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California Water Crisis

After receiving an MBA in Sustainable Business from San Francisco State University, Alfred Twu created a board game about California water politics. In "California Water Crisis," players take the roles of three main regions: Northern California, Southern California, and the Central Valley. Through water collection, infrastructure, and policy making, players must find a solution to California's droughts, considering challenges such as special interest groups and population growth. The quick start guide guide states: "It's never a good start: Even in a wet year, there's not enough water. And the mega-drought can start at any time!" In most play-throughs, all players lose.

` "California Water Crisis" is a demonstration of the most complex and controversial water distribution system in the world. Despite every effort to quench the Golden State's droughts, the fundamental problem remains: overall demand exceeds supply. There are two major reasons that California's water challenge persists. First, water legislation is created in response to emergencies, failing to address an everlasting issue. Second, water regulation lacks focus on the local level, disregarding the livelihood and identities of distinct populations. If the state can resolve these issues, water sustainability will be in grasp.

Thirsty for Opportunity: A Brief History of the California Dream

After the discovery of gold in 1848, Americans rushed west across the country in search for a mythological superabundance of resources. According to Joshua Paddison, "Americans had dreamt of the region's agricultural possibilities and coveted its furs, hides, and other natural resources...In California—land-rich, full of gold, pregnant with promise—a young nation saw itself" (Paddison 127). Despite the huge promise, most of the dreamers were left unsatisfied by the Gold Rush. This economic vacuum caused California to become a lawless region filled with disorder and crime. Social elites spoke of the need to "tame the wild California."

As America phased into the Progressive Era in the late 19th century, California reformers helped stabilize and centralize the state. Historian Samuel P. Hays observed their effort as "the transformation of a decentralized, nontechnical, loosely organized society, where waste and inefficiency ran rampant, into a highly organized, technical, and centrally planned and directed social organization which could meet a complex world with efficiency and purpose" (Hundley 115). Continuous immigration caused California to expand rapidly, especially in the agricultural industry. In fact, the state and federal governments subsidized land purchases to farmers who sought to irrigate the area. Effectively, California promised a livelihood for farmers that was largely dependent on water availability. As reality set in through the the 20th century, this promise emptied out to its last drops.

Tapping Out: Temporary Solutions to an Eternal Issue

Since 1900, California has experienced nine major droughts; and each one has led to reactive legislation by the state and federal governments. These counteractions have only solved water issues on the short-term, avoiding the foundational dilemma: greater demand than supply.

Short-term and narrow problem-solving has proven to be inadequate for a wide range of global issues, including global health. Governments, alongside many private contributors, have spent extravagant amounts of money attempting to conquer disease in third-world countries. Laurie Garret has analyzed the inefficiency of this spending: “Because the efforts this money is paying for are largely uncoordinated and directed mostly at high-profile diseases—rather than at public health in general—there is a grave danger that the current age of generosity could not only fall short of expectations but actually make things worse” (Garret 295). Indeed, humanitarian aid is too focused on fulfilling short-term numerical goals, such as distributing a specific number of vaccines. Consequently, the long-term objective to improve overall well-being is lost.

Such is the case in California’s problem-solving during major drought seasons. The clearest example of this is seen in the construction of the Central Valley and the State Water Projects, which were built during the 1928 and 1959 droughts, respectively. Both projects were heavily influenced by the over-draft of groundwater, which is considered to be California’s hydrological “savings account” during dry seasons (Choy and McGhee 2). The objective was to transport the low-cost “checking account” of surface water in Northern California to other urban and agricultural regions. In effect, however, the mega-projects simply led to an expansion of agricultural and urban development in the Central Valley and Southern California. Groundwater has since been over-drafted at greater rates. In fact, these very projects have begun to crack from land subsidence (lowering) caused by groundwater over-draft (Moran, Choi, and Sanchez).

It comes to a surprise that through all this, the state government never formed a regulation for groundwater extraction. In his analysis of infrastructure problems, Neil Grigg argues that technical progress is only possible after institutional and regulatory problems are

fixed. These problems include faulty incentive structures, management cultures, and unclear roles and responsibilities (Grigg 1). Since the Central Valley and State Water Projects were constructed before any regulation on groundwater, they effectively worsened the long-term issue by expanding water demand even further.

Laurie Garret also observes that many scenarios of short-term problem solving, especially when externally funded, come with strings attached to the donors' priorities. Public Citizen of California has investigated this issue in the State Water Project. They found that the Kern County Water Agency was instrumental in the construction of the project, and is its largest purchaser of water. As a result, the county pays $45 per acre-foot, whereas is average price is $147 per acre-foot (Public Citizen 4). This means that it receives 45% of the project's water, while only paying for 13%. Essentially, counties that consume less water subsidize those that consume more.

Public Citizen observes that "the California Dream of 'making the desert bloom' is kept alive by an intricate and often make-shift collection of surgical fixes that try to make nature do what it does not want to do" (Public Citizen 1). Indeed, the state must accept the long-term reality: nature will not provide more water as demand increases from short-term management projects.

Partly Cloudy: A Lack of Focus on the Local Level

The second major issue in California's water management is a lack of focus on the local level. Consequently, many micro-conflicts exist throughout the state, disregarding the livelihoods and identities of specific populations.

