

## Chapter 1 : Water Wars by Vandana Shiva

*Vandana Shiva was one of India's leading physicists and is now a leading environmental campaigner, the winner of the Alternative Nobel Peace Prize and the author of several books, including Soil not Oil (North Atlantic Books, ), Making Peace with the Earth (Pluto, ) and Water Wars (Pluto, ).*

Large dams interrupt the flow of a river, causing soil erosion downstream and pollution upstream, contributing greatly to the desertification of the planet. Helen explains that rivers carry nutrients which are important for soil to grow food and allow rainwater to recharge the aquifer. A dam stops these nutrients, causing soil erosion, failure of crops, and hard desert land which does not allow rain to soak into the ground. Rainwater creates flash floods which drain to the sea. Upstream, the rise of water behind the dam collects mercury and other contaminants as it floods the land. As this water remains stagnant, oxygen dies and water pollution results. Politically, dams are used by governments to stop water flow into neighboring countries, make money with corrupt construction deals, and even control the local population by controlling the water flow. Thus they are a major source of water wars. Although it was not the case when the hydroelectric dams were built, there are now plenty of alternate energy sources that allows us to remove the dams and return the rivers and water cycle to normal. Decommission large hydroelectric dams in favor of alternate energy technology. Support those who are fighting to decommission dams. Support River Alliance of Wisconsin and others fighting to remove dams. Write your government and to protest your local dams. Let politicians know that as a voter you are aware of the problem and demand they help. The Blue Alternative was created in order to counter a huge dam in Slovakia. See how and why they did it. Learn more at Frequently Asked Questions of dam removal. Support and implement alternate energy sources. Before we can realistically remove hydroelectric dams, we must set up alternate energy sources. To do so, we must respect that hydroelectric dams are technological wonders and were built when they were the best technology available and when we were unaware of their negative water-crisis impact. That has now changed, so should we. Write your government and ask they implement the below renewable energy technologies.

**Chapter 2 : Water Wars: Privatization, Pollution and Profit - Vandana Shiva - Google Books**

*Chapter 3 The Colonization of Rivers: Dams and Water Wars 53 Chapter 4 The World Bank, the WTO, and Corporate Control Over Water 87 Chapter 5 Food and Water*

Denying poor people access to water by privatizing water distribution or polluting wells and rivers is also terrorism. In the ecological context of water wars, terrorists are not just those hiding in the caves of Afghanistan. By refusing to sign the Kyoto protocol, President Bush is committing an act of ecological terrorism on numerous communities who may very well be wiped off the earth by global warming. In Seattle, the WTO was dubbed the "World Terrorist Organization" by protestors because its rules are denying millions the right to a sustainable livelihood. When President Bush and Prime Minister Tony Blair announced that the goal of the global war on terrorism is the defense of the American and European "way of life," they are declaring a war against the planet-its oil, its water, its biodiversity. We cannot survive as a species if greed is privileged and protected and the economics of the greedy set the rules for how we live and die. The ecology of terror shows us the path to peace. Peace lies in nourishing ecological and economic democracy and nurturing diversity. Democracy is not merely an electoral ritual but the power of people to shape their destiny, determine how their natural resources are owned and utilized, how their thirst is quenched, how their food is produced and distributed, and what health and education systems they have. The water crisis is the most pervasive, most severe, and most invisible dimension of the ecological devastation of the earth. In 1997, 28 countries experienced water stress or scarcity. This number is expected to rise to 56 by 2025. Between 1997 and 2025, the number of people living in countries without adequate water is projected to rise from 1 billion to 2 billion. India is supposed to fall into the water stress category long before 2025. A country is said to be facing a serious water crisis when available water is lower than 1,000 cubic meters per person per year. Below this point, the health and economic development of a nation are considerably hampered. In 1997, the average water availability in India was 3,000 cubic meters per person per year. By the late 1990s, it had fallen to 1,000 cubic meters. By 2025, it is projected to fall to 500 cubic meters. Since 1997, the global per capita water supply has declined by 33 percent. The decline does not result from population growth alone; it is exacerbated by excessive water use as well. During the last century, the rate of water withdrawal has exceeded that of population growth by a factor of two and one-half. Over-exploitation of water and disruption of the water cycle create absolute scarcity that markets cannot substitute with other commodities. The assumption of substitution is in fact central to logic of commodification. For example, economist Jack Hirshleifer and his colleagues state: This is not to deny that as a commodity, water has its special features, for example, its supply is provided by nature partly as a store and partly as a flow, and it is available without cost in some locations but rather expensive to transport to others. Whatever reason we cite, however, the alleged unique importance of water disappears upon analysis. Such abstract arguments miss the most crucial point - when water disappears, there is no alternative. For Third World women, water scarcity means traveling longer distances in search of water. For peasants, it means starvation and destitution as drought wipes out their crops. For children, it means dehydration and death. There is simply no substitute for this precious liquid, necessary for the biological survival of animals and plants. The water crisis is an ecological crisis with commercial causes but no market solutions. Market solutions destroy the earth and aggravate inequality. The solution to an ecological crisis is ecological, and the solution for injustice is democracy. Ending the water crisis requires rejuvenating ecological democracy. That communities of real people with real needs exist beyond the state and the market is often forgotten in the rush for privatization. People have a right to life and the resources that sustain it, such as water. The necessity of water to life is why, under customary laws, the right to water has been accepted as a natural, social fact. Private interest groups systematically ignore the option of community control over water. Because water falls on earth in a dispersed manner, because every living being needs water, decentralized management and democratic ownership are the only efficient, sustainable, and equitable systems for the sustenance of all. Beyond the state and the market lies the power of community participation. Beyond bureaucracies and corporate power lies the promise of water democracy. Water is a commons because it is the ecological basis of all life and because its sustainability and equitable allocation depend on

