

**CHOP WOOD, CARRY WATER:¹
CUTTING TO THE HEART OF THE WORLD'S
WATER WOES**

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I. INTRODUCTION: REFRESH YOURSELF

Fill a tall glass with water from your tap and take a long swallow. Now, put the glass down and read on to refresh your knowledge about the world's water woes.

The average American family uses about 800 gallons of water a day, while the average African family uses only about five gallons

1. This expression comes from a Zen parable: "Before enlightenment, chop wood, carry water. After enlightenment, chop wood, carry water." SÔIKU SHIGEMATSU, *ZEN FOREST: SAYINGS OF THE MASTERS* 77 (1981). No matter how enlightened (or educated or wealthy) a country may believe itself to be, certain basic and humble necessities will always demand attention.

2. Professor of Law and Associate Dean of Faculty at Lewis and Clark Law School, Portland, Oregon. This Article was originally delivered as the Distinguished Lecture for the Florida State University College of Law's *Journal of Land Use and Environmental Law* in October 2006. Thank you to Donna Christie and the journal staff for inviting me to deliver the lecture and to Lewis and Clark students Allison Eshel and Andrew Kerr for their research assistance.

a day.³ Of nearly two hundred countries in the world, just ten nations possess more than two-thirds of the globe's freshwater resources.⁴ A decade ago, thirty-one countries faced chronic shortages of fresh water, and this number is projected to rise to forty-eight countries in the next two decades with shortages affecting nearly three billion people—more than a third of the world's population.⁵

Currently, more than a billion people (or about one out of every five in the world) lack access to safe drinking water like the liquid filling your glass.⁶ More than twice that many people—2.6 billion, or more than forty percent of the world's population—lack access to improved sewer or sanitation facilities.⁷ The lack of clean drinking water and adequate sanitation contributes to more than 250 million cases of waterborne and water-related diseases every year, causing some 14,000 deaths every day, about 4,000 of which are children under the age of five.⁸

The water gap is just one of the many differences between the rich and poor countries—just one variation on the age-old theme of the haves and the have-nots. American parents have been telling their children for generations: “Eat your dinner! Don't you realize how lucky you are? Children are starving in India!” But whether or not kids in New Jersey eat their dinner, children are still ailing in New Delhi.⁹

3. Water Partners International, Water Facts, <http://www.water.org/waterpartners.aspx?pgID=916> (last visited Mar. 21, 2008). Water Partners International is a charitable corporation that supports water projects around the world.

4. *Compare* NOW with Bill Moyers, Science & Health: Leasing the Rain (July 5, 2002), <http://www.pbs.org/now/science/water2.html>, with PETER H. GLEICK ET AL., THE WORLD'S WATER 2006-2007: THE BIENNIAL REPORT ON FRESHWATER RESOURCES 221-27 (2006).

5. NOW with Bill Moyers, *supra* note 4.

6. See World Health Organization, Water Supply, Sanitation and Hygiene Development, http://www.who.int/water_sanitation_health/hygiene/en/ (last visited Mar. 21, 2008); see also Water Partners International, *supra* note 3.

7. WORLD HEALTH ORG. & UNICEF, MEETING THE MDG DRINKING WATER AND SANITATION TARGET: THE URBAN AND RURAL CHALLENGE OF THE DECADE 8, 18 (2006), available at http://www.wssinfo.org/en/142_currentSit.html.

8. United Nations Educational, Scientific and Cultural Organization, The UN World Water Development Report: Facts and Figures: Meeting Basic Needs, http://www.unesco.org/water/wwap/facts_figures/basic_needs.shtml (last visited Mar. 21, 2008) [hereinafter UN World Water]. When I delivered this lecture at Florida State University in Tallahassee, Florida, I noted that, at this death rate, Tallahassee's population of 156,000 could be wiped out in just a couple of weeks.

9. See Michael Specter, *The Last Drop: Confronting the Possibility of a Global Catastrophe*, THE NEW YORKER, Oct. 23, 2006, at 61 (describing the plight of a family of seven living on the outskirts of New Delhi, India, where residents use polluted water from a community standpipe for bathing and laundry and stand in line for a few buckets of drinking water from a mobile water tanker). In fact, the gap between the haves and the have-nots is increasing. See generally DEP'T OF ECON. & SOCIAL AFFAIRS, UNITED NATIONS, THE INE-

Take a sip of water from your glass and ponder this situation for a moment. Is the gap between rich and poor countries just a fact of life? Is it inevitable that some children and their families have plenty of water and food and the hygiene and health that follow, while others struggle to stay alive? This Article suggests that, at least as to water, the disparity is not inevitable but is in fact amenable to some fairly straightforward and relatively inexpensive solutions.¹⁰ Further, this Article argues that the United States should play an aggressive leadership role in addressing world water problems—a role it is not playing today.

Part II expands on this introductory description of the world's water woes, further detailing the discrepancies in water availability and use between the highly developed countries and the developing nations and drawing connections between these water inequities and other disparities in nutrition, education, and general economic well-being. Part III examines the drastic costs and consequences of the water gap, demonstrating that the inequities should be of considerable concern, not just to those holding empty glasses, but to the developed countries as well. Part IV outlines a preliminary agenda to address the world's water woes and to promote global water security and equity.

II. WORLD WATER INEQUALITY

A. Thirst

How much water does a person require to stay alive? The human body is about 65 percent water: a person will get thirsty when that amount drops by 1 percent; a reduction of 5 percent can cause a fever; and a decrease of 10 percent causes loss of mobility.¹¹

QUALITY PREDICAMENT: REPORT ON THE WORLD SOCIAL SITUATION 2005, available at <http://www.un.org/esa/socdev/rwss/media%2005/cd-docs/press.htm> (describing the increase of world inequality from 1995-2005, discussed further in Part III, *infra*).

10. Others share this view of the possibilities. See, e.g., Nina Munk, *Jeffrey Sachs's \$200 Billion Dream*, VANITY FAIR, July 2007, at 140. Munk describes the Sachs-led Millennium Villages Project, which targets a number of villages in Africa with specific interventions designed to improve health and welfare, including providing clean water sources. In fact, Sachs's goal for these pilot projects goes way beyond water and sanitation; he "won't settle for less than the global eradication of extreme poverty," which he believes can be accomplished for about \$110 per capita, or less than one percent of rich countries' income. *Id.* (Sachs details his argument in his book *THE END OF POVERTY* (2005)); see also MARK SANCTUARY ET AL., *MAKING WATER A PART OF ECONOMIC DEVELOPMENT: THE ECONOMIC BENEFITS OF IMPROVED WATER MANAGEMENT AND SERVICES* 26 (2005), available at http://www.who.int/water_sanitation_health/waterandmacroeconomics/en/print.html (noting that "modest" costs of less than ten U.S. dollars per person per year could provide water and sanitation sufficient to meet the UN's Millennium Development Goals in such places as Ghana, Tanzania, Cambodia, and Bangladesh).

11. MIKE MAGEE, *HEALTHY WATERS: WHAT EVERY HEALTH PROFESSIONAL SHOULD*

Death results from losing just 12 percent of the body's fluids.¹² A minimum of five liters of water a day—or about one and a half gallons—is necessary for an individual's basic survival.¹³ Twenty liters a day (just over five gallons) can marginally support a family's most basic needs.¹⁴ Fifty liters a day (about thirteen gallons) are necessary for basic family sanitation, while seventy-five liters a day (not quite twenty gallons) can help protect a household against disease.¹⁵

In the developing world, many people do not have enough water to fulfill even these minimal needs.¹⁶ Throughout Africa, Asia, Central America, and the Caribbean, the number of people without adequate drinking water and sanitation add up to billions worldwide.¹⁷ From A to Z, Afghanistan to Zambia, families lack indoor plumbing and potable water, the basis of a minimally healthy environment to support a decent quality of life. In 2002, only about thirteen percent of the total population of Afghanistan had access to safe drinking water.¹⁸ Zambia's population was much luckier, as fifty-five percent of the total population in 2002 had access to safe drinking water—however, most of those people were in urban areas, and only thirty-six percent of Zambia's rural population had such access.¹⁹

B. Disease

Insufficient or polluted water supplies and inadequate sanitation kill millions of people every year.²⁰ Specific diseases associ-

KNOW ABOUT WATER 29 (2005).

12. *Id.* A person can survive more than a month without food, but only a few days without water. Specter, *supra* note 9, at 64 (quoting Peter P. Rogers, professor of environmental engineering at Harvard).

13. MAGEE, *supra* note 11, at 30; *see also* Water Partners International, *supra* note 3. Of course, if this water is polluted, it may prevent absolute dehydration but still cause other problems. *See* Specter, *supra* note 9, at 61 (quoting a woman in New Delhi, India as she points "to a row of battered pails filled with thick, caramel-colored liquid" holding water from the community standpipe: "That water kills people . . . Whoever drinks it will die").

14. MAGEE, *supra* note 11, at 30.

15. *Id.*

16. *See id.* Anyone with access to a supply of more than 100 liters of water a day most likely lives in a developed country. *Id.*; *see also* UN World Water, *supra* note 8 (noting that children born in the developed world consume thirty to fifty times as much water as those born in the developing world).

17. *See* UN World Water, *supra* note 8.

18. GLEICK ET AL., *supra* note 4, at 240-46.

19. *Id.* Furthermore, in the case of a country like Zambia, safe drinking water does not necessarily resemble North America's public water supplies and sophisticated plumbing. Both Afghanistan and Zambia are listed by the United Nations as among the "least developed countries" in the world. *See* DEP'T OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at xi.

20. UN World Water, *supra* note 8 ("Between 1,085,000 and 2,187,000 deaths due to diarrhoeal disease can be attributed to the 'water, sanitation and hygiene' risk factor . . .").

ated with poor sanitation and the lack of clean drinking water include familiar ailments such as cholera, dysentery, and malaria, as well as less familiar, exotic-sounding illnesses such as schistosomiasis and dracunculiasis.²¹ Unspecified diarrheal illnesses are also associated with poor water conditions, and diarrheal diseases alone kill about two million people every year, mostly young children.²² The particular causative agents of all of these various illnesses include bacteria, viruses, protozoa, and intestinal parasites, all of which thrive in polluted water and under conditions of inadequate personal hygiene.²³

For instance, cholera is caused by a bacterium that can exist in a healthy human body in moderate numbers without making the host sick.²⁴ Furthermore, cholera is rarely directly contagious between people.²⁵ However, vulnerable individuals who do succumb to the disease quickly develop massive diarrhea and the bacteria are present in their feces.²⁶ Without adequate sewage disposal and other hygienic practices, drinking water or food can become contaminated, spreading cholera in explosive and deadly epidemics.²⁷ Cholera epidemics swept through India, Asia, Africa, North America, and Europe in the 1800s.²⁸ In 1854, Dr. John Snow of London traced the source of the disease in a London outbreak to drinking water contaminated with sewage.²⁹ Although this discovery led to protection of public water sources in England and other industrialized countries, cholera is still a leading cause of illness and death wherever sanitation is inadequate.³⁰ Since the

21. See WORLD HEALTH ORG. & UNICEF, *supra* note 7, at 2.

22. See World Health Organization, *supra* note 6; see also Specter, *supra* note 9, at 63 (stating that more children died from diarrhea from 1996 to 2006 than everyone “killed in all armed conflicts since the Second World War”).

23. World Health Organization, Drinking-Water Quality and Preventing Water-Borne Infectious Disease, http://www.who.int/water_sanitation_health/dwq/infectdis/en/print.html (last visited Mar. 21, 2008).

24. See World Health Organization, Cholera, <http://www.who.int/mediacentre/factsheets/fs107/en/print.html> (last visited Mar. 21, 2008). In addition to the human body, brackish water is another “reservoir” for cholera-causing bacteria. *Id.*

25. United Nations Cyber School Bus, Fighting Disease: Disease List—Cholera, <http://cyberschoolbus.un.org/special/health/disease/cholera> (last visited Mar. 21, 2008).

26. World Health Organization, *supra* note 24. Cholera is one of the most rapidly fatal human diseases, with as little as a few hours between onset and death due to severe dehydration and kidney failure. *Id.*

27. *Id.*

28. See SANDRA HEMPEL, THE STRANGE CASE OF THE BROAD STREET PUMP: JOHN SNOW AND THE MYSTERY OF CHOLERA 1-7 (2007).

29. *Id.* at 171-75 (giving a fascinating account of Dr. Snow’s work tracing the origins of London’s cholera outbreaks to a particular water supply pump contaminated by a leaking sewage pipe). Dr. Snow’s work earned him the appellation “the father of epidemiology” because of the systematic way he monitored and tracked cases throughout the city and linked them to the polluted water source. *Id.* at 165.

