

California's Water Crisis And Wildfires: A Political Ecology Analysis Of Agribusiness Practices And Water Governance Failures

Siti Fajrina^{a,1}, Rachmaniar Rachmat Nur Wisisono^{b,2}, David Lie^{c,3}

^{a,b,c}Internasional Relations, Universitas Potensi Utama, Jalan KL Yos Sudarso Km 6,5 No. 3A Kel. Tanjung Mulia, Medan Deli, Medan, Sumatera Utara, Indonesia 20241

siti_fajrina@potensi-utama.ac.id¹, rachmaniar_rnw@potensi-utama.ac.id², liedavid42@gmail.com³

ABSTRACT

California's persistent water crisis, compounded by its frequent and devastating wildfires, highlights the complex interplay between environmental degradation and corporate business practices. This article explores the historical roots of California's ongoing water crisis, focusing on the role of agribusiness and federal water programs. By examining the evolution of water policy and the growth of corporate farming in San Joaquin Valley, Central Valley, and Kern Valley, the article highlights how decades of unregulated water use, land monopolies, and the expansion of water-intensive crops have exacerbated the state's water shortages. The article argues that monopolistic control over water resources and excessive usage by some powerful entities exacerbate the state's vulnerability to wildfires. Employing a qualitative analysis of water distribution policies and corporate strategies, this study underscores the need for sustainable business practices and equitable water governance to address the crisis effectively. The findings suggest that sustainable water management and policy reform are essential to address the crisis and ensure long-term water security for California.

Keywords: California water crisis, Agribusiness, Federal water programs, Water policy, Corporate practices

Article Info :

Submitted: 05 November 2025

Reviewed: 10 December 2025

Accepted : 23 January 2026

Copyright © 2026 – PIR Journal UPU. All rights reserved.

1. INTRODUCTION

"The wars of the future will be fought over water not oil" proclaimed a New York Post headline (2018), often cited as the water wars thesis (Whigman, 2018). This theory posits that water scarcity will trigger inter-community conflicts over water access in the future. Socio-political analysts fear that opportunistic politicians and large corporations will battle over water supplies, worsening conditions for the general populace. Research led by Dr. Fabio Farinosi of the European Commission's Joint Research Center illustrates that future water wars or hydro-political issues are primarily driven by climate change and uncontrolled population growth. The US Director of National Intelligence warns that conflict risks will escalate as global water demand is projected to increase by 40% by 2030 (Whigman, 2018).

Rapid population growth has drastically increased water demand for domestic and industrial uses, leading to massive groundwater extraction. This over-pumping has caused significant land subsidence in cities worldwide (Achdian, 2020). Examples include Jakarta (subsiding up to 10 cm/year), Bangkok (1-2 cm/year), Beijing (4 cm/year), and California's Central Valley, which experiences over 30 cm of annual subsidence due to agricultural groundwater use (Carolina et al., 2013). Professor Mike Young, a Water and Environmental Policy researcher at the University of Adelaide, notes that water scarcity is a global phenomenon, with many regions, including Australia, California, China, India, Pakistan, and Africa, consuming water beyond their sustainable capacity (Neblina, 2016).

California, renowned for its picturesque landscapes and agricultural wealth, has long faced a deepening water crisis that threatens ecological balance and public safety. This crisis is compounded by increasingly frequent and destructive wildfires. In early 2025, the Palisades and Eaton areas of Los Angeles were struck by one of the worst wildfires in California's history (Sarwindaningrum, 2025). Fueled by powerful Santa Ana winds (65-75 mph) and extreme temperatures, the fire consumed thousands of hectares within hours, destroyed hundreds of structures, and forced thousands to evacuate. This tragedy starkly underscores the escalating environmental impacts in a state grappling with chronic water scarcity and seasonal wildfires.

Beyond the apparent triggers of drought and climate change lies a more complex reality: the monopolistic control of water resources by large agribusinesses. Even during California's longest recorded drought (2011-2017), water use for irrigating commercial crops like almonds, pistachios, and alfalfa continued largely unchecked (Neblina, 2016). Major agribusiness corporations own and control significant portions of reservoirs intended as public resources, exacerbating inequitable water distribution. Meanwhile, local communities and natural ecosystems are marginalized in the competition for increasingly scarce water. The disproportionate water consumption by agribusiness directly undermines California's capacity to mitigate wildfire risks (Mollinga et al., 2008).

This article investigates the nexus between corporate business practices, water resource allocation, and environmental challenges in California. Focusing on the role of agribusiness, this study aims to elucidate how profit-oriented corporate strategies contribute to water scarcity and exacerbate wildfire hazards. The relationship between the growth of corporate agriculture and the evolution of water policy will also be traced. By examining these dynamics, the authors hope to provide actionable insights for balancing corporate profitability with environmental sustainability.

