

The questions we ask in our inquiry about whether the dam is desirable or not, or whether we are using too much water in our own homes, reflect our values about what is important. What information is relevant to our support or opposition to the dam proposal? Does it matter if fish can navigate around the dam through fish ladders? Does it matter if local communities have to give up fishing and work in a factory powered by the dam’s electricity? Does it matter what is being produced in the factory that uses the electricity from the dam? What about the labor conditions? Where do water ethics end and other ethics begin?

The American conservationist, Aldo Leopold, believed that an extension of ethics beyond our immediately obvious self-interest, to include the well-being of nature, is “an evolutionary possibility and an ecological necessity” (Leopold 1970 [original 1949]:167). Our civilization has already made good progress on our ethical path and embracing nature is the next step. In his most famous essay, *The Land Ethic*, Leopold illustrates how far we’ve come

in our ethical evolution, by relating the Greek myth of Odysseus returning after twenty years away from home (ten years fighting the Trojan War and another ten years finding his way back). His wife and son have been loyally awaiting his return, but what about his slaves, and particularly the female slaves? Had they been loyal too? Just to be sure, Leopold tells us, paraphrasing Homer, "he hanged all on one rope a dozen slave-girls of his household whom he suspected of misbehavior during his absence." What would today be considered mass murder was then seen as justified house-cleaning. "The girls were property. The disposal of property was then, as now, a matter of expediency, not of right and wrong ... " (Leopold 1970 [original 1949]:167).

Leopold's story has been recounted many times not only because of the powerful imagery, but also because there are two deep truths in his example. The first truth is that we have made incredible progress over the past few millennia, and particularly in the past century, in extending our ethical boundaries. While we continue to give special attention to our immediate families and communities ("Charity begins at home"), we have also embraced an ethical concern about people we do not know and will never meet. Through the United Nations, we have endorsed resolutions proclaiming the rights of people and cultures. In 2010, we (again through the UN) even recognized the right of every person to have safe water to drink. Clearly, we are making progress!

The second truth in Leopold's account is that for all our recent progress in caring for the larger human community we have not yet made room for nature in our ethical sphere. The way we treat our rivers, lakes, aquifers, wetlands, and estuaries is largely, if not entirely, governed by expediency. The easiest place to discharge industrial waste is the river that is flowing by, and the easiest way to expand urban water supply is to build a reservoir on that river upstream of the factory where the water quality is still good.

The environmental movement of the 1970s and the new paradigm of sustainable development, which emerged with the report of the Brundtland Commission in 1987 (World Commission on Environment and Development 1987) and the Rio Conference in 1992, seemed to demonstrate that the ethical evolution Leopold anticipated was now taking place. Yet 20 years later, at the time of the Rio+20 meetings, the path to an ecological ethic seemed neither immanent nor inevitable. There is no dearth of analytical tools and concepts (e.g. ecosystem services, green economy, etc.) but these very concepts, like "sustainability" are too easily twisted into the old concepts with new names.

The problem, it seems to me, lies more in "how" we are thinking than "what" we are thinking; how we are using the analytical tools. There is nothing wrong with the tools themselves. Ecosystem services is a powerful concept with far-reaching implications. But then, cost-benefit analysis is also a powerful and valuable tool which has been around for many decades, but has not really helped us along the Leopoldian path of evolution. What's missing? In a word, *ethics*. We have ethics, personally, and there are

normative ethics in every society (which is what we anthropologists like to study); we have them, but we are not using those values when it comes to water.

Somehow we have gotten used to the idea that water management is a technical subject better left to the experts. That's partly right; water management is technical, but there are lots of value assumptions embedded in the technical choices. Moreover, the *governance* of water, the laws, policies, and institutions which set the context for technical water management, is anything but technical. Water governance is all about values, and if we don't take the trouble to offer our own values to the water discourse, we are going to be living with the values of the people who do take (and often make!) trouble.