30. *Id.* at 270-75 (describing public water system improvements); see also *Cholera*

mid-1900s, the World Health Organization has reported serious cholera epidemics in Indonesia, India, Bangladesh, Africa, the Middle East, Russia, and South America, and each year cholera kills thousands of people and sickens hundreds of thousands of people worldwide.³¹

Dysentery is similar to cholera in its origins and routes of infection. Dysentery is caused by shigella bacteria and transmitted through contaminated water and food.³² The World Health Organization lists six significant outbreaks of dysentery (sometimes called shigellosis) since the year 2000.³³ The outbreaks all occurred in African nations, including Lesotho, Liberia, the Central African Republic, Sudan, and Sierra Leone (twice).³⁴ The most recent, in the summer of 2004, was in a refugee camp located in North Darfur, Sudan; the epidemic broke out in mid-May and involved about 40,000 people by the end of June.³⁵

Malaria, too, is related to inadequate water supplies, though in a different way than cholera and dysentery. Malaria is caused by a parasite that infects mosquitoes, which transmit the disease to humans.³⁶ Malaria-bearing mosquitoes breed in stagnant water.³⁷ Although malaria can be treated effectively with drugs, if it is not treated promptly, the disease is often fatal.³⁸ Over 500 million people become severely ill with malaria every year.³⁹ Most of these cases occur in sub-Saharan Africa, with additional occurrences in Latin America, Asia, the Middle East, and parts of Europe.⁴⁰

Schistosomiasis and dracunculiasis are just two of many other

2005, WKLY. EPIDEMIOLOGY REC. (World Health Org., Geneva, Switzerland), Aug. 4, 2006, at 297-99 (describing prevalence—and recent increase—of cholera where people live in unsanitary conditions).

31. *Id.* (recording 131,943 cases of cholera and 2,272 deaths in 2005 and noting that these numbers significantly underreport the actual cases).

32. WORLD HEALTH ORG., GUIDELINES FOR THE CONTROL OF EPIDEMICS DUE TO *SHIGELLA DYSENTERIAE* TYPE 1, http://www.searo.who.int/en/Section1257/Section2263/info-kit/WHO-Guidelines_for_control_of_Shigella_in_Emergencies.pdf (describing disease and hygienic practices needed to prevent it); see also Centers for Disease Control and Prevention, Shigellosis, http://www.cdc.gov/ncidod/dbmd/diseaseinfo/shigellosis_g.htm (last visited Mar. 21, 2008) (describing the shigella bacterium).

33. World Health Organization, Shigellosis, <http://www.who.int/csr/don/archive/disease/shigellosis/en/> (last visited Mar. 21, 2008).

34. *Id.*

35. World Health Organization, Shigellosis in Sudan, http://www.who.int/csr/don/2004_07_14/en/index.html (last visited Mar. 21, 2008).

36. World Health Organization, Malaria, <http://www.who.int/mediacentre/factsheets/fs094/en/> (last viewed Mar. 21, 2008).

37. National Biological Information Infrastructure, Mosquitoes and West Nile Virus, <http://westnilevirus.nbi.gov/mosquitoes.html> (last visited Mar. 21, 2008).

38. World Health Organization, *supra* note 36.

39. *Id.*

40. *Id.*

less well-known but deadly diseases associated with inadequate sanitation and impure drinking water.⁴¹ Both of these diseases are caused by parasites living in contaminated water.⁴² Even when such diseases do not result in death, their chronic nature and disabling symptoms interfere with children's growth and learning and with adults' ability to work and provide for their families.⁴³ Schistosomiasis affects more than 200 million people in the world, causing 200,000 deaths annually in sub-Saharan Africa alone.⁴⁴ Dracunculiasis also creates tremendous misery for many people in poor regions of the world, particularly in rural Africa.⁴⁵ The disease is also called "guinea worm disease" and has been described as a problem since ancient times.⁴⁶

These cold, hard facts about thirst and disease are powerful on their own without elaboration or detailed analysis. However, examining some of the subtleties beneath the grim statistics reveals an even more distressing picture of how the lack of safe drinking water and sanitation affects individuals and families and then ripples out to cripple entire countries.

C. Carrying Water: Women's Work

Water inequalities in the developing world constitute a particular burden for women. The burden is both literal and figurative. Women and female children around the world spend a great deal of time literally carrying water for their families, and the effects of the task linger after the actual load has been set down.⁴⁷ The im-

41. See World Health Organization, Water and Sanitation Related Diseases Fact Sheets, http://www.who.int/water_sanitation_health/diseases/diseasefact/en/index.html (last visited Mar. 21, 2008) (providing fact sheets on more than twenty water-related diseases).

42. *Id.*; see also World Health Organization, Schistosomiasis, <http://www.who.int/schistosomiasis/en/> (last visited Mar. 21, 2008); World Health Organization, Dracunculiasis Eradication, <http://www.who.int/dracunculiasis/en/> (last visited Mar. 21, 2008) [hereinafter WHO, Dracunculiasis].

43. WHO, Dracunculiasis, *supra* note 42.

44. World Health Organization, Epidemiological Situation, <http://www.who.int/schistosomiasis/epidemiology/en/> (last visited Mar. 21, 2008).

45. WHO, Dracunculiasis, *supra* note 42 (noting that the disease wears down people already living in poverty, putting their ability to survive in a downward spiral). Very long white worms emerge from the skin of a person afflicted with the disease. Directors of Health Promotion and Education, Guinea Worm Disease, <http://www.dhpe.org/infect/guinea.html> (last visited Mar. 21, 2008).

46. WHO, Dracunculiasis, *supra* note 42 (describing reference to the disease in ancient texts from Egypt, Assyrian Mesopotamia, Greece, Rome, and Persia and noting that the guinea worm is thought to be "the 'fiery serpent' which afflicted the Israelites during their exodus").

47. See MAGEE, *supra* note 11, at 34-35. (describing the cost to a country of women engaged in fetching water); see also Water Partners International, *supra* note 3 (estimating that millions of women and female children around the world spend several hours a day obtaining water).

age of women in developing countries hauling water is a familiar one.⁴⁸ In Africa, India, South America, and elsewhere, women carry water in vessels balanced on their heads, often nestled in wrapped turbans specially designed for the purpose, or in buckets suspended from wooden yokes across their shoulders.⁴⁹

The work of carrying water occupies a tremendous amount of time and energy for women and children. For example, Indian women walk an average of nearly four miles a day (six kilometers), carrying more than five gallons of water (about twenty liters).⁵⁰ The national cost of fetching water in India is estimated to be 150 million women workdays annually.⁵¹ Furthermore, water is heavy (more than eight pounds per gallon, or a kilogram per liter), and the task of carrying water represents a significant percentage of the daily caloric expenditure for many women in the developing world.⁵²

D. The Ripple Effect

Water inequities do not exist in isolation, but instead ripple out to affect everything from household nutrition to education to gross domestic product. The impact on nutrition is multi-dimensional. For instance, when a woman's own health and strength are compromised by expending much of her daily caloric budget on gathering water, she is less likely to give birth to healthy babies and less able to care for and nourish her children.⁵³ Furthermore, many women gather water from contaminated sources, and although dirty water is understandably perceived as better than nothing, it is obviously not a healthy alternative.⁵⁴ Water-related diseases

48. See, e.g., National Geographic, Water Watch, <http://www.nationalgeographic.com/waterwatch/?fs=plasma.nationalgeographic.com> (displaying photograph of Kanuri tribal women carrying water in Niger) (last visited Mar. 21, 2008); Water Partners International, Photo Gallery, <http://www.water.org/waterpartners.aspx?pgID=892> (last visited Mar. 21, 2008) (displaying photographs of women carrying water in India, Bangladesh, Ethiopia, and Kenya).

49. National Geographic, *supra* note 48.

50. MAGEE, *supra* note 11, at 35.

51. *Id.*

52. See EVA M. RATHGEBER, *Women, Men, and Water-Resource Management in Africa*, in WATER MANAGEMENT IN AFRICA AND THE MIDDLE EAST: CHALLENGES AND OPPORTUNITIES (Eglal Rached, Eva Rathgeber & David Brooks eds., 1996), available at http://www.idrc.ca/en/ev-31108-201-1-DO_TOPIC.html (reporting that in some parts of East Africa, women use nearly a third of their total caloric intake to gather water).

53. See WORLD HEALTH ORG., WORLD HEALTH STATISTICS 2007 (2007), available at <http://www.who.int/whosis/whostat2007.pdf> (linking children's potential to grow and thrive to several factors, including drinking water source, household wealth, and mother's occupation); see also MAGEE, *supra* note 11, at 35 (discussing impact of the lack of clean water on women and children).

54. See Munk, *supra* note 10 (describing the main water supply of the village of Re-

often take a particularly heavy toll on pregnant women and their babies.⁵⁵ Insufficient water for basic food preparation and hygiene compound the problem of keeping the family well-nourished and healthy.⁵⁶

Lack of adequate water supply undermines overall food security, with droughts and resulting famines contributing to the death toll in many developing nations.⁵⁷ Poor people are disproportionately dependent on natural resources for their livelihood, making them particularly vulnerable to the effects of drought.⁵⁸

The term “food security” is usually used at the national scale to describe the stability and resiliency of a country’s food supply and the number of people affected by hunger or starvation.⁵⁹ The solutions proposed for increasing food security are often broad programs to increase a country’s aggregate agricultural productivity and yield with new seeds, fertilizers, and other technologies.⁶⁰ But in order to implement national and international programs to improve food security successfully, the most basic issue of people’s access to safe drinking water must be attended to. The Director General of the International Food Policy Research Institute and two co-authors made this link recently, saying “we must attend not simply to food security at the aggregate level, but to nutrition security (economic, physical, social, and environmental access to a balanced diet and *clean drinking water*) at the individual level of child, woman, and man.”⁶¹

Water problems interfere with education as well. Children who are suffering from illness or who need to help their mothers gather water for daily subsistence often do not have the luxury of attend-

hiira, Uganda, where the village’s women and children come to gather water at a “cesspool” described as “a stagnant, filthy water hole with bugs floating on the surface”).

55. *See id.* In the village of Ruhiira, Uganda, one in thirteen women will die during pregnancy or childbirth, compared to 1 in 2500 in the United States. Even if they could get to the nearest hospital (three to four hours away by wheelbarrow), the hospital itself has no running water or power. *Id.*

56. MAGEE, *supra* note 11, at 34-35.

57. *See* Specter, *supra* note 9, at 62 (describing Indian news stories about “ ‘suicide farmers,’ driven to despair by poverty, debt, and often by drought”); Water Partners International, *supra* note 3.

58. SANCTUARY ET AL., *supra* note 10, at 39.

59. World Health Organization, Food Security, <http://www.who.int/trade/glossary/story028/en/print.html> (last visited Mar. 21, 2008).

60. Peter Rosset, Lessons From the Green Revolution (2000), <http://www.foodfirst.org/media/opeds/2000/4-greenrev.html> (discussing the successes and failures of the “Green Revolution,” noting that although “miracle seeds,” agrochemicals, irrigation, and genetically modified crops significantly increased overall agricultural productivity, this approach has not been effective in reducing hunger because it does not address the root causes of individual food insecurity).

61. JOACHIM VON BRAUN ET AL., AGRICULTURE, FOOD SECURITY, NUTRITION AND THE MILLENNIUM DEVELOPMENT GOALS 6 (2004), available at http://www.ifpri.org/pubs/books/ar2003/ar2003_essayall.htm (emphasis added).

ing school.⁶² Moreover, it has been estimated that in developing countries thirty percent of schools themselves have no water.⁶³ Even if these schools have water for the students to drink, many of them do not have suitable or private latrines, and this deficiency also limits school attendance, particularly by girls.⁶⁴ When girls do not receive an education, they grow up without basic literacy to pass on to their own children, thus continuing the cycle of poverty.⁶⁵

Individual families struggling with hunger, thirst, disease, lack of education, and limited opportunities aggregate into nations struggling with stunted economies. Above and beyond the immediate, short-term costs of coping with widespread illness, these water-related diseases and associated socioeconomic problems retard economic growth. One study values the indirect economic impact of malaria alone on sub-Saharan Africa over time in the hundreds of billions of dollars, estimating that this single disease slows economic growth in Africa by at least 1.3 percent per year.⁶⁶ If malaria had been eradicated thirty-five years ago, the region's gross domestic product would be as much as thirty-two percent higher today, an amount equivalent to 100 billion dollars in United States currency.⁶⁷

The United Nations estimated in 2002 that diarrheal diseases and malaria together caused 3.1 million deaths globally and accounted for a seven percent loss in "disability-adjusted life years."⁶⁸ On a global scale, closing the gap on water supply and sanitation could boost the annual number of "working days" by 322 million, thereby adding global economic value of nearly 750 million United States dollars every year.⁶⁹

These estimates suggest that investments in water and sanitation can generate strong returns in terms of a productive labor force and a healthy economy. That conclusion is corroborated by looking at those countries whose economies rest, at least in part,

62. Cf. MAGEE, *supra* note 11, at 33-34 (noting the low rates of school attendance in developing countries); see also SPECTER, *supra* note 9, at 63.

63. SPECTER, *supra* note 9, at 63.

64. *Id.* ("A recent study in Bangladesh found that the addition of a single private toilet could increase the number of girls attending school by as much as fifteen per cent.")

65. DEP'T OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at 17, 21 (noting evidence from India showing "that high levels of education, especially among women, can short-circuit poverty" and that even with poor water supply and inadequate sanitation, "the children of educated mothers have much better prospects for survival than do the children of uneducated mothers").

66. SANCTUARY ET AL., *supra* note 10, at 37.

67. *Id.*

68. UN World Water, *supra* note 8.

69. SANCTUARY ET AL., *supra* note 10, at 41-42.

on a reliable water supply and a healthy sanitation system.

