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## Water Wars: Privatization, Pollution and Profit

Michael Larrick

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## BOOK NOTE

Vandana Shiva, *Water Wars: Privatization, Pollution and Profit*, North Atlantic Books (2016 reprint); 192 pp.; ISBN 978-1623170721.

In *Water Wars: Privatization, Pollution and Profit*, author Vandana Shiva<sup>1</sup> explores the current challenges posed by the global commodification of water. Shiva contends that the titular triad of causes has created inequitable water access, depriving local communities of control of this vital resource. The result can often be conflict between local communities, states, and private corporations. Current international standards in water infrastructure and access have created the crisis, but they prove inadequate to mitigate the growing problem. Shiva recommends a return to democratic, local, and communal control of water to counter the global water crisis. Her book focuses on international examples illustrating the problems created by water privatization and suggests solutions that will return democratic control to water resources.

In chapter one, “Water Rights: The State, The Market, The Community,” Shiva explores how water has changed from a common resource to a private right. Historically, communities have seen water as a common, shared commodity. Individuals developed the idea that water is a natural human right, arising out of basic human nature, needs, and conditions. This right arises independent from the state, and outside the reach of state control.

The American prior appropriation system, and Garret Hardin’s *Tragedy of the Commons*, marked a dramatic shift from communal rights. This new school of thought placed the right to water with the state, which then has the power to give that right over to private markets for use and administration. Shiva asserts that globalization of the “lawlessness of the frontier” fails to account for regional hydrological and cultural differences. The results of global privatization of water have been disastrous for people and the planet. By favoring capitalization of water resources, private markets can promote and incentivize pollution, allowing corporations to apply a monetary cost-benefit analysis in weighing profits against irreparable damage to life and biodiversity.

Shiva contends privatization fails to account for the vital and usufructuary nature of water. She calls for a return to the community right approach regarding water access. This means an end to private markets for this essential resource and returning control from the state to local community management. Local community management recognizes the importance of a communal right to water. For instance, historically in India, village committees managed water according to the needs of the people. Committees operated irrigation systems day-to-day and could base compensations more on labor-put-in than by payment or substituted labor. In contrast, the central government had the limited

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1. Vandana Shiva holds a doctorate in physics from the University of Punjab and is an internationally recognized environmental scholar and activist. She is a prolific writer who has written over a dozen books on modern environmental concerns.

role of disaster mitigation, stepping in for local communities only when there were floods, famines, or other calamities.

The chapter ends by proposing nine principles for returning to a community managed water system, which Shiva calls a "Water Democracy." These principles recognize the basic underpinnings to a human right to water, protecting rights to clean water for all citizens from the inequalities created by water sold as a market resource. These principles are: (1) water is nature's gift; (2) water is essential to life; (3) life is interconnected through water; (4) water must be free for sustenance needs; (5) water is limited and can be exhausted; (6) water must be conserved; (7) water is a commons; (8) no one holds a right to destroy; and (9) water cannot be substituted. Some principles, like 1, 3, and 8, are based in morality. Others, like 2, 5, and 9, confront hard realities about the limits of our consumption. Finally, principles 4 and 7 suggest changes to how we manage water rights to achieve democracy. Together, these nine principles guide Shiva's discussion on the failures of the current market regime and the benefits of local community management throughout the book.

In chapter two, "Climate Change and the Water Crisis," Shiva explains how climate change is unleashing the fury of water in the form of devastating floods, cyclones, heatwaves and droughts. Shiva points to industrialization and deforestation as man-made causes for climate change. Greenhouse gases intensify tropical rains, as rising sea level threatens coastal areas, and rising global ocean temperatures create the perfect conditions for hurricanes and cyclones.

Shiva illustrates the effects of climate change with the increased frequency and intensity of cyclones and hurricanes. She notes the link between conditions favoring devastating storms, like warmer oceans, and carbon dioxide-induced global temperature increases. Global trade also contributes to these events, as in the case of shoreline mangroves in India. Shrimp farming operations have destroyed this natural shield in pursuit of ever more profits, which allows cyclones to sweep inland undiminished causing widespread destruction to people and communities.

Small coastal and island communities, particularly in third world countries—those with the smallest roles in contributing to these environmental disasters—are often the most affected. Shiva calls for immediate action by states and corporations to curb the effects of climate change and global development. This means a global commitment to responsible and sustainable development in order to decrease the amount of carbon dioxide in the atmosphere.

