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Forestalling Water Wars: Returning to Our (Grass) Roots*

This paper addresses potentially violent conflict over our water rights—inherent individual and communal rights that are being eroded by a recent trend to privatize water resources. Loss of rights to water destabilizes civil society. With peace building in mind, I propose that structured public participation in civil society is fundamental to assuring each person's right to enough water to sustain life. Such a right does not, de facto, provide any means for obtaining water; assurances are ever under threat from those driven by power and greed, or who simply shirk their sociopolitical responsibilities. This paper leans away from deceptive, manipulative practices seen in privatizing business practices and inclines towards responsible, responsive and, above all, inclusive governance.

Countering privatizing forces are local communities ready to fight for their rights. I look at what is happening to obviate such rights, at who seeks privatization, and why; I also glance at a examples around our world, but especially at the situation in Latin America, including a case study covering Bolivia's Water War of a few years back. It will become obvious that with regard to water resources and management, top-down governance must yield to bottom-up input from local society. A grassroots, or community-based agenda acknowledges basic rights and allows for the means to fairly value both water and how it is to be used. Valuation entails community-managed monitoring, which facilitates infrastructure planning and management, and it requires international support. Vitaly important is transparent governance on which civil society thrives. When candid, diligent and effective management of water is missing, issues of water shortage can quickly transform into violent confrontation over basic human rights.

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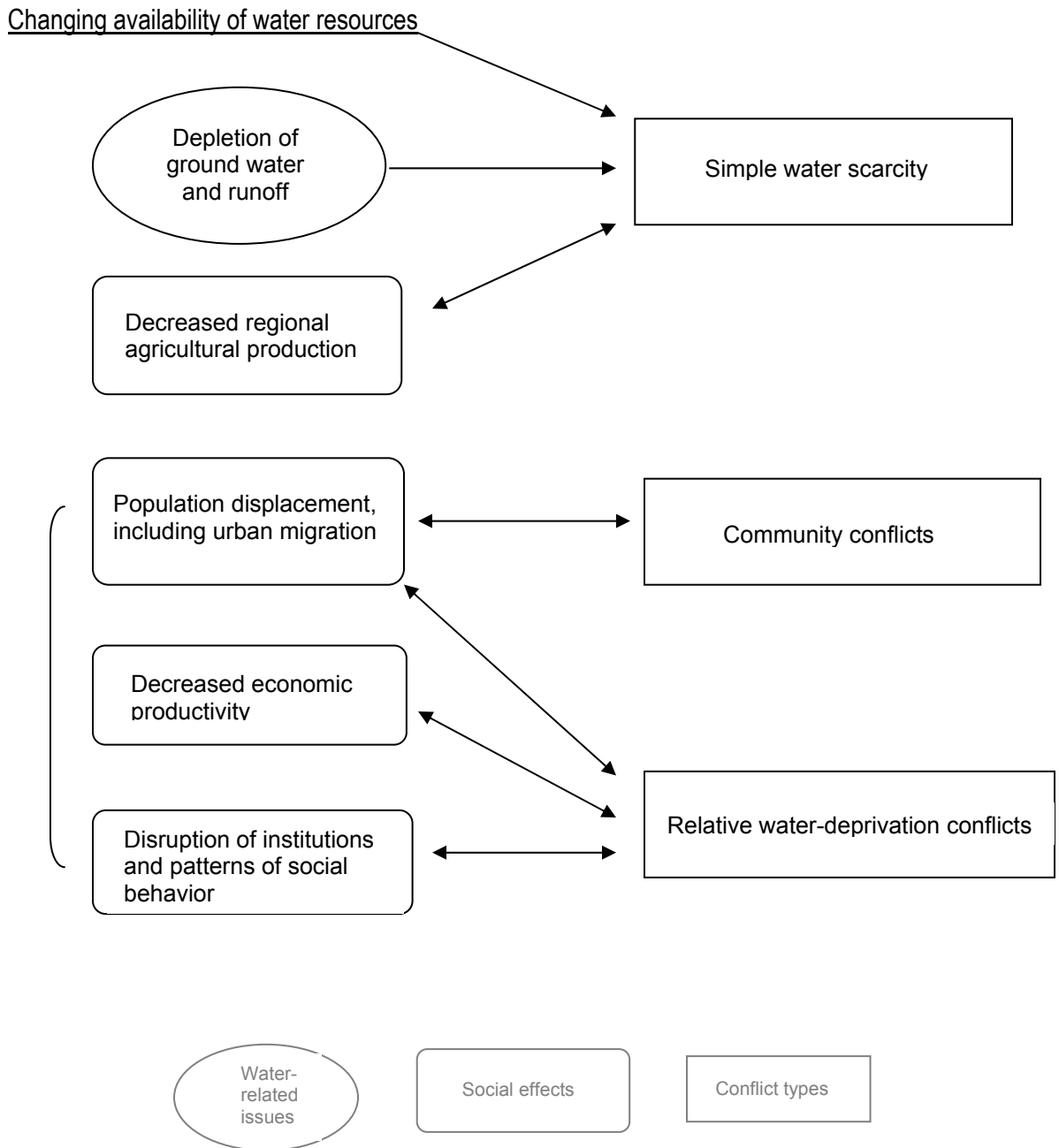
A Life-Threatening Crisis

Water is one of the most widely distributed substances on earth, and is a basic human need. A phenomenal amount of water is required to grow our food crops, especially water-intensive crops such as rice.¹ It is also an important means for navigation, transport, industry and energy. Because of its usually pervasive, plentiful nature, and because as it moves through the hydrological cycle it is self-cleaning, human communities came to assume the inherent purity and abundance of water.² However, we have been careless and water has for the most part gone untreated and unprotected. Worldwide, we are challenged to provide enough water at the right time and place for even basic uses. For the first time in history water resources and their availability over time and territory is determined by our activities, including agriculture, forestry, mining, manufacturing and energy production.³ Though many of us suffer from inadequate access, we still manage to capture an estimated 54 percent of accessible runoff.⁴ Of that, irrigation takes nearly 70 percent globally, but that ratio is slowly changing due to improved systems, such as drip irrigation. It may not be enough. Summing this situation up, Sandra Postel once wrote: “As the future gains get harder to come by, an important question becomes, Irrigation for whom and for what?”⁵ This is a dynamic environment, ripe for conflict.

Wanting to profit from an unstable situation are large water-privatizing entities who some refer to as “water barons.”⁶ Ken Conca, an authority on water privatization, describes a meeting of non-governmental organizations (NGOs) at the Second World Water Forum in 2000, where a World Bank official and advocate for privatization identified two controversies blocking the Bank’s world water vision. One was resistance to water infrastructure projects; the other “was linked to controversies around water pricing, water property rights, bulk water exports, privatization, and foreign ownership in the water sector.”⁷ Homer-Dixon believes such controversies may escalate

into violent confrontation because of our essential requirement for the resource, and because it can be physically controlled, even seized. For example, note in Fig. 1 a positive feedback loop between issues and effects that can nudge societies into violent conflict.

Fig. 1 *Types of Conflict likely to arise from changes in water allocations in the Third World.*⁸



Water Rights

Societies have been slow to acknowledge an inherent right to water. The 1972 Stockholm Conference on Water called for improvement in drinking water quality and sanitation around the globe. In 1977, the First U.N. Conference on Water at Mar del Plata, Argentina signaled awareness of a growing problem, but reaction was tepid.⁹ The United Nations Conference on Environmental Development (UNCED) meeting of June 1992, in Rio de Janeiro, states that water issues are critical, but contains no conditions for development of resources or stabilizing the environment.¹⁰ With international government at that time unwilling or unable to act in a decisive way, an opportunity existed for profiteers and their allies in local government.

Private interests wanting to control at least portions of the public water sector include privately owned and operated but publicly regulated utilities that have grown through gradual acquisitions, engineering firms invested in planning and designing facilities, construction companies that plan and build such facilities, and manufacturers and supplier of services. Beginning in 1999, in a lightly regulated environment,¹¹ a wave of utilities consolidations initiated enormous corporate growth and ultimately control of even entire watersheds.¹² A dominant handful of international, mainly European firms, typified by Vivendi Water, benefited other international interests (e.g., Bechtel Corporation) with increased investment in infrastructure, binding them into a united faction.¹³ Emerging global water forces have not necessarily benefited water users. As regulatory agencies have turned a blind eye, consumers have been harmed, particularly in developing countries with surging populations, where water shortages are typically most acute. The discrepancy between wealthy multinational corporations taking advantage of Third World poor sets the stage for conflict. Indeed, a seminal document, "Global 2000 Report to the President," warned of water wars:

*As pressures on water resources increase, conflict among nations with shared water resources are likely to intensify. Interstate disputes between upstream and downstream users of multinational river basins are particularly apt to occur over questions of water rights and priorities. Long-standing quarrels could easily worsen as pressures become critical.*¹⁴

Potential for Water Wars

Water wars have been fought since the first civilization at Sumer. The 1967 Six-Day War began as a fight over water, according to Sharon. And in China's Shandong province in 2000, farmers rioted over insufficient irrigation of crops.¹⁵ Table 1 illustrates how tension over water exists just about everywhere.