E. Just Add Water

In contrast to the conditions in the developing world, the residents of developed countries rarely experience extreme thirst or its dire consequences. In the United States, with a population of nearly 300 million people, almost every household is fully plumbed.⁷⁰ A network of pipes delivers safe, reliable, and inexpensive drinking water on demand while other pipes remove wastewater with a flip of a lever. An average American generally uses more than 100 gallons of water at home every single day.⁷¹ When indirect, non-household use is considered, per capita water use in the United States is approximately 1400 gallons a day.⁷² Americans use more water per capita than any other country's population, but the residents of other developed countries use significant amounts as well. The recent average daily per capita consumption of water in Canada and Australia, for instance, has been relatively close to that of the United States, at over ninety and over eighty gallons per day, respectively.⁷³

The waterborne diseases that are still widespread in the rest of the world have been mostly eradicated in the developed countries.⁷⁴ For instance, cases of cholera and similar illnesses transmitted by contaminated water are virtually unknown in the United States and Canada, where disease-causing bacteria or other agents are readily destroyed by chlorine, which has been in widespread use to treat drinking water for many decades, and

70. Even highly developed countries like the United States contain underserved areas and pockets of population with less adequate water facilities. See, e.g., THE ENVTL. JUSTICE COAL. FOR WATER, THIRSTY FOR JUSTICE: A PEOPLE'S BLUEPRINT FOR CALIFORNIA WATER 57 (2005) (showing range of cleanliness of drinking water among California counties and noting that some rural areas reliant on groundwater experience higher levels of contamination than the larger urban areas); Eric Mortenson, *Ancient Place Has New Features*, THE OREGONIAN, July 11, 2007, at B01 (describing a Corps of Engineers project to improve the "sketchy" water and sewer service for the more than fifty Native American residents of Cellilo Village, Oregon who had been living in substandard conditions since their original village site was flooded in 1957 by the Dalles Dam on the Columbia River).

71. U.S. Geological Survey, Water Science for Schools: Water Q&A: Water Use at Home, <http://ga.water.usgs.gov/edu/qahome.html> (last visited Mar. 21, 2008).

72. DEBORAH S. LUMIA ET AL., ESTIMATED USE OF WATER IN THE UNITED STATES IN 2000 1 (2005), available at <http://pubs.usgs.gov/fs/2005/3051/pdf/fs2005-3051.pdf> (reporting withdrawals in 2000 amounting to 1430 gallons per person).

73. See The Atlas of Canada, Domestic Water Consumption, 1999, <http://atlas.nrcan.gc.ca/site/english/maps/freshwater/consumption/domestic/1> (last visited Mar. 21, 2008); Australian Government, Indicator: HS-42 Water Consumption Per Capita, <http://www.environment.gov.au/soe/2006/publications/drs/indicator/335/index.html> (last visited Mar. 21, 2008).

74. See Specter, *supra* note 9, at 63.

where contact with sewage-contaminated water is rare.⁷⁵ Most of the cholera cases reported in the U.S. and Canada in 2006 were noted as “imported” cases; the only “homegrown” cases of cholera in the United States were linked to Hurricane Katrina, which resulted in widespread flooding by contaminated waters.⁷⁶

In contrast to the image of women balancing jugs of water on their heads in Africa, the ubiquitous image for the developed world would perhaps be American women carrying bottles of Aquafina or Dasani, bottled water produced by Pepsi and Coke, respectively.⁷⁷ The bottled water industry has exploded in recent years, with bottled water being the fastest growing product in the top fifty supermarket categories in 2001 and taking up as much as half the shelf space in soft drink aisles; spending on bottled water has reached as much as 100 billion dollars annually.⁷⁸ The bottled water phenomenon has been fueled in part by concerns about tap water safety.⁷⁹ This concern is largely misplaced, since domestic drinking water in the United States is subject to heavy regulation, making it quite safe overall, while bottled water is not as closely regulated and its quality is not necessarily assured.⁸⁰ In fact,

75. See WORLD HEALTH ORG., EMERGING ISSUES IN WATER AND INFECTIOUS DISEASE 12 (2003). However, new contaminants present different water quality challenges in the developed countries, including new pathogens such as cryptosporidium, legionella, and norovirus, as well as unexpected substances such as hormones, endocrine disrupter chemicals and antibiotics. *Id.* At 7 and Melissa Knopper, *Drugging Our Water: We Flush It, Then We Drink It*, E/ THE ENVIRONMENTAL MAGAZINE (Feb. 2003).

76. *Cholera 2005*, *supra* note 30, at 302.

77. See The Coca-Cola Company, Product List, <http://www.thecoca-colacompany.com/brands/brandlist.html> (last visited Mar. 21, 2008) (Dasani is only one of the company's several brands of bottled water products sold around the world); Pepsi USA, Pepsi Brands—Aquafina, http://www.pepsi.com/help/faqs/faq.php?category=pepsi_brands&page=aquafina (last visited Mar. 21, 2008); see also 54dasani.jpg, <http://www.stanford.edu/class/linguist34/advertisements/54dasani/54dasani.jpg> (last visited Mar. 21, 2008) (showing image of woman drinking water); DrinkingWater.jpg, <http://www.lifedynamix.com/articles/files/DrinkingWater.jpg> (last visited Mar. 21, 2008) (showing image of woman drinking bottled water).

78. PETER H. GLEICK ET AL., THE WORLD'S WATER 2004-2005: THE BIENNIAL REPORT ON FRESHWATER RESOURCES 17 (2004) (estimating total consumer expenditures on bottled water of \$100 billion annually); ROBERT GLENNON, WATER FOLLIES: GROUNDWATER PUMPING AND THE FATE OF AMERICA'S FRESH WATERS 2 (2002); cf. GLEICK ET AL., *supra* note 4, at 169 (estimating total annual sales of \$50 to \$100 billion).

79. GLEICK ET AL., *supra* note 78, at 170. Perhaps not surprisingly, the bottled water industry itself spends a great deal of money on advertising to convince people that bottled water is safer than tap water. *Id.*; see also GLEICK ET AL., *supra* note 4, at 16-26.

80. Coca Cola's planned introduction of Dasani bottled water into the United Kingdom in 2004 was derailed when the company was forced to recall 500,000 bottles of the product because of bromate contamination. BBC News, Dasani UK Delay Cans Europe Sales (Mar. 24, 2004), <http://newsvote.bbc.co.uk/go/pr/fr/-/2/hi/business/3566233.stm>. The bromate was formed when calcium was added to the tap water from Sidcup, Kent, England that Coke used as the basis of its U.K. version of Dasani. *Id.* Adding calcium is part of Coke's regular treatment of its bottled water, but apparently the calcium used in England “did not meet [their] quality standards.” *Id.*

ironically, often bottled water is simply tap water that has been put in a bottle, perhaps with some processing or additives.⁸¹ However, even though neither tap water nor bottled water may be as pure and healthy as we are sometimes led to believe, both are a far cry better than the drinking water available in much of Africa, Asia, and South America.

A baseflow of clean drinking water and adequate sanitation bolsters a population's general health, safety, and welfare. It would be a gross overstatement to suggest that water is all that is required to set a country on the path to a healthy, educated, productive citizenry and a strong economy. But without decent water and hygiene, it is impossible even to start down that path. In other words, water may not be sufficient, but it is absolutely necessary to progress.

The health benefits alone of clean water systems are crucial. The United Nations identifies improved health as a key factor for improving global equity, noting that health is not just important to an individual's quality of life, but "also determine[s] levels of opportunity and productivity."⁸² When a population is relatively free from epidemic and chronic diseases, the way is cleared for healthy babies to grow into thriving children and eventually productive adults. Healthy mothers and children are especially important and effective in breaking the cycle of intergenerational poverty, which is itself "both a cause and an effect of ill health."⁸³

A society can then move beyond survival and subsistence. Universal education can flourish and give individuals the personal tools to improve their lives. Secondary education seems to produce "the greatest payoff, especially for women."⁸⁴ Just as the consequences of bad water ripple throughout the family, society, and economy, the ripple effect can be positive as well as negative. Good water leads to good health and nutrition, which in turn foster individual and collective productivity. Educated, healthy workforces provide the backbone of the developed countries' economic prosperity.

By comparison to the developing countries, the economies of

81. Pepsi recently agreed, under pressure from a group called Corporate Accountability International, to change its label for Aquafina bottled water to note that the water is from a "public water source." Democracy Now!, *The Bottled Water Lie: As Soft Drink Giant Admits Product Is Tap Water, New Scrutiny Falls on the Economic and Environmental Costs of a Billion Dollar Industry* (Aug. 1, 2007), http://www.democracynow.org/2007/8/1/the_bottled_water_lie_as_soft.

82. DEPT OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at 22.

83. *Id.*

84. *Id.* at 21.

the nations in the developed world are mostly thriving.⁸⁵ A universal, reliable, and healthy water supply is one essential building block in these economies.⁸⁶ In reflecting on the tremendous benefits that clean water has brought to the developed world in terms of good health and food production, one observer effuses “[n]ot even the miraculous scientific achievements of the twentieth century have affected human health and development as profoundly as has the ready availability of clean water.”⁸⁷ An Indian hydrologist, discussing his country’s ambitious goals for the future, says “[i]t is a fact of the human condition that we can achieve none of our goals without water. Nobody could.”⁸⁸

The Indian hydrologist’s observation begs a question: *will* his country—and other developing nations—have the necessary water to achieve their goals? Deflecting a direct answer to that question for a bit, the next Part detours away from the water’s edge to discuss the larger context which will, by necessity, shape solutions to the world’s water woes—a context informed by twenty-first century economic and political realities, including a globalized economy, shifting economic and political powers, and a changed role for the United States and other countries in the world.⁸⁹ Eventually, the discussion will turn back to water.

III. GLOBALIZATION AND GROWING INEQUALITY

A. *The New Global Economy*

Astronomers and physicists may say that the universe is expanding, but the conventional cultural wisdom is that the world is effectively getting smaller.⁹⁰ Although a global economy has ex-

85. A list of the twenty-one richest countries in the world, as measured by gross domestic product per capita, contains, in addition to the United States, Canada, Japan, and Australia, fifteen European countries plus the United Arab Emirates and Equatorial Guinea, both of which have significant petroleum wealth. See Aneki.com, Countries with the Highest GDP per Capita, http://www.aneke.com/countries_gdp_per_capita.html (last visited Mar. 21, 2008). Recent economic downturns for some of these countries will not likely change their relative position dramatically.

86. See generally James Salzman, *Thirst: A Short History of Drinking Water*, 18 YALE J.L. & HUMAN. 94, 96, 113-17 (2006) (describing the link between drinking water and socio-economic development).

87. Specter, *supra* note 9, at 63.

88. *Id.*

89. The discussion that follows ranges through more than 500 years of history in only a few pages and touches upon several complex international issues in a fairly general way. The discussion is therefore necessarily over-simplified. My purpose is simply to give the reader a snapshot of current world affairs in order to place the water issues in a larger context.

90. Compare, e.g., The National Aeronautics and Space Administration, What Powered the Big Bang?, <http://science.hq.nasa.gov/universe/science/bang.html> (last visited Mar.

isted in some form for many centuries (beginning with the earliest journeys of Chinese silk and Indian spices around the world), within the past few decades the pace of globalization has increased exponentially. Technologically, socially, economically, and culturally, the world truly is shrinking. Yet, at the same time, the gap between the world's haves and have-nots is increasing.⁹¹ This Part first examines the forces of globalization, then considers how these forces are exacerbating the gap between the world's haves and have-not, and finally views these developments through the lens of water.

One commentator identifies three historic rounds of globalization: 1) the interchange of ideas and goods in the ancient world by way of explorers, traders, and scholars; 2) imperialism and colonization, accompanied by the export of the Industrial Revolution around much of the world; and 3) the current round of borderless financial transactions and instantaneous communication.⁹² In the first two periods, the concept of a global economy had a fairly limited meaning. Intrepid explorers opened trading routes and early traveling scholars and diplomats fostered limited exchange of ideas and culture.⁹³ Government/merchant partnerships conducted international trade in desirable goods, including spices, coffee, textiles, gold, and silver.⁹⁴ Successful trading enterprises were very lucrative, but each bilateral transaction was slow and perilous and carried a substantial risk of failure.⁹⁵

Colonization and settlement followed closely upon exploration

21, 2008) (giving an explanation for the expansion of the universe), *with* AM. COUNCIL ON EDUC., EDUCATING AMERICANS FOR A WORLD IN FLUX: TEN GROUND RULES FOR INTERNATIONALIZING HIGHER EDUCATION (1995) (recognizing the need for international education due to the shrinking of the world from the forces of globalization).

91. DEPT OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at 2; *see also* discussion *infra* Part III.B.

92. Ashutosh Sheshabalaya, *The Three Rounds of Globalization*, THE GLOBALIST, Oct. 19, 2006, <http://www.theglobalist.com/StoryId.aspx?StoryId=5687>.

93. *See id.* (noting that as early as the fourth century B.C.E., Greece sent an ambassador, Megasthenes, to India). *See generally, e.g.*, CRANE BRINTON ET AL., A HISTORY OF CIVILIZATION: 1300 to 1815, at 500-29 (4th ed. 1971) (describing the early exploration and trading activities of several European countries).

