

World War III: Will it be the Struggle for Clean and Safe Drinking Water?

Maria V. Alexandrova, M.D., M.S.
Simran Dhaliwal, B.S.

ABSTRACT

The struggle for clean water is a silent battle felt by millions around the world. There are countries that have a wealth of water per capita while other countries lack fresh water supply. As fresh water resources diminish, conflicts over these water resources seem eminent. Not only are conflicts on the rise due to the current water crisis, but also the progress of humankind is stalled. A society cannot advance if an invaluable resource is reduced. The societies that are prosperous have the most water usage and are the wealthiest. Unfortunately, water distribution faces these inequalities. Many public as well as private organizations suggest that there must be consensus by the global community to tackle this significant issue.

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Background

Former President of the U.S.S.R., Michail Gorbachev, made a statement that encompassed the essence of the reality of water: "Water, like religion and ideology, has the power to move millions of people. Since the very birth of human civilization, people have moved to settle close to water. People move when there is too little of it. People move when there is too much of it. People journey down it. People write and sing, and dance, and dream about it. People fight over it. And all people, everywhere and every day, need it." Water is a unique compound, fostering human development, and vital to the survival and preservation of life on earth. This uniqueness is what makes it invaluable to humankind. Unlike wars, famines, and disasters, the world water crisis does not make headlines. This silent crisis mostly impacts the poor, developing, and most populated regions of the world while it lacks international action. Almost 80% of diseases in developing countries are related to water (United Nations International Children's Emergency Fund [UNICEF], 2010). Meanwhile, human development cannot progress when people are deficient of basic sustenance and contaminated water is the only resource available. Thus, the population is not advancing due to poverty, susceptibility to the water-borne diseases, and national insecurity.

The Water Crisis Reality

Corresponding with human history, communities tried to use and distribute available water resources by whatever means necessary; water was historically, and is presently, used for personal consumption, irrigation, industry, and sanitary purposes. Today, whereas agriculture accounts for 70% of water

consumption, industry accounts for 20%, and domestic use accounts for 10% (UNICEF, 2010). On a global scale, water use has tripled since the 1950s (Office of Regional Vice President, World Bank, 2009). In 2006 the United Nations Human Development Report stated, "The scarcity at the heart of the global water crisis is rooted in power, poverty and inequality, not in physical availability." Struggle for this essential commodity leads to personal, community, regional, national, and international conflicts. Modern populations and future generations face the deficiency of equal access to water. With about 900 million people world wide lacking access to clean and safe drinking water due to the diminishing sources of this blue gold, conflicts will be on the rise (UNICEF, 2010). Primary causes of water depletion are climate change, overpopulation, subsequent increased needs for food and bio-fuels, industrialization, pollution, and rising societal demands for improvement of the living conditions around the world (Intergovernmental Panel on Climate Change (IPCC), 2007; Horseman, 2001; International Crisis Group (ICG), 2002; Stern, 2007; & Vinogradov & Langford, 2001). The global community has not adequately addressed all the problems stated above. Regional and global water management is not handled in a functional and effective way, which initiates conflicts at the personal, regional, national, and international. The top ten countries with the most water usage are shown in Table 1 (courtesy of the Human Development Report 2006).

Insecure water supply, along with water shortages, inhibits the survival of many underserved people, communities, and countries. According to the World Policy Institute (WPI) (2009), the United

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Table 1. Top 10 Countries in Water Use

Country	Usage (in Liters)
United States of America	~550+
Australia	~400
Italy	~390
Japan	~375
Mexico	~360
Spain	~320
Norway	~300
France	~285
Austria	~245
Denmark	~210

Nations projects about 300 impending water conflicts all over the world. Many areas of the world are characterized by water depletion crises due to lack of national river commissions between frontiers and the absence of international and national cooperation. Southwest Asia, Central Asia, Middle East, and parts of Northern and Sub-Saharan Africa are named as severe hot zones of the water struggle and emerging conflicts (Albrecht, 2000; Gleick, 2004; Nandalal & Hipel, 2007; Phelps, 2007; WPI, 2009). Water wars and civil conflicts occur internationally when countries share basins of the same rivers or regionally between different tribal, religious, and cultural communities. Particularly in South Asia, rivers have been diverted, dammed, and over tapped to compete with the abundant water usage (Postal, 1996). Many countries that depend on shared river systems without strong and fair water management regulations can create perpetuating tension conflicts. For instance, Bangladesh lies downstream from India, China, and Bhutan. The rivers originate outside the country and if any rivers are diverted, the country's water sources will be directly affected. Because water scarcity is evident, countries are trying to take control of the river basins and systems through dams and diversions resulting in high tensions and rising conflicts (Babel & Wahid, 2008).