2. LITERATURE REVIEW

Global environmental issues, including drought and wildfires, share a common direct link: water. Rapid population growth, finite natural resources, increased use of polluting technologies and chemicals, and unsustainable resource exploitation have led to declining environmental quality and human well-being (Leck et al., 2015). Inadequate access to clean water and sanitation constitutes a serious challenge for human survival (Grenier et al., 2024). The water crisis is an environmental problem driven by overpopulation and excessive consumption patterns. Thus, water scarcity, overpopulation, and overconsumption are interlinked. A larger population increases daily water demand, straining limited global freshwater (surface water) resources for household and industrial use. The global water crisis involves not only limited quantity but also declining quality, due to factors like diminishing water resources, unequal access, water pollution, and privatization (Angelakis et al., 2021).

The water and environmental crises become more complex with the inclusion of a new perpetrator variable: corporations, specifically agribusiness (corporate farming). As profit-maximizing entities, corporate business strategies often overlook the environmental impacts of their economic activities. Several theories are commonly used to analyze the link between corporate practices and environmental degradation:

A. Political Ecology Theory

Since its emergence in the 1970s-1980s, political ecology has become a prominent field in environmental studies (Arsel, 2020). Its two main contributions are: first, a focus on 'scale,' enabling scholars to identify and analyze chains linking environmental dynamics to social, political, cultural, and economic forces across various conceptual and physical sites. Second, a consistent focus on 'power' in

its various forms as key to understanding how sustainability is created and disseminated (Neumann, 2005; Robbins, 2003). Political ecology emerged as environmental scholars began applying political economy concepts rooted in structuralist and materialist concerns. This approach helps explain the linkages between environmental dynamics and broader political-economic processes (Peet and Watts, 1996; 2004). This analytical breakthrough allows political ecologists to investigate, for example, connections between environmental degradation and broader issues like poverty, landlessness, inequality, neocolonialism, and political or economic practices.

Originating from critical development studies, political ecology asserts that natural resource management decisions cannot be understood solely from a technical efficiency perspective (Arsel, 2020). Instead, as Adams (1990) argues, the "greenness" of development planning is found not in its ecological concerns but in its preoccupation with control, power, and sovereignty. According to political ecology, resource development patterns emerge from the interaction between natural systems (e.g., aquifer quantity, quality, location) and social systems (e.g., the distribution of economic, social, and political power within a society) (Hanak et al., 2008).

The economic dimension in political ecology relates to the impacts and evolution of global capitalism, particularly commodity chains, analyzing how profit-driven capitalist development operates. This dimension aims to foster a globally sustainable economy that is balanced not only ecologically but also socially and economically (Loftus, 2005). Commonly discussed ecological initiatives include payments for ecosystem services and the clean development mechanism, both rooted in profit motives (Holm, 2024).

Political ecology's economic analysis centers on global capitalism's impact, particularly via commodity chains, revealing its core profit-maximizing imperative. This perspective ultimately seeks to envision a globally sustainable economy that achieves balance ecologically, socially, and economically (Loftus, 2005). Notably, even modern ecological schemes like payments for ecosystem services and the clean development mechanism are fundamentally rooted in this profit-motive logic (Holm, 2024).

B. *Political Water Resource Governance Management*

Broadly, politics is the art and science of governing states (Molle, 2008). It is "*the art and science of directing and administering states and other political units*" (The New Collins Concise English Dictionary, 1982). Politics can also be understood as the complex aggregate of relationships among people in a society vying for authority and power (Mollinga, 2008). It encompasses activities related to acquiring power and the factors that direct or influence outcomes. Politics is a dimension of many social processes—where individual or group interests are mediated.

The concept of politics is well-established in social science literature. A broad understanding of politics forms a core proposition of this article: **water resources management is inherently political**. The very term 'good water governance' indicates the political dimension of water management (Glennon, 2005). Water crises are often linked to governance crises, signifying that water issues are not merely resource management or operational problems but are intertwined with socio-political structures. The emergence of water resource governance as a theme brings politics into the mainstream discourse of complex water resource development (Loftus, 2005).

Despite a tendency to argue that 'politics' should be removed from water management, the global water discourse acknowledges that water resource management is a political process. This stems from the idea that water control is central to natural resource management and should be recognized as a politically contested resource use process. Access to clean water and sanitation is a human right recognized by the United Nations. On July 28, 2010, the UN General Assembly adopted Resolution

64/292, explicitly stating that clean water and sanitation are essential human rights for the full enjoyment of life. The resolution affirms everyone's right to sufficient, safe, acceptable, accessible, and affordable water for personal and domestic use. Although not legally binding, the resolution carries moral and political weight, urging global prioritization of clean water access. This is reinforced in the 2030 Sustainable Development Goals (SDGs), Goal 6: "Clean Water and Sanitation for All."

3. METHOD

This research employs a qualitative literature study, relying on secondary data analysis from government reports, documents from the Pacific Institute (a US-based think tank focused on water management), the California Department of Water Resources, the Public Policy Institute of California (PPIC), corporate reports, academic research, and media coverage. A literature study is a research approach that explores and analyzes existing literature in a specific field to understand related issues (Apriliana Sari, 2024). The analysis synthesizes relevant sources to identify patterns and causal relationships between massive water use by agribusiness and the water crisis, particularly regarding California's seasonal wildfires.