94. *See* BRINTON ET AL., *supra* note 93, at 484, 522-23, 528 (describing the English East India Company, chartered by the English crown, and the Dutch East India and Dutch West India Companies, founded in the Netherlands in 1602 and 1621, respectively, and noting that with the help of these latter companies, the Dutch operated between half and three-quarters of the world's merchant vessels in the mid-seventeenth century).

95. *See id.* at 511, 523. In addition to the natural perils of sailing the oceans hundreds of years ago, the traders were subject to attack by their competitors, by pirates, and by privateers, who were essentially pirates, but aligned with one country instead of outlaws without alliances. *Id.* But successful voyages amassed considerable wealth for the trading companies. *Id.* at 522-23 (noting that the Dutch government gave their companies extensive control over their own affairs, operations, and profits and that the companies paid annual dividends of eighteen percent to their shareholders for many years).

and trade; several European nations erected powerful empires on the historic foundations of “discovery” and trade dominance.⁹⁶ Though private companies thrived under government charters and other privileges, the nations themselves were the central players in the global economy at that time.⁹⁷ The period of colonial empire-building played out over centuries and continents, with plenty of bloodshed along the way.

The curtain lowered on the second round of globalization with the end of World War II. Several new international institutions entered the scene, including the United Nations, the World Bank, and the International Monetary Fund, setting the stage for further global changes, both intentional and unintentional. The United Nations brought together dozens of countries—large and small, rich and poor, occupier and colony—in new ways, moving beyond the era of lopsided trade relationships and colonialism and partially leveling the international playing field among nations.⁹⁸

The primary purpose of the United Nations was “to save succeeding generations from the scourge of war.”⁹⁹ Although that lofty goal seems almost quaint with the benefit of sixty years of hindsight, the United Nations Charter sets out a straightforward framework—at once disarmingly simple and daringly sophisticated—that makes world peace sound reasonably attainable.¹⁰⁰ Of course, the entire system depends on voluntary and cooperative behavior by the member nations, originally fifty-one and now nearly two hundred.¹⁰¹ The founding countries realized that world

96. See generally *id.* (discussing the power of England, Spain, Portugal, and the Netherlands, among others, in trade and empire-building). See also ROBERT J. MILLER, *NATIVE AMERICA, DISCOVERED AND CONQUERED: THOMAS JEFFERSON, LEWIS & CLARK, AND MANIFEST DESTINY 12-24* (Bruce E. Johansen ed., 2006) (describing activities beginning in the thirteenth century by several European countries in conjunction with the Catholic Church and the Church of England to lay claim to and occupy newly “discovered” parts of the non-Christian world using the international law doctrine of discovery).

97. BRINTON ET AL., *supra* note 93, at 528-29 (describing how trade injected wealth and fostered economic expansion in the sponsoring countries).

98. See, e.g., DAVID BRYN-JONES, *TOWARD A DEMOCRATIC NEW ORDER 237-42* (1945) (discussing the potential economic benefits in international cooperation for all nations, but especially for smaller, weaker nations). The United Nations Charter includes as a purpose “to reaffirm faith . . . in the equal rights . . . of nations large and small.” U.N. Charter Preamble.

99. U.N. Charter, *supra* note 98.

100. For example, the signatory nations agreed to settle their international disputes by peaceful means and to refrain from the threat or use of force against the territorial integrity or political independence of any other state. U.N. Charter art. 2, para. 1. Furthermore, the countries empowered the United Nations General Assembly and Security Council to “enforce” these agreements by hearing claims by countries against each other, mediating disputes, recommending solutions, and dispatching international peacekeeping troops. U.N. Charter arts. 33-36, 42-44.

101. United Nations, United Nations Member States, <http://www.un.org/members/growth.shtml> (last visited Mar. 21, 2008).

peace would require more than good intentions and cooperation and that fostering prosperity would also be important to that end. For that reason, the Charter itself declares the importance of pursuing higher standards of living, full employment, and conditions of economic and social progress and development with a view to creating the conditions of stability and well-being necessary for peace.¹⁰² At the same time, the nations also established other subsidiary institutions and agreements to help attain these economic goals, including the World Bank, the International Monetary Fund, and the General Agreement on Tariffs and Trade.¹⁰³

The World Bank was created in significant part to help countries with post-World War II reconstruction.¹⁰⁴ Today, the Bank's stated mission is to eradicate poverty and foster stability by promoting economic development.¹⁰⁵ Although the Bank is part of the United Nations, it is independently managed through its own governance structure. The member nations (currently numbering 185) own shares, and voting power is weighted according to shares owned.¹⁰⁶ The five largest shareholding nations—the United States, Japan, Germany, France, and the United Kingdom—thus exercise considerable control in the Bank's governance.¹⁰⁷ The President of the World Bank is selected by the Bank's Executive Directors; however, for over fifty years, it has been an unwritten "prerogative" for the United States to choose the president.¹⁰⁸

102. See U.N. Charter, *supra* note 98.

103. ARMAND VAN DORMAEL, BRETTON WOODS: BIRTH OF A MONETARY SYSTEM 2-3 (1978).

104. The World Bank, World Bank History, <http://www.worldbank.org/> (search "History"; then follow "Archives—World Bank History" hyperlink) (last visited Mar. 21 2008). The Bank's first loan was to France for \$250 million for rebuilding and recovery from World War II. *Id.*

105. *Id.* Reconstruction after conflicts and natural disasters is still part of this work as well. See *id.*

106. See The World Bank, Voting Powers, <http://www.worldbank.org/> (search "Voting Powers"; follow "Board of Executive Directors—Voting Powers" hyperlink) (last visited Mar. 21 2008).

107. See The World Bank, IRBD: Votes and Subscriptions, <http://www.worldbank.org/> (search "Votes and Subscriptions": follow "Boards of Executive Directors—IRBD: Votes and Subscriptions" hyperlink) (last visited Mar. 21, 2008). The United States controls 16.4 percent of total shares, Japan controls 7.9 percent, Germany 4.5 percent, and France and the U.K. each control 4.3 percent. *Id.* Since some decisions require an 80 percent supermajority vote, the U.S. share of over 16 percent operates as an effective veto. See The World Bank, Executive Directors, <http://www.worldbank.org/> (search "Boards of Executive Directors"; follow "Boards of Executive Directors—Executive Directors" hyperlink) (last visited Mar. 22, 2008).

108. All eleven presidents since the Bank's founding have been Americans. In mid-2007, Paul Wolfowitz was forced to resign as World Bank president as a result of a scandal concerning alleged improper intervention in salary increases for his "longtime companion" Shaha Riza, a Bank employee. Wolfowitz had also been criticized for "running the bank as an adjunct of the Bush administration," and some World Bank reformers demanded that "the end of Wolfowitz mark the beginning of a new selection procedure," thus threatening,

In recent years, the World Bank has disbursed between eighteen and twenty billion dollars a year in loans and grants, and there is no doubt that much of this investment has been tremendously valuable and helpful to poor countries.¹⁰⁹ However, the Bank has also drawn criticism on several fronts, notably that its imposition of Western economic agendas and Western recipes for development are not necessarily the best approach in many countries and in fact may cause harm without alleviating poverty, and that World Bank funds come with too many strings attached—such as insistence on privatization of services and other free market criteria—as a way of promoting “neoliberal” macroeconomic policy.¹¹⁰

The International Monetary Fund (IMF) is also under the United Nations umbrella but is separately governed by its member countries.¹¹¹ The IMF’s broad mandate includes promoting international monetary cooperation, assisting countries with lopsided balances of payment through debt restructuring and other programs, promoting global economic growth and international trade, stabilizing global markets and monetary exchanges, and preventing domestic financial crises from becoming international crises.¹¹²

Like the World Bank, the IMF has drawn sharp criticism from

at least temporarily, the customary American prerogative. Peter S. Goodman, *Ending Battle, Wolfowitz Resigns from World Bank*, WASH. POST, May 18, 2007, at A01. In the end, another American was named president. *Id.*

109. The World Bank, Projects & Lending, <http://web.worldbank.org/> (search “Projects & Lending”; follow “FAQs—Projects & Lending” hyperlink) (last visited Mar. 23, 2008).

110. See e.g., CATHERINE CAUFIELD, MASTERS OF ILLUSION: THE WORLD BANK AND THE POVERTY OF NATIONS 143-65 (1996) (criticizing the World Bank’s imposition of western economic agendas and systems on all borrowing nations regardless of their uniqueness); see also, e.g., PETER BOSSHARD ET AL., GAMBLING WITH PEOPLE’S LIVES: WHAT THE WORLD BANK’S NEW “HIGH-RISK/HIGH-REWARD” STRATEGY MEANS FOR THE POOR AND THE ENVIRONMENT 5, 24, 38 (2003), available at <http://www.foe.org/camps/intl/worldbank/gambling/Gambling.pdf> (criticizing the Bank for overriding democratic processes in borrowing countries and insisting on loan conditions that benefit the western private sector); Melissa A. Thomas, *Can the World Bank Enforce its Own Conditions?* 35 DEV. AND CHANGE 485, 485-97 (2004) (describing numerous policy-related loan conditions); David Hunter & Lori Udall, *The World Bank’s New Inspection Panel: Will It Increase the Bank’s Accountability?*, <http://www.ciel.org/Publications/issue1.html> (last visited Mar. 23, 2008) (assessing whether new processes will address the bank’s pervasive problems); Multinational Monitor, *In Defence of the Bank: An Interview with Armeane Choksi*, 16 MULTINATIONAL MONITOR (1994), http://multinationalmonitor.org/hyper/issues/1994/08/mm0894_11.html (noting that the Bank itself had commissioned some of the critical reports and describing the Bank’s planned response).

111. The IMF currently has 185 member countries. International Monetary Fund, *The IMF at a Glance*, <http://www.imf.org/external/np/exr/facts/glance.htm> (last visited Mar. 23, 2008) [hereinafter IMF, *Glance*]. Similar to the World Bank, the countries contribute the funding for the organization’s programs in varying amounts, and voting power is weighted according to contributions. International Monetary Fund, *IMF Members’ Quotas and Voting Power and IMF Board of Governors*, <http://www.imf.org/external/np/sec/memdir/members.htm> (last visited Mar. 23, 2008).

112. IMF, *Glance*, *supra* note 111.

scholars, economists, and social activists all across the political spectrum. For example, several years ago, Jeffrey Sachs, then the Director of the Harvard Institute for International Development, called for the Fund's overhaul and expressed alarm about the power of "this small secretive institution" to "dictate the economic conditions of life to 75 developing countries . . . constitut[ing] 57 per cent of the developing world outside China and India."¹¹³ Another observer noted that the United States government "muscles into the fund's turf" and influences its work behind the scenes when American strategic interests are involved, prompting politicians and businessmen around the world to claim that the IMF "acts as the United States Treasury's lap dog."¹¹⁴

Whether or not the reality of American influence on the World Bank and the IMF matches these perceptions, it is certainly true that these international institutions have played a significant role in extending and shaping today's global economy and that the developed countries who are integral to the institutions' governance wield considerable influence over the terms of other countries' economic development.

One more force that deserves mention in this regard is free trade. The beginnings of today's free trade regime were contemporary with the formation of the World Bank and the International Monetary Fund just after World War II, with the signing of the General Agreement on Tariffs and Trade (GATT) in 1947.¹¹⁵ GATT's original purpose was to foster open international trade by reducing tariffs on imports, removing import quotas and other restrictions, and eliminating other mechanisms of economic protectionism imposed by national governments.¹¹⁶ Opening international markets to the free flow of goods could help with postwar reconstruction as well as provide mutual economic benefits among nations to support ongoing friendly and peaceful relations.

More than fifty years after GATT was negotiated to break

113. Jeffrey D. Sachs, *Power unto Itself*, FIN. TIMES (London), Dec. 11, 1997, at 21; see also Jeffrey D. Sachs, *Bretton Woods: 50 Years on: IMF, Reform Thyself*, WALL ST. J., July 21, 1994, at A14. To its credit, the IMF has taken steps in recent years to address some of these criticisms. See Hoover Institution Public Policy Inquiry, IMF Surveillance (Mar. 1999), <http://www.imf.org/operations/surveil-1.html> (describing changes at the IMF, including attempts at increased transparency and improved monitoring of developing economic trends). According to the IMF itself, its Fall 2007 annual meeting will be addressing "further IMF reform." Jeremy Clift, Meetings to Focus on Growth, IMF Reforms (Oct. 12, 2007), <http://www.imf.org/external/pubs/ft/survey/so/2007/NEW1012A.htm>.

114. David E. Sanger, *As Economies Fail, the I.M.F. Is Rife with Recriminations*, N.Y. TIMES, Oct. 2, 1998, at A1.

115. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT].

