

SECURING THE RIGHT TO WATER: WATER INSECURITY IN THE US

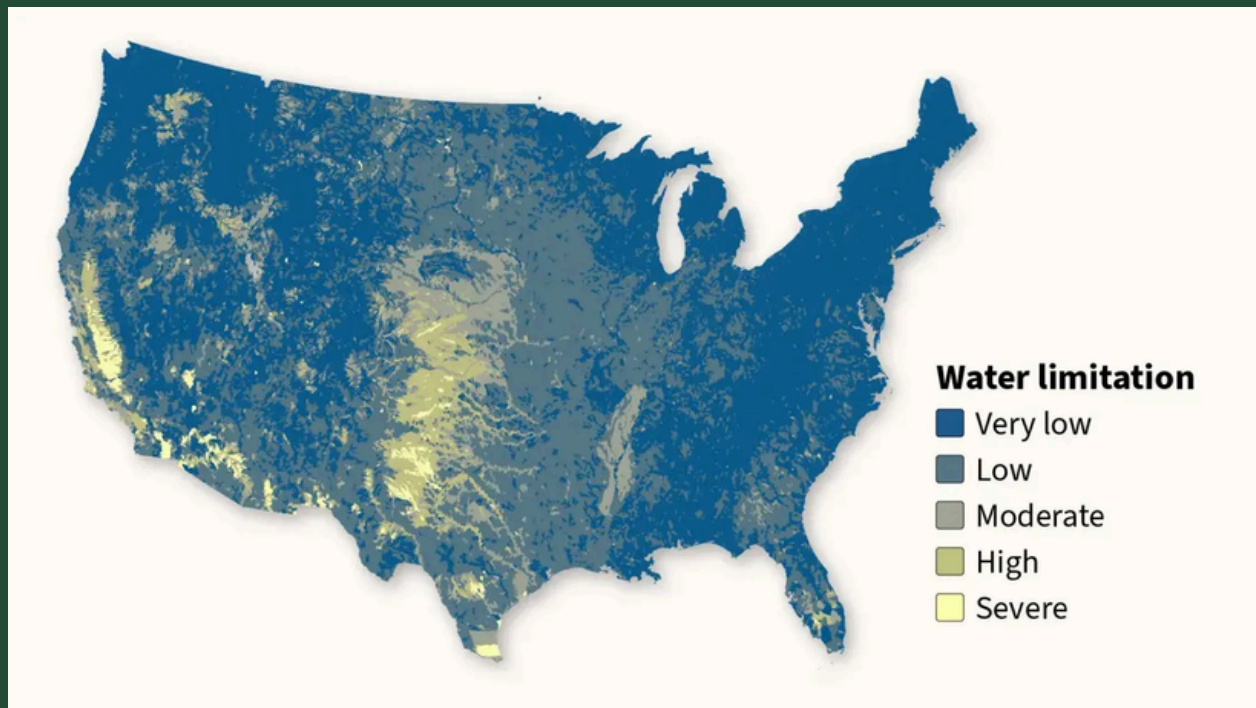
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ABSTRACT

Drinking water in the US leads the world in safety and reliability, but failures in systemic upkeep and physical infrastructure have threatened the security of water for many Americans. While water insecurity is often associated with developing nations, nearly 30 million Americans face limited surface water and failing infrastructure. (Scanlon, Duncan, & Reedy, 2020). This issue of water security has historically and persistently disproportionately affected marginalized communities. (Scanlon, Duncan, & Reedy, 2020). There are at least 2.2 million people in the US who live in housing that lacks basic plumbing, and even more with issues of poor quality and inadequate sanitation. (Scanlon, Duncan, & Reedy, 2020). Because of practices that exclude communities of color from municipal water infrastructure, black Americans are twice as likely as white Americans to live in homes with inadequate plumbing. (Mackey, Yeager, & Ballard, 2020). Continuing with those trends, California, a site of many water security concerns, a number of counties with a higher proportion of Latino communities have received more water quality violations. The failings of the US water systems point to its structural deficits that have sown further neglect into underserved communities.