Prosperous with natural resources, the Russian Federation is not among countries with active water related conflicts. However, the amplified use of the fresh water resources causes a decrease in water quality and an increase in the wastage of water. Over the past five decades, the depletion of small rivers has been noticed along with shortcomings in water management in many areas across the Russian Federation (Russian National Committee of Irrigation and Drainage (RUCID), n.d.) The United Nations profiles the Russian Federation as a low-level water stress country which utilizes only 10% of the natural

water resources; however, some of the river basins are used in an exhaustive pattern of up to 50% more, especially, in European part of the Russian Federation (Chapagain & Hoekstra, 2004). Thus, even though the Russian Federation is a rich water resource country, it is projected to face water shortages and consequently water related tensions and conflicts.

The world's population distribution does not coincide with the availability and security of water resources. For example, South Asia encompasses one fourth of the world's population, but only 4.5% of the world's annual renewable water resources. With 400 million people living in urban areas and one billion people living in rural areas, one in five persons do not have access to water services (Office of Regional Vice President, World Bank, 2009). More than a billion people depend on great Asian rivers and basins: the Ganges-Brahmaputra- Meghna Basin, Indus Basin, Mekong River, Yangtze River, and Yellow river. Though South Asia is abundant with rivers, unsanitary practices and drainage congestion impact the water quality. Due to climate change, the prized Himalayan and Tibetan Plateau glaciers that feed many of these river basins, mainly the Ganges River, are receding at an alarming rate. This phenomenon will, in turn, impact the entire Asian water system, cause damage to fragile ecosystems, and create more water shortages (Babel & Wahid, 2008). Equal sharing of depleting water resources becomes even more difficult between countries sharing boundary waters whether up or down stream. Civil unrest and humanitarian crisis can fuel existing tension to war conflicts between involved countries leading to emergence of ecological and climate refugees.

Lack of water resources exacerbates tribal, religious, and cultural tensions. Weak governments, societal inequalities, poverty, lack of education, and inaccessibility of health care present a war inflicting combination. For example, "in Ethiopia, there are pressures between farming communities and pastoralists, and tensions over access to scarce resources – all complicated further by social groups and political boundaries. It is a potent mix. Unless there are strategic decisions taken now about how to mitigate the conditions for future disputes, there is a strong likelihood that low-intensity conflict in such areas will increase" (WPI, 2009, p.7).

Gleick (2004) provides a variety of the examples on water conflicts around the world including developed and developing countries. The summary of the water conflicts is represented in Table 2.

Table 2. Examples of “Water Conflicts” in Various Countries Worldwide: 2000-2004

Year	Location	Issue	Result
2000	Ethiopia	Allocation and environmental	One man stabbed to death during fight over clean water during famine in Ethiopia.
2000	Hazarajat, Afghanistan	Allocation	Violent conflicts broke out over water resources in the villages Burna Legan and Taina Legan, and in other parts of the region, as drought depleted local resources.
2000.	Gujarat, India	Allocation	Water riots reported in some areas of Gujarat to protest against authority’s failure to arrange adequate supply of tanker water. Police are reported to have shot into a crowd at Falla village near Jamnagar, resulting in the death of three and injuries to 20, following protests against the diversion of water from the Kankavati dam to Jamnagar town
2000	China	Allocation	Civil unrest erupted over use and allocation of water from Baiyangdian Lake—the largest natural lake in northern China. Several people died in riots by villagers in July 2000 in Shandong after officials cut off water supplies. In August 2000, six died when officials in the southern province of Guangdong blew up a water channel to prevent a neighboring county from diverting water
2001	Pakistan	Allocation	Civil unrest over severe water shortages caused by the long-term drought. Protests began in March and continued into summer. There were riots, four bombs in Karachi, June 13, one death, 12 injuries, and 30 arrests. Ethnic conflicts as some groups “accuse the government of favoring the populous Punjab province over Sindh province_ in water distribution.”
2001	China	Environmental	In an act to protest destruction of fisheries from uncontrolled water pollution, fishermen in northern Jiaying City, Zhejiang Province, dammed the canal, which carries 90 million tons of industrial wastewater per year, for 23 days. The wastewater discharge into the neighboring Shengze Town, Jiangsu Province, killed fish and threatened people’s health.
2002	Kashmir, India	Allocation	Two people were killed and 25 others injured in Kashmir when police fired at a group of villagers clashing over water sharing. The incident took place in Garend village in a dispute over sharing water from an irrigation stream.
2002	Karnataka, Tamil Nadu, India	Allocation	Continuing violence over the allocation of the Cauvery River between Karnataka and Tamil Nadu. There were riots, property destruction, more than 30 injuries, and arrests through September and October.
2003	Michigan, United States	Allocation	Four incendiary devices were found in the pumping station of a Michigan water-bottling plant. The Earth Liberation Front ELF_ claimed responsibility, accusing the Ice Mountain Water Company of “stealing” water for profit.
2004	India	Allocation	Four people were killed in October and more than 30 injured in November in ongoing protests by farmers over allocations of water from the Indira Gandhi Irrigation Canal in Sriganganagar district, which borders Pakistan. A curfew was imposed in the towns of Gharsana, Raola, and Anoopgarh.
2004	Somalia	Allocation	At least 50 people were killed and many more injured in clashes between two divisions of the same clan on Wednesday, in the village of Gelinsor and nearby villages along the Ethiopian border. The fighting reportedly began over access to pastoral land and water wells.