One of these conflicts, seen throughout California, is the over-drafting of groundwater by large agribusinesses. In most areas of California, land ownership grants unlimited access to the

groundwater buried beneath it. As a result, large companies purchase land and dig deep wells to extract copious amounts of water. Since the water flows freely, surrounding small-scale farmers and low-income communities—which have always depended on groundwater—lose access to their supply and cannot afford to construct deeper wells (Moran, Choi, and Sanchez). For instance, when large almond orchards opened outside the town of Seville, they withdrew all of its reachable groundwater. This forced residents to travel and fill drums of water for their own supply (Walton).

Many farmers would argue that stricter groundwater regulations would increase water costs and hurt the industry (Reiter); however, in a capitalist society, the opposite may be expected for most farmers. According to Marx and Lenin's view on dynamics of private ownership, "because capitalism is driven by the desire to accumulate surplus value it is inherently unfair and unjust, is of benefit to elites, and leads to the exploitation and marginalization of the masse" (Richmond 121). This class structure is especially noticeable in rural areas due to the "tragedy of the commons." Since groundwater is a commonly shared but limited resource, large agribusinesses—acting in their own self-interest—hurt surrounding farmers and residents buy extracting as much water as they can.

Miles Reiter, CEO of Driscoll's berry farms, decided to speak up about the issue that most other agribusinesses would deny. He addressed the California State Assembly saying, "Those who want to maintain the status quo argue that sustainably managing our groundwater will reduce our agricultural economy and devalue land. I have absolutely no doubt that we will do far greater damage to our economy and our communities if we fail to act" (Reiter). If

groundwater continues to deplete, and as land continues to subside, the threat to the agriculture industry only worsens. This is only solvable if local management strengthens.

Another issue with over-centralization is the possibility for powerful interest groups to gain statewide influence over the water supply. This outcome is seen in other nation-states, like Nigeria, which Jiminez and Laremont have called "a unitary state in federal disguise" in regards to resource management. Francis Deng extends this idea, stating "the critical issue of resource distribution, which is a root cause of conflict of identities in the modern state context, becomes compounded by the center-state periphery distribution patterns" (Deng 83). Royal Dutch Shell has taken advantage of these patterns through its relationship with the central government, claiming to bring political stability to the whole nation (Frynas 457). In reality, Shell has hurt the local communities of the Niger Delta through numerous oil spills and valuable resource extraction (Uwedimo).

Similar scenarios of resource influence are seen in the central government of California. The most recent controversy involves the Bay Delta Conservation Plan: a proposal to build two tunnel-canals from the Sacramento River. These canals would travel under Sacramento-San Joaquin River Delta and divert water southward. Jerry Brown claims the $25 million project would improve the habitats of native fish species and improve water reliability for two-thirds of California's population. The proposal, however, has met fierce opposition from farmers in the Delta, and Congressman John Garamendi, who argues, "the BDCP is really a Bay Delta Destruction Plan that takes taxpayers for a ride and leaves behind a mess. This is simply an expensive plumbing system that doesn't add a single drop to the state's water supply" (Garamendi).

When taking a closer look, specific interests within the plan becomes evident, affirming Garamendi's claim. The state's Department of Water Resources, which is spearheading the BDCP, sells transported water to contractors in Southern California and the Central Valley (CA Dept. of Water Resources). Many of these larges agricultural contractors—who have significant political influence—would benefit from the BDCP's redistribution of water. Meanwhile, farmers in the Delta would lose the land and water that are essential to their individual livelihoods (Newton 1). Clearly, California must resist powerful interests and focus its management locally so large agribusinesses cannot drain out small farmers and rural residents.

A Step in the Right Direction: The Sustainable Groundwater Management Act

As population grows and increases stress on the environment, it becomes necessary to oversee and manage the collection of natural resources. Scott G. Borgerson addresses this matter in regards to the melting of the Arctic, which will provide access to new resources in an unregulated and contended area. He proposes, "an ideal way to manage the Arctic would be to develop an overarching treaty that guarantees the orderly and collective approach to extracting the regions wealth" (Borgerson 203). Similarly, California must account for all water interests—small and large—and regulate to defend its pristine environments. Unlike resources the Arctic, however, the supply of water will not increase. Thus, the state must manage water in a sustainable way that will not increase demand in the long term.

California's new Sustainable Groundwater Management Act—the first state-wide regulation of groundwater—addresses the water crisis with this strategy in mind. Using newly found data, the act locates medium- and high-priority groundwater basins, and requires the users of these basins to form local groundwater sustainability agencies. To avoid state intervention,

these agencies must use their own methods to prevent “undesirable results,” including chronic groundwater reduction, degraded water quality, and significant land subsidence. By 2020, agencies will form and provide their own 50-year plans, including 5 year benchmarks (Dickinson and Pavley 1-2). The SGMA is a huge step in the right direction, providing a long-term and locally-focused solution to groundwater overdraft.

Conclusion

It comes to no surprise that a rapidly sprawling and diverse state has struggled to provide an enduring solution to its water crisis for all individuals. Furthermore, it has become evident that powerful interests have taken advantage of both long-term and micro-scale issues. The future of California, however, is not parched up just yet. The most recent drought of 2012 has reminded residents that demand is exceeding supply in both wet and dry seasons. And if the state government continues to enact sustainable and locally-focused reform, like the SGMA, water demand will likely decrease.

The Golden State has been regarded not only as a model for progressive legislation, but also as a symbol of opportunity and the ideal lifestyle. Now, in an era when the global environment is dwindling, it is time to show the world that such place can exist without compromising sustainability and equity.

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