Table 1. *Examples of unresolved International Water Issues, Mid-1990s.*¹⁶

River	Nations with unresolved issues	Specific issues
Nile	Egypt, Ethiopia, Sudan	Siltation, flooding, water flow/diversion
Euphrates, Tigris	Iraq, Syria, Turkey	Dams, reduced water flow, salinization, hydroelectricity
Jordan, Yarmuk, Litani, West bank aquifer	Israel, Jordan, Syria, Lebanon, Palestinians on the West Bank	Water flow/diversion, allotment of water from common aquifers, water titles
Indus, Jhelum, Chenab	India, Pakistan	Irrigation (conflict mediated in 1960 with help of World Bank)
Brahmaputra, Ganges	Bangladesh, India	Siltation, flooding, water flow/diversion
Salween/Nu Joang	Burma, China	Siltation, flooding
Mekong	Kampuchea, Laos, Thailand, Vietnam	Water flow, flooding, irrigation, hydroelectricity
Paraná	Argentina, Brazil	Dam, land inundation
Lauca	Bolivia, Chile	Sam, salinization
Rio Grande, Colorado	Mexico, United States	Salinization, water flow, agrochemical pollution
Great Lakes	Canada, United states	Salinization, water flow, agrochemical pollution
Rhine	France, Netherlands, Switzerland, Germany	Industrial pollution
Maas, Schelde	Belgium, Netherlands	Salinization, industrial pollution
Danube	Austria, Slovakia, Hungary	Water diversion, hydroelectricity
Szamos	Hungary, Romania	Water diversion, hydroelectricity

From an Inherent Right to a Commodity

Besides ownership issues, disputes over water often involve valuation. The resource has tended to be low-valued in relation to others. Due to its weight and bulk, water is expensive to transport. Water used in agriculture yields a return of US\$.04 per ton; "after being captured,

filtered, treated, stored and delivered by municipal supply systems,” water delivered for urban residential use delivers a half dollar of profit per ton.¹⁷ On its surface, water appears cheap; but some would sell it dear.

Coupled with water valuation are three basic economic and political principles centering on costs versus scarcity. First, due to the nature of supply and demand, costs for water management and allocation can be high relative to its value. Where water is plentiful and balanced with demand, water laws are simple and seldom harshly enforced. However, with scarcity, policies become increasingly complex, for several reasons: first, advances in technology are converging as governments seek innovative methods for resource allocation. Second, over vast areas and a lot of time many minor decisions result in a confluence of groundwater extraction, water-polluting chemicals from intensive farming activities and sedimentation from extensive logging. The effect is to make it hard, especially in transitional cases, to assess and manage all influential costs. Third, water as a pooled resource is a point of contention for those who would withdraw it first and those who seek to use it later.¹⁸ It is also very expensive for managing interests, such as government or privatizing concerns, to prevent unauthorized use. It is important to note that all of the above have one thing in common: adequate data is lacking for almost all watersheds.¹⁹ Thus, due to the nature of the resource and our difficulty in gauging it, normal market-driven methods of valuation fail to prove privatization works as advertised, or is even necessary.

The alternative has been to sell water-supply services, for the purpose of attracting foreign investment. Since private investment groups rarely finance these kinds of acquisitions exclusively with their own funds, governments are increasingly offering service and management contracts, contracts for constructing bulk water treatment facilities (known as greenfields), leases and concessions; concessions are most common,²⁰ and greenfields second.²¹ Ownership is also

occasionally offered.²² Such stock, or public ownership of water rights, implies a commercialization of water, or an “introduction of economic institutions into the water sector to guide distribution, including the market, competition, and efficiency.”²³

Recent trends toward either commercialization or privatization may have to do, as Ken Conca has observed, about the Global 2000 report: “the notion of water as a free good available in essentially limitless quantities will have disappeared throughout much of the world.”²⁴ But commercializing interests were already on the move. Certainly, water marketers and governments have had many opportunities before this, but nationalistic events, especially in Latin America, kept them in check.²⁵ The reason for the present push into privatization apparently stems from a perception that government funds are drying up at the same time failing water system infrastructures are being pressed to expand.²⁶ Also, in developing countries systems are typically inefficient,²⁷ and are unable because of a lack of data gathering stations and equipment (and, to a lesser extent, corruption) to account for all the water they are responsible for.²⁸ Meanwhile, public investments (e.g., in bonds and stocks) are barely able to keep pace with current levels of investment; at least in theory, future increases must derive from the private sector.²⁹ By offering up the prized asset of water, municipalities and national governments can raise their rate of return, while reducing risks in order to attract private capital.³⁰ Adding more pressure on governments, the World Trade Organization (WTO) clearly views water as a commodity to be traded, and openly affirms that water supply services ought to be internationalized, creating what one critic calls a lucrative global “investment climate in water infrastructure [prepared to] remove corporate liability and risk and access new sources that will provide public financing, financial guarantees and political risk insurance.”³¹

However, conceding an economic value for water “identifies but does not resolve the central tension in water commercialization—the quest for price-induced efficiency versus the fear that the price mechanism is inadequate to meet basic human needs affordably.”³² When it comes to pricing anything, dictum in the West has for centuries been a free market mantra, where once sufficient awareness of a valued commodity exists, its relative worth sort of floats to the surface, to be skimmed for whatever profits the market might bear.³³ The North American Free Trade Agreement (NAFTA) and the World Trade Organization are both based on this hallowed principle. It is, in the strictest sense, opposite of a system where water is priced and distributed by government-controlled utilities—as is often the case with water.³⁴

Though valuing water gives governments an important tool for managing water infrastructure and for funding distribution, it does not address the core issue with water commercialization on an international scale. Ken Conca wonders about:

*the quest for price-induced efficiency versus the fear that the price mechanism is inadequate to meet human needs. Unresolved is the question of how to reconcile the contradictions between the dominant means of providing efficiency (pricing and market mechanisms) and the elements of equity, voice, and participation that underpin the idea of community.*³⁵

The Global Water Barons

Ranked in order of projects, the dominant water privatization firms are Suez-Lyonnaise de Eau (Suez), Vivendi, Aguas de Barcelona, Thames Water and SAUR International. The former two control about a 70 percent market share.³⁶ Suez owns, for example, the water concession for Buenos Aires and Macao, China, and was instrumental in creating the world’s largest water privatization for Manila, Philippines.³⁷ All of these companies have powerful voices in their own governments, and tend to be controlling influences at international forums, including the tri-annual World Water Forum and the United Nations (U.N.), where they often succeed in setting the agenda

for water rights debate.³⁸ That such efforts are successful can be seen in the numbers posted: in 1990-2001, 43 developing countries awarded 203 projects with private participation, pulling in commitments from investors worth almost \$US40 billion.

Equally persistent in promoting commercialization, if not outright privatization of water, are those who rather casually suggest that the poor should buy their way out of a problem, by obtaining bottled water, for instance, as Richard Meier does in a recent article in Science magazine.³⁹ (Ironically, special interests in favor of privatization usually argue impoverished people do not have funds to properly manage water.)⁴⁰ Obviously, peasants buying bottled water will not pay the kind of dividends seen in urban settings, so governments and lenders have turned to private water companies, which represent a potentially enormous source of funds and management skills.

Linked with a poverty rationale is the idea that sustainable management, or development, requires sophisticated measures that only advanced capitalistic societies understand and can afford to implement. The World Bank specifically references studies of private water vendors in Guatemala and Paraguay showing that competition “holds prices down to a maximum of 2.5 times and 1.4 times the official utility price, far from the exorbitant rates commonly attributed to private water vendors.”⁴¹ One of the reasons these businesses are being challenged is that they are accountable only to shareholders, not to consumers. There is no local control or public right to input in management practices, and customers are mainly urban and middle class, leaving not only 90% of the population who live in rural areas water poor, but also a considerable portion of urban poor, who lack access to clean water.

Discrepancies between who benefits and who does not are huge and very difficult to reverse, once ownership is transferred; making matters potentially worse, with privatization and long term contracts comes opportunities for monopolization.⁴² But the Club of Rome, argues that

privatization, meant to enhance economic efficiency, has been “conspicuously successful... efficiency alone, however, does not lead to justice or equitable distribution [that is] the task of the democratic state.”⁴³ Failure to even acknowledge ethical responsibility allows such organizations to dodge the enormously destructive impact of water privatization policies on civil society.

Undermining Civil Society

In debating the meaning of sustainable development, Alexander Gillespie suggests there is both an ethical and political component.⁴⁴ Ethically, sustainable development is intimately related to three equally important considerations—environmental, social and economic. Government attempts to assert the relative superiority of one or the other of these factors by manipulating or disguising the facts has led to failures in management and to disasters on all fronts.