116. See *id.*

down restrictive trade barriers, the concept of free trade has taken on a whole new meaning. New agreements executed primarily in the 1990s expanded the areas of coverage far beyond traditional trade issues of tariffs and quotas.¹¹⁷ The new agreements—such as the North American Free Trade Agreement (NAFTA), the Central American Free Trade Agreement (CAFTA), and several others—subject signatory countries to far-reaching economic obligations, including providing new international protections for intellectual property and investments, eliminating subsidies, following certain taxation and procurement policies, and pursuing deregulation and privatization.¹¹⁸

Critics say that these new generations of trade agreements have “very little to do with trade” and are “certainly not free.”¹¹⁹ In fact, the expanded trade agreements are viewed by many as simply one component of an organized agenda by multinational business and finance companies, with the assistance of politicians and economists, to “impos[e] a complex set of nontrade rules covering investment, property rights and domestic sovereignty that will profoundly limit the policy choices of those countries where the factories are built, the capital invested.”¹²⁰ Even some free market advocates became dismayed with how free trade has been “hijacked” for other purposes: a few years ago, two leading economists called the recent bilateral trade agreements a “sham,” with “the ultimate objective being the capture, reshaping and distortion of the WTO in the image of American lobbying interests.”¹²¹

Today’s free trade regimes have been blamed for many ills, including migration of jobs and businesses to countries with cheap

117. The WTO website collects the more than sixty trade agreements that were negotiated in the 1980s and 1990s and that created the regime we have today. World Trade Organization, Understanding the WTO: The Agreements, http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm1_e.htm (last visited Mar. 23, 2008).

118. *Id.* The World Trade Organization is empowered to enforce the new obligations by handling disputes arising under the agreements.

119. Video: Free Trade—The Price Paid (Part Two) (Marcus Morrell 2005), available at <http://www.globalissues.org/video/730/lorriwallach/pricepaid2>. Lori Wallach, the Director of Public Citizen’s Global Trade Watch, further labels these agreements a “Trojan horse” because the agreements contain entire packages of economic policies hidden inside “the good name of trade.” Video: Free Trade—The Price Paid (Part One) (Marcus Morrell 2005), available at <http://www.globalissues.org/video/729/lorriwallach/pricepaid1>. Senator Ernest Hollings from South Carolina once said, “free trade is like dry water. There is no such thing.” David E. Rosenbaum, *Free Trade Is Like Dry Water, Y’All*, N.Y. TIMES, Dec. 19, 2004.

120. William Greider, *The Real Cancún: WTO Heads Nowhere*, THE NATION, Sept. 22, 2003, at 11.

121. *Id.* (internal quotation marks omitted) (stating that multinational corporate interests have hijacked free trade); see also Arvind Panagariya & Jagdish N. Bhagwati, *Bilateral Trade Treaties Are a Sham*, FIN. TIMES (London), July 14, 2003, at 17 (describing the distortion of free trade principles by corporate lobbying interests).

labor and minimal regulation, overall downward pressure on wages, unsafe products, and harm to subsistence farmers in developing countries.¹²² Opponents also contend that the current free trade framework weakens governmental power and increases corporate power.¹²³

The dramatic opening of worldwide markets, accompanied by rapid technological change, has indeed altered the balance of global economic power. Recent advances in physical transportation enable a traveler or a product to reach almost any point on the globe within hours or days instead of months or years. Moreover, virtual travel is nearly instantaneous due to advances in communications technology. When people, products, and information can globe-trot, money, capital, and companies can do the same. Burgeoning transnational corporations are taking over the lead roles in the global economic drama, to some degree displacing both national governments and international institutions.¹²⁴ In fact, some of these corporations surpass the power, influence, and wealth of many national governments.¹²⁵

Thus, transportation and communication advances, international monetary and loan programs, free trade, and the rise of transnational corporations—in synergistic combination—have created a truly interconnected worldwide economy. Before getting

122. See, e.g., Anup Shah, Free Trade and Globalization: Criticisms of Current Forms of Free Trade, <http://www.globalissues.org/TradeRelated/FreeTrade/Criticisms.asp?p=1> (last visited Mar. 23, 2008); *Bill Moyers Journal: Bill Moyers Talks with Lori Wallach* (PBS television broadcast June 22, 2007), available at <http://www.pbs.org/moyers/journal/06292007/transcript1.html> [hereinafter *Bill Moyers*].

123. *Bill Moyers*, supra note 122; see also Greider, supra note 120, at 12; Sheshabala, supra note 92; sources cited, supra note 119.

124. The United Nations describes transnational corporations as enterprises comprising entities in more than one country which are linked, by ownership or otherwise, such that one or more of them can exercise a significant influence over the others. United Nations Conference on Trade and Development, Transnational Corporations (TNC), <http://www.unctad.org/templates/Page.asp?intItemID=3148&lang=1&frmSearchStr=multinational%20corporations&frmCategory=all§ion=whole> (last visited Mar. 23, 2008).

125. See SARAH ANDERSON & JOHN CAVANAGH, TOP 200: THE RISE OF GLOBAL POWER ii (2000). The Institute for Policy Studies, a non-profit entity, released a study in the year 2000 concluding as follows: Of the world's 100 largest economic entities, fifty-one were corporations and forty-nine were countries. *Id.* The combined sales of the world's top 200 corporations were bigger than the combined economies of all countries except for the biggest ten. *Id.* These top 200 companies accounted for over a quarter of economic activity on the globe while employing less than one percent of its workforce. *Id.* U.S. corporations dominated the top 200, with eighty-two slots (forty-one percent of the total), and Japanese firms were second, with forty-one slots. *Id.*; see also UNITED NATIONS CONFERENCE ON TRADE & DEV., WORLD INVESTMENT REPORT 2007: TRANSNATIONAL CORPORATIONS, EXTRACTIVE INDUSTRIES AND DEVELOPMENT 7 (2007), available at http://www.unctad.org/en/docs/wir2007overview_en.pdf (ranking the top twenty-five transnational corporations by value of foreign assets in 2005; General Electric ranks number one, and other U.S. companies on the list include General Motors, ExxonMobil, Ford, Chevron, Procter & Gamble, and ConocoPhillips).

back to the matter of water, it is important to assess the winners and losers in this current round of globalization.

B. The Rich Get Richer, the Poor Get Poorer

Economic globalization has the potential, at least in theory, to be a rising tide that floats all boats.¹²⁶ Free trade was supposed to level the competitive playing field and open new markets everywhere around the world to goods from everywhere else. National borders that are porous to international investment and transnational business could invite economic growth and employment into countries with insufficient local capital.

However, that does not seem to be happening. Instead, porous borders attract businesses and investors seeking the highest rates of return in the form of lowest operational costs, such as low wages and minimal governmental regulation, wherever they can find them.¹²⁷

The real winners in the new global economy are the transnational corporations. These corporations benefit from the economic liberalization imposed by the so-called free trade regimes of the past two decades. They also benefit from the conditions built into the programs of the World Bank designed to westernize the economies of developing nations to attract investors and businesses. Transnational corporations also benefit from the activities of the International Monetary Fund to promote a more seamless international currency system.

Thus, while the world shrinks, economic inequality grows.¹²⁸ The wealthiest 20 percent of the highest-income countries account for 86 percent of private consumption, while the poorest 20 percent accounts for 1.3 percent of the consumption.¹²⁹ These consumption patterns are not surprising, since the richest ten percent of the world's people are the beneficiaries of more than half of the total world income.¹³⁰ Looking at this lopsided distribution from yet another angle, "[e]ighty per cent of the world's gross domestic product belongs to the [one] billion people" who live in the developed world, while the five billion people who live in the developing world share

126. See generally CONG. BUDGET OFFICE, 108TH CONG., ECONOMIC AND BUDGET ISSUE BRIEF: THE PROS AND CONS OF PURSUING FREE-TRADE AGREEMENTS (2003) (describing the theoretical potential benefits of free trade).

127. See Shah, *supra* note 122; Sheshabalaya, *supra* note 92.

128. See DEPT OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at 5.

129. *Id.* at 85. Some 2.8 billion people live on the equivalent of less than \$2 a day in U.S. dollars. *Id.*

130. *Id.* at 44.

the remaining twenty percent.¹³¹

Household consumption rates have increased at an average annual rate of 2.3 percent in industrialized countries over the past twenty-five years, while in Africa, the rate has *decreased* by 20 percent during this same time period.¹³² Even within the countries experiencing an increase, the improved purchasing power is not distributed equitably.¹³³

The United Nations has concluded that the socioeconomic situation in the world today is characterized by “rampant inequality” because globalization’s material benefits have largely accrued to the wealthy strata in the industrialized countries and to a “new elite” in the developing countries.¹³⁴ In other words, the rich get richer, and the poor get poorer.

C. *The Perils of Global Inequity: Mind the Gap*

Many people may be moved to action simply by the inherent unfairness of the widening gap between the world’s rich and poor countries and people. For instance, the United Nations calls the growing inequality a case of “pervasive social injustice.”¹³⁵ However, if not for humanitarian reasons, the world’s well-off countries (particularly the United States) should be very concerned about the consequences of such pervasive and increasing inequities from a self-interested perspective; it is important to “mind the gap” for a number of reasons.¹³⁶

First, instantaneous global communication means that the gap is no secret. The new transparency brings the haves and have-

131. *Id.* at 1. But even these lopsided statistics do not tell the whole story. See Ronald Bailey, *The Secrets of Intangible Wealth*, WALL ST. J., Sept. 29, 2007, at A9 (describing the findings of a World Bank Study that in addition to tangible wealth differences, a resident of the U.S. enjoys intangible wealth of \$418,000 produced by factors such as clear property rights, an effective judiciary, etc., while per capita intangible wealth in Mexico is only \$34,500).

132. DEP’T OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at 85.

133. From the 1950s through the 1970s, inequality within many countries seemed to be decreasing, but since the 1980s, that trend has stalled or reversed. *Id.* at 47. This trend of worsening internal inequality is true even within many large industrialized countries. *Id.* at 48.

134. *Id.* at 27, 85.

135. *Id.* at 10. See also Sheshabalaya, *supra* note 92 (calling it “a moral imperative” that China and India, containing about forty percent of the world’s population, should also “have somewhere close to a similar share of its income” and thus noting with approval the recent growth of those two countries’ economies as “a return towards global equity”); Branko Milanovic, *Global Inequality: What It Is and Why It Matters?* (Dep’t of Econ. & Social Affairs, Working Paper No. 26, 2006), available at http://www.un.org/esa/desa/papers/2006/wp26_2006.pdf (citing several proponents of the view that global inequality is an ethical issue).

136. See Milanovic, *supra* note 135, at 13-14 (discussing pragmatic reasons why global inequality may matter).

nots together face-to-face, at least virtually. Even the world's poorest and most destitute people have instant access to information about the rest of the world. For example, a Maasai tribesman in Africa, who lives on just over a gallon of water a day, can stop by a village school and view a Dasani advertisement on a computer screen.¹³⁷ For most people, such exposure to the material comforts and conspicuous consumption of the world's wealthy residents undoubtedly increases the desire, if not the means, to be part of that world.¹³⁸ Globalization means that instead of using a "national yardstick" to compare one's income or well-being with that of others, people are now able to make international and global comparisons.¹³⁹ The greater a person's sense of "relative deprivation" (how much less well-off that person feels compared to others), the greater the potential for social tension and even violent conflict.¹⁴⁰ Just as shared prosperity is a premise for peace, the opposite is also true. Vast economic inequity is a premise for conflict.

When entire populations feel that they have not been invited to the prosperity party, the consequences could be serious for the well-to-do. The United States, as the most "conspicuous consumer" of all, is a particular target of criticism.¹⁴¹ In a 2005 survey, several groups of American opinion leaders identified America's wealth, power, and materialism as a major reason for discontent with the U.S. around the world.¹⁴²

Moreover, the depth of discontent is considerable. The Pew Research Center for the People and the Press has conducted extensive international surveys for the past five years to assess America's reputation and image throughout the world.¹⁴³ The surveys

137. See Maasai Education Discovery, Images & Media, <http://www.maasaieducation.org/imagesmedia/Images.htm> (last visited Mar. 23, 2008) (showing pictures of Massai tribespeople accessing the internet). Maasai Education Discovery is a nonprofit entity that builds schools for the Maasai Tribe in eastern Africa. Maasai Education Discovery, Overview, <http://www.maasaieducation.org/about/what-is-med.htm> (last visited Mar. 23, 2008).

138. DEP'T OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at 87 ("[A]s developing countries move forward, many of the resident poor will aspire to the lifestyles of the more affluent in developed countries.")

139. Milanovic, *supra* note 135, at 13.

140. DEP'T OF ECON. & SOCIAL AFFAIRS, *supra* note 9, at 91 (describing the negative consequences of the pressure to consume material goods, including pushing youth in areas with few other prospects toward violent crime and the drug trade); see also Milanovic, *supra* note 135, at 13 (discussing "the tension created by the observation of . . . much greater wealth").

141. Cf. THORSTEIN VEBLIN, *THE THEORY OF THE LEISURE CLASS* 68 (New ed. 1912) (coining the term "conspicuous consumption" to describe the phenomenon of displaying wealth with material goods and other consumption and the emulation of the consumption patterns of wealthier people by those less wealthy).

142. PEW RESEARCH CTR. FOR THE PEOPLE & THE PRESS, *AMERICA'S PLACE IN THE WORLD 2005: OPINION LEADERS TURN CAUTIOUS, PUBLIC LOOKS HOMEWARD* 6 (2005).