cooperation among community members. Although water has been managed as a commons throughout human history and across diverse cultures, and although most communities manage water resources as common property or have access to water as a commonly shared public good even today, privatization of water resources is gaining momentum. Pulp uses 60, to , gallons of water per ton of paper or rayon. Bleaching uses 48, to 72, gallons of water per ton of cotton. Packaging green beans and peaches for long-distance trade can use up to 17, and 9 4, gallons per ton, respectively. The overuse and pollution of scarce water resources is not restricted to old industrial technologies; it is a hidden component of the new computer technologies. A study by South West Network for Environmental and Economic Justice and the Campaign for Responsible Technology reveals that the process of chip manufacturing requires excessive amounts of water. On average, processing a single six-inch silicon wafer uses 2, gallons of de-ionized water, 3, cubic feet of bulk gases, 22 cubic feet of hazardous gases, 20 pounds of chemicals, and kilowatts hours of electrical power. The study finds that out of the 29 Superfund sites in Santa Clara County, California, 20 were created by the computer industry. The idea that markets can mitigate pollution by facilitating increased allocation fails to recognize that water diversion to one area comes at the cost of water scarcity elsewhere. In contrast to the corporate theorists who promote market solutions to pollution, grassroots organizations call for political and ecological solutions. Communities fighting high-tech industrial pollution have proposed the Community Environmental Bill of Rights, which includes rights to clean industry; to safety from harmful exposure; to prevention; to knowledge; to participation; to protection and enforcement; to compensation; and to cleanup. All of these rights are basic elements of a water democracy in which the right to clean water is protected for all citizens. Markets can guarantee none of these rights. There are nine principles underpinning water democracy: We owe it to nature to use this gift in accordance with our sustenance needs, to keep it clean and in adequate quantity. Diversions that create arid or waterlogged regions violate the principles of ecological democracy. Water is essential to life Water is the source of life for all species. All species and ecosystems have a right to their share of water on the planet. Life is interconnected through water Water connects all beings and all parts of the planet through the water cycle. We all have a duty to ensure that our actions do not cause harm to other species and other people. Water is limited and exhaustible if used nonsustainably. Water must be conserved Everyone has a duty to conserve water and use water sustainably, within ecological and just limits. Water is a commons Water is not a human invention. It cannot be bound and has no boundaries. It is by nature a commons. It cannot be owned as private property and sold as a commodity. No one holds a right to destroy No one has a right to overuse, abuse, waste, or pollute water systems. Tradable-pollution permits violate the principle of sustainable and just use. Water cannot be substituted Water is intrinsically different from other resources and products. It cannot be treated as a commodity. The destiny of man is to possess the whole earth; and the destiny of the earth is to be subject to man. There can be no full conquest of the earth, and no real satisfaction to humanity, if large portions of the earth remain beyond his highest control. Only as all parts of the earth are developed according to the best existing knowledge, and brought under human control, can man be said to possess the earth. In , bonds were issued to finance a mile aqueduct that would divert the eastern runoff of the Sierra Madre. This clandestine agreement to transfer water from the farms to the city led to intense conflict between Owens Valley residents and Los Angeles water users. In , Owens Valley residents blasted an aqueduct to prevent water diversion to Los Angeles. After 12 more blasts, armed guards were stationed on the aqueduct with orders to kill. In , the Saint Francis Dam was built, but it broke soon after, killing people. New scarcity had bred new conflicts. In , the aqueduct was bombed again. But by , many water companies were facing bankruptcy, and public agencies were providing support to private developers. Water projects continued to be driven by the private sector but financed by public investments. The foot-high dam used 66 million tons of concrete-enough to build a foot-wide highway from New York to San Francisco. The dam marked the beginning of the large dam era and the partnership between government and corporations in control over water. Shea, and Pacific Bridge-were awarded the bid for the dam. The Colorado River Compact, which approved the dam, excluded local governments and communities from the negotiations and decisions. Native Americans, who had been living in the Colorado River basin for centuries, were completely shut out of the decision to dam the river. As historian Donald Worster observes, "No one asked [Native Americans] to