Noted earlier, the facts of the matter are not easy to come by; a lack of data on water balances, a lack of control of water quality and inadequate preparation for natural disasters, such as droughts and floods. The resultant effects have been extremely harmful in many respects, most of all to public health.⁴⁵ If not exactly due to an ethical lapse on the part of those responsible, public officials certainly bear a large share of the responsibility for mismanagement. A grim example of the mess a municipality can find it hard to extricate itself from occurred in Ontario, when in 1999-2000, the Canadian government privatized water testing lab. Catastrophic results soon followed privatization, including 14 deaths from an E.coli outbreak in one small town.⁴⁶

The political impact of mismanagement is twofold: first, mistrust of local government results in failure to cooperate in conserving water and adapting practices to changing, stressful conditions brought on by earth warming. Second, perceived water misuse by civil society has led local and national officials to assert their control of water. For instance in Latin America, centralization of control by committees has left management vulnerable to manipulation by the

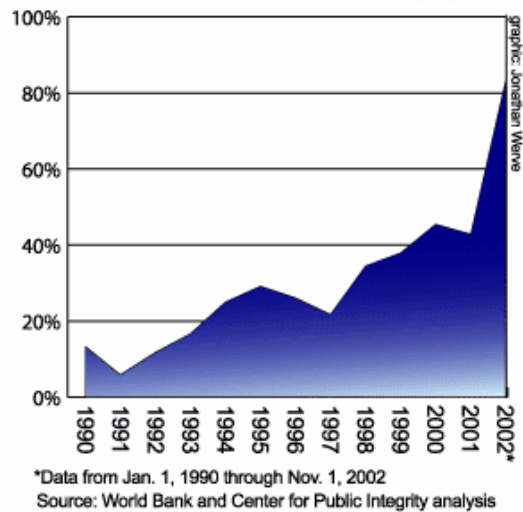
agricultural or energy sectors of society. These municipalities have little voice in water management, while landed barons, heirs to colonial rule have an inordinate say.

Centralization of control has become a driving force. This is particularly true with regard to the monetization of water. Since money goes to a central governmental budget, water users never know if their fees and/or taxes are being applied for the best management purposes. Lack of transparency enhances mistrust, implements corruption and opens the door for state expropriation of resources, including sell-off to well-organized, well-funded private interests. To counter such powerful interests, political will can be directed towards wise policy-planning, with transparent land and water use registration, and with effective, participatory management of all river basin assets.⁴⁷

Too often ineffective policy planning results in the disruption of existing, sometimes ancient, culturally embedded water management practices, which is clearly the case in Latin America. The reasons for reduction in the scope of participation in that particular region have to do with recent political activities at the national level, and with international political and financial shifts. As water systems have been disrupted and traditional usage patterns altered—whether by population movements and growth or by governmental interference—there has been increasing need for external financing. With money, usually obtained from large international or national banks, has come stringent controls. Since the 1940s, the World Bank has been a powerful force for imposing such controls, which are usually implemented by its compliant friends: as of 2003, 84 of the Bank's 276 "water supply" loans were conditioned on the basis of privatization. The trend, seen in Chart 2, below, is dramatically up: privatization is the golden child of the World Bank.⁴⁸

Chart 2

Percent of water loans requiring privatization by year



On the face of it, such control can appear benign, or at worst paternalistic. In fact, control by committees of detached power brokers is usually exercised with indifference to the pervasive socioeconomic problems of mainly rural peoples. Declining local involvement in Latin America has to do with an historic shift

away from individual control to large estate management, initiated by Spanish rulers implementing their *hacienda* policies early in the 15th Century, and often usurping peasants' traditional water rights.⁴⁹ After the Spanish have come other would-be empire builders, including the U.S., whose agents have at times actively conspired to overthrow Latin American governments.⁵⁰ Leadership whether democratically elected, appointed by a representative government, or installed by military coup takes real risks when it allows American and European corporate investment. These interests have a demonstrated tendency to want to grow profits free of the constraints imposed by politicians, including national leaders.

The Latin American Situation

Latin America is of particular interest in this discussion for four reasons. First, it has more privatization projects per capita than any other region,⁵¹ and more than 39 separate entities under international water company control.⁵² Second, and equally unique, it has experienced persistent grass-roots activism, which has for the moment arrested further privatization in many areas.

Third, there are singular lessons to be learned from historic examples of the impact of water shortages on human civilization in Latin America. The ancient Maya—who excelled at

building canals and reservoirs to sustain a population of possibly more than 10 million—imploded after two thousand years of existence during three catastrophic droughts occurring in 810, 860 and 910 A.D. The sheer size of the Mayan empire may have made it vulnerable: unwieldy management practices would have slowed its reactions.⁵³

Fourth, and most importantly, Latin America provides us a unique record of the history of colonial rule for evaluating colonialism's legacy. Colchester points clearly at the intentional rule of the colonists in Latin America, who meant to and succeeded in turning formerly self-sufficient economies in Latin America into production sectors for exportable agriculture.⁵⁴ This is not to say their planning was grossly wrong. Across Brazil, Peru, Chile and Argentina, specific strategies for managing irrigation were developed and implemented with particular attention given to maintaining available systems, optimizing administration of water and environmental protection. All levels of government were called on to integrate such policies into each country's national plan. However, the result was a massive shift in power: where before local communities were self-managing, "the controlling factor became the available capital, which was funneled into hydropower engineering, drinking water supply and irrigation. Only when problems began to develop were multi-purpose uses of water considered."⁵⁵

Bolivia is a prime example of a Latin American country struggling with inherited mismanagement of its resources. Its peasants are among this region's most vulnerable, and its economy has largely lagged all others. Yet, within the past few years these same poor rural folk have set an example for those more fortunate: in a remarkable demonstration of effective street politics, they found the means to displace both local government and a foreign interloper in their water affairs.

Case Study: The Water War in Bolivia

Late in 1999 the Bolivian government contracted with a foreign investment syndicate led by San Francisco based construction giant Bechtel Corporation to take total control of the City of Cochabamba's municipal water system. The new owners applied the full cost of their expenses (including, one presumes, their capital outlay), and doubled the price of water, with the result that all residents, even the poorest, were compelled to pay as much as \$US20—more than half their average monthly income.⁵⁶ Bechtel garnered a minimum of fifteen percent profit on such pricing, which was guaranteed by its contract.⁵⁷ Opposing such price increases, as well as the sell-out to foreign interests, the populace took to the streets, in what became known as the Water War. Students organized peasants in a movement called Coordinadora de Defensa del Agua y la Vida (Coalition for the Defense of Water and Life), and labor organizers rallied workers in organized, massive and relentless protests, using street barricades as rallying points.

Though the government reacted with force, and in spite of mass arrests, persistent protests eventually forced a cancellation of the contract. Bolivian authorities and local elites, realizing the situation was spinning away from them, canceled the national privatization program, leaving Bechtel out in the Andean cold. Bechtel filed claim for US\$40 million, and litigation over the broken deal continues. But a landmark bit of resistance had won the day for opponents to privatization.⁵⁸ Interestingly, in the 2005 "Limits to Privatization" report to the Club of Rome, Ralf Südhoff asserts that Bolivian government constraints kept privatization from succeeding by freezing water rates for five years, and by enforcing a mandate for potable water, which the privateers wanted to substitute commercial grade (presumably gray, or non-potable) water.⁵⁹

Lessons Learned

Bolivian peasant resistance in the Water War proves they do not always have to put up with excuses from the rich and politically well connected. How the resistance succeeded is important for what it says about the resolution of conflict over water. Several points stand out, one of which is a *carpe diem* attitude apparent in the general population and local leadership. In Cochabamba, early unhappiness over unmerited water rate increases turned into revolution at such a rapid clip that government with its military, and business with its financial sanctions, did not have enough time to effect partial remediation or otherwise find ways to hold their ground. The wave of resistance simply bowled them over. It is one thing to grab for power, however, and quite another to know what to do with a challenging situation. Activist leaders in Cochabamba included union organizers who had a ready agenda, and the organizing abilities necessary to the task at hand when a power vacuum developed after the government reversed its policies.⁶⁰

The cooperation and resiliency of government is an obvious requirement for peaceable resolution of conflict. It is hard to say whether largely urban politicians were simply trying to save their skins, or if they sensed a profound sociopolitical shift occurring in a rural population long oppressed. The same may be true of the military, which quickly backed off in Cochabamba, once strident protestors took control of the streets. Coordination between government leaders, the military and strike organizers was significant and, in this case, successful in staving off a violent breakdown of civil society.⁶¹

Internet-enhanced partisan media was effective in leveraging world opinion, and in the process demonstrated its key place as an added instigator of change. Protestor-supporting foreigners living in Bolivia and abroad helped with articles, campaigns, and even by their presence in the streets. The spreading message of resistance galvanized a tremendous amount of

sympathy for the resistance movement. Internet bulletin boards and email helped launch a massive write-in of letters of protest to Bechtel's directors, and that campaign took the Water War to its corporate doorstep in San Francisco. Internationalization of the principles expressed in the Water War helped bring purpose and promise to the on-going local struggle. Such firm resolve was—and still is—necessary to withstanding persistent effort by privatizing interests to recover from their setback. For instance, organizers of SEMAPA, the reorganized water company, talk about “constant offers of huge loans, and even donations, should we agree to accept entities into our operation that are closer to privatized businesses....”⁶²

In their organizing efforts, community activists created a framework for ongoing involvement. The result was that when Bechtel was gone, and the government lacked the will or capacity to engage in a solution to the water crisis, these community groups took on the water management role, wedging open, as it were, a political space. Broadened freedom to exercise their rights has inspired the country, as well as activists elsewhere in Latin America and beyond, and broadened support for grassroots democratic movements. This is not to say that economic and political equality is at hand, but Bolivian peasants did break the back of privatization in their country, at least for the moment. In an excellent analysis of the overall situation in the region, Paul Trawick writes: “After decades of failed attempts at state administration, an experience Peru has shared with many Third world countries, [it is laudable to turn] responsibility for the maintenance of local irrigation systems, and even ownership of them, over to water user organizations.”⁶³ To this summary should be added Maude Barlow's comment:

*local stewardship, not private business, expensive technology, or even government is the best protector of water security...local citizens are the front-line 'keepers' of the rivers, lakes and underground water systems upon which their lives and livelihoods rest. They need to be given the political power to exercise that stewardship effectively.*⁶⁴

An elite class, a holdover from colonial days, continues to dominate agricultural lands across Latin America. One of the few constraints imposed on them by governments has been the proclamation of a universal right to access in a few countries such as Argentina and Bolivia. However, no effort has been made by the local elite to assist peasants, who are living in many cases a serf-like life style. Though the water issue is settled for the moment, a general dissatisfaction with status quo in Bolivia is a problem that could rapidly become worse, especially if climatic changes dramatically disrupt the situation. Tension within this and other Andean societies might become explosive, making it all the more important for international government and NGOs to stay involved.⁶⁵

NGOs are prepared to engage with all sides of a dispute, as the Coordinadora did in Cochabamba. These groups were different from earlier social movements in the Andes: by mobilizing directly around the rejection of government proposals and policies, and by demanding that the government deliver on the social contract to provide basic needs, they expressed genuine political will. In this sense, Coordinadora committees became rallying points for civil society, and a countervailing force to politicians and powerful international organizations.⁶⁶ Other international NGOs offer help as grassroots community activists. Assisting efforts to block privatization in Mexico, for example, is Council of Canadians, which has helped educate children in sustainable practices.⁶⁷ However, for such populace-based efforts to succeed, all involved parties must support at least the spirit of compromise. By joining together in what John Paul Lederach refers to as “peace constituencies,” an influential role can be created for local communities, water policy experts, and mid-level government officials. Such community groups would be encouraged to participate in a structured, transparent approach for discussions and policy recommendations to both national and regional governments.

I. William Zartman has suggested that mediating groups need an effective leader, and in Cochabamba's case there existed the likes of Oscar Olivera and many peasant women (who functioned for example as barricade commanders during the struggle).⁶⁸ Such leaders set a program for the kind of dialog so essential to progress.⁶⁹ When knowledgeably led, groups can effectively deploy cultural resources where governments often have a problem even recognizing them. For instance, local leadership will be entirely aware of the importance of concepts such as *confianza*, *cuello* and *coyuntura*, or trust, networking (personal charisma) and timing—the TNT of peacemaking in the region. Engagement at the cultural level, suggests Lederach, is the hinge upon which conflict resolution rests.⁷⁰ From their success, community groups in Bolivia prove that political processes so crucial to keeping or losing rights can be influenced by direct popular support, especially when community leaders are, first of all, cognizant of how such policies are perceived locally; secondly, are aggressive in the planning of such policies; and thirdly, are dedicated to following through on them.⁷¹

Facing the Truth: Rights and Responsibilities

On quite literally a watershed day in 1998, the Portuguese President, Mario Soares, issued the Water Manifesto, declaring water the property of all earth's peoples, and "an inalienable individual and collective right." He also specified representative "Water Parliaments" as a means for expressing the will and the needs of those who lack access to sufficient water supplies.⁷² But is Soares necessarily correct in asserting universality of ownership? As long as government does not assert its preeminent domain, individual users of a resource are considered by the legal community to have rights of ownership. The security of this stake is directly tied to state security, as well as government's implicit bargain with its constituents to protect their interests. When government fails in the latter obligation, individuals and their rights are vulnerable.⁷³

We are confronted here by an inherent incongruity: when the state feels incapable of providing basic services and therefore agrees to the “commercialization of public administration,”⁷⁴ effective control over implementation of policy is put in the hands of profit-driven, rather than public interest-driven entities. Profit-over-people may work on Wall Street, but in public offices such policy undermines the most fundamental public trust. Yet, politicians obviously hope that by letting go of operational responsibilities, they also leave behind political responsibility. Due to the ever-growing cost of and difficulties intrinsic to sustainable management of aging water systems, the opportunity to shift such an onerous burden must seem highly attractive. But removing management from public oversight does not, as some economists have argued, result in greater governmental transparency. Indeed, the opposite is true: lacking mechanisms to address failures to deliver water, tension between government and citizens has arisen in numerous communities.

Looking at privatization in Yorkshire England in 2000, Bakker notes,

*a central political economic contradiction of a privatized water supply industry: maintaining a sufficient rate of return in a highly capital intensive industry with extensive public health and environmental externalities requires price levels that will be politically contested, and in some cases politically unacceptable.*⁷⁵

Equally contradictory is corporate pursuit of predictable revenue flows from a wholly unpredictable emerging commodity such as water. As former IMF head Michael Camdessus has pointed out, international water magnates want ironclad guaranteed profits, and the only way to get such assurance is from public largesse in the form of World Bank-type financing, international guarantees and extremely long-term management concessions.⁷⁶

Equity and access issues can only be put aside, not ignored indefinitely by privatizing water supplies, which will continue to be an unavoidable political subject that governments deny at

their great peril. Universal access to water has been a fact of life for all societies not because of a profitable model of financing, but because “governments have recognized the public health benefits of prioritizing these commitments and subsidizing public water utilities.”⁷⁷ What we have here is exactly the sort of tension that John Paul Lederach would address when he suggests “the need for a set of concepts and approaches that go beyond the traditional statist model.”⁷⁸ Lederach proposes that levels of leadership be identified for their ability to effect policy development and change, with all parties playing relevant and significant roles in the process. Applying his approach, Level One, or top leadership (including political, religious and military leaders), work with their counterparts in other states to stabilize the situation, and see that a single high-visibility leader will oversee the situation. Level Two middle range leaders from academia, NGOs and religious or ethnic groups focus on problem-solving workshops, and help to educate the community in the nature of the water crisis, and what has to be done to insure sufficient water are available to all. Grassroots leaders, Level Three, which is comprised of local leaders, are more of an implementation team in Lederach’s scheme.⁷⁹ I would propose, however, that when sustainability is an issue, especially when the resource in question is water, local leaders and activists must be engaged early in the process, and be asked to deliver up their best ideas for creating and managing citizen-run water systems.

Politicians (and societies) have a way of ducking responsibility that Lederach would have them accept. This occurs in many ways, including playing with public perceptions and manipulating distracting, sometimes-volatile ethnic rivalries.⁸⁰ Where ethnic partisanship may not be politically correct and is certainly immoral, other equally implausible arguments assert that green policies are a negative burden on the economy and society. In what Jones and Martins term the net effect argument, “environmental costs are often perceived as an extra burden that

business has to bear. Similarly, environmental needs are often perceived as being sacrificed to business interests,⁸¹ and when attention to the environment has a positive impact on social welfare, it also creates a more sanguine situation for business. Negatively, the environment may suffer with increased globalization, with what these theorists call a net reduction in social welfare.

Critics who do not believe either governments or multinational corporations will be moved by idealism challenge the assertion by environmentalists that nations and big business both focus too often on short-term economic values, and that we all have certain environmentally relevant obligations to future generations. The tendency of governments to make their deals behind closed doors (e.g., the G.W. Bush administration's energy policy)⁸² does little to dissuade these critics that the global commons concept overreaches.⁸³

Yet, it is a fact that as globalization proceeds environmental effects of policy begin to blend with economic effects, and policy lines become blurred. Convergence of policies is most pronounced where markets are highly integrated. Between nations, a distinction will be necessary between competitiveness and comparative advantage.⁸⁴ When one nation requires structural change with "green" manufacturing regulations, it puts at least a portion of its industries at a disadvantage.⁸⁵ This uncomfortable fact of corporate life can provoke both politicians and business managers into organizing highly deceptive policymaking and smoke and mirrors-kinds of reporting.

A tendency of corporations to keep opaque sets of books makes their claims about the success of water policies suspect. This includes the optimistic reporting of the World Bank, which has been known to exaggerate in its reports on the success of privatizing water rights. For example, in Mexico, after a nearly a decade of private ownership, most inhabitants of Mexico City did not know of the fact. Worse, when the facts do not serve privatization's interests, misinformation has been disseminated. As an example, in Chile, the Bank's poster-child for Latin

American water investments, while investors brag that implementation of the Water Code of 1981 created a boom in the irrigation sector, small farmers actually became worse off.⁸⁶

Writing for the Club of Rome, Südhoff asserts that bidders for a project to expand the number of water connections were judged by how little they required in the way of subsidies. Conversely, he acknowledges few well-heeled investors will bid in such situations and those that do have to be watched closely.⁸⁷ Even then, success of such ventures is not assured: failures of privatization abound on all continents.⁸⁸

Community vs. Private Water Systems

Community-based water management systems have a better chance than corporate systems because water is relatively more important to the local groups who determine and then negotiate fair value water and water distribution. Even when calculating costs for the less fortunate residents and workers in their watershed, or for downstream urban customers, for these small groups working as a community, surviving and prospering would become local, not large government responsibilities. In times of drought such systems would open up and be managed to maximum efficiency (just as they were for millennia before the colonial era), so that the minimum requirements for life can be met. But for such systems to work, all available community resources have to be put to work, just as Coordinadora functioned in Bolivia. Governments, and international organizations including banks need to be involved to help guide this process. Above all, governments have to, on the one hand, be ready to yield power to the disenfranchised, and, on the other, be willing to accept responsibility for supplying the most basic of services to its people. Government avoidance of responsibility to manage water supplies, and/or just plain incompetence in appropriately addressing such responsibilities has led to a widespread shirking of responsibility, typified by the willingness of governments to hand over control of water to privatizing interests.