Imposing our personal ethics onto water discussions in our home communities is not necessarily going to get us very far along Leopold's path either. What I believe Leopold had in mind (and he was rather vague about the details) was that through reflecting on both the moral and practical implications of alternative courses of action (e.g. whether to build the dam to provide more water or, alternatively, to start a water conservation campaign to create water savings), we would learn to discern the better choice. Eventually we would also realize that interfering with natural processes, like flowing rivers, has limits, and if those are exceeded (e.g. taking too much water out of the river) we will undermine the natural productivity that our self-interest relies on. Bringing nature into our ethical sphere is not necessarily an act of altruism, though it can be. It is also, I believe, in the long-term self-interest of our civilization, and our very survival as a species.

The message of this book is that an awareness of ethics can contribute to better decisions about water management and governance. My assumption is that the process of thinking through the ethical implications of alternative water policies and practices will favor outcomes that are better for us as people, and for the planet on whose health we ultimately depend. If our management of water becomes more sustainable, we will be further along Leopold's path, and further away from a water crisis. It is in this sense that water ethics has the potential to "solve" the water crisis.

## Ethics and Values

In our everyday speech, and in this book, the words "values" and "ethics" are used interchangeably but it is sometimes helpful to make a distinction. Values refer to "standards or criteria to guide not only action but also judgment, choice, attitude, evaluation, argument, exhortation, rationalization, and, one might add, attribution of causality" (Rokeach 2000:2). Ethics refers to a coherent system of values. For example, an environmental ethic is built upon a set of values about how we ought to relate to nature in small, practical ways (e.g. don't step on ants) as well as big conceptual ways (e.g. awe and respect).

But the word, “ethics,” also refers to “the discipline dealing with what is good and bad and with moral duty and obligation.”<sup>1</sup> My intent is to promote the application of ethics as a discipline to the process of making decisions about water. Rather than living with the fiction that decisions about water are made through objective logic unencumbered by subjective values, I am suggesting that we start with the opposite assumption: Every decision about water reflects values and sets of values (ethics) about the relative importance of different water uses, impacts, and outcomes. Making an effort to understand what tacit values we are bringing to our water decisions (e.g. whether to build the dam) will help us make better decisions because we will understand our own motivations more clearly.

### **Ethics about What?**

Ethics can be applied to just about anything, but it needs to be applied to something. One cannot be simply “ethical” without putting those ethics to the test. To me, this is what makes ethics, as a subject, so fascinating; it is designed for action and application. We can have beliefs about water, that it is sacred, or healing, or beautiful, or even dangerous, but those qualities are not ethics; rather, they are the basis for values which become organized into ethics. Ethics is what we do or how we respond to our concept of water as dangerous (we put a fence around the swimming pool) or beautiful (we frame a photograph and put it on our living room wall).

If we conceive of nature as important to preserve in as “natural” a state as possible, we will try to protect the natural state of a river. If we view the river’s flooding as dangerous we might decide to build a levee along the river to protect people and property. If we consider flooding as dangerous but also value the natural river, we will look for a solution to the flooding that does not compromise the river’s ecological functions. For example, we might opt for low levees set far away from the river channel to protect against major floods, but allow the river freedom to “be a river” within that zone. The decisions we make about the best way to manage the river depend on how we value different outcomes, and flood management strategies are a rich topic for exploring competing values and ethics.

The various categories of ethics and water management provide the conceptual framework of this book. The chapter themes are organized around how water is managed and used. These provide the context for discussing how different values and ethics play out in practical decisions within those management categories. We will consider four basic contexts of water management. The first, in Chapter 2, is the management of rivers and other water ecosystems through dams, levees, or water pollution standards. The second management context is how we use water and what we use it for, whether in agriculture (Chapter 3), urban water supply (Chapter 4), and industry (Chapter 5). The third management context we consider (Chapter 6) is the governance of water and choices about the kinds of institutions we

create to handle governance. A fourth context discussed in Chapter 7 is water management within Indigenous societies where cultural values take on particular importance. Exploring the cultural implications of water management in Indigenous settings also helps us to see more clearly the cultural values and ethics influencing water decisions within our globalized, ostensibly rational, Western-inspired society. We all operate according to an internal value compass which we had better become aware of if we are going to take decisions which are indeed rational!