participate in the Colorado Compact negotiations, and the Bureau of Indian Affairs, supposedly their guardian angel, failed to look out for their interests there. To this day, the primary beneficiary of the Hoover Dam has been California. In fact, the state leads the world in water consumption. Water from the Hoover Dam is transferred to California through a mile aqueduct from the Colorado River, and nearly a third of the hydropower generated by the dam is used to pump water to the state. Although it accounts for a mere 1. Much of this goes to big farms. Large water-diversion projects are said to augment water. In reality, they take water from one community to another and from one ecosystem to another.

**Chapter 3 : Water Wars Heating up on Colorado River! – STEVE PIECZENIK TALKS**

*Water from the Hoover Dam is transferred to California through a mile aqueduct from the Colorado River, and nearly a third of the hydropower generated by the dam is used to pump water to the state.*

Relations between Egypt and Ethiopia have soured since Ethiopia began construction on the 4. Egypt fears the new dam, slated to begin operation in , will reduce the downstream flow of the Nile, which 85 million Egyptians rely on for almost all of their water needs. Officials in the Ministry of Irrigation claim Egypt will lose 20 to 30 percent of its share of Nile water and nearly a third of the electricity generated by its Aswan High Dam. It hopes the 6, megawatt hydroelectric project will lead to energy self-sufficiency and catapult the country out of grinding poverty. The agreement awarded Egypt Without it, there is no Egypt. But upstream African nations have their own growing populations to feed, and the thought of tapping the Nile for their agriculture or drinking water needs is all too tempting. Burundi signed a year later. Egypt rejected the new treaty outright. But the dam is part of a broader scheme that would see at least three more dams on the Nile. Egypt has appealed to international bodies to force Ethiopia to halt construction of the dam until its downstream impact can be determined. Former president Hosni Mubarak floated plans for an air strike on any dam that Ethiopia built on the Nile, and in established an airbase in southeastern Sudan as a staging point for just such an operation, according to leaked emails from the global intelligence company Stratfor posted on Wikileaks. The dam is expected to improve flood control, expand downstream irrigation capacity and, crucially, allow Ethiopia to export surplus electricity to power-hungry Sudan via a cross-border link. Storing water in the cooler climes of Ethiopia would ensure far less water is lost to evaporation than in the desert behind the Aswan High Dam. Tutwiler says it is unlikely that Ethiopia will severely choke or stop the flow of water. This is the world we cover. Because of people like you, another world is possible. There are many battles to be won, but we will battle them together – all of us. Common Dreams is not your normal news site. We want the world to be a better place. If you can help today – because every gift of every size matters – please do.