4. RESULTS AND DISCUSSION

A. Historical Patterns of Water Policy Favoring Agribusiness

California, a US state established in 1850 with its capital in Sacramento, spans approximately 423,970 km² with over 39 million residents. It boasts the largest economy among US states and ranks among the world's strongest. As an independent nation, California would be the world's fifth-largest economy. As a technology hub housing giants like Apple, Google, Microsoft, and Tesla in Silicon Valley, California is also the United States' leading agricultural producer (Hanak et al., 2008). Its primary commodities include almonds, pistachios, grapes, citrus, tomatoes, and dairy, with California almonds supplying about 80% of the global market. These products are exported worldwide, including to China, Japan, South Korea, and European nations. Despite its advanced agricultural sector, California faces significant challenges related to water crises, prolonged droughts, and high irrigation demands for water-intensive crops like almonds, alfalfa, and pistachios.

Major projects like the Central Valley Project (CVP) and State Water Project (SWP) were built to channel water to agricultural and urban areas. However, heavy reliance on groundwater and pressure from large agribusinesses continue to exacerbate environmental and water availability issues. The evolution of California's water management policy can be divided into several periods:

1. 1930s-1950s: The Dawn of Water Reclamation for Agriculture

In the late 1930s, large-scale projects like the Central Valley Project (CVP) were designed as part of economic reconstruction after the Great Depression. Publicly funded, the CVP aimed to provide irrigation water to arid regions of the Central Valley. Through dams, canals, and pumping stations, it diverted water from major rivers like the Sacramento and Kings to boost agricultural productivity in previously water-scarce areas (Hanak et al., 2011).

2. 1960s-1970s: Massive Expansion via the SWP

In the early 1960s, the State Water Project (SWP) was launched to extend water supplies to Southern California. This project involved diverting water from the Sacramento River to the San Joaquin Valley, including arid regions like Kern County. This expansion spurred agricultural land growth and encouraged large agribusinesses to cultivate water-intensive crops like almonds and citrus (Kahrl, 1979).

3. 1980s-1990s: Privatization and Agribusiness Dominance

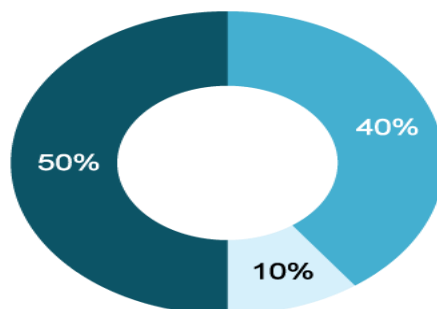
During this period, government policy favored large corporations with political and economic clout. Subsidized, low-cost water access was granted to large landowners and agribusinesses through various policy concessions. Large agribusinesses with cheap water dominated the agricultural market, while many small farmers lost land due to an inability to compete in an increasingly competitive market (Hundley, 2001).

4. 2000s-Present: Drought and Water Conflict

Since the early 2000s, California has faced intensifying droughts, with the most severe period occurring from 2011 to 2017. During this time, large agribusinesses used their political influence to secure water supplies despite shortages affecting local communities. Excessive groundwater use by large-scale agricultural industries worsened the environmental crisis and threatened aquifer sustainability (Cooley et al., 2015).

Water Policy Timeline:

- **1933:** Central Valley Project (CVP) designed to enhance irrigation in agricultural regions.
- **1960:** State Water Project (SWP) launched, expanding water diversion to Southern California.
- **1977:** Major drought testing irrigation project efficiency.
- **1980-1990:** Consolidation of large agribusiness through subsidized water policies.
- **2011-2017:** Severe drought causing water distribution conflicts between agribusiness and local communities.
- **2025:** Major wildfires in Los Angeles resulting in casualties



■ Agriculture ■ Environment ■ Urban

California's Water Usage (Source: Public Policy Institute of California (2024))