In chapter three, "The Colonization of Rivers: Dams and Water Wars," Shiva confronts the problems global proliferation of dams causes, and how they manifest into physical conflict. Organizations like the World Bank often promote dam development, requiring countries to use their loans for dam development. This shifts control of water from local communities to central governments. People often react with violence when they are disenfranchised, displaced, and facing scarcity and ecological disasters. States are not immune either, with water increasingly being a point of concern in international disputes and the rise of terrorist organizations.

The effects of dam projects on local communities are displacement, scarcity, and vulnerability to ecological disasters. First, construction of dams results in widespread displacement of people unlucky enough to live in the dam's

path—an occurrence that some activists have likened to genocide. People fiercely resist displacement and loss of their homes and livelihoods, which often brings them into violent conflict with the state. For example, eight people died and thirty were injured protesting the Kariba Dam on the border of Zambia and Zimbabwe, and the Guatemalan government killed 376 women and children to make way for the Chixoy Dam.

Second, dams also create scarcity and ecological impacts that lead to conflict. Although usually promoted as a solution for agricultural needs, flood control, and drought mitigation, Shiva illustrates that dams often have the opposite effect. They disrupt the normal hydrological cycle, substituting it with poor human control. The author points to the Kabini project in India that submerged six thousand acres of arable land, displacing locals to a nearby primeval forest. Clear-cutting the forest led to decreased rainfall and siltation, clogging the dam. Additionally, poor management of dams is often linked to flooding.

People displaced by dams, facing scarcity, and vulnerable to ecological disasters often become victims of, or retaliate with, violence when divested of a right to water. They do not reap the supposed benefits of dams. Shiva suggests that current models accounting only for economic costs for construction and operations of dams, like those used by the World Bank, are inadequate to understand the true cost. When hidden costs of displacement, ecological destruction, and conflict are weighed, she believes that dams do not seem like such a good deal.

Shiva reminds us that countries feel the pinch of dam proliferation as well. Dams worsen existing tensions and can become the focus of international disputes. Demands for industrialization increase demand and lead to conflict. For example, dam development on the Tigris and Euphrates rivers has been a consistent source of conflict between national governments in Turkey, Syria, and Iraq, and ethnic Kurds living in Turkey and Iraq. Development by Turkey threatens to cut eighty to ninety percent of Iraq's allotment of the Euphrates. Dams have displaced Kurds, who have threatened to blow up dams in response. Turkey sees this as an act of terrorism, and it has responded by threatening to shut off all water to the region. The search for peace and food through dams and water-intensive irrigation has left violence, hunger, thirst, and centralized control of an essential resource in its wake.

As Shiva demonstrates, international and domestic water laws fail to adequately account for the political and ecological challenges of conflicts caused by dams. For instance, they fail to mention the natural law of the water cycle. Projects like the Kabini Dam in India illustrate the danger of ignoring the natural water cycle. The construction and resulting displacement and deforestation led to siltation, reduced rainfall, and a loss of arable land for the local people. Players in dam disputes often struggle to see how much one group can take from another, or how much environmental damages a group may endure to meet the irrigation and energy needs of another.

Shiva proposes a change in the calculus used in determining the costs of dams. Traditionally, governments see river diversions like dams as all benefits and no costs. This assumes water not impounded is water wasted. But dams are costlier than just construction and upkeep. Countries and international organizations like the World Bank need to acknowledge the hidden costs of the conflict caused by dams, be they monetary, human, or ecological. Using the

principle of water as a common right, Shiva emphasizes valuing existing uses, not viewing them as wasted water. She also argues that requiring an ecological impact assessment before construction would help expose environmental costs.

Chapter four, "The World Bank, WTO and Corporate Control Over Water," discusses the centralization of control over water. These organizations promote public-private partnerships for administration of water infrastructure, attracting private capital and curbing public-sector employment in developing countries. The World Bank and WTO will often wrap requirements for private influence into aid packages or trade agreements with developing countries, with loan terms favoring corporations over countries. Agreements typically ensure companies make a profit and insulate them from nationalization. Governments are supposed to save money and benefit from private development.

Theoretically, private companies encourage development and operate more efficiently than public municipal services. But Shiva contends privatization of infrastructure encourages scarcity. She recounts that these corporations often focus on ensuring a profit, but do not focus on ensuring delivery of a quality product. In Johannesburg, water became unaffordable. Those who could not pay were disconnected, leading to access issues, and quality tanked, causing a spike in cholera infections. Despite this, loan conditions force developing countries, desperate for money, to agree to harsh lending conditions.