Chapter 4 : Why dams are at the heart of California's water wars | PBS NewsHour

*Water is overused and abused globally. According to the World Bank, "the wars of the next century will be about water." Water usage doubles every twenty years, yet more than thirty countries face water stress and scarcity, and over a billion people lack adequate access to clean drinking water.*

Nation Nov 3, 3: Should it build more dams? Or are there already enough dams " more than 1, " in the state, and not enough water to fill them up anyway? But despite the passage of the proposition, Californians are still arguing over whether to build dams and which out of several proposed to construct. While looking through some archives of the Department of Water Resources I came across a group of black and white photos that evoked a flood of memories. Ronald Reagan, and ex-Gov. Pat Brown father of current Gov. It was a joyous occasion, full of hope. And it may have been the last time that nearly everybody agreed it was a good thing to plumb the whole state and tame the natural rivers. I worked on a documentary that year that essentially showed all the good the water system was bringing to the state. I remember that in seventh grade social studies in San Francisco, a student teacher led our class through a whole semester on the California Central Valley Project, the federal program to build Shasta Dam and several others, and send water south through a federally funded canal. The so-called peripheral canal would have made it easier to get water south, supposedly with less disruption to the ecosystem of the Delta. Visions of Southern California swimming pools and lush golf courses " all filled with northern water " played heavily on the minds of Northern Californians. Voters turned the peripheral canal down. As the years went by, the water wars ebbed and flowed. The environmental movement came into its own, and dozens of groups like the Environmental Defense Fund and the Natural Resources Defense Council started questioning the never-ending thirst of the farmers and the Southern California cities. For years they fought over the rules and the distribution and the price of water. Then came efforts to mediate the disputes and bring the sides together. Alliances between environmentalists and cities seemed to ease the rivalries for a while, and the federal government tried to bring peace to the warring factions. Now, however, the traditional split is as evident as ever. The environmentalists, the biology professors, the Friends of the River, the AquAlliance and others are pushing hard against new dams and new water to raise profitable crops like almonds. The farmers and the Southern California cities are pushing hard for more water storage, saying that in good, wet years the reservoirs can fill up and provide water in dry years. And they are pledging to try to recharge underground aquifers, which have become depleted as people draw more and more water from wells. The Brown administration and some water districts are preaching conservation and more reliance on these underground water supplies, but say that above ground storage is necessary to fill up the underground. And Governor Brown is advocating for tunnels, rather than a canal, to get water through the Delta and to the pumps that take it south. That battle is ongoing. I wonder if anyone else was paying attention.

**Chapter 5 : Blue Gold : World Water Wars**

*News Egypt and Ethiopia fend off water wars over Nile mega-dam. Egypt has long worried that Ethiopia's planned Grand Renaissance Dam will cut its share of the Nile River.*