A map shows the severity of water limitation—the relationship surface between water supply and demand—across the contiguous United States. | USGS/USGS

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POLICY PROBLEM

Policy failure in the US has, historically, positioned marginalized communities to face disproportionate rates of water scarcity. Although the US, as a whole, leads the world in safe, reliable drinking water, systemic disparities have threatened the security of clean drinking water for nearly 30 million Americans. There are at least 2.2 million people in the US who live in housing that lacks basic plumbing, and even more with issues of poor quality water and inadequate sanitation (Scanlon, Duncan, & Reedy, 2020).

**30 Million
people at risk
for water
insecurity in
the US**



The most prevalent and persistent cases of water crises have occurred in communities that also face relative disadvantages in political and socioeconomic opportunities (Mackey, Yeager, & Ballard, 2020). These disadvantages have factored into the overall disinvestment that has occurred in communities that are particularly vulnerable to structural disparities created by **regulatory abandonment, lack of coordinated governance, and weak protections** against pollution/contamination (Felbab-Brown, 2021).

Policy Problem Cont.

The US has more than 50,000 water systems and the structure of the federal government's involvement doesn't lend itself to an equitable distribution of resources. (Balazs & Ray, 2011). In many cases local jurisdictions front the cost of the majority of drinking and wastewater treatments, exposing the discrepancies across the US. (Balazs & Ray, 2011). With the lack of investment and coordinated governance between the federal and local governments, the vulnerabilities of the systems are exposed.



Water contamination due to illegal wastewater dumping



Aging infrastructure due to lack of investment



Private water delivery replaces municipal water due to underbunding

Because of this we end up with communities that are vulnerable to **contaminants** and poor sanitation because of **aging and poorly maintained infrastructure**. There's also an increased risk of regulatory neglect in communities with lesser investments as it is less likely that the federal government will send enforcement for wastewater dumping and to repair inept facilities because of the community's lack of wealth. The communities that are subjected to this kind of neglect additionally vulnerable because of their lack of political standing. Because of the lack of political standing, the communities needs and concerns against the distribution and governance over water can be circumvented completely. This is most clear in **"underbunding"** where communities are excluded from municipal water and sanitation services. This practice along with lack of representation of communities leaders in decisions around water rights further disadvantages communities who may already struggle to invest in their infrastructure.

Not only have many occurrences of water crises overall eroded *public trust* in local systems and the federal government as the *public health security* has also been threatened. (Felbab-Brown, 2021) Water scarcity can result in lack of hygiene and sanitation which can ultimately lead to the development and spread of illness. There are environmental concerns that also raised, including but not limited to *ecosystem degradation and agricultural depletion*. (Felbab-Brown, 2021)

STAKEHOLDERS

AS TOLD THROUGH THE TEXAS BORDERLANDS WATER CRISIS

PUBLIC SECTOR

- **Federal /State Agencies-** may or may not enforce regulations and investments, i.e: US EPA, Texas Commission on Environmental Quality
- **Surrounding Municipalities-** contributed to the “underbounding” of TX borderlands
- **Regional and Local Government-** control legislature for infrastructure and access



PRIVATE SECTOR

- **Emergency Water Supplier-** deliver potable to communities, excluded from municipal services
- **Investor-owned utilities-** operate treatment and distribution systems under contract or ownership, control prices



CIVIL SOCIETY

- **Affected communities-** as well as their communities leaders that lack representation and recognition in regional legislature
- **Advocacy groups-** represent borderland communities legally and politically, working to instate their right to access clean drinking water.



CRITERIA FOR POLICY SOLUTIONS

Effective policy policy solutions for U.S. water security should focus on reducing the vulnerability that disproportionately burden marginalized communities. To achieve this, policies should:

ENSURE AFFORDABILITY

The improvement of infrastructure and treatment for water facilities shouldn't raise the cost of water excessively, to continue to strain low-income communities who struggled with maintenance to begin with