Shiva then explores the effect of the General Agreement on Trade Services ("GATS") on these issues. GATS promotes free trade and deregulation of industries, but companies can use GATS to challenge unfavorable domestic policies that prevent free market entry. In India, a law gave local tribal communities authority over resources, including the power to approve or reject development projects and the authority to grant land. Foreign companies can challenge this law under GATS and claim discrimination if local communities exclude them from the market. Once allowed in, they can flood the market and push out local competition. GATS allows foreign companies to subvert domestic laws like India's under the guise of free trade.

The chapter culminates with the famous Bolivia-Bechtel conflict. There, the World Bank recommended a private company, Bechtel, to take over municipal management in Cochabamba, Bolivia. The company quickly increased costs to the point where monthly water bills reached a fifth of the minimum wage. Massive public protests led to clashes with the government and the institution of martial law. The people regained control of the water through expropriation, but the company has sued for lost profits.

Chapter five, "Food and Water," explores how modern agricultural techniques contribute to the water crisis. The move from traditional agriculture techniques to a monoculture of cash crops led to ecological issues including salinization and waterlogging. Part of the problem is the metric used to measure success of a crop: modern agriculture favors more nutrition per unit of labor, not unit of water. This fails to account for the ecological effects cash crops bring.

In Shiva's view, both the type of crops and how they are grown contribute to the problem. Cotton and sugarcane, for example, are huge water consumers compared to traditional legumes in India. And industrial monoculture does

not allow for interspersing with complementary crops, which help retain moisture and protect the nutrients in the soil. Monoculture also inhibits the use of pulse crops that grow in bursts in tandem with local hydrologic cycles. Instead, modern agriculture leaves topsoil eroded and arable land salinized, while promoting water waste.

Shiva explains that GMOs are often touted as an answer, by breeding crops resistant to drought or salinization. But this fails to address the root problem: that industrial monoculture creates these issues. Again, Shiva says there is a need to change the measurement. Industrial monoculture tries to economize labor—the most production for the least amount of work. Values must shift, from economizing labor to economizing water. One way to do this, Shiva suggests, is to trade industrial agriculture for traditional agricultural methods adapted over centuries. This includes using pulse crops and crops adapted to specific geographic regions, instead of trying to force monoculture of one crop to unsuitable circumstances.

Chapter six, “Converting Scarcity into Abundance,” lays down the blueprint for shifting back to community-controlled, equitable, and sustainable water management. Shiva characterizes this as a return to the basics, abandoning centralized and privatized control for traditionally decentralized, community based water management schemes. She proposes the latter is more adaptable to the changing availability of water in specific areas. Local control also gives the people most affected by changes in availability of water direct input on resource management. Shiva points to how such collective decision-making has led to sustainable choices and prevented conflicts over water in India. A decentralized, democratic approach to water returns power to the people and promotes abundance with sustainable management.

In India, social organizations within villages traditionally managed water allocation. These systems were region specific: in some, volunteers maintained irrigation systems. Others required those with more land to give more labor. Organizations communally distributed water according to need, like the size of a family, rather than according to the size of one’s land. Communities considered water intensive plants like sugarcane irresponsible in drought prone regions. Even after the British had centralized water during colonization, these localized methods were effective to water control and soil conservation and allowed people to survive droughts.

The final chapter, “The Sacred Waters,” stands as an affirmation of the essential nature of water. The culture of consumption has made it easy to forget the deep connection people have historically shared with water. Shiva recounts how every river in India is regarded as sacred, and the Ganges has long been held as a purifying force, originating from the heavens. There is some truth in this, as minerals in the Ganges, carried from tributaries high in the Himalayas, contain antiseptic qualities that kill bacteria like cholera. Shiva wants to incorporate the historical sacredness of water into the modern day, with a plea to shift our understanding of the value of water. Water needs to be valued not as a commodity, but as a vital resource. Its value lies not in its price, but in its sacred connection to the communities around it.

*Water Wars* is fantastic for getting a grasp on the scale and root causes of the global water crisis. It provides a multitude of examples, backed up with well-referenced hard evidence. Shiva puts forth a strong case that current global

applications of a one size-fits-all privatization scheme for water is not working as intended. Local hydrology, community needs, and traditional community customs should also be taken into account.

But the proposed solutions do not always feel well fleshed out. Returning to a completely community driven water system seems unrealistic. In a global economy, some centralized control seems necessary for continued development. Shiva's central premise is that water should be a common resource, democratically and locally managed—a sort of small, independent laboratory approach. If that sounds familiar to United States readers, it should. After all, states are the independent laboratories that created the priority system Shiva decries. Perhaps there is a middle ground between private, centralized control, and a universally democratic right to water. Nonetheless, Shiva's book proves to be an essential read to anyone seeking a deeper understanding of the challenges in international water law and policy today.

*Michael Larrick*