On the train, she was served a bottle Aquafina water, a brand owned by Pepsi. Shiva contrasts this exchange of water with what took place on the streets of Jaipur at the peak of the drought. Thatched huts were constructed and became places where people could receive free water in earthen pots. In this brief book, Shiva lucidly details the severity of the global water shortage. Thorough in her research, Shiva gives straightforward reasons for the global spread of water scarcity and water famine: For Shiva the roots of the crisis stem from a conflict over two separate value systems. One sees water as a communal resource that should be freely available and diligently conserved; the other sees water as a market good to be possessed, bought and sold. The market proponents argue that the water crisis can be alleviated by privatizing water: The subtitle of the book, *Privatization, Pollution and Profit*, should make it clear where Shiva stands. She offers Bolivia as a stark example of how privatization can affect a community. In , on the recommendation of the World Bank, the water systems in Cochabamba, Bolivia, were privatized. Government subsidies were lifted and International Water, a subsidiary of Bechtel, took over. Massive public protests began and continued despite media censorship and killings of protestors. Bolivia proved to be an exemplar of privatization resistance: Shiva does not soften her analysis by suggesting that privatization catastrophes are well-meaning failures. She does not sympathize with the efforts of corporations to profit at all costs: As one would expect from the author of *Stolen Harvest: The Hijacking of the Global Food Supply*, Shiva does not gloss over the relationship between food and water. In Chapter 5, Shiva discusses how industrial food production and water waste go hand in hand. As chemical fertilizers replace organic fertilizers, soil loses its capacity to retain water. Reservoirs are depleted and rivers are diverted, resulting in water logging and salinization. The Aral Sea is six times saltier than it was several decades ago because the rivers feeding into it have been diverted to water-intensive crops. The fish catch in the Aral was once 25 million tons a year. Now it is zero. Shiva describes how many conflicts are in fact water wars masked as ethnic or religious conflicts. Shiva cites the West Bank as an example of water apartheid: If you control water, you control life. *Water Wars* covers an impressive amount of territory for so slim a volume. One chapter is dedicated to theories on water rights, another to climate change, another to dams and control of rivers, another to the role of the International Monetary Fund and the World Bank. Always, Shiva refers back to communities in her homeland, India, pointing to their water conservation practices, their culture of giving and exchange, and their reverence for both water and soil. The appendix lists sacred names for the Ganges—graceful names like *Lila-lamghita-parvata* Leaping over mountains in sport and *Khandendu-drta-sekhara* Having the crescent moon as a crest. After such a potent and dynamic analysis, the array of names is a refreshingly subtle suggestion that there is much more to water than charts and profit reports can convey. Constantine Markides is a freelance writer and novelist living in Portland, Maine.

**Chapter 6 : The 'water war' brewing over the new River Nile dam - BBC News**

*Converting abundance to scarcity --Water rights, the state, the market, the community --Climate change and the water crisis --Colonization of rivers: dams and water wars --World bank, the WTO, and corporate control over water --Food and water --Converting scarcity into abundance --Sacred waters.*

Owens Valley before the water wars[ edit ] Joseph Reddeford Walker explored the Owens Valley The Paiute natives were the original inhabitants living in the valley, and used irrigation to grow crops. The ranchers came into conflict with the Paiutes over land and water use, and most of the Paiutes were driven away from the valley by the U. Army in during the Owens Valley Indian War. The availability of water from the Owens River made farming and raising livestock attractive. The Homestead Act limited the land an individual could own to acres The irrigation systems created by the ditch companies did not have adequate drainage and as a result oversaturated the soil to the point where crops could not be raised. The irrigation systems also significantly lowered the water level in the Owens Lake , a process that was intensified later by the diversion of water through the Los Angeles Aqueduct. At the start of the 20th century, the northern part of the Owens Valley turned to raising fruit, poultry and dairy. They were friends, having worked together in the private Los Angeles Water Company in the s. In , Eaton was elected mayor of Los Angeles, and was instrumental in converting the Water Company to city control in Los Angeles needed rights of way across federal land to build the aqueduct. Smith argued that irrigating Southern California was not more valuable than irrigating Owens Valley. While a compromise was being negotiated, Flint appealed to President Roosevelt. In this meeting, Roosevelt decided in favor of Los Angeles. These efforts are reported to have included the dumping of water from Los Angeles reservoirs into the sewers thereby creating a false drought and by publishing scare articles in the Los Angeles Times , which Otis published. By exploiting personal bitterness of some of the farmers, Los Angeles managed to acquire some of the key water rights of the cooperative. After these water rights were secured, inflows to Owens Lake were heavily diverted, which caused the lake to dry up by An audit revealed that there were shortages in both cash in the vault and amounts shown on the books. The Watterson brothers were indicted for embezzlement, then tried and convicted on thirty-six counts. Since all local business had been transacted through their bank, the closure left merchants and customers with little more than the small amount of money they had on hand. The brothers claimed that the fraud was done for the good of the Owens Valley against Los Angeles, and this excuse was generally believed to be true in Inyo County. The City of Los Angeles sponsored a series of repair and maintenance programs for aqueduct facilities, that stimulated some local employment and the Los Angeles water employees were paid a month in advance to bring some relief. But it was impossible to prevent many businesses from closing their doors. By , Los Angeles owned 90 percent of the water in Owens Valley and agriculture interests in the region were effectively dead. Owens Valley springs and seeps dried and disappeared, and groundwater-dependent vegetation began to die. In , Inyo County, Los Angeles, the Owens Valley Committee , the Sierra Club , and other concerned parties signed a Memorandum of Understanding that specified terms by which the lower Owens River would be re-watered by June as partial mitigation for damage to the Owens Valley. David Nahai , president of the L. Mono Lake By the s, the water requirements for Los Angeles continued to increase. The diverted creeks had previously fed Mono Lake , an inland body of water with no outlet. Mono Lake served as a vital ecosystem link, where gulls and migratory birds would nest. Increases in salinity decreased adult size, growth rates, and brood sizes, and female mortality during their reproductive cycle. In , while at Stanford, he started to get others interested in the ecosystem of Mono Lake. This would suspend the very recent efforts to restore the San Joaquin River since , won after 18 years of litigation, with increased releases from the Friant Dam east of Fresno. The book was made into a four-part documentary of the same name in The film Chinatown was inspired by the California water wars and features a fictionalized version of the conflict as a central plot element.