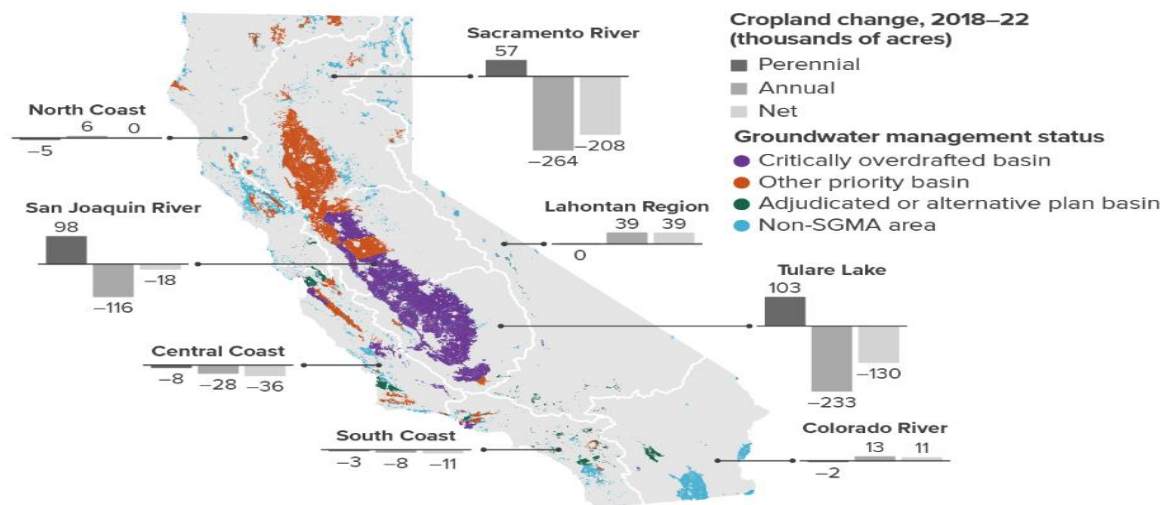
Terry L. Anderson (1983), in "Water Crisis: Ending the Policy Drought," defines an economic crisis as "*when the quantity demanded is greater than the quantity available and when there is little time to adjust either of them.*" This formula applies to nearly all non-renewable resources, including water. In 1983, Anderson equated the future water crisis to the 1970s energy crisis. For California, that future began in 2011. Farmers, especially in the driest parts of the Central Valley, saw significant increases in irrigation water availability due to reclamation and diversion projects starting in the late 1930s.

Greater access to irrigation water meant increased agricultural production and potential profits from cultivation and land speculation, making large-scale farming attractive, particularly during economic hardship. Unfortunately, many family farms were lost during the Great Depression, with unemployment reaching 28% in 1932 (above the national average of 25%) and nearly one-fifth of the population receiving government aid by 1934. This limited funds for basic necessities, making it difficult for farmers to pay mortgages and debts. Those who retained their land were positioned to reap significant benefits when New Deal programs were implemented—often individuals with sufficient wealth to survive the

economic collapse who already owned thousands of acres of ranch and farmland by the turn of the 20th century. Thus, when irrigation water became abundantly available, these individuals saw increased productivity and profits from their land (Glennon, 2005).

Increased water supply was achieved through publicly funded reclamation projects: the CVP and SWP. The shift in crop production and expansion into drier parts of the Central Valley was primarily profit-driven, by both large and small farming operations. Agribusiness and large-scale farming, in particular, cultivated as much land as possible, favoring water-intensive crops over traditional ones, consolidating land, and reaping substantial profits (Agnew & Agnew, 2015). This was enabled by access to federally subsidized water. However, due to growth rates and crop types, many agribusinesses demanded ever more water despite awareness of recurring droughts in the southern San Joaquin Valley. Moreover, industrial farm owners and managers typically possess more financial and political power than traditional family farmers, often allowing agribusiness corporations to influence water policy to secure their needs, worsening water shortages and environmental problems (Cole et al., 2024).

While total cultivated acreage fell, perennial orchard planting continued to rise



SOURCE: Author calculations using California Department of Water Resources (DWR) *Statewide Crop Mapping* dataset. For details, see the dataset: *PPIC Irrigated Crop Acreage, 2018–22* (Cole 2024).

Several components underpin this argument, all related to land cultivated at levels, in ways, and in locations unsuitable for long-term agricultural sustainability. California has a long history of land and resource consolidation controlled by a handful of influential individuals, with long-term impacts on land and water policy. First, large landowners typically have access to more water than small farmers. This water is usually obtained at low cost (except in extreme circumstances) due to federal subsidies. Large landowners are often better positioned to compete in local, national, and international markets. Access to cheap water gives them a significant economic advantage over smaller neighbors. Second, large landowners tend to oppose government regulation of resources, pesticide use, wages, taxes, and environmental issues. They also use their power and influence to delay water policy reforms as long as possible, while earning millions annually from publicly funded water programs. Third, agribusinesses are often owned by investors with the sole purpose of generating profit. Industrial farming generally disregards crop types, pesticides used, environmental impacts, or the effects of farming and labor practices on surrounding communities, as long as revenue is not lost. This often contrasts with family farms, whose operators live in or near surrounding communities and can see and feel the impacts of their practices. While both large and small farms aim for profit, family farms traditionally also operate with the goal of keeping land viable for future generations (Series, n.d.).

The impact of water infrastructure expansion was that irrigation water availability from the CVP drove increased productivity and farmland expansion, especially in the fertile but previously water-limited San Joaquin Valley, reliant on the Kern River (700,000 acre-feet/year) and Kings River (1.74 million acre-feet/year). In dry seasons, this supply was insufficient to irrigate over 2 million acres in Kern County alone. Pressure to meet the water needs of expanding farmland—coupled with population growth—spurred CVP expansion through the 1970s, including new dams, canals, and power plants. By 2016, most water from these projects still flowed to large-scale agriculture in the driest Valley regions. To facilitate water transfer to Southern California, part of the Sacramento River flow was diverted to the San Joaquin River, allowing water to be pumped back upstream via canals to irrigate Kern, Kings, and Tulare counties—key producers of California's agricultural output (2005-2016). This achievement would have been impossible without water from public programs, especially during drought years.