EQUITY

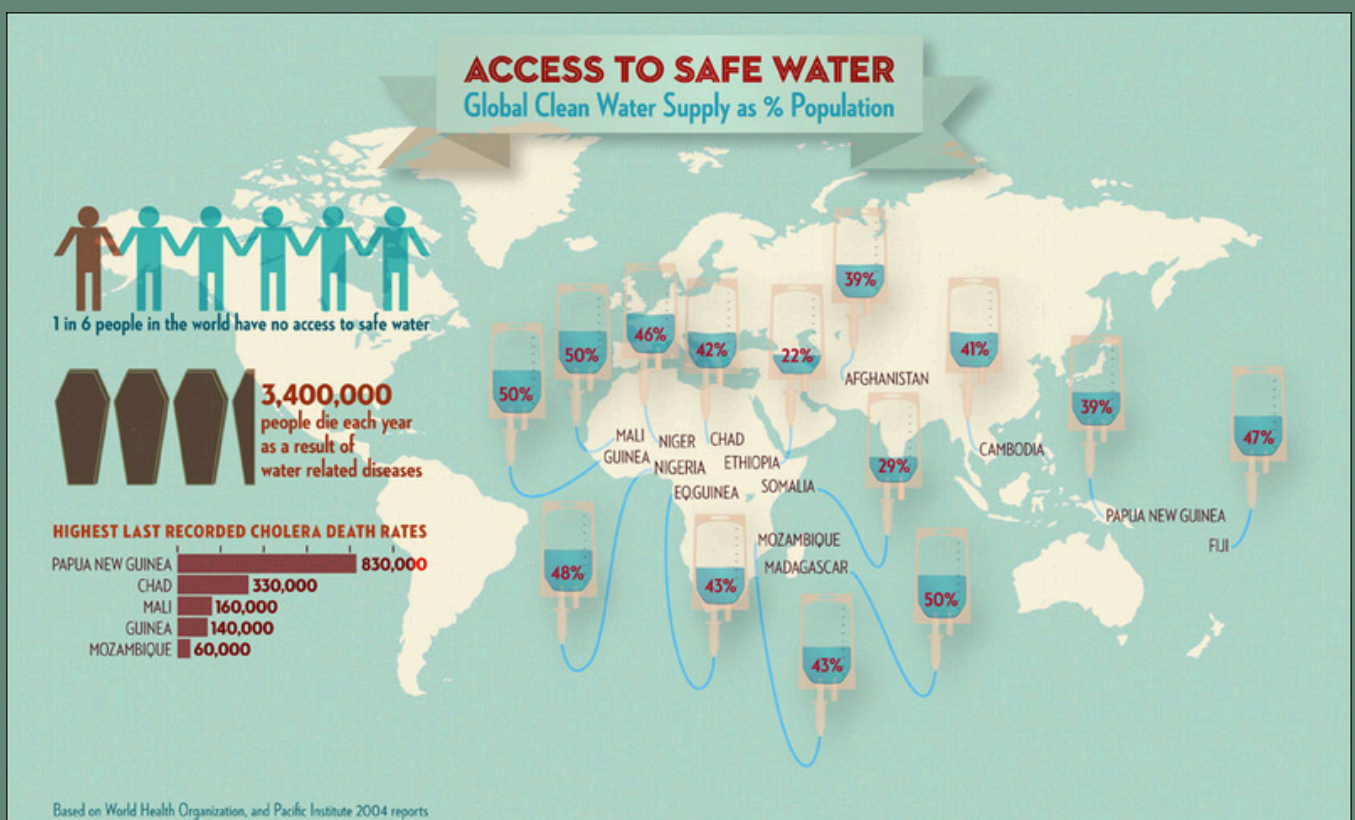
The implemented policy solution must promote equity, that levels the field for local communities throughout the US that doesn't further exacerbate the siparities that exist across the country.

FEASIBILITY

A suitable policy solution must be feasible in implementation across the US to prevent neglect and poor upkeep.

THE GOVERNMENT' S ROLE

The role of the federal government is framed around how it has commodified the distribution of water, heavily entangling its price and accessibility to the forces of supply and demand. (Pew Charitable Trusts, 2019) This is in contrast to recognizing water as a human right on a federal level, as many entities like the United Nations have done. Federally recognizing the right to access safe drinking water would mitigate the discrepancies between communities with differing amounts of investments. (Pew Charitable Trusts, 2019) The shift from away from water access as a commodity towards water as a right categorizes the government's role as one that can structure its approach to water management as one that is aiming to preserve human rights rather than cater to market forces.