**Chapter 7 : Egypt and Ethiopia fend off water wars over Nile mega-dam | News | DW |**

*Water Wars Threaten America's Most Endangered Rivers St. Lawrence River and surrounding wetlands could also be revitalized if a pending plan to allow certain releases of water through a dam.*

Its completion is expected to profoundly change the allocation of water resources in Africa. Egypt and Sudan are utterly dependent on the waters of the Nile River. Over the past century both of these desert countries have built several dams and reservoirs, hoping to limit the ravages of droughts and floods which have so defined their histories. Now Ethiopia, one of eight upriver states and the source of most of the Nile waters, is building the largest dam in Africa. Located on the Blue Nile twenty five miles from the Ethiopian border with Sudan, the Grand Renaissance Dam begins a new chapter in the long, bellicose history of debate on the ownership of the Nile waters, and its effects for the entire region could be profound. On water and environmental issues, readers may also want to see these Origins articles: In the fall of newspapers around the world reported on a Wikileaks document, surreptitiously acquired from Stratfor, the Texas security company, revealing Egyptian and Sudanese plans to build an airstrip for bombing a dam in the Blue Nile River Gorge in Ethiopia. The Egyptian and Sudanese governments denied the reports. Whether or not there were such plans in , there is a long history of threats and conflicts in the Nile River Basin. Upriver Ethiopia, Kenya, Uganda, Rwanda, Burundi, and Tanzania argue that they too need the water that originates on their lands. Since the twelfth century C. Christian Ethiopian kings have warned Muslim Egyptian sultans of their power to divert waters of the Nile, often in response to religious conflicts. But these were hypothetical threats. Today, however, Ethiopia is building the Grand Renaissance Dam and, with it, Ethiopia will physically control the Blue Nile Gorge—the primary source of most of the Nile waters. Without that water, there would have been no food, no people, no state, and no monuments. As Herodotus famously wrote in the 5th century B. Scores of ethnic groups in Egypt, Ethiopia, and Sudan share architecture and engineering, ideas and traditions of religion and political organization, languages and alphabets, food and agricultural practices. The Nile was a mysterious god: Floods between June and September, the months of peak flow, could wipe out entire villages, drowning thousands of people. Hail to thee, O Nile, that issues from the earth and comes to keep Egypt alive! The river flow follows regular patterns, increasing between May 17 and July 6, peaking in September, and then receding until the next year. But the river volume is very unpredictable, as documented by nilometers multi-storied structures built in the river to measure water heights. Successive empires of Pharaohs, Greeks, Romans, Christian Copts, and Muslims celebrated the rising waters of the Nile and dreaded floods or droughts. Five millennia of Nile history show how years with high water have produced ample food, population growth, and magnificent monuments, as during the first five dynasties from B. Periods with low water have brought famine and disorder. The Book of Genesis describes seven years of famine that historians associate with the drought of B. From the time of the Pharaohs until C. The irrigation projects of the 19th century Ottoman ruler Mohammad Ali allowed year-around cultivation, causing population growth from 4 to 10 million. The Sources of the Nile Despite the extraordinary importance of the Nile to people downstream, the origin of the great river was a mystery until the middle twentieth century. Herodotus speculated that the Nile arose between the peaks of Crophi and Mophi, south of the first cataract. Ptolemy suggested the source was the Mountains of the Moon, in what are now called the Ruwenzori Mountains in Uganda. In the Scottish explorer James Bruce claimed his discovery of the source in Ethiopia, while in John Hanning Speke thought he found it in Lake Victoria and the equatorial lakes. The Blue Nile River descends feet in miles from Lake Tana in the Ethiopian highlands through a deep gorge with crocodiles, hippopotamuses, and bandits to the Sudan border and the savannah. Despite the efforts of scores of intrepid adventurers, the Blue Nile in Ethiopia was not successfully navigated until by a team of British and Ethiopian soldiers and civilians equipped by the Royal Military College of Science. Further south up the White Nile in the lakes and rivers of Burundi, Rwanda, Kenya, Tanzania, and Uganda, the Egyptian cultural influence is less pronounced, due to the Sudd, a gigantic and impassable swamp which absorbs waters from the equatorial lake tributaries. The Nile River historian Robert O. Not until the 20th century did it become clear that the Nile is part of a vast river system with dozens of