B. Impact of Water-Intensive Crop Expansion in California

The expansion of water-intensive crops like almonds, pistachios, and citrus has placed immense strain on California's water resources. These crops are popular among large agribusinesses due to their high economic value in domestic and international markets. However, the sustainability of such farming practices is increasingly questioned due to significant environmental and water availability impacts (Cole et al., 2024). A primary impact is the surge in irrigation demand far exceeding the natural capacity of arid regions like the San Joaquin Valley. To meet this demand, many agribusinesses drill deeper wells and extract groundwater, causing drastic declines in water tables and leading to land subsidence (Libecap, 1935).

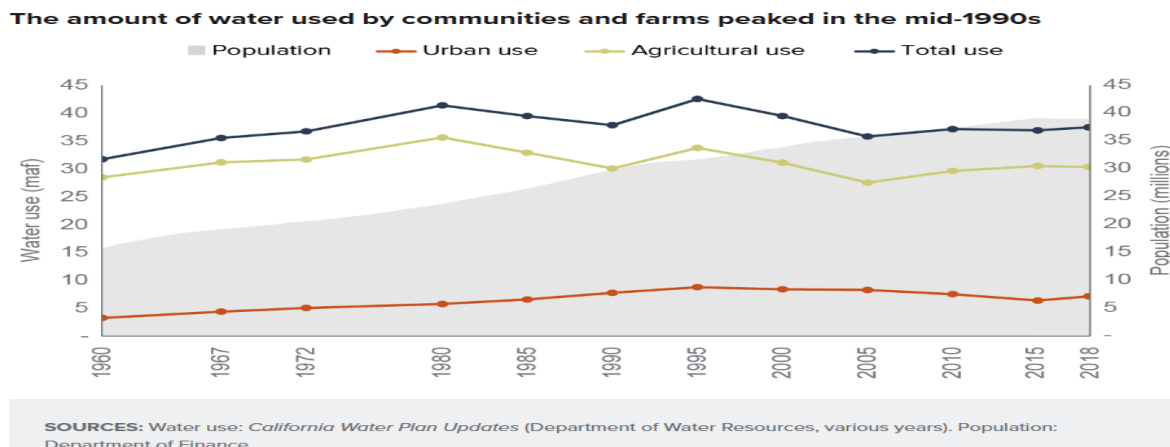
Furthermore, massive water use for water-intensive crops exacerbates already critical shortages during droughts. During the extreme drought of 2011-2017, substantial water allocated to agribusiness left local communities and urban sectors with inadequate clean water supplies, intensifying conflicts between agricultural and urban water users (Hamdy et al., n.d.). Environmentally, large-scale irrigation negatively impacts natural aquatic ecosystems. Diversions from rivers and natural streams for irrigation have reduced flows in critical areas like the Sacramento-San Joaquin Delta, a vital habitat for various fish and wildlife species (Peterson et al., 2024).

Beyond ecosystem degradation, water-intensive crop expansion increases fertilizer and pesticide use, which leach into groundwater and rivers, creating chemical pollution that potentially damages ecosystems and public health. To address these negative impacts, various approaches have been proposed, including diversifying to less water-intensive crops, implementing water-efficient irrigation technologies like drip irrigation, and strict regulation of groundwater use. These measures are crucial for sustaining California's agricultural sector while protecting diminishing water resources (Grenier et al., 2024).

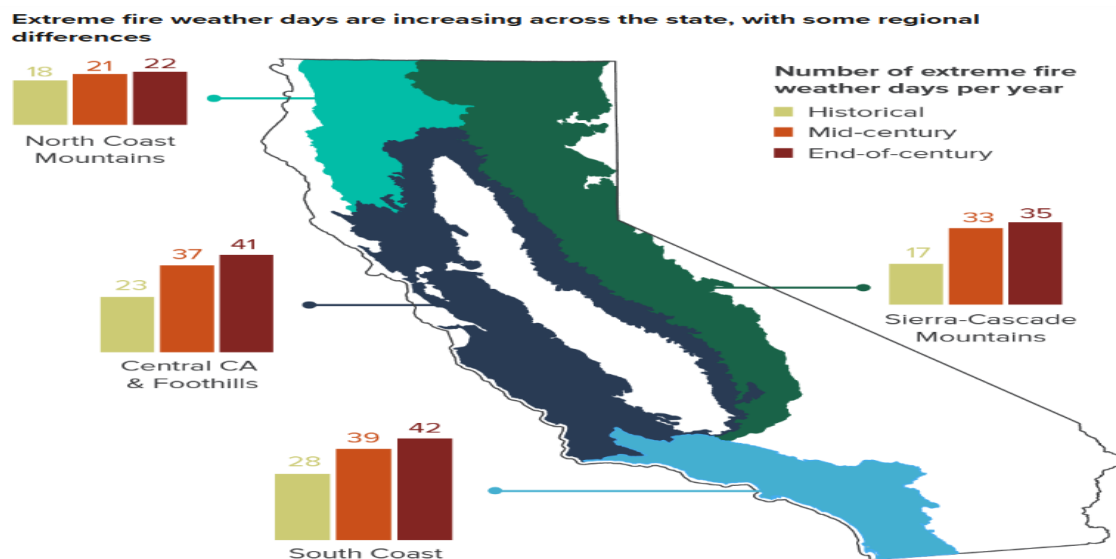
C. The Interconnection Between Water Crisis and Wildfires in California