POLICY ALTERNATIVES & ASSESSMENT

Comparing Policy Approaches to Strengthen Water Security

To strengthen water security in the United States, several regulation-centered approaches can be implemented. Each option contributes differently to improving water security, community trust, and long-term resilience.

1. Strengthen National Standards	2. Upstream Source Control
<ul style="list-style-type: none">• Update contaminant limits under the Safe Drinking Water Act (PFAS, lead, nitrates).• Impact: High security; moderate equity with federal funding.• Feasibility: Medium – costly infrastructure upgrades.• Resilience: High – consistent, long-term protection. (EPA, 2023a)	<ul style="list-style-type: none">• Regulate agricultural runoff and industrial discharges at the source.• Impact: High security; moderate equity.• Feasibility: Low–Medium – strong lobbying resistance, high cost.• Resilience: High – sustainable prevention. (National Research Council, 2012)
3. Inforcement & Transparency	4. Equity-Based Amendments
<ul style="list-style-type: none">• Expand inspections, penalties, and public dashboards.• Impact: Medium–High security; high equity via oversight.• Feasibility: High – affordable and quick to implement.• Resilience: Medium – limited for emerging contaminants. (GAO, 2018)	<ul style="list-style-type: none">• Prioritize enforcement and funding for underserved areas (colonias, tribal lands).• Impact: Medium–High security; highest equity.• Feasibility: High – achievable with support.• Resilience: Medium – fair but not structural. (Jepson & Vandewalle, 2016)

TRADE OFFS

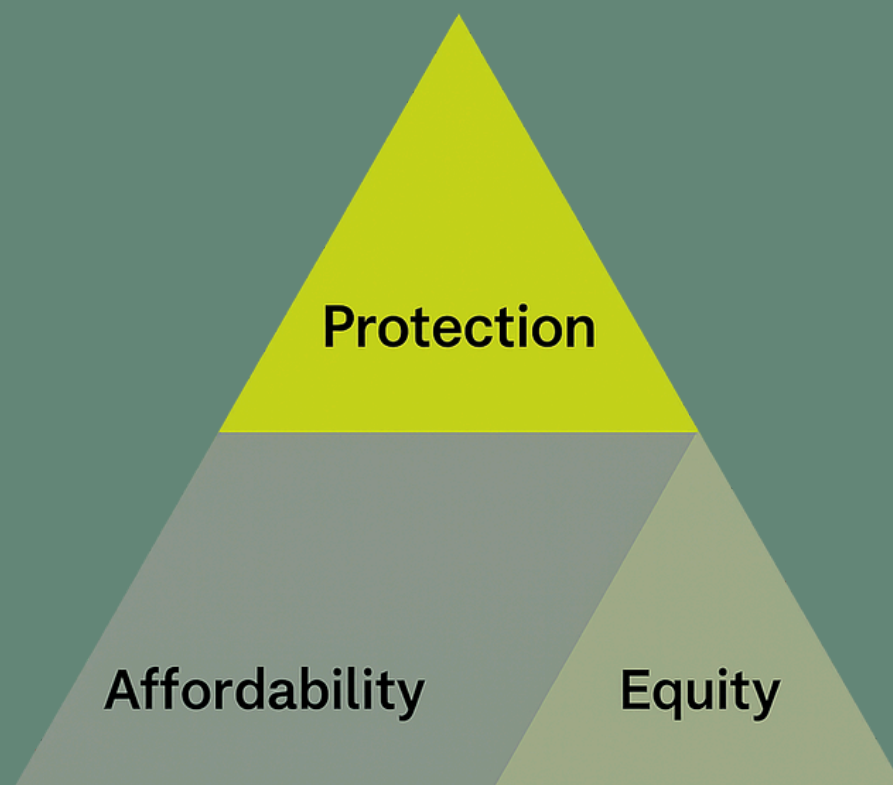
Balancing Cost, Feasibility and Fairness

Stronger standards and source control enhance long-term safety but demand significant investment.

Enforcement and transparency offer quick wins but limited structural change.

Equity amendments promote fairness but challenge uniform application of the law.