Table 1.1 depicts these four contexts of water management along the left-hand column: (1) ecosystem management, (2) water use, (3) water governance, and (4) indigenous water management. Within each of these management categories, this book considers how values and ethics influence management decisions in a particular direction. Some values are explicit and are clearly invoked in explaining management decisions, while other values are tacit; they influence decisions, but they are not acknowledged. This mix of explicit and tacit value assumptions masks a confusion of motives that provide a wobbly foundation for water management decisions. Untangling the mess of contradictory values starts with sorting out the values into categories that we can call “ethics categories.” What categories should we use? The most obvious value/ethics category is economic. How can water management help the economy? What will be the economic benefits of a particular water project? Economic values are well studied and economics is almost always invoked in water decisions. The persistent confusion about the economic implications of water decisions stems from choosing which economic values/costs to count and how to weigh different kinds of economic values. For example, the economic costs of environmental impacts, e.g. water pollution, are often ignored or downplayed, particularly when big infrastructure projects are at stake.

The reason that only some economic costs are considered and others are ignored, has to do with the influence of conflicting values in other ethics categories. In this book we recognize three additional categories of values/

Table 1.1 Domains of water management (left) and domains of values/ethics (top)

	<i>Environmental values/ethics</i>	<i>Social values/ethics</i>	<i>Cultural values/ethics</i>	<i>Economic values/ethics</i>
<i>Ecosystem Management</i>				
<i>Water Use (Agriculture, Water Supply, Industrial)</i>				
<i>Governance Arrangements</i>				
<i>Indigenous Water Mgmt</i>				



ethics: (1) ethics about the environment, (2) ethics about people and society, and (3) ethics about culture and cultural diversity. These four categories (including economic ethics) are depicted on the top row of Table 1.1. In the real world, of course, there are no clear lines separating these categories; they spill into each other often within a single thought. “We need to protect the economic services of wetlands” simultaneously invokes environmental and economic values. In this book we will try to separate categories which are actually linked and interactive. It is the interactions that are most interesting, and also where the potential lies for bridging conflicts and finding creative solutions. In the final two chapters we will try to put the value categories back together again and see how a deeper understanding of the way values actually function in water decisions can help us create a better water future.

Additional types of values could also be distinguished, such as spiritual values, psychological values, and aesthetic values. In certain contexts these or other types of values could be important to consider. For example, in addressing the pollution of the sacred Yamuna River in India, it is difficult to imagine a type of value that is *not* relevant (Haberman 2006). Another way of categorizing ethics is in terms of whose interests are being prioritized. Carolyn Merchant (2010, original 1997) identifies three categories of ethical intention: egocentric (self-interest), homocentric (utilitarian social interest), and ecocentric (pure environmentalism). What we really need, she concludes, is a hybrid of homocentric and ecocentric ethics which she terms, *partnership ethics*, a “moral consideration for both humans and other species.” This seems like a good compromise position, but these three categories are not necessarily mutually exclusive. Distinctions among self, society, and nature fade into insignificance when we consider the prospect of a warming planet and increasingly insecure, and locally scarce, water supplies. We need an ethic that will help us and the next seven generations survive and thrive. Our current ethic of what Leopold calls “expediency” has gotten us into trouble.

This is where the Odysseus story provides hope. Our society no longer accepts slavery; it is ethically taboo. There are no international conferences to consider alternative social policies that would re-instate slavery as an institution. Ethics can and do change. An historically more relevant example, also related to slavery, is the civil rights movement in the United States. We have compelling evidence of changing ethics from the fact that an African American, Barak Obama, was twice elected as President. Precisely how ethics change is not the focus of this book, because I would be moving beyond my field of claimed expertise, though I do provide some suggestions in Chapter 8. This book has the more modest goal of promoting ethics awareness and the application of ethics analysis to water decisions. My expectation, based more on hope than theory, is that by becoming more aware of the ethical dynamics, our collective ethics around water will change for the better.