California's prolonged water crisis is closely linked to the increasing intensity and frequency of devastating wildfires. The extreme drought period from 2011 to 2017 severely deteriorated natural vegetation across the state. Drought reduces soil moisture, turning vegetation into highly flammable dry fuel, creating ideal conditions for large, uncontrollable wildfires (Abatzoglou & Williams, 2016). Decreased water availability also hampers the ability of local authorities and firefighters to combat fires. Limited water resources make firefighting efforts more difficult and less effective. Moreover, massive water use for agricultural irrigation, especially by large agribusinesses growing water-intensive crops like almonds and pistachios, further reduces water supplies available for fire mitigation (Cooley et al., 2015). Research indicates that climate-change-induced drought has increased the likelihood of wildfires by over 50% compared to normal conditions (Williams et al., 2019). The long-term impacts of wildfires

damage natural ecosystems and pollute surface water resources with ash and chemical residues, worsening clean water crises in affected areas (Neblina, 2016).



Conversely, major fires like the 2018 Camp Fire and early 2025 Palisades Fire place additional strain on water infrastructure. Damage to pipelines, reservoirs, and water treatment plants hinders clean water distribution to local communities, especially in California's inland regions (CalFire, 2019). Therefore, the relationship between water crisis and wildfires creates a vicious cycle. Mitigation efforts must include stricter water conservation, improved vegetation management, and enhanced technology for more efficient water-based firefighting systems (Cole et al., 2024).

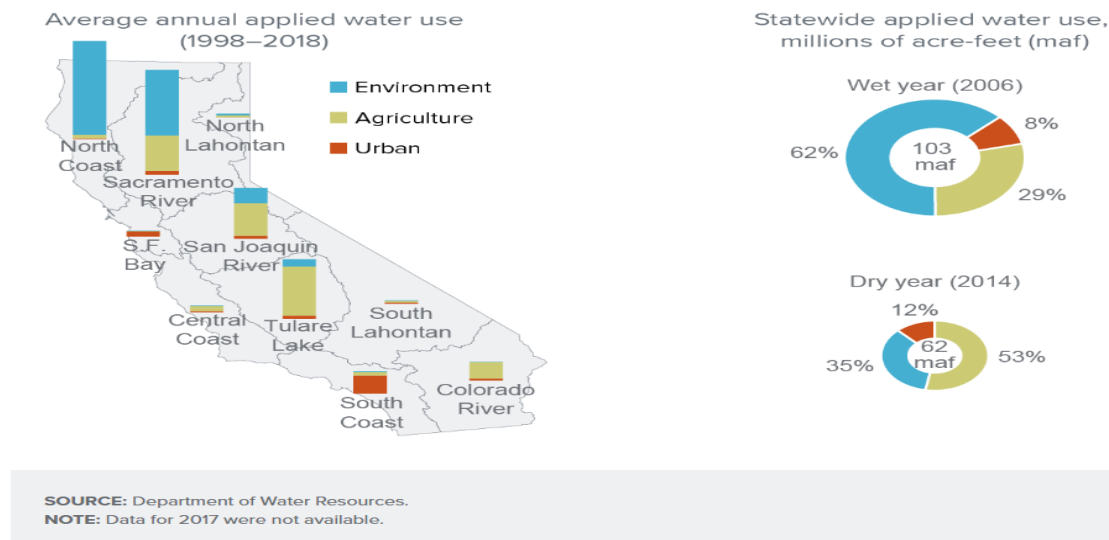


D. Failure of Equitable Water Governance

A root cause of California's water crisis is the failure of equitable water governance. Decades-old water distribution policies have consistently favored large agribusiness over local communities and small farmers. Large projects like the CVP and SWP were initially designed to serve all stakeholders, but in practice, most water supply has been allocated to agribusinesses growing water-intensive crops like almonds and pistachios (Hanak et al., 2011; Cooley et al., 2015). Federally subsidized, low-cost water enables large corporations to monopolize access, while small farmers struggle to secure adequate water for their operations (Hundley, 2001). During the severe 2011-2017 drought, inequitable distribution

worsened injustices, with local communities often receiving only leftover water after agribusiness needs were met.

Water use varies dramatically across regions and between wet and dry years



Furthermore, the significant political influence of agribusiness makes water policy reform difficult. Large corporations often possess sufficient funds and political power to influence policies, ensuring priority in water allocation even during shortages (Kahrl, 1979). Consequently, local communities face clean water shortages while agribusiness water use continues to rise. This governance failure harms local communities and has serious environmental impacts, including reduced river flows, aquifer over-extraction, and water pollution from fertilizers and pesticides. Addressing this crisis requires policy reforms ensuring more equitable, sustainable water distribution and protection of diminishing water resources (Fransiska et al., 2024).