In 1996, the U.N. floated the idea of local control through its Commission on Sustainable Development when it made some of the earliest efforts to address environmental issues in Latin America.⁸⁹ The predicament is that the most difficult step is giving up unilateral control; yet power sharing is possible. The stage is set for compromise in Latin America, where aggressive water privatization efforts appear to be failing in the face of popular opposition. In such a setting, even the most intractable disputes can be brought up for discussion.⁹⁰

Power Sharing

Governments must be compelled to act on such opportunities, for an escalation of the scope of conflict often accompanies an increase in the degree of trouble that mediators seek to address. For example, Table 2 looks at how failing to effectively address equitable distribution of water (#3) might lead to relative deprivation and communal entanglement with authorities—exactly what happened in Bolivia. If local community engagement fails to deliver, which appears to be the case now in the U.S. - Mexican transborder region, international involvement can become unavoidable.⁹¹ As civil society strengthens (#2), international courts may adjudicate disputes—

Conflict Type	Objective Sought	Conflict Scope
1. Simple water scarcity	Relief from deprivation	International
2. Strengthening civil society	Protection and reinforcement of community identity	International or domestic
3. Relative deprivation	Equitable distribution	Domestic (with international repercussions)

exactly the situation in Cochabamba. Unrelenting, severe drought (#1) puts the situation in the lap of the international community, including governments and NGOs.

Political leadership shies from instability. In order to stabilize local communities on the issue of water rights, it must, first of all, assure them of their rights. Assurance (different than enforcement of rights) means that costs go up for anyone trying to wrest control away from traditional owners. Privatization is of economic interest only so long as water will yield a profit. When water is valued upward for whatever reason to where ratios degrade profitable returns, investors depart, as we have seen in Bolivia. Second, political interests must restructure their priorities, putting basic, long-term rights of water users and environmentally sustainable policy making ahead of short-term investment returns. Third, to enable such projects, public financing must be arranged to allow for existing infrastructure to be maintained and improved upon, and for new systems to be built with environmentally appropriate planning. Successes in local management are due to readily available funds of sufficient scope and flexibility for communities to self-manage and maintain water systems (which was the case in Cochabamba after its Water War). Financing of a community-responsive policy begins with a strategy that balances long-term debt servicing and environmental targets with realistic means for repayment, and with the cost of money in international markets. For example, internationally backed funding mechanisms similar to those built into the Kyoto Protocol for energy,⁹³ enables the world at large to help developing countries to manage water issues at the local level.⁹⁴

Last, to maintain infrastructure and community support, local interests must be organized, trained and educated in sustainable practices. Schooling can be facilitated by the participation of NGOs—such as the Council of Canadians—working with mid-level government officials and local leaders. Though his platform was First Tier, Mario Soares' ideas are examples of an independent input that a mid-level NGO brings to Lederach's Second Tier mediation. A water parliaments type of organization can be highly effective in pressuring both business and politicians to implement

sustainable practices in management and ownership of water systems. Pension funds are another form of NGO that have great potential to influence trends as their investment in multinationals grows.⁹⁵ HealthWrights, too, is a non-profit organization committed to health, basic rights, social equality, and self-determination of disadvantaged persons and groups.⁹⁶ Such organizations comprise an emerging network of water resources management teams, epitomized by the International Water Resources Association (IWRA). This organization has been effective in undermining an assumption that international water politics and policy are such an easy fit. To the contrary, its expert membership emphasizes how everyone is a stakeholder, “that everything is connected to everything else.”⁹⁷ An example of its influence is seen in frequent references made by the World Bank to IWRM recommendations for a holistic approach to water management. The Food and Agriculture Organization (FAO) is another group that like IWRM might become an institutional component in a framework for preserving and promoting public water rights. Unlike the World Bank, FAO underscores those “special attributes of water that make a high degree of government involvement in the sector inevitable.”⁹⁸

If government participation is to be anticipated, one wonders why the U.N. has abstained from openly confronting the World Bank over the water privatization movement. It needs to be involved, however, for its authority as a neutral mediator helps to restore legitimate authority in a severe crisis, and can ease both sides into productive dialog in advance of trouble erupting. The U.N.’s limitation in this regard, as Zartman pointedly states, is that “rapid and decisive” engagement is extremely difficult for what has become an unwieldy bureaucratic institution.⁹⁹ Another key part of the reason the U.N. has difficulty engaging with grassroots, or the Tier 3 level, is because it is, after all, a collection of sovereign states.

Looking at the mechanisms making local management effective, Tsuyoshi Hashimoto theorizes that top-down management becomes institutionalized because the state almost always initiates development of resources. Yet, he notes that “a bottom-up approach would ensure better satisfaction of basic needs in the vicinity of the local people, such as the use of local springs or dug wells for water supply....”¹⁰⁰ He correctly points out that what may work on the local level fails to address regional needs and issues. Conversely, Boelens argues that though communities (specifically Andean) have proven their capacity to govern water according to their own dynamics, ethnographic studies show that “national legislation and public policies deny, ignore, or only barely acknowledge the existence of rural and indigenous norms.”¹⁰¹ Those who promote top-down thinking do not take into account the critically important requirement for creating a structure that includes active input and at least some degree of self-management. It also does not calculate properly the importance of the human instinct for “comfort groups, or circles of trust,” as Daubon and Saunders put it.¹⁰² Without cohesive local support, society loses valuable input from those with an intimate understanding of upstream resources. Without what the Kettering foundation stresses as essential deliberation and sustained dialog among well-prepared community leaders,¹⁰³ there is a risk of disenfranchising people of basic rights,¹⁰⁴ undermining civil society, and setting the stage for violent conflict.¹⁰⁵

Conclusions and Recommendations

It need never get to the point of confrontation if developed nations prepare adequately for distribution and redistribution of water as necessary and with an understanding that peace is at stake. As I have shown in the case of Cochabamba, a rock-solid redistribution program is most valuable when it entails returning control of water resources to local people, and then holding them responsible for what the community agrees is acceptable practice. Siding with the Carnegie

Commission's structural approach, to properly manage our water resources we need a global water ethic, including near universal agreement on fundamental humanitarian principles.¹⁰⁶

The root of social injustice in efforts to privatize water is inequitable economics and unresponsive governance, and politically derived structures linking the two.¹⁰⁷ The World Bank, in association with national and international interests, is the key player in fabricating—or at the very least, sustaining—these structures.¹⁰⁸ But it is our global community, including especially governments of the U.S. and European Union, that prop the system up. Western mercantilist democracy, so favored by the modern world (even to a large extent in China), idealizes privatization. Believers in a mercantilist mantra have difficulty seeing how assurance of propriety rights has an economic and social payback—making it as Doris Fuchs alliterates, a “political plus.”¹⁰⁹ Assurance of rights will not, de facto, solve environmental problems, but the policy can be considered as helpful, not harmful to politicians.

Toward a new (or at least revamped) ethic, I propose here a six-point peace building agenda for returning control of water to where it belongs, and where it is most effective and fair. First, is acknowledgement of each human's right to enough water to sustain life, and of the need to properly value any water consumed beyond that needed for life. This necessarily includes frank admission of the issues contributing to what may be systemic problems; it also includes specific initiatives and projects for dealing with such issues.

Second, is acknowledgement of the need to properly value water for all other sectors, including agricultural, forestry, mining, energy and industry; and, with credit for the idea to Lederach, valuation must include reconciliation of each sector's ideas of valuation.¹¹⁰ It follows that actual costs of wasteful practices involving resources are allocated to the proper sectors.

Third, installation of community-managed, Level Three monitoring (e.g., hydraulic gauging stations) on all major waterways, and along key points throughout major watersheds, is necessary in order to provide data needed to insure water is being used as agreed and that truly equitable rates are being driven by use, not political connections. Equally vital, such data also helps to set realistic sustainability goals and to create appropriately far-sighted management plans.

Fourth, financial instruments, including Overseas Development Assistance (ODA), must be made available and be sufficiently flexible enough to see that plans and policies really happen without overburdening individuals or community. Fifth, transparent disclosure of such plans and policies is mandatory, in order to win the hearts and minds of local communities. Sixth, there must be equally transparent administration of water management rights, thus assuring civil society of the veracity of government's intentions. With this structural approach to peace-building, the rationale and legitimacy of policy is easier to accept; trust in governing systems is embedded and consequently better managed; the environment is less degraded; civil society is strengthened; and the chance of violent conflict is greatly reduced.