Policymakers must balance these actors to achieve both immediate and lasting improvements in water security.



BARRIERS TO IMPLIMENTATION

Obstacles to Strengthening Water Regulation

POLITICAL RESISTANCE

Industry and
agriculture lobby
against tighter
regulations

FUNDING GAPS

Small and rural
systems lack the
resources to meet
new standards.

LIMITED CAPACITY

State regulators
are understaffed
and
underfunded.

LEGAL CHALLENGES

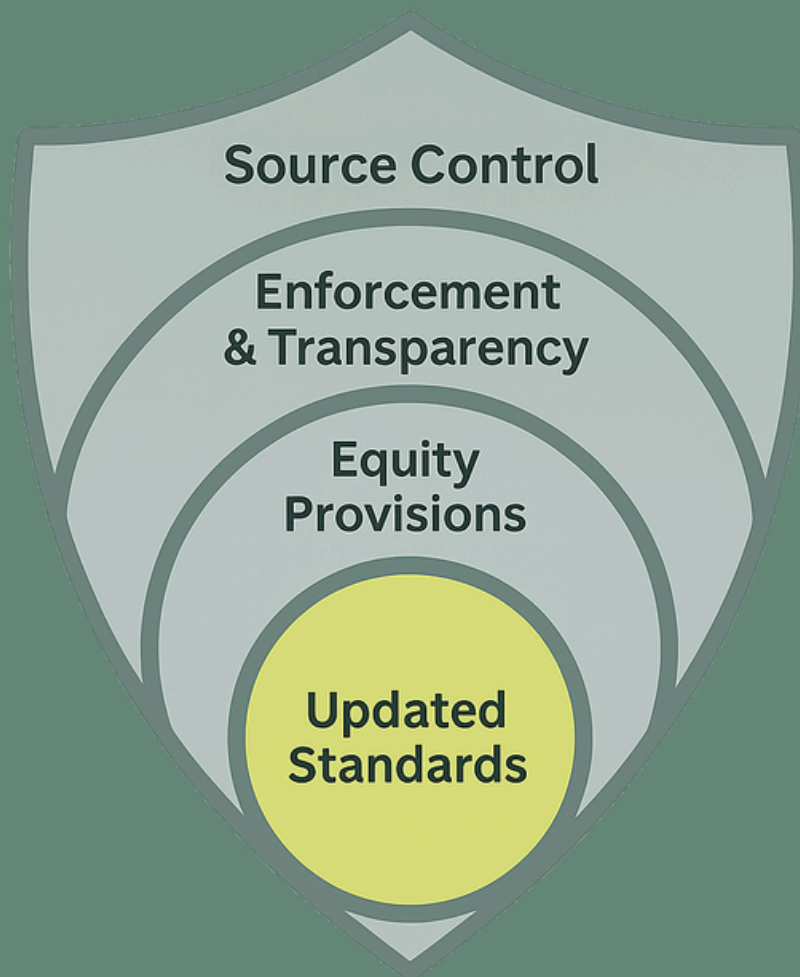
Lawsuits delay
implementation of
new EPA standards.

COMMUNITY DISTRUST

Past crises (Flint,
Jackson) have
eroded public
confidence in
regulation.

RECOMMENDATION

A Layered Regulatory Security Strategy



THE MOST EFFECTIVE STRATEGY IS TO COMBINE ALL FOUR APPROACHES INTO A LAYERED “REGULATORY SHIELD”

1. UPDATE NATIONAL STANDARDS FOR UNIVERSAL PROTECTION.
2. EXPAND ENFORCEMENT AND TRANSPARENCY TO ENSURE ACCOUNTABILITY.
3. EMBED EQUITY PROVISIONS TO PRIORITIZE VULNERABLE COMMUNITIES.
4. PHASE IN SOURCE CONTROL MEASURES FOR LONG-TERM SUSTAINABILITY.

TOGETHER, THESE LAYERS STRENGTHEN PUBLIC HEALTH SECURITY, ENSURING THAT SAFE WATER IS TREATED AS A RIGHT, NOT A PRIVILEGE TIED TO GEOGRAPHY OR INCOME

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