E. Theoretical and Practical Implications

California's water crisis is not only an environmental and economic issue but also carries broad theoretical and practical implications. Theoretically, this case serves as a real-world illustration of negative externality theory in economics, where uncontrolled water use by large agribusiness creates adverse social and environmental impacts on the broader public. Dependence on finite water resources demonstrates market failure to account for the environmental costs of water-intensive economic activities (Hanak et al., 2011). Dependency theory is also relevant, as local communities and small farmers often suffer within an economic system disproportionately benefiting large corporations with privileged access to public resources (Hundley, 2001).

Practically, this crisis underscores the need for more sustainable and inclusive water policy reforms. Stricter regulations on water allocation and aquifer protection are crucial to reduce groundwater over-extraction impacts. Water-efficient irrigation technologies like drip irrigation have been identified as practical solutions to significantly reduce agricultural water consumption (Cooley et al., 2015). However, implementing such technologies requires adequate financial and policy support to ensure small farmers can adapt. This crisis also has practical implications for water resource governance (Steven, 1999). Collaboration among government, local communities, and the private sector is essential to ensure more equitable and sustainable water management. Strengthening water management institutions to monitor use and enforce rules can help balance agribusiness needs with local communities' right to clean water access (Series, n.d.).

Another practical implication is the need for public awareness regarding water conservation and the importance of diversifying towards less water-intensive crops. Educational campaigns can help shift mindsets and practices in water use across agricultural and public sectors. By understanding the theoretical and practical implications of this water crisis, more adaptive, evidence-based policies can be designed to create sustainable long-term solutions.

5. CONCLUSION

Water is a human right according to the UN Constitution. Monopolistic control of water resources by large agribusiness corporations poses a significant threat to water sustainability in California and beyond. Large agribusinesses often secure extensive water rights, allowing them to extract vast quantities for irrigation and production. For example, the Central Valley, a primary agricultural hub, is dominated by a few large agribusinesses consuming most of the region's water supply. This overuse not only depletes local aquifers but also reduces water availability for household and ecological needs. Consequently, over-exploitation weakens ecosystem resilience, making California increasingly vulnerable to drought and wildfires.

Addressing the interconnected problems of water scarcity and wildfires necessitates a shift towards sustainable business practices. Corporations must adopt water conservation measures and invest in water-efficient technologies. Furthermore, equitable water governance is crucial; policies must ensure water distribution prioritizes ecological health and community needs over corporate demands. For instance, stricter regulations on water rights and usage can help mitigate the negative impacts of monopolistic practices. Additionally, promoting corporate social responsibility initiatives can motivate businesses to engage in environmentally friendly practices, fostering a more resilient ecosystem. California's water crisis and increasing wildfire frequency underscore the urgent need to reevaluate corporate business practices concerning water resource management.

REFERENCES

- [1] Sarwindaningrum, Irene. 2025. Kebakaran California: Saat Tata Kota Menantang Alam [online]. <https://www.kompas.id/artikel/kebakaran-california-ketika-tata-kota-yang-menantang-alam>. Accessed 20 January 2025.
- [2] Grenier, Letitia & Jeffrey Mount. 2025. The Impact of the Southern California Fires [online]. <https://www.ppica.org/blog/the-impact-of-the-southern-california-fires/>. Accessed 25 January 2025.
- [3] Mount, Jeffrey, Ellen Hanak, Caitlin Peterson. 2023. Water Use in California. <https://www.ppica.org/publication/water-use-in-california/>.
- [4] Grenier, Letitia, et al. 2024. Priorities for California's Water. <https://www.ppica.org/publication/priorities-for-california-water/>.
- [5] California Department of Water Resources. 2024. Sustainable Groundwater Management Act 2024. <https://water.ca.gov/Programs/Groundwater-Management>. Statewide Groundwater Management.
- [6] California Department of Water Resources. 2024. Sustainable Groundwater Management Act

(SGMA). <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>.