A peace building agenda demands unflinching support from governments, mass media, religious organizations, and major international humanitarian agencies, such as the World Food Program (WFP), Mercy Corps (MCI) and the International Red Cross (ICRC), as well as institutions at all levels. Financial dreadnoughts such as the World Bank must alter course and begin to fund efforts at repatriating water rights in areas where they have been lost, in helping guide locals toward effective management techniques, and in building and repairing adequate infrastructure. Political leaders will have to get involved, even become leaders in the effort, and that includes the U.N., which, in the opinion of Hilary French, is focused now not only on economic and military interests, but also on environmental security.¹¹¹ To allow private interests to gain control for their

own selfish interests of something so vital an element as water by its own inaction is to destabilize all institutions. The U.N. surely risks antagonizing major sources of funding, but it must face up to and engage with governments and NGOs far in advance of the possibility for violence. To begin in the middle of conflict is to ask for often lengthy, possibly failed, and certainly acrimonious dialog.

It is my conclusion that governments can establish institutional frameworks respectful of the basic rights of each person, just as Mario Soares has described, and thereby promote the idea of sound water resource management. By reducing demands on the state to manage infrastructure and by improving, as Michael Doyle says, society's ability "to articulate and meet public needs,"¹¹² civil society will be strengthened and enlightened water management made possible. Civil society, represented by communal association and led by culturally attuned leaders will provide a secure foundation for infrastructure, and government will be less prone to making those moves that lead to violent conflict. Strengthened, civil societies will feel motivated by a shared vision, or as Lederach says, "a commonly defined future."¹¹³ That future must include a structure that provides for the wisest possible use of the only water we will ever have.

ENDNOTES

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- ¹ Pearce, Fred, in *When the Rivers Run Dry: Water—the Defining Crisis of the 21st Century*. Boston: Beacon Press, 2006, 3-4.
- ² “Changes are also likely to occur in the structure and character of water use, while competition between the different water users is also likely to intensify. With a large change in temperature and precipitation, plans for developing and managing irrigation are likely to require alterations, causing problems of supply....” Georgiyevsky, V.Y. and Shiklomanov, I.A. “Climate Changes and Water Resources.” In *World Water Resources at the Beginning of the 21st Century*, editors, I.A. Shiklomanov and John C. Rodda, 410. Cambridge: Cambridge University Press, 2004.
- ³ Shiklomanov, xi.
- ⁴ Conca, Ken. “Global Water Prospects.” in Pirages, Dennis and Cousins, Ken, eds. *From Resource Scarcity to Ecological Security: Exploring New Limits to Growth*. Cambridge: MIT University Press (2005) 63-4. Some geographers, calculate this differently, asserting that about 65 percent of water goes for irrigation worldwide, according to Shiklomanov, 34.
- ⁵ Postel, Sandra. “Water for Agriculture: facing the limits.” *Worldwatch Paper* 93. Washington D.C.: Worldwatch Institute, 1989, 15.
- ⁶ International Consortium of Investigative Journalists. *The Water Barons*. Washington, D.C. Center for Public Integrity, 2003, pp 148.
- ⁷ Conca, 78.
- ⁸ Homer-Dixon, Thomas F. “On the Threshold: Environmental Changes as Causes of Acute Conflict.” *International Security*. 16, no. 2 (Autumn, 1991): 107.
- ⁹ Falkenmark, Malin and Lundqvist, Jan. “Looming Water Crisis: New Approaches are Inevitable,” in *Hydropolitics*, Leif Ohlsson, ed. London: University Press, 1995, 179.
- ¹⁰ At another international summit in Rio, this time in 1942, Argentina, Brazil, Chile and the U.S. were guarantors of a resolution of a long-standing territorial dispute between Ecuador and Peru, thus setting a precedent for international mediation, in Crocker, Chester A., Osler-Hampson, Fen and Aall, Pamela. “The Practitioner’s Perspective.” In *Herding Cats: Multiparty Mediation in a Complex World*. Cheter A. Crocker, Fen Osler Hampson and Pamela Aall, editors. Washington D.C.: United States Institute of Peace, 1999, 56.
- ¹¹ Tanvir Anjum suggests that as the welfare role model for states has been questioned, particularly in Europe, in recent years, the ground has been laid for multinational corporations to move into new areas of privatizing potential. Laissez faire governance has been seen especially in France, which explains the emergence of two of the most dominant players, Suez and Vivendi. Water, with its huge market tops the list of privatization candidates for both firms; see Anjum, Tanvir. *Nature and Dynamics of Conflicts Over Privatization of Potable Water*. Colombo: Regional Center for Strategic Studies, 2001, 10.
- ¹² Wenyon, Sylvia and Jenne, Charles. “Water and Sewerage Privatization and Reform,” in Basanes, Federico, Uribe, Evamaria and Willig, Robert, eds. *Can Privatization Deliver?* New York: Inter-American Development Bank, 1999, 173-205.
- ¹³ Howe, Charles W., et al. *Privatization of Water Services in the United States: an Assessment of issues and Experience*. Washington, D.C.: National Academy Press, 2002, 46-55.
- ¹⁴ Barney, Gerald, ed. *The Global 2000 Report to the President of the U.S. Entering the 21st Century. Volume I: The Summary Report*. New York: Pergamon Press, 1980, 159.
- ¹⁵ Looking askance at the situation in China, Pearce says that the country “seems to be subsiding into hydrologic chaos,” in Pearce, 112-20.

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- ¹⁶ Ohlsson, Leif. "The Role of Water and the Origins of Conflict," in *Hydropolitics*, 15-21.
- ¹⁷ Young, Robert A., *Determining the Economic Value of Water. Resources for the Future*. Washington D.C.: Resources for the Future, 2005, 8.
- ¹⁸ Ibid, 9-22.
- ¹⁹ A leading authority argues that what is most problematic is trying to assess the situation while using "degrading monitoring networks, unreliable data and other sources of error." If he is correct, then individuals and institutions will always be able to challenge any valuation on the grounds of inaccuracy; see Georgiyevsky, V.Y. and Shiklomanov, I.A. "Influence of climate change on water resources," in Shiklomanov, 410.
- ²⁰ Though most common, concessions require political support of the people. In the case of Caracas, Venezuela, during the collapse of oil prices in 1997-8, the government found it impossible to garner such support for the attempted sale of a 30-year concessions for Buenos Aires water rights. Also contributing to failure was the unacceptable exchange rate risk for foreign investors. It is only when the dual dynamic of economic stability and political support allows it that privatization can occur, as discussed in Wenyon, 188-9.
- ²¹ Smith, Warrick, ed. *Private Participation in Infrastructure: Trends in Developing Countries in 1990-2001*. Washington D.C.: World Bank (2002): 144.
- ²² Noted in a stock listing in May, 2006 on the Hong Kong exchange, where Guongdong Investment Limited asks for US\$2.5 billion for the Dongshen Water Supply Project. Dongshen provides 75 percent of the water consumed in Hong Kong; see *Prospectus*. Skadden, Arps, Slate, Meagher & Flom, LLP. (May 13, 2006): www.skadden.com/Index.cfm?contentID=45&bioID=5581.
- ²³ Commercializing is distinguished from strictly privatizing efforts to reorganize water allocation across regions and sectors of use, as in a shift from agricultural use to withdrawals for urban use, in Ahlers, Rhodante. "Gender dimensions of Neoliberal water policy in Mexico and Bolivia: empowering or disempowering? In *Opposing Currents: The Politics of Water and Gender in Latin America*, edited by V. Bennet, Sonia Dávila-Poblete and Maria N. Rico, 56. Pittsburgh: University of Pittsburgh Press, 2005
- ²⁴ Conca, 62; also see Barney, 157.
- ²⁵ From an investor's point of view, it was a disaster to have owned shares in any Latin American utility in the 1950s-60s. In a powerful nationalistic surge, almost every utility was expropriated, or forced to sell for lower-than-expected returns; see Gómez-Ibáñez, José. *Regulating Infrastructure: Monopoly, Contracts and Discretion*. Cambridge: Harvard University Press, 2003, 128-30.
- ²⁶ The United States General Accounting Office reports in a survey on this subject that, in 2001, 27 percent of U.S. water utilities did not have plans for managing their existing assets, while 60 percent of utilities' pipelines were in need of replacement. The situation is ripe for private takeover, should systematic failures not be addressed with properly funded response. The report also says that privatization is usually in the form of management contracts, and that—not surprisingly—profitability and growth potential were the primary criteria for private investment. See: "Water Infrastructure: Information On Financing, Capital Planning And Privatization." *U.S. GAO Report to Congressional Requesters*. August 2002. (GAO-02-764) 7.
- ²⁷ At least from The World Bank point of view this is true, but some developed countries are not so well off, either. Barlow and Clark talk about Canadian government estimates on upgrading Canada's run-down water infrastructure that will cost US\$53 billion to upgrade, in Barlow, Maude and Clarke, Tony. *Blue Gold*. New York: The New Press, 2002, 98.
- ²⁸ This is due primarily to a lack of data gathering stations and equipment to account for all the water they are responsible for; see Smith, 145.
- ²⁹ Another view on the lack of funds is that we are in an era of "state failure," where markets are more efficient than the state at providing basic services; see Bakker, Karen J. *An Uncooperative Commodity*. New York: Oxford University Press, 2003, 18-28.
- ³⁰ Conca, 79.
- ³¹ Camdessus, Michael. (March, 2003). "The myth of private sector financing." (April 12, 2006): www.foodandwaterwatch.org/water/corporate-control-1/the-myth-of-private-sector-financing-1..
- ³² Conca, op cit.
- ³³ Advocacy of an unregulated free market is based on an "assumption about individuals being rational, self-interested and methodical in the pursuit of their goals," in Drilane, Robert and Parkinson, Gary. *Online Dictionary of the Social Sciences*. Athabasca University. (May 10, 2006): <http://bitbucket.icaap.org/dict.pl?term=CLASSICAL%20LIBERALISM>.