143. Andrew Kohut, President of the Pew Research Center, *Global Attitudes: Challenges for the Next Administration?* (Sept. 17, 2007) (transcript available at

found that between 2002 and 2003, “the image of the United States had plummeted all around the world.”¹⁴⁴ The 2007 survey found the approval ratings of the U.S. down in twenty-five out of thirty-three countries—“in some places they were very, very, very far down.”¹⁴⁵ For instance, in Germany only 30 percent of those surveyed viewed the United States favorably, compared to 78 percent in 2002; in Spain, the favorability rating was only 20 percent in the most recent survey; and in Turkey, the rating had dropped from 55 to 9 percent over five years.¹⁴⁶

Of course, America’s high standard of material wealth is not solely responsible for the nosedive in our international reputation. Rather, American foreign policy positions, most pointedly the invasion of Iraq, have affected our image directly, fueling the criticism that we have become less of a leader—or even a team player—and more of an isolated bully.¹⁴⁷ Lacking the support of the United Nations, the U.S. justified the invasion of Iraq with a creative but questionable interpretation of the international law principle of “preemptive self-defense,” which claimed that Iraq posed a potential threat to American security and that its invasion was part of the War on Terror.¹⁴⁸

But many people around the world (as well as inside the U.S.) have come to believe that the Iraq war—and America’s foreign policy in general—is driven by the demands of our country’s levels of material consumption rather than by legitimate national defense concerns or even a genuine desire to export democracy.¹⁴⁹ From

http://www.cfr.org/publication/14286/global_attitudes.html (reporting the survey results in a speech to the Council on Foreign Relations).

144. *Id.*

145. *Id.*

146. *Id.*

147. *See, e.g.*, PEW RESEARCH CTR. FOR THE PEOPLE & THE PRESS, *ERODING RESPECT FOR AMERICA SEEN AS MAJOR PROBLEM: FOREIGN POLICY ATTITUDES NOW DRIVEN BY 9/11 AND IRAQ* (2004) [hereinafter PEW, IRAQ]; *see also* Daniel W. Drezner, Assoc. Professor of Int’l Politics, Fletcher Sch. of Law & Diplomacy, *The New New World Order* (Feb. 26, 2007) (transcript available at http://www.cfr.org/publication/12719/the_new_new_world_order.html?breadcrumb=%2Fi) (speech to the Council on Foreign Relations discussing the view of the Bush Administration’s foreign policy as “a belligerent, unilateralist foreign policy course of action” and the perception it generates that the U.S. is “doing things for the wrong reasons”).

148. *See, e.g.*, Anthony Dworkin, Crimes of War Project, Iraq and the “Bush Doctrine” of Pre-Emptive Self-Defence (Aug. 20, 2002), <http://www.crimesofwar.org/print/expert/bush-introBush-print.html> (summarizing a discussion of several international law experts about the limited applicability of the doctrine as justification for attacking another country).

149. In January 2006, Secretary of State Condoleezza Rice announced a “global repositioning” plan for the State Department labeled “Transformational Diplomacy.” *See* U.S. Department of State, Transformational Diplomacy (Jan. 18, 2006), <http://www.state.gov/r/pa/prs/ps/2006/59339.htm>. Although the announcement discussed “freedom for all people” and self-determination as policy goals, the plan also suggested close cooperation between the State Department and the military to promote national security interests.

the Gulf War in the early 1990s to the invasion of Iraq in 2003, a chorus of critics has accused the U.S. of dressing up a sow's ear—the desire to keep oil flowing from the Middle East—in a silk purse of rhetoric about the war on terror and spreading freedom around the world.¹⁵⁰ In fact, the critics can find support for this position within the U.S. government itself.¹⁵¹ In that way, resentment of American material wealth and disproportionate resource use has become closely entangled with world reaction to our conduct of foreign affairs, together darkening the tarnish on our international image.

Furthermore, the Afghanistan and Iraq invasions were not the first instances of tough talk and going-it-alone. For several years, the United States has thumbed its nose at the United Nations: threatening to withdraw from the U.N. completely;¹⁵² withholding dues;¹⁵³ withdrawing from a subsidiary body, the United Nations Educational, Scientific, and Cultural Organization (UNESCO);¹⁵⁴

150. See *supra* text accompanying notes 142-147.

151. For example, in a press conference, Ari Fleischer, then-White House Press Secretary, answered a question about American energy use as follows: Question: "Does the President believe that, given the amount of energy Americans consume per capita, how much it exceeds any other citizen in any other country in the world, does the President believe we need to correct our lifestyles to address the energy problem?" Answer: "That's a big no. The President believes that it's an American way of life, and that it should be the goal of policy makers to protect the American way of life. The American way of life is a blessed one." Mr. Fleischer went on to say "[T]he President also believes that the American people's use of energy is a reflection of the strength of our economy, of the way of life that the American people have come to enjoy. And he wants to make certain that a national energy policy is comprehensive, that includes conservation, includes a way of allowing the American people to continue to enjoy the way of life that has made the United States such a leading nation in the world." The White House, Press Briefing by Ari Fleischer (May 7, 2001), <http://www.whitehouse.gov/news/briefings/20010507.html>; see also Donald H. Rumsfeld, Sec'y of State, *New Realities in the Media Age: A Conversation with Donald Rumsfeld* (Feb. 17, 2006) (transcript available at http://www.cfr.org/publication/9900/new_realities_in_the_media_age.html) ("[T]he enemy is determined to prevent that country [referring to Iraq] from having a representative government. For them to be able to control that real estate with that oil and that water and that history and use it as a haven for terrorists, to establish a caliphate, which is what their announced interest and goal is in that country, and use it as a base would put in jeopardy all the neighborhood and much of the world.")

152. See, e.g., United Nations Withdrawal Act of 1995, H.R. 2535, 104th Cong. (1995); American Sovereignty Restoration Act of 1997, H.R. 1146, 105th Cong. (1997). As recently as April 2003, Republican presidential candidate Ron Paul, a Congressman from Texas, pushed to bring a withdrawal bill directly to the floor of the House, bypassing committee hearings. Cheryl K. Chumley, *The New World Disorder: New Push to 'Get U.S. out of U.N.'* (April 24, 2003), <http://www.worldnetdaily.com/index.php?fa=PAGE.printable&pageId=18453>.

153. See Paul Lewis, *U.S. and U.N.: Stating Case for Big Role*, N.Y. TIMES, July 28, 1988, at A7 (describing withholding of U.N. dues during the Reagan administration); Elaine Sciolino, *Walters Is Uneasy About U.S. Cutbacks at U.N.*, N.Y. TIMES, Feb. 1, 1987, at A8 (same).

154. See Lewis, *supra* note 153 (describing how "the Reagan Administration has shaken up the United Nations system, withdrawing from Unesco . . . and rejecting the World Court's jurisdiction" and withholding dues).

and sending an ambassador to the U.N. who was openly critical of the organization.¹⁵⁵ The U.S. has also refused to sign a number of significant international treaties, further isolating itself from the world community.¹⁵⁶

Ironically, the same transnational corporations who are the main beneficiaries of globalization benefit from the current political situation as well.¹⁵⁷ In other words, even though the image of the United States is in tatters around the world, some of our own corporate citizens continue to thrive and prosper in spite of—and indeed because of—the damage.

By 2006, America's critics felt sufficiently emboldened for President Hugo Chavez of Venezuela to deliver a speech to the full United Nations General Assembly in which he called President Bush "the devil" to applause from many in the audience.¹⁵⁸ I do not mean to credit Chavez's statements, but the fact that his

155. See Elizabeth Bumiller & Sheryl Gay Stolberg, *President Sends Bolton to U.N.; Bypasses Senate*, N.Y. TIMES, Aug. 2, 2005, at A1. In August 2005, President Bush appointed an outspoken critic of the United Nations, John Bolton, as our UN Ambassador. *Id.* Bolton was a controversial appointment, not only because of his opinions, but also because of his reputation as someone lacking diplomatic skills; indeed, the president used a recess appointment to name Bolton, thus avoiding a Senate confirmation hearing. *Id.*

156. Barbara Crossette, *Washington Is Criticized for Growing Reluctance to Sign Treaties*, N.Y. TIMES, Apr. 4, 2002, at A5.

157. See, e.g., BBC News, Profile: Blackwater USA (Oct. 8, 2007), <http://news.bbc.co.uk/1/hi/americas/7000645.stm> (describing the lucrative work done in Iraq by Blackwater and reporting that government contracts make up ninety percent of Blackwater's revenues); CNN.com, Halliburton Iraq Contract Expands (May 7, 2003), <http://edition.cnn.com/2003/BUSINESS/05/07/sprj.nitop.haliburton> (describing Halliburton, a company formerly headed by Vice President Dick Cheney which was awarded a contract open-ended in time limit and dollar amount); see also U.S. GOV'T ACCOUNTABILITY OFFICE, REBUILDING IRAQ: STATUS OF COMPETITION FOR IRAQ RECONSTRUCTION CONTRACTS 18-20 (2006), available at <http://www.gao.gov/new.items/d0740.pdf> (listing numerous multinational companies receiving multimillion dollar contracts for work in Iraq, including Raytheon Systems Development Company, Daimler Chrysler AG, Dyncorp International LLC, and Blackwater Security Consultants, Inc.).

158.

Yesterday, the devil came here. . . . And it smells of sulfur still today . . .
 . [T]he president of the United States, the gentleman to whom I refer as
 the devil, came here, talking as if he owned the world. . . . [H]e came . . .
 to try to preserve the current pattern of domination, exploitation and pil-
 lage of the peoples of the world.

President Hugo Chavez, Remarks at the U.N. General Assembly (Sept. 20, 2006) (transcript available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/09/20/AR2006092000893.html>). CNN further reported that Chavez said after the speech, "The United States empire is on the way down and it will be finished in the near future, for the good of all mankind . . ." that "the U.S. government was the 'first enemy' of its people," and "that Bush is not a legitimate president because he 'stole the elections' . . . [and] 'is therefore a dictator.'" CNN.com, Chavez: Bush 'Devil'; U.S. 'on the way down', <http://www.cnn.com/2006/WORLD/americas/09/20/chavez.un/index.html> (last visited Mar. 24, 2008). A year before, Chavez made anti-American comments at a United Nations meeting, receiving "plaudits from Third World envoys" and "the loudest burst of applause for a world leader." Colum Lynch, *Chavez Stirs Things up at the U.N.: Venezuelan Leader Wins Cheers with Rant Against U.S.*, WASH. POST, Sept. 17, 2005, at A14.

speech was received favorably by many of the delegates should give pause.¹⁵⁹ And, of course, his comments were instantly flashed around the world.

There we have it: the world has changed dramatically in the past fifty years. Whether the changes have been for better or worse depends on who you are, where you live, and where your country ranks in the new global pecking order. The United States and other developed countries need to mind the gap and its political repercussions and adjust to the new world order in a constructive rather than destructive way. In particular, at this moment in history, the U.S. would be wise to think of tangible, proactive ways to repair the damage to its international relations.

D. What's Water Got to Do with It?

Although I warned of a detour at the beginning of Part III, alert readers may still be skeptical about whether the detour really leads to the intended destination. An Article which began with a review of world water problems has meandered through discussions of globalization, the internet, free trade, the United Nations, U.S. foreign policy, and the President of Venezuela, only to end up in the swamp of the Iraq war. What does water have to do with all that? As discussed earlier, water (or the lack thereof) is a critical foundational element of the global inequity in health and wealth. Addressing the world's water woes is a key first step required to address those inequities. Water is therefore both part of the problem and part of the solution.

In chemistry, water is known as the "universal solvent" because of its capacity to dissolve more substances than any other liquid.¹⁶⁰ Water is also unique for its chemical neutrality; it has a neutral pH, being neither an acid nor a base.¹⁶¹ Finally, water puts out fires both literally and figuratively; "fight fire with water" is an alternative problem-solving approach to "fight fire with fire."¹⁶² At the risk of stretching yet more water metaphors to the breaking point, I suggest that perhaps water can also serve as a

159. Compare Niall Ferguson, *The New Demagogues*, WASH. POST, Dec. 3, 2006, at B1 (including Chavez in a group of contemporary world leaders similar in their inflammatory rhetoric and indefensible positions to Adolf Hitler), with Glenn Kessler, *Anger at U.S. Policies More Strident at U.N.*, WASH. POST, Sept. 24, 2006, at A23.

160. United States Geological Survey, Water Properties, <http://ga.water.usgs.gov/edu/waterproperties.html> (last visited Mar. 24, 2008).

161. *Id.* ("Pure water has a neutral pH of 7, which is neither acidic nor basic.")

162. Posting of Damion to Zen of Design, <http://www.zenofdesign.com/?p=192> (Jan. 15, 2005, 22:31 EST) (attributing the quote to the Marketing Guru, Howard Gossage).

universal solvent, a neutral substance, and a fire extinguisher in the political world. The next Part explores these possibilities.

IV. A WATER AGENDA

What follows are a few preliminary suggestions for bringing world water problems to the front and center of American policy. My goal is to illustrate that a basic and straightforward commitment to a program of “water aid” by the United States would go a long way toward addressing the world’s water woes, while also being good American foreign policy. The proposals use water as a figurative solvent to dissolve some of the most egregious global inequities in health and welfare, as a neutral centerpiece of America’s foreign policy, and as a form of foreign aid that can douse rather than fan the flames of anti-American sentiment.