- [7] Pacific Institute. 2024. Announcement: 2023 Was a Record Year for Violence Over Water Resources Across the Globe [online]. <https://pacinst.org/announcement/2023-was-a-record-year-for-violence-over-water-resources-across-the-globe/>. Accessed 20 January 2025.
- [8] Holm, Spencer. 2024. Water Through a Sieve – Qualifying Corporate Water Rights Amidst Competing Interests in California. *Rutgers Business Law Review*. Vol 9 Issue 2, page 205.
- [9] Logan, Nneka. 2018. The Flint water crisis: An analysis of public relations as a mediator between human and corporate persons. *Public Relations Review* Volume 44 Issue 1, March 2018, pages 47-55.
- [10] Cooley, H., Donnelly, K., & Soong, J. (2015). The cost of alternative water supply and efficiency options in California. Pacific Institute. Retrieved from <https://pacinst.org>.
- [11] Hanak, E., Lund, J., Dinar, A., Gray, B., Howitt, R., Mount, J., & Thompson, B. (2011). *Managing California's water: From conflict to reconciliation*. Public Policy Institute of California. Retrieved from <https://www.ppic.org>.
- [12] Hundley, N. (2001). *The Great Thirst: Californians and Water—A History*. University of California Press.
- [13] Kahrl, W. (1979). *Water and power: The conflict over Los Angeles' water supply in the Owens Valley*. University of California Press.
- [14] Abatzoglou, J. T., & Williams, A. P. (2016). Impact of anthropogenic climate change on wildfire across western US forests. *Proceedings of the National Academy of Sciences*, 113(42), 11770-11775. <https://doi.org/10.1073/pnas.1611601113>.
- [15] CalFire. (2019). *Camp Fire Incident Report*. California Department of Forestry and Fire Protection. Retrieved from <https://fire.ca.gov>.
- [16] Williams, A. P., Abatzoglou, J. T., Gershunov, A., Guzman-Morales, J., Bishop, D. A., Balch, J. K., & Lettenmaier, D. P. (2019). Observed impacts of anthropogenic climate change on wildfire in California. *Nature Communications*, 10(1), 1-9. <https://doi.org/10.1038/s41467-019-09999-0>.
- [17] Achdian, A. (2020). Politik Air Bersih : Kota Kolonial , Wabah , dan Politik Warga Kota. 3(1), 98-104. <https://doi.org/10.26639/j.s.v3i1.255>.
- [18] Agnew, J., & Agnew, J. (2015). Provision. 5608(December). <https://doi.org/10.1080/00045608.2011.560053>.
- [19] Angelakis, A. N., Valipour, M., Ahmed, A. T., Tzanakakis, V., Paranychanakis, V., Krasilnikoff, J., Drusiani, R., Mays, L., Gohary, F. El, Koutsoyiannis, D., Khan, S., Joseph, L., & Giacco, D. (2021). *Water Conflicts : From Ancient to Modern Times and in the Future*.
- [20] Carolina, N., Carolina, N., West, G., Man, Y., & Sullivan, J. O. (2013). *Water Wars*. 38-41.

- [21] Cole, S., Hanak, E., & Escriva-bou, A. (2024). Drought and Groundwater Sustainability in California 's Farming Regions Highlights. June, 1-6.
- [22] Fransiska, G., Sari, A., & Yolanda, D. (2024). KRISIS AIR MENANGANI PENYEDIAAN AIR BERSIH DI DUNIA YANG SEMAKIN KEKURANGAN SUMBER DAYA. 1(5), 334-341.
- [23] Glennon, R. (2005). Water Scarcity , Marketing , and Privatization. 8(2003).
- [24] Grenier, L., Mount, J., Bardeen, S., Hanak, E., Franklin, B., Greenspan, K., Cole, S., Gray, B., Sencan, G., Escriva-bou, A., Gartrell, G., Grantham, T., Sanders, B., Schwabe, K., Sumner, D., & Ubois, L. (2024). Are We Ready for Climate Change ? PRIORITIES FOR CALIFORNIA 'S WATER CONTRIBUTORS. November.
- [25] Hamdy, A., Driouech, N., & Hmid, A. (n.d.). The Water-energy-food security nexus in the Mediterranean : challenges and opportunities.
- [26] Hanak, E., Lund, J., Buzz, B., Cutter, W. B., Gray, B., Houston, D., Howitt, R., Jessoe, K., Libecap, G., Sheila, J. M., Daniel, O., Sunding, D., Thomas, B., & Wilkinson, R. (2008). California Economy.
- [27] Leck, H., Conway, D., Bradshaw, M., & Rees, J. (2015). Tracing the Water - Energy - Food Nexus : Description , Theory and Practice. 8, 445-460. <https://doi.org/10.1111/gec3.12222>.
- [28] Libecap, G. D. (1935). Chinatown : Owens Valley and Western Water Reallocation — Getting the Record Straight and What It Means for Water Markets. 6(1906).
- [29] Loftus, A. (2005). The Right to Water.
- [30] Mollinga, P. P., Saravanan, V. S., & Wester, P. (2008). Water , Politics and Development : Framing a Political Sociology of Water Resources Management. 1(1), 7-23.
- [31] Neblina, T. M. (2016). From Access to Excess : Agribusiness , Federal Water Programs , and the Historical Roots of the California Water Crisis. December.
- [32] Peterson, C., Hanak, E., Morales, Z. J., Cole, S., & Greenspan, K. (2024). Replenishing Groundwater in the San Joaquin Valley : 2024 Update.
- [33] Series, S. (n.d.). Law and Policies that Address Equitable , Climate- Resilient Water and Sanitation Law and Policies that Address Water , Sanitation , and Climate Change. October 2024.
- [34] Steven, P. (1999). California Policy Options.
- [35] Whigman, N. (2018). The wars of the future will be fought over water not oil. In New York Post.