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- ³⁴ Ken Conca, however, alerts us that NAFTA's favorable provisions for foreign corporations have alarmed some governments, creating the fear that powerful international firms might grab hold of the water resources of others, and then export them in bulk. Indeed, an American company filed suit against the Canadian national government when British Columbia enacted a law in 1998 prohibiting it from exactly this practice, Conca op cit., 79.
- ³⁵ Conca, 78.
- ³⁶ The numbers evidence its enormous size: Vivendi Water has over 110 million consumers and 40,000 industrial customers in more than 100 countries, and it had revenues in 2000 of US\$16.6 billion and employed 69,000 people, in "Vivendi Universal cuts stake in subsidiary as Environment ups water commitment." *Federated Water Review*. (May – June, 2002): 2002http://www.amwa.net/archives/fwr2002/May_June_02FWR/May_June_02_fwr.html.
- ³⁷ Suez-Lyonnais's representative in Manila told Marc Dumol, a government official under President Fidel Ramos, that his firm had managed to shift Macao from 44 percent to 14 percent non-revenue for water use in only 4 years' time; also, a key step in privatizing what is Asia's oldest public water system was the enactment in 1997 of "The Water Crisis Act," giving Ramos the power to privatize on his own initiative; see: Dumol, Marc, "The Manila Water concession. *The World Bank*. Washington D.C.: The World Bank, 2000, 13, 25-6.
- ³⁸ Varghese, Shiney. 2006. "A fact sheet on water sector privatization." *Institute for Agriculture and Trade Policy (IATP)*. (May 12): www.waterobservatory.org/library.cfm.
- ³⁹ Meier, Richard L. "A Stable Urban Ecosystem." *Science* 192, no. 4243, June, 1976, 962-968.
- ⁴⁰ "Village Water Supply: a World Bank Paper." *The World Bank*. Washington DC: World Bank (1976): 67-71.
- ⁴¹ Solo, Tova Maria. "Competition in Water and Sanitation and the Role of Small-scale Entrepreneurs." *Water Competition and Regulation*. Washington, D.C.: The World Bank (1999): 33.
- ⁴² One specious argument defending privatization, but failing to get the facts right, is that water monopolies are untenable due to the ubiquitous nature of water sources, in Easter, K. William, Dinar, Ariel and Rosegrant, Mark. "The Performance of Water Markets: transactional Costs, Interjurisdictional Barriers and Institutional Options," in Richard Just and Sinaia Netanyahu, editors, *Conflict and Cooperation on Trans-boundary Water Resources*, Boston: Kluwer Academic Publishers, 1998, 309.
- ⁴³ The arrogance of this argument, that private capital can ignore ethical issues involving sustainable practices, exemplifies corporate noblesse oblige on a scale that few would attempt in the modern era, in von Weizäcker, xii.
- ⁴⁴ Gillespie, Alexander, "Rat Catching in Sustainable Development." in *Appraising Sustainable Development: Water Management and Environmental Practices*, edited by Asit K. Biswas and Cecilia Tortajada. 112-55. New Delhi: Oxford University, 2005.
- ⁴⁵ For a detailed look at Latin American problems, see Doujeanni, Axel. "River Basin Management as a Way to Sustainable Development in South America." Biswas, 184; also see Babkin, V.I. and Grube, t.V.. "Water resources and water availability in South America," in Shiklomanov, 291; an explicit example elsewhere is Johannesburg South Africa where, "waste occurs in leaky communal, yard and house taps. In the higher elevations of Alexandra township, these problems are witnessed in perpetual lack of pressure. Hundreds of thousands of low income-income people in Alexandra and other townships have no immediate house or yard access to reticulated water supplied...with all the public health problems that it implies. Indeed the lack of available water on a universal basis means that public health conditions are worse, geographical segregation of low income Gauteng residents (from wealthier residents) is more extreme, women are particularly inconvenienced, and their income-generation and care-giving capacities are reduced, and the environment is threatened (in part because of the shortage of water born sanitation). Leaking communal taps and pipes result in streams of dirty water and pools of muddy water with unprotected electricity wires on the ground in the water," in Letsie, David, April, 1999. "Alexandra and the Lesotho Highlands Water Project: Poor Water Services and Rising Costs." Paper presented to the *Water for All: Policy, Finance and Institutions to Deliver Our Basic Right to Water Workshop*, (May 12, 2006): <http://www.waterobservatory.org/library.cfm?refID=33638>.
- ⁴⁶ Barlow, Maude. "Water as Commodity – The Wrong Prescription." *Backgrounders* 7, no. 3. (Summer, 2001): <http://www.foodfirst.org/node/57/print>.
- ⁴⁷ Doujeanni, 184-5.
- ⁴⁸ Placement of the balance of the loans is not reported. "The World Bank's public information on loans is often not specific, and the bank acknowledges that it does not keep track of all information about private contractors

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- on water privatization loans. Bank spokesman Richard Uku said the bank had neither the time, personnel nor money to do that," in "Promoting Privatization." *The Center for Public Integrity*. (February 3, 2003): <http://www.publicintegrity.org/water/report.aspx?aid=45>.
- ⁴⁹ Boelens, Rutgard, et al. "Special Law: recognition and denial of adversity in Andean Water Control." *International Journal of Water Resources Development*. 22, no. 1 (2006): 148.
- ⁵⁰ A fact not to be taken lightly: of the 14 sovereign governments known to have been overthrown at the explicit behest of the U.S., almost all involved corporate interests. According to Stephen Kinzer, it all began in 1893, when sugar magnates manipulated the removal of the Queen of Hawaii. He lists others that followed over the next century: United Fruit was complicit in removing Arbenz in Guatemala; and helped make that state part of the U.S.; copper combines, along with a group of American businesses calling themselves the Chile Ad Hoc Committee, worked for the removal of Allende (which efforts resulted in his death); in Iran, Big Oil got rid of Mossadegh; in Nicaragua, American lumber and mining interests forced the removal of Jose Santos Zelaya; and an American banana business executive helped shape the coup that overthrew the Honduran government; see Kinzer, Stephan, *Overthrow: America's Century of Regime Change from Hawaii to Iraq*. New York: Times Books (2006) 2-5; also see detailed discussion of corporate influences on Allende's overthrow, *ibid*, 185-194.
- ⁵¹ "Attracting the most investments 1990-2001 were Brazil, Argentina, Mexico, Chile, and Columbia, the region's largest economies," in Smith, 47, 147.
- ⁵² "Water and Waste Utilities of the World." *ABS Energy Research*. 7, 441 (2006): <http://www.absenergyresearch.com/energy-market-research-reports/water-and-waste-market-research-reports/water-waste-utilities/reports/304339/>.
- ⁵³ Pearce suggests that even older cultures in the Middle East that employed "less intensive and less grand uses of water," as in the areas around Jericho, which have endured to this day. Pearce, 190-1.
- ⁵⁴ Colchester, Marcus, "Guatemala: the Clamor for Land and the Fate of the Forests," in Colchester, Marcus and Lohman, Larry, *The Struggle for Land and the Fate of the Forests*, Penang, Malaysia: The World Rainforest Movement. (1995): 99-138.
- ⁵⁵ Babkin, 312-13, 318-21.
- ⁵⁶ According to Barlow, "this meant that water would now cost more than food," in Barlow, Maude and Clarke, Tony. "Fight-Back in Bolivia." *The Nation*. (Sept. 2, 2002). <http://thenation.com/doc/20020902/barlow2>.
- ⁵⁷ Barlow, Maude and Ehrhardt, Sara. "Drink different: a debate on water privatization, part four." *Grist Magazine*. July 14, 2004. www.grist.org/comments/soapbox/2004/07/14/barlow.
- ⁵⁸ Ronderos, Maria Teresa. "The Water Barons: Columbia: a tale of two cities." Center for Public Integrity. (Feb. 11, 2003). <http://www.publicintegrity.org/water/default.aspx?act=ch&nsid=Columbia>.
- ⁵⁹ Südhoff, Ralf. "Solving water supply problems beyond Cochabamba," in von Weizäcker, Ernst Ulrich. *Limits to Privatization: a Report to the Club of Rome*. London: Earthscan, 2005, 18-21.
- ⁶⁰ Olivera, Oscar and Lewis, Tom. *Cochabamba: Water War in Bolivia*. Cambridge: South End Press, 2004, 37-64.
- ⁶¹ Oscar Olivera, one of the organizers of the Water War resistance movement, reports on this in detail. *Ibid*, 43-46.
- ⁶² *Ibid*, 91.
- ⁶³ Trawick, Paul. "Against the Privatization of Water: an Indigenous Model for Improving Existing Laws and Successfully Governing the Commons." *World Development*. 31, no. 6 (2003): 977.
- ⁶⁴ Barlow, *Blue Gold*, 226.
- ⁶⁵ For example, in the last 15 years, public protests over the water crisis have occurred in Argentina, Canada, Ghana, Indonesia, Mexico, New Zealand, Nicaragua, South Africa and the United States; see Conca, Ken. *Governing Water*. Cambridge: The MIT Press, 2006, 239.
- ⁶⁶ Olivera, 55.
- ⁶⁷ Barlow, "Drink different," *op cit*.
- ⁶⁸ In Bennet, V., Dávila-Poblete, Sonia and Rico, Maria N., eds. *Opposing Currents: The Politics of Water and Gender in Latin America*. Pittsburgh: University of Pittsburgh Press (2005) 56.
- ⁶⁹ Zartman, I. William. *Cowardly Lions*. Boulder: Lynne Rienner Publishers, 2005, 196.
- ⁷⁰ Lederach, John Paul, *Sustainable Reconciliation in Divided Societies*. Washington D.C.: United States Institute of Peace Press, 1997, 93-7.
- ⁷¹ Rhodante Ahlers points out that the failed 1998 policy in Bolivia, which attempted both total privatization and commercialization, contrasts with other privatization schemes in the 1990s, typically limited to changing ownership of water assets from public to private entitlement; see Ahlers, *op cit*.