A. Make Water Aid a Key Component of U.S. Foreign Aid

1. Reprise: Just Add Water

A recent study prepared for the University of Copenhagen’s Institute of Economics examined global foreign aid trends during the nineteenth and twentieth centuries, including changes in the amount of aid, composition, purposes, and quality.¹⁶³ The study reached some interesting conclusions that are pertinent to this discussion. The researchers found that the total volume of foreign aid began decreasing in the early 1990s, reversing the historically upward trend; in particular, food aid has decreased over recent decades, though hunger is still widespread.¹⁶⁴ The decrease is in spite of a United Nations resolution adopted more than thirty-five years ago committing the developed countries to commit 0.7 percent of their gross national product to official development assistance for the developing countries.¹⁶⁵ Furthermore, this shrinking pot of aid increasingly has been filled with contributions from private donors rather than from governments.¹⁶⁶ The study also concluded that, while concern for the development needs of the recipients determined the allocation and quality of aid for some donors, commer-

163. PETER HJERTHOLM & HOWARD WHITE, SURVEY OF FOREIGN AID: HISTORY, TRENDS AND ALLOCATION (2000).

164. *Id.* at 2-3.

165. See Anup Shah, Sustainable Development: US and Foreign Aid Assistance, <http://www.globalissues.org/TradeRelated/Debt/USAid.asp?p=1> (last visited Mar. 26, 2008) (discussing G.A. Res. 2626 (XXV), ¶ 42, U.N. Doc. A/8124 (Oct. 24, 1970) and noting the U.S. and others’ continuous failure to meet this target ever since).

166. *Id.*; see also HJERTHOLM & WHITE, *supra* note 163, at 19-23.

cial and foreign policy goals instead have shaped the aid of many larger donors.¹⁶⁷

Significantly, the United States consistently appears at the very bottom of nearly every “quality” ranking of foreign aid in the Copenhagen study. These rankings include the ratio of aid to donor gross national product;¹⁶⁸ the amount of “untied” aid;¹⁶⁹ and the degree to which recipient needs (such as the degree of poverty) rather than donor interests (such as security goals) determine the allocation of aid dollars.¹⁷⁰

Since that study was completed, the United States has actually increased its foreign aid budget.¹⁷¹ Furthermore, in early 2006, Secretary of State Condoleezza Rice announced a complete restructuring of foreign aid as part of a larger new State Department initiative christened “transformational diplomacy.”¹⁷² However, even with this recent reorganization and bump in funding, the U.S. has a long way to go to improve the quality and effectiveness of its foreign aid, especially concerning the humanitarian impact of American aid programs.

Critics of the State Department’s new effort say that it still concentrates way too much of the foreign aid budget on military aid and on a short list of countries that are considered strategic allies for the United States, regardless of the real needs for assistance around the world.¹⁷³ Although fifty-one percent of the total

167. HJERTHOLM & WHITE, *supra* note 163, at 2. Recipient needs and donor goals are not necessarily in contradiction, as the authors point out. *Id.* Nor should we expect donor countries to spend *against* their interests. *Id.*

168. *Id.* at 23-25. The Scandinavian countries rank at the top in terms of percentage giving. *Id.* at 23-24. Indeed, the authors state that based on their decreasing percentage amounts of aid, the United States (and Italy) “appear to be disengaging from the aid business altogether.” *Id.* at 24. They further note that “[t]his possibility was indeed actively discussed in the US but rejected,” but they do not offer any documentation for that statement. *Id.* at 24 n.18. “Disengagement” seems a rather strong word, since the U.S. is at the top in terms of absolute dollars, even though it is low by percentage of GDP.

169. *Id.* at 32-37. Aid is “tied” when it comes with numerous strings attached, such as requirements to purchase aid-financed goods from the donor country, often at premium price mark-ups, thus hampering rather than helping the true economic development of the recipient country. *Id.* Aid has also been increasingly conditioned on the recipient country’s alteration of its economic policies to more closely mirror the western economies. *Id.*

170. *Id.* at 40-43.

171. U.S. DEPT. OF STATE, SUMMARY AND HIGHLIGHTS: INTERNATIONAL AFFAIRS FUNCTION 150 FISCAL YEAR 2008 BUDGET REQUEST 1-3 (showing increase from about \$31.4 billion in 2006 to \$36.2 billion for 2008).

172. See U.S. Department of State, *supra* note 149 (describing “global repositioning” of diplomats and redeployment of funds).

173. See Robert McMahon, Council on Foreign Relations, Transforming U.S. Foreign Aid (May 3, 2007), http://www.cfr.org/publication/13248/transforming_us_foreign_aid.html?breadcrumb=2. As an example, Israel and Egypt have been the largest single country recipients of American aid for several decades. In the 2008 proposed budget, they were joined in the top five by Afghanistan, Iraq, and Pakistan. SAMUEL BAZZI ET AL., CTR. FOR GLOBAL DEV., BILLIONS FOR WAR, PENNIES FOR THE POOR: MOVING THE PRESIDENT’S FY2008

proposed budget for 2008 was designated for reconstruction and humanitarian aid, the fact that this spending is primarily targeted at Afghanistan and Iraq lends a certain irony to that commitment, since U.S. actions have contributed to those countries' needs for aid.¹⁷⁴ Another criticism is that the restructuring, though with the laudable intent of better coordinating various aid programs, inappropriately subordinates humanitarian aid programs to the State Department's diplomatic and military goals.¹⁷⁵ The fact that the new program was a key component of President Bush's National Security Strategy underscores this concern.¹⁷⁶

The State Department's transformational diplomacy initiative may indeed represent an improvement over recent U.S. foreign aid spending in that the aid programs will be better coordinated and strategically aligned with other policy objectives. However, even a cursory review of the plan and the budget requested to support it reveals several critical omissions pertinent to addressing the most acute human needs around the world, especially water-related needs.

First, though the overall proposed aid budget was increased, the increases in some areas were partially offset by decreases in others, notably those programs related to fighting poverty and improving children's health.¹⁷⁷ One review declared the traditional poverty-alleviation programs the "big losers" in the new plan, with the lion's share of foreign aid going to only ten countries consid-

BUDGET FROM HARD POWER TO SMART POWER 15 (2007).

174. See BAZZI ET AL., *supra* note 173, at 7; Shah, *supra* note 165.

175. See LARRY NOWELS & CONNIE VEILLETTE, CRS REPORT FOR CONGRESS: RESTRUCTURING U.S. FOREIGN AID: THE ROLE OF THE DIRECTOR OF FOREIGN ASSISTANCE 11 (2006); Shah, *supra* note 165, at 29-30. Secretary Rice and others tried to assuage these concerns by stressing that the Director of USAID would continue to enjoy considerable independence even while being elevated to Deputy Secretary of State. Independent or not, the new position got off to a rough start when the first director, Randall Tobias, was forced to resign after being linked to a prostitution service in Washington, D.C. Robert McMahon, Council on Foreign Relations, Foreign Aid Angst (May 3, 2007), http://www.cfr.org/publication/13259/foreign_aid_angst.html?breadcrumb=%2Fissue%2F (also noting the irony that one of the programs in Tobias's portfolio concerned policy against prostitution and sex trafficking). This embarrassment occurred at the same time as Paul Wolfowitz's troubles at the World Bank. *Id.*

176. THE WHITE HOUSE, THE NATIONAL SECURITY STRATEGY OF THE UNITED STATES OF AMERICA 44 (2006) (describing the State Department/USAID realignment to ensure that foreign aid is used to meet foreign policy objectives).

177. BAZZI ET AL., *supra* note 173, at 5. The initial version of the restructured aid plan apparently did not even include the word "poverty," and it was only after that omission was criticized that explicit mention of poverty was added. Randall L. Tobias, Director of U.S. Foreign Assistance and USAID Administrator, A Strategic Approach to Addressing Poverty and Global Challenges: We Are in This Together, Address at the Center for Strategic and International Studies (Feb. 5, 2007) (transcript available at <http://www.state.gov/f/releases/remarks2007/80083.htm>) ("I am grateful to those who communicated to me or to my staff that the transformational diplomacy goal needed to explicitly include the word 'poverty.' I hope our decision to include poverty is an indication to you that we are listening . . .").

ered important to the “global wars” against both terrorism and drugs.¹⁷⁸

Harking back to the earlier discussion in Part II above, I propose a universal, neutral, and soothing fix for the misallocations in the foreign aid budget: just add water. Although this suggestion may at first sound terribly naïve, the following discussion attempts to show otherwise.

2. *Water: The Universal Solvent*

Providing clean water and adequate sanitation to the nearly 2.5 billion people in the world who do not have these basic necessities of life ought to be a key component of American foreign aid policy. Why? First, because it is the right thing to do—water and sanitation are universal human needs, and thousands of children die everyday because these needs go unmet. The moral obligation to help is just as compelling as offering assistance after an earthquake or a tsunami, which the American public and even the American government have been willing to do.¹⁷⁹ The beauty of committing to a universal goal of providing safe drinking water and adequate sanitation is that it would address not just an acute crisis, but a chronic one.

In fact, the United Nations and many individual countries have already committed to this universal goal as part of the Millennium Development Goals (MDGs).¹⁸⁰ The MDGs include a water and sanitation target of reducing by half the number of people in the

178. BAZZI ET AL., *supra* note 173, at 3-10 (describing decreases of 31 percent and 7 percent in the Development Assistance and Child Survival and Health Accounts on an already low base of only 10 percent of total U.S. assistance, compared to the increases in military and defense-related spending and other strategic aid and declaring the proposed foreign aid budget “mainly a new and improved bookkeeping exercise”). The one notable exception to the decrease in health-related spending is an increased budget for HIV/AIDS programs, primarily in Africa. *Id.* at 6.

179. The White House points to these examples of post-disaster assistance as recent high points of America’s humanitarian aid. See U.S. DEPT. OF STATE, *supra* note 171, at 28; see also Shah, *supra* note 165 (noting bumps in aid for tsunami relief and other emergencies).

180. United Nations, UN Millennium Development Goals, <http://www.un.org/millenniumgoals/> (last visited Mar. 26, 2008). The MDGs consist of eight broad goals supported by more specific numerical benchmarks:

- (1) Eradicate extreme poverty and hunger
- (2) Achieve universal primary education
- (3) Promote gender equality and empower women
- (4) Reduce child mortality
- (5) Improve maternal health
- (6) Combat HIV/AIDS, malaria, and other diseases
- (7) Ensure environmental sustainability
- (8) Develop a global partnership for development

Id.

world without safe drinking water and basic sanitation by 2015.¹⁸¹ Although the United States originally signed on to the eight broad goals, the U.S. later objected to the U.N. Secretariat's translation of the goals into specific numerical targets.¹⁸² The U.S. thus put itself in the position of appearing to oppose the goals.¹⁸³ Instead, the U.S. ought to take a very public stance supporting specific components of the MDGs, particularly those that relate to children's health and welfare. Support of clean water for children is politically unassailable, whereas an official—or even perceived—position of non-support is indefensible. Furthermore, once having declared that support, the U.S. should put its money where its mouth is.

The United States currently contributes less than 0.2 percent of gross national income to all foreign aid; only a small—and diminishing—fraction of that is humanitarian aid of all kinds.¹⁸⁴ Calculated on a per capita basis, American governmental aid amounts to only thirteen cents per capita per day; private giving by Americans adds another five cents per person per day.¹⁸⁵ An increase of just pennies a day in the U.S. foreign aid budget, if this increase were targeted directly toward water aid, could have a tremendous global impact. The expenditures necessary for safe drinking water and improved sanitation are well within these ranges. After all, economist Jeffrey Sachs believes that his Millennium Villages Project can go so far as to eliminate extreme poverty in Africa by spending just \$110 per person per year for five years (equivalent to thirty cents per day per person).¹⁸⁶ Water is

181. WORLD HEALTH ORG. & UNICEF, MEETING THE MDG DRINKING WATER AND SANITATION TARGET: A MID-TERM ASSESSMENT OF PROGRESS 5 (2004), available at http://www.who.int/water_sanitation_health/monitoring/jmp2004/en/.

182. See Warren Hoge, *Bolton Makes His Case at U.N. for a New Focus for Aid Projects*, N.Y. TIMES, Sept. 1, 2005, at A4 (describing Ambassador Bolton's objection to codification of the millennium development goals into numerical targets and timetables).

183. *Id.* (quoting Jeffrey D. Sachs as saying "The United States came in a few days ago essentially to try to gut this document. Their purpose is clear: to try to eliminate the momentum behind the millennium development goals and to wriggle free of the commitments they have made.")