tributaries, streams, and lakes, stretching from the Mediterranean Sea to the remote mountains of Burundi, in tropical central Africa, and to the highlands of Ethiopia, in the Horn of Africa. Spanning more than 4,000 miles, it is the longest river in the world. From until C. Aksumites participated in Mediterranean and Indian Ocean trade. The cultural relationship between Egypt and Ethiopia was institutionalized when the Aksumite King Ezana converted to Christianity in C. For 16 centuries until the Egyptian bishop of the Ethiopian Orthodox Church was appointed by the Egyptian patriarch in Alexandria, often under the influence of the Egyptian government. Ethiopians were profoundly influenced by the Middle East, even writing their state and geography into Bible stories. The source of the Blue Nile became the Gihon, one of the four rivers that flowed from the Garden of Eden. The 14th century C. Menelik stored the Ark on an island in Lake Tanaâ€”into which the Gihon flowsâ€”before it was moved to Aksum, where many Ethiopians believe the Ark remains to this day. The Muslim conquest of Egypt in C. Because the Ethiopian Orthodox Church remained subordinate to the Orthodox Church in Alexandria, and Egypt had become a Muslim country, Ethiopians became suspicious and resentful of the control Egypt had on the appointment of their Christian bishop abun. Muslim Egyptians also controlled Jerusalem and had the power to expel Ethiopian pilgrims to their holiest of cities. So Ethiopians began to claim power over Egypt through control of the Nile. During the Crusades the Ethiopian emperor Lalibela â€”who built a new Jerusalem in Ethiopia, safe from Muslim occupation in magnificent, underground rock-hewn churchesâ€”threatened retribution by diverting the Tekeze River from its pathway north into Sudan where it becomes the Atbara and then joins the Nile. The first Egyptian to write about the potential for an Ethiopian diversion of the Nile was the 13th century Coptic scholar Jurjis al-Makin d. Nothing came of the plan. The climax came in at the Battle of Gura in present day Eritrea where the Ethiopians delivered a humiliating defeat to the Egyptian army. Colonial-Era Conflicts over the Nile The European partition of Africa in the s added huge complexity to this conflict. Egypt was colonized by England in Egypt was prized for the Nile Delta, a region of unsurpassed agricultural productivity. For the British control of Egypt meant more profitable trade with India, its richest colony. For the French, the canal offered quicker access to Indochina, its most lucrative colony. In the late nineteenth century, since controlling Egypt was the key to Asian wealth, and since Egypt depended on the Nile, controlling the source of the Nile became a major colonial goal. The French conceived of the idea of building a dam on the White Nile, so as to undermine British influence further downriver and establish east-west control of the continent. They organized a stupendous pincer movement with one group of soldiers traveling from East Africa across Ethiopia and the other from West Africa across the Congo. The British heard of the French expedition, and, having just captured Khartoum ordered a fleet of gun boats and steamers with soldiers under the leadership of General Horatio Herbert Kitchener upriver to Fashoda, the site of the proposed dam. With fewer than men, the French were embarrassed. In the two colonial powers reached an agreement which designated to France the frontiers of the Congo River and to England the frontiers of the White Nile. Thinking that most of the Nile waters came from the equatorial lakes Victoria, Albert, Kyoga, and Edward , the English spent enormous energy on plans to increase White Nile water flows. First called the Garstin Cut and later the Jonglei Canal, the British intended to create a channel that would maximize water transfer through the great swamp where half of it evaporated. If the mile-long Jonglei Canal had been completed, it would have increased water flows by nearly 4 billion cubic meters into the White Nile. Treaties and Agreements over the Nile Waters Treaty negotiations about Nile waters started during the colonial era as England tried to maximize agricultural productivity in the delta. As the controlling imperial power in East Africa, agreements with Kenya, Tanganika, Sudan, and Uganda were pro forma, internal colonial matters. The Ethiopian monarch was not consultedâ€”at least in part because no one understood how much Nile water actually came from Ethiopia. The Nile Waters Agreement between Egypt and Sudan was completed before all the upriver states achieved independence: Tanganika , Uganda , Rwanda , Burundi , and Kenya The signatories of the Agreement allocated Egypt He negotiated the divorce of the Ethiopian Orthodox Church from the Orthodox Church in Alexandria, ending years of institutional marriage. Department of Reclamation resulting in a seventeen volume report completed in and titled Land and Water Resources of the Blue Nile Basin: Ethiopia won the war with Somalia in and retained the Ogaden. Its 30 year war with Eritrea, an Egyptian ally, came at a tremendous cost. Haile Selassie was