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- ⁷² Soares, Mario. "The Water Manifesto." (The Global Committee for the Water Contract). *Institute for Agriculture and Trade Policy* (1998): <http://www.waterobservatory.org/search.cfm>.
- ⁷³ Fuchs, Doris A. *An Institutional Basis for Environmental Stewardship: the Structure and Quality of Property Rights*. Boston: Kluwer Academic Publishers, 2003, 63-4.
- ⁷⁴ Bakker, 25, 183.
- ⁷⁵ Ibid, 185.
- ⁷⁶ Camdessus, op cit.
- ⁷⁷ Ibid.
- ⁷⁸ Lederach, ix.
- ⁷⁹ Ibid, 38-44.
- ⁸⁰ As an example, ethnicity played a large role in Latin America in the 1500s. After some fifty years of debate, Spain's administrative and clerical corps determined in quasi-judicial fashion that indigent populations were by virtue of birth "virgins," and therefore to be treated as slaves, with no property rights, whatsoever. This policy culminated 500 years later in expropriation of water rights in most rural areas of Latin America; see Boelens, Rutgard and Zwarteen, "Anomalous Water Rights," in Boelens, et al, op cit., 102.
- ⁸¹ Jones, Tom and Martins, Joaquin Olivera Martins, in Welfens, Paul, J.J. *Internationalization of the Economy and Environmental Policy Options*. New York: Springer, 2001, 60-1.
- ⁸² Herbert, Bob. "The Art of the False Impression." *New York Times*. Aug 11, 2003, A15.
- ⁸³ Hilary French rightly points out when "international negotiations are closed to public participation, and access to documents of critical interest to the public is generally restricted," the public, and NGOs that would represent the public, become distinctly second class citizens; in French, Hilary F., "Partnership for the Planet: an Environmental Agenda for the United Nations," in Jane Peterson, ed., *Worldwatch Paper*. Washington D.C. (1995): 47, 150-1.
- ⁸⁴ Ibid, 67.
- ⁸⁵ Ibid.
- ⁸⁶ Referenced by Lahmandi-Ayed, Rim and Matoussi, Mohamed-Salah. "Selection through water markets," in Koundari, Phoebe, et al, eds. *The Economics of Water Management in Developing Countries*. Northampton, MA: Edward Elgar, 2003, 66-7.
- ⁸⁷ Südhoff, Ralf. "Example: Water privatization working for the poor—fist dos and don'ts of regulation." von Weizäcker, 298-9.
- ⁸⁸ Jim Heavner, then Manager of Upstream Development for Fluor Corporation, a leading international wastewater treatment engineering firm, told this writer in 2000 that the city of Shenzhen, China admitted to his team (retained by local government to study the situation) that it was unwilling to self-fund any water-related project out of collection fees, as the government could not countenance substantial ratepayer increases.
- ⁸⁹ "Plan of action for the sustainable development of the Americas." *U.N. Commission on Sustainable Development*. (December 7-8, 1996): <http://www.summit-americas.org/boliviaplan.htm>.
- ⁹⁰ For example, in 1995, at Dayton, Ohio, an "unprecedented level of [international] involvement" helped implement peace building provisions in the Middle East, in Cousens, Elizabeth M. "Building Peace in Bosnia," in Cousens, Elizabeth M. and Kumar, Chetan. *Peacebuilding as Politics*. Boulder: Lynne Rienner Publishers, 2001, 127.
- ⁹¹ Without some changes, water conflicts along the border are sure to become more heated, especially considering how much is at stake. It is already one of the most heavily guarded borders in the world, but President G.W. Bush says he is ordering 6,000 military to the region, and now Minutemen, citizen vigilantes are carrying out their own patrols of the border. Factoring in such militarist posturing along with the importance of the resource, the situation contains exactly the sort of potential for transborder escalation into violent conflict that Homer-Dixon warns about. For more details on this dispute, see Donahue, John M. "Water Wars in South Texas: Managing the Edwards Aquifer," in *Water, Culture and Power: Local Struggles in a Global Context*, editors John M. Donahue and Barbara Rose Johnston, 187-208. Washington D.C.: Island Press, 1998; also, for details on the angry mood of local communities, see "Drought, dispute over Rio Grande leave border farmers desperate for more water." *U.S. Water News Online*. (April, 2002): <http://www.uswaternews.com/archives/arcsupply/2drodis4.html>.
- ⁹² Table 2 is adapted from Homer-Dixon, 76-116.
- ⁹³ For an overview of this enlightened policy, especially dealing with how to calculate credits, see Kieskamp, Pim. "Can transport mechanism benefit from Clean Development Mechanism: Promotion of Renewable Energy, Energy

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- Efficiency and Greenhouse Gas Abatement (PREGA)." *The Asian Development Bank*. (2006): <http://www.cleanairnet.org/caiasia/1412/article-37389.html>.
- ⁹⁴ Financing Strategies, 104-5.
- ⁹⁵ While public utility managers tend to work with the larger corporations who would take them over, pension funds like CalPERS, the enormous state of California employee pension fund have shown a tendency to promote investment in businesses interested in sustainability; see Gourevitch, Peter Alexis and Shinn, James, J. *Political Power and Corporate Control: the New Global Politics of Corporate Governance*. Princeton: Princeton University Press, 2005, 292.
- ⁹⁶ "Health Care Issues in Latin America Today," in *Countries and Issues: Latin American Solidarity Center*, June 2, 2006, <http://www.lasc.ie/issues/health.html>.
- ⁹⁷ Conca, 161.
- ⁹⁸ Ibid, 156.
- ⁹⁹ Zartman, 80.
- ¹⁰⁰ Hashimoto, Tsuyoshi. "Asian Experiences in Water and Regional Development," in Biswas, op cit., 52.
- ¹⁰¹ Boelens, op cit.
- ¹⁰² Daubon, Ramon and Saunders, Harold H. "Operationalizing Social Capital: A Strategy to enhance Communities' Capacity to Concert." *International Studies Perspective* (2002) 3, 178.
- ¹⁰³ Ibid, 180.
- ¹⁰⁴ Locals are even in danger of losing homes and livelihoods when downstream interests prevail. When in 1974 the Salto Grande binational dam on the Uruguay River was being constructed, citizens of Federación, Argentina, located on the banks of the river, were compelled to move to a new location upstream. Old cultural ways were lost, perhaps forever. Similar expropriation for urban needs has occurred in Belen and Constitución, Uruguay, and of course in other areas, notably Three Gorges, on the Yangtze River in China; see de Laborde, Lillian del Castillo. "Salto Grande: a Binational Dam on the Uruguay River," in Biswas, op cit., 354-6.
- ¹⁰⁵ In this regard, I find invaluable Patrick Regan's thoughts on the importance of allowing some sort of protest: "In effect, the etiology of civil war often is nonviolent protest that is repressed instead of accommodated;" see Regan, Patrick M. "Review of People versus States: Minorities at Risk in the New Century," by Ted Robert. *The Journal of Politics*. 64, no. 1. (Feb., 2002): 320-21.
- ¹⁰⁶ "Structural Prevention: Strategies to Address the Root Causes of Deadly Conflict." *Carnegie Commission on Preventing Deadly Conflict*, 1997, 69-102.
- ¹⁰⁷ Colchester, 4.
- ¹⁰⁸ In this regard, the Bank is making the rosier of projections. Recent World Bank forecasts for the area indicate lending for projects is to rise from 4% to 11% over the next decade, with the highest share of allocations going to water resources (including privatizations), in "Report on Water Resources Sector Strategy." *The World Bank*. Washington D.C.: The World Bank (2004): 33-4.
- ¹⁰⁹ Fuchs, 67-119.
- ¹¹⁰ Lederach, 151.
- ¹¹¹ French, Hilary F., *Partnership for the Planet: an Environmental Agenda for the United Nations*. Editor Jane Peterson, Washington D.C.: Worldwatch Paper (1995): 7, 47, 150-1.
- ¹¹² Doyle, Michael. "Peacebuilding in Cambodia: Legitimacy and Power," in Cousens, 106.
- ¹¹³ Lederach, 116-7.