184. See Shah, *supra* note 165, at 11 (reporting data from OECD for 2003 to 2006).

185. David Roodman et al., Center for Global Development, U.S. Aid, Global Poverty, and the Earthquake/Tsunami Death Toll, Center for Global Development (Dec. 29, 2004), <http://www.cgdev.org/content/opinion/detail/2960/>. This compares to \$1.02 per person per day given by the Norwegian government and twenty-four cents per day in Norwegian private giving. *Id.*

186. See Munk, *supra* note 10; Millennium Promise, Millennium Villages: An Affordable Solution, http://www.millenniumpromise.org/site/PageServer?pagename=mv_unlock (last visited Mar. 26, 2008) [hereinafter Millennium Promise, Affordable Solution]. It is worth noting that the Millennium Promise organization, of which the Millennium Villages Project is the "flagship initiative," has embraced the Millennium Development Goals, regardless of the official U.S. government position. The project's mission "is to achieve the Millennium Development Goals . . . in Africa by 2015." Millennium Promise, Who We Are,

only one of the Project's eight different areas of work, accounting for just \$13 of the total (less than four cents a day per person).¹⁸⁷ The Millennium Villages Project cost figures are consistent with other estimates that predict that water aid would prove to be both a bargain and a wise investment. Although different groups have prepared a range of estimates for the cost of providing water and sanitation worldwide, the average of this range amounts to only about 6.7 billion dollars (US dollars) annually over a 15-year period in order to meet the MDG water and sanitation goal.¹⁸⁸ On a per capita basis, these amounts work out to less than \$10 per person in many countries.¹⁸⁹ Such relatively modest investments can provide huge payoffs. The World Health Organization estimated benefits amounting to a seven-fold return on costs for meeting the MDG targets on water and sanitation.¹⁹⁰ The benefits include disease reduction, time savings, increased school attendance, and gains in working days, all contributing to significant overall improvements in health, well-being, and economic productivity.¹⁹¹

Water and sanitation investments have such high payoff because it is possible to get significant bang for the buck from quite simple, relatively low-tech improvements. The billions of people without safe drinking water and adequate sanitation do not necessarily need trillion-dollar water supply systems and first-world indoor plumbing to see significant improvement in health and welfare. The developed world has constructed centralized water systems that supply water directly to the homes of hundreds, thousands, and even millions of people. This water is clean enough to drink, but we also use it to flush toilets, water lawns, and wash cars. However, this level of water development is not required to obtain the tremendous benefits described above. As one observer said, "[a]ccess to clean water doesn't mean an unlimited supply flowing from a shiny chrome tap."¹⁹² Instead, simple drinking wa-

<http://www.millenniumpromise.org/site/PageServer?pagename=about> (last visited Mar. 26, 2008).

187. See Millennium Promise, *Affordable Solution*, *supra* note 186; see also Millennium Promise, *Millennium Villages: Bundling Critical Interventions*, http://www.millenniumpromise.org/site/PageServer?pagename=mv_interventions (last visited Mar. 26, 2008).

188. Sanctuary, *et al*, *supra* note 10, at 27.

189. *Id.* at 27-29 (noting approximate per capita costs of \$7 for Ghana, \$8 in Cambodia, and \$5 in Bangladesh.)

190. *Id.* at 31-35.

191. *Id.* at 33-35. Taking just one of these improvements, WHO estimates that school attendance would increase by "a staggering 270 million days" if the MDG targets were met. *Id.* at 33.

192. Jennifer McNulty, *Thinking Small Could Quench Third World's Thirst for Reliable, Clean Water, Prof Says*, UC SANTA CRUZ CURRENTS ONLINE, May 3, 2004, <http://currents.ucsc.edu/03-04/05-03/water.html> (quoting Environmental Studies professor Brent Haddad). Bring McNulty citation forward from FN 192 (quoting Environmental Studies

ter technologies can produce big returns in developing countries. Such technologies include hand-dug wells, tubewells, simple pumps (some powered by children playing on a playground-style “merry-go-round”), rainwater harvesting, solar disinfection, ceramic filters, household chlorination, and inexpensive water filtration devices like those used by campers.¹⁹³ Improved sanitation can also be achieved with very simple steps, including pit latrines (especially if they are enclosed and ventilated) and hygiene education since anything that “effectively separates human waste from . . . water sources” helps.¹⁹⁴

If the American people were asked directly if Congress should appropriate “water aid” in an amount equivalent to a few cents a day for each U.S. citizen to help save the lives of hundreds of thousands of children a year, I suspect that a large number would say yes.¹⁹⁵ Indeed, many might even be willing to make a more direct contribution, such as through a check-off box on a tax return. However, funding decisions like this are not made directly by public opinion poll, nor can such choices be made in isolation from all other governmental taxation and appropriation decisions. Even so, children’s health advocates and others should apply pressure to both the administration and Congress to address the universal need for safe water to drink and should at the very least expose and resist the short-sighted decisions to reduce funding for this type of foreign aid.

Furthermore, general income tax revenues are not the only possible source of funding for water aid. Other possibilities for revenue might include sources tied directly to water use in the United States. For instance, what about funding water aid with a tax on sales of bottled water? There is a certain symmetry to that idea, harnessing the resources of the water “haves” to fund progress for the water “have-nots.” Other creative sources could be identified as well, such as a fee on international currency transac-

Professor Brent Haddad).

193. *Id.* See also Millenium Promise, *supra* note 187 (discussing boreholes, dug wells, rainwater harvesting, filtration, disinfection, and pit latrines).

194. McNulty, *supra* note 192. See also UNICEF, *Water and sanitation to be provided to thousands of displaced children in Eastern Chad*, (press release, July 20, 2007) (discussing boreholes, community latrines, “mini water systems,” and family water kits).

195. See Amy Bennett, UNICEF Taps New York City restaurants to Aid World Water Problems (Mar. 21, 2007), http://www.unicef.org/infobycountry/usa_39165.html (describing the hundreds of restaurants and thousands of people who participated in the Tap Project in 2007 in which restaurant patrons donated money for the otherwise-free water); Tap Project, Welcome, <http://www.tapproject.org> (last visited Mar. 26, 2008) (describing the Tap Project as “a campaign that celebrates the clean and accessible drinking water available as an every day privilege to millions, while helping UNICEF provide safe drinking water for children around the world”).

tions or other international monetary or trade transactions. Funding water aid by tapping global economic transactions could make globalization and free trade work better for those who are currently being left behind by the changing global economy.

These proposals are obviously not carefully crafted but are more in the nature of “thinking out loud.” My hope is just to illustrate that once a decision is made to fund a modest amount of universal water aid, there could be numerous revenue options.

3. *Water Neutrality*

Providing water aid can be a neutral decision as long as we focus in the first instance only on the “what”—providing clean water—rather than on the “how” and the “who”—whether the infrastructure will be big or small, the providers governmental or private. Any aid decision, of course, can become a political football, but with vigilance and some basic ground rules, it would be possible to keep water aid “pure.” The first ground rule should be to target water aid in the greatest amounts to the countries with the most severe water supply and sanitation problems, independent of any other factors.

This first guideline is relatively easy to implement, at least initially, because numerous organizations and studies have already identified the areas of greatest need.¹⁹⁶ *Making* the list is not the problem; the challenge is to *follow* the list regardless of where it might lead. But in order to address the most severe water problems, it is critical to separate water aid from strategic politically-driven foreign aid, just as we provide emergency relief after natural disasters even in countries we might not otherwise support with ongoing assistance.

Protecting the neutrality of needs-based water aid would require a commitment to another corollary and complementary ground rule. Water aid should be “untied.” In other words, there should be no strings attached except those necessary to guarantee that the money is spent directly on end-user water and sanitation. In other words, water aid should go straight to communities, villages, and families to assist directly with on-the-ground improvements, rather than being routed through the World Bank or the International Monetary Fund, with their requirements for privatization of water supply and other “private sector development strategies” that often seem to do more to enrich donor countries and their industries than to assist the aid recipients and their

196. See e.g., WORLD HEALTH ORG. & UNICEF, *supra* note 7.

communities.¹⁹⁷ Nor should the aid go into the recipients' national treasuries unless it is clear that the targeted recipients will indeed receive the intended benefits.

These ground rules obviously pose significant challenges, both logistical and political. How could the U.S. possibly implement a workable and credible foreign aid program that bypasses not only the key multinational aid agencies, but also national governments themselves, and which awards aid without regard to the politics of the recipient nations?

Before I attempt to answer that question, it is time for another water break. At the beginning of this Article, I invited you to indulge in a drink of good, safe, tap water, but now something stronger is in order. Open a bottle of nutrient-enhanced "Vitaminwater," electrolyte-enhanced "Smartwater," antioxidant-infused "Life Water," or just "Utopia."¹⁹⁸ If these bottled water products deliver even half of what they promise, perhaps they can help the reader envision what might otherwise seem somewhat unrealistic.

The architecture of a neutral water aid program would consist of simple technology, simple infrastructure, simple accounting, and minimal bureaucracy, all adapted to particular localities and cultures.¹⁹⁹ Simple technologies for water supply include rainwater harvesting structures, dug wells, boreholes, tubewells, and home-based filtration or purification systems. Individual, "point-of-use" solutions are particularly important when water supply infrastructure does not exist because of political instability, high cost, or other factors.²⁰⁰ The same is true for the sanitation end of the water management equation. Simple technologies could dramatically reduce cholera, malaria, and other waterborne diseases.²⁰¹

197. See Nancy C. Alexander, *A Critique of the World Bank Water Resources Strategy* (Sept. 19, 2002), <http://www.globalpolicy.org/socecon/bwi-wto/wbank/2002/0919critique.htm> (describing various requirements and strategies of the World Bank, IMF, and multilateral development banks to promote or force privatization of water and sanitation services and tying of aid to purchase of technical services and equipment from particular sources).

198. See Sam Howe Verhovek, *A Few Cities See a Profit in Bottling L'Eau de Tap*, N.Y. TIMES, Aug. 6, 1997, at A1 (listing Utopia among brands marketed by Perrier); Glacéau, <http://www.glaceau.com> (last visited Mar. 26, 2008) (listing Vitaminwater and Smartwater as Glacéau products); SoBe Life Water, <http://www.sobelifewater.com> (last visited Mar. 26, 2008) (showing Life Water is a SoBe product).

199. McNulty, *supra* note 192 (describing small scale technologies such as the type of low cost water filters used by campers as a viable approach to providing clean water in developing countries).

200. See Elizabeth Gehrman, *Forty Percent of World Lacks Clean Water, Solutions Sought*, HARV. UNIV. GAZETTE ONLINE, May 17, 2007, <http://www.news.harvard.edu/gazette/2007/05.17/05-water.html>, (reporting on remarks by MIT's Susan Murcott and CDC's Daniele Lantagne about the necessity and effectiveness of pursuing low-cost, user-friendly, point-of-use technologies where reliable community infrastructure is unavailable).

201. See McNulty, *supra* note 192.

Indeed, a successful water aid program would involve human infrastructure rather than physical infrastructure of concrete and pipes. The necessary personnel would be in the field, not in the offices of the World Bank or the U.S. State Department. They would help people determine what water supply and sanitation solutions would work best for their physical location and within their community, help obtain appropriate technology and education on how to use it, and follow up with monitoring to be sure the solutions worked.²⁰² In other words, such a program ideally would resemble the Peace Corps more than the Corps of Engineers. A program using the best of the Peace Corps model would minimize the layers of bureaucracy and maximize the amount of aid that would go directly to improving drinking water sources and upgrading sanitary facilities. Both accounting (from a financial standpoint) and accountability (from a results standpoint) would also be simplified in such a system.

The barriers to addressing the world's water woes are not primarily technical or even economic. Rather, what are lacking are political will, genuine commitment, and a modest amount of funding. One water expert, speaking of the thousands of children who die every day from preventable water-related diseases, identified the problem this way:

This daily tragedy is the result of the world's failure to provide adequate drinking water and sanitation to everyone. We know how to meet basic human needs for water, but we have failed to make this a priority. It is time to take the necessary steps to prevent this needless suffering.

. . .

There are lots of things that work, and they work in different places in different combinations at different times. . . . A sustainable world, with clean water for all, is attainable. . . .

202. See Sandra Postel, *Liquidating Our Assets* (July 20, 2005), http://www.tompaine.com/print/liquidating_our_assets.php (discussing the need to work with, rather than against, natural ecosystems and hydrological processes to meet the needs for drinking water, food security, and flood control and noting success with rainwater harvesting for poor farmers); Christine Van Lenten, *The New York Academy of Sciences, Rivers for Life: Managing Water for People and Nature: An Evening with Sandra Postel & Brian Richter*, *The New York Academy of Sciences* (Mar. 1, 2004), <http://www.nyas.org/publications/readersWritersReportPrint.asp?articleID=10> (discussing the need for democratic water management decision-making rather than top-down engineering solutions and stressing the importance of public management over privatization); see also Gehrman, *supra* note 200 (quoting MIT's Susan Murcott: "The biggest mistake we can make is to just drop technologies on people. There has to be an educational component and a monitoring process.").

[L]et's commit the resources needed to reach this goal.²⁰³

By targeting a small fraction of its foreign aid budget to a neutral program of purely humanitarian water aid, the United States could make a huge commitment toward meeting the universal goal of safe drinking water and decent sanitation. For the richest country in the world, it seems like the right thing to do.

V. CONCLUSION: WATER DIPLOMACY: FIGHTING FIRE WITH WATER

Treating water aid as part of an independent humanitarian aid agenda, rather than as part of a highly politicized foreign policy agenda, could in fact turn out to be brilliant foreign policy. If the United States embarked upon a serious program of water assistance, that effort could go a long way toward extinguishing the fires of anti-American sentiment and restoring our tarnished international reputation. Actions speak louder than words, and lately American words about how much we value freedom, liberty, self-determination, and prosperity for the people of the world have been drowned out by isolationist, aggressive, and hypocritical behavior. A universal and neutral program of water aid would start a different conversation, backed up by tangible proof, about compassion, generosity, and genuine economic development for the poorest people in the world. Carrying water might not be such a bad way to make foreign policy.

203. Press Release, Pac. Inst., On World Water Day, the Solutions Are Here (Mar. 22, 2007) (available at http://www.pacinst.org/press_center/press_releases/20070322.html) (internal quotation marks omitted).