overthrown in , and after Eritrea won independence and Ethiopia became a landlocked countryâ€”although it still possessed the headwaters of the Blue Nile. In the middle of the s, rains failed in the Ethiopian highlands, causing a serious water crisis upriver and downriver. One million Ethiopians died as a result of drought and famineâ€”made worse by Civil War with Eritrea. As a result, Egyptians came to understand that their great Aswan Dam had not solved their historic dependency on upriver Nile water. In , after years of hostile rhetoric, the Egyptian President Hosni Mubarak and the Ethiopian President Haile Mariam Mengistu replaced the language of threat and confrontation with words of conciliation and cooperation. International water law has not resolved differences about ownership of Nile Waters. Egypt and Sudan rejected the agreement because it challenged their historic water rights. Ethiopia and the Lessons of Dam Building One lesson from the last century of mega-dam building is that upriver countries have the most power when negotiating water rights. China and Tibet control waters on multiple rivers flowing downstream to India, Pakistan, Myanmar, Bangladesh, and Vietnam. Another lesson is that mega-dams have enormous and unanticipated environmental impacts. The Aswan High Dam has disrupted the ecosystems of the river, the delta, and the Mediterranean with results of reduced agricultural productivity and fish stocks. Although late to mega-dam building, Ethiopia is now making up for lost time. One of the tallest dams in the world was completed in on the Tekeze River in northern Ethiopia. Three major dams on the Omo and Gibe Rivers in southern Ethiopia are either completed or nearly so. Ethiopians hope these water projectsâ€”which extend to with other Nile tributaries and river systemsâ€”will lift their country out of poverty. With nearly 90 million people it is the most populous landlocked country in the world. Sudan is and Egypt This index rates countries based on life expectancy, education, and income, among other criteria. Ethiopia is already leasing land in its southern regions to Saudi Arabia, India, and China for large irrigated water projectsâ€”despite severe land shortage in its northern regionsâ€”because it does not have the funds to develop this land on its own. If Ethiopia cannot use its elevation and seasonal rains for hydro-electric power and irrigation, what is it to do? The Tekeze dam was well over its predicted budget and years behind schedule.

### Chapter 8 : The Definitive List of River Movies | American Rivers

*It was the dedication of Oroville Dam on the Feather River â€” still the tallest dam in the United States, a major piece in California's State Water Project.*

### Chapter 9 : Nile River Dam Threatens War Between Egypt and Ethiopia

*Water Wars covers an impressive amount of territory for so slim a volume. One chapter is dedicated to theories on water rights, another to climate change, another to dams and control of rivers, another to the role of the International Monetary Fund and the World Bank.*