Source: Gleick, P. (2004). Water conflict chronology. *Pacific Institute for Studies in Development, Environment, and Security*. Retrieved November 24, 2010 from: www.pacinst.org.

Future Developments

The global community needs to acknowledge that water is not a permanent commodity. In fact, it is expiable and transient natural resource essential to the existence of every human being. According to Phelps (2007), there are no feasible and strategic methods to accumulate and conserve water in substantial volume for the perpetuity of time. Humans do not have control over water because of its ever-changing nature in its form, quantity, quality, and location. Even minor inequalities in the water distribution among people, communities, and countries can initiate confrontations because water determines populations' future developments, sustainability, wellbeing, wellness, and prosperity. Safe and available water resources with equal access are an ultimate part of national security everywhere.

Recognition of the worldwide society that modern world leaders manipulate fundamental water values and needs of the societies in their political and even terroristic interests is pivotal. Water is presented as a military tool and bargaining utility in hot war zones around the world. That is why the global community has to execute international water agreements preserving water resources in order to ensure prosperity of nations around the world as well as for the benefit of future generations.

Organizations such as UNICEF have formed water development projects to create awareness about the current water crisis and to raise funds to provide the adequate supply and distribution of clean water to depleted and underserved regions. For example, the Tap Project asks restaurant patrons to donate money for the water that they drink for free. UNICEF's Tap Project states that their goal is to "provide(s) access to safe water and sanitation facilities while promoting safe hygiene practices in more than 100 countries" (UNICEF, 2010).

Global community has to realize that every individual and every country has a stake in developing and implementing water safety, water allocation, and equal water distribution agreements. Adequate resource water management should be imperatively based on the most effective and scientifically proven allocation and distribution approaches. Phelps (2007) emphasized that national and international water agreements and resolutions need take into account quantity, quality, and spatial distribution of the water as well as its effect on flora and fauna, environmental degradation, social justice, public health, and religious and cultural diversity.

Summary

The UN Human Development Report of 2006 states: "What is needed in the decade ahead is a concerted international drive starting with nationally

owned strategies, but incorporating a global action plan." The water crisis is unevenly distributed around the world. Due to pollution, global warming, climate, industrialization, and unsanitary practices, the freshwater sources that the world is dependent on is decreasing and being polluted at an alarming rate. As water availability decreases due to these factors, the potential for conflict intensifies. Possession of rivers through damming and diverting are becoming a common practice to secure water supply. This is becoming a major problem due to transcontinental rivers that feed water to multiple countries. Personal, community, regional, national, and international collaborations are needed to come up with water conflict prevention strategies. Efficient water management cooperation should be done by governmental, economical, technological, and infrastructural means involving global community as a whole. Nelson Mandela once said, "Among the many things I learnt as a president was the centrality of water in the social, political and economic affairs of the country, the continent and the world."

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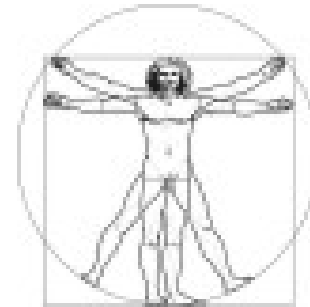
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ABOUT THE AUTHORS

Maria Alexandrova (malex@siu.edu) is a doctoral student in the Department of Health Education and Recreation, Southern Illinois University-Carbondale, Carbondale, Illinois, USA. Simran Dhaliwal (sdhaliwa@health.usf.edu) is an MPH student at the University of South Florida College of Public Health, Tampa, Florida, USA. An earlier version of this paper was presented at the 12th Annual Health Education and Injury Prevention Field Course and Conference, Cologne, Germany, May 2010. Copyright 2010 by *Umwelt und Gesundheit Online* and the Gesellschaft für Umwelt, Gesundheit und Kommunikation.