The Struggle for Water Justice: A Focus on Disadvantaged Unincorporated Communities

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Special thanks to

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Presentation Overview

1. Human Right to Water framework
2. Introduction to DUCs
3. UC Davis Water Justice study
4. Policy Recommendations
“Every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.”

CA Water Code: Section 106.3
Human Right to Water Framework

**Figure 1. Proposed framework.** Components are indicated in blue boxes. In each yellow box, subcomponent names are indicated at the top, followed by individual bulleted indicators.

https://www.waterboards.ca.gov/water_issues/programs/hr2w/
Disadvantaged Unincorporated Communities (DUCs)

- **D**: Less than 80% of CA Median Household income
- **U**: Outside of city or incorporated boundaries (*no city government = limited representation*)
- **C**: Communities often lack basic infrastructure (drinking water, sewer, storm water, lighting, sidewalks) and resources (grocery stores, medical facilities)

Photo: Tara Lohan
Producing Inequity
“Public commitments to communities with little or no authentic future should be carefully examined before final action is initiated. These non-viable communities would, as a consequence of withholding major public facilities such as sewer and water systems, enter a process of long term, natural decline as residents depart for improved opportunities in nearby communities.” - 1971 Tulare County General Plan
The Struggle for Water Justice in San Joaquin Valley

Study Goals

1. Identify, map, and document conditions in DUCs in the San Joaquin Valley

2. Highlight problems of access to safe drinking water

3. Inform policy and advocacy to improve drinking water access in the San Joaquin Valley with lessons learned for California as a whole
Data

- 2010 US census block population, race, ethnicity data
- 2013 American Community Survey income data
- 2013 PolicyLink DUC spatial layer; DUC = 250 parcels/sq. mi density
- 2016 community water system boundaries (OEHHA’s CalEnviroScreen 3.0)
- Human Right to Water (HRTW) Portal Compliance Status
- Collected inventory of state small systems from 8 SJV counties, mapped if possible
- Expert interviews; planning documents

Methods

- **Spatial Analysis**
  - Overlapping boundaries as indication of
    a) service provision and
    b) provision of *safe* water

- **Proximity Analysis**
  - Distance between center of DUC and center of CWS supplying *safe* water (based on HRTW Portal Compliance status)
1: Which DUCs do systems serve?

Map 1. DUCs and Access to Community Water Systems

DUCs in proximity to Community Water Systems*

- 189 DUCs not overlapped by a PWS (pop. ~ 26,800)
- 5 of these DUCs located near a SWSS (pop. ~ 770)
- 91 DUCs partially overlapped by a PWS (pop. ~ 73,500)
- 3 of these DUCs located near a SWSS (pop. ~ 12,000)
- 170 DUCs fully overlapped by a PWS (pop. ~ 247,000)

* Some CWSS do not have spatial boundaries, and most of these are small water systems. Out of the nearly 200 CWSS without service boundaries in the study area, 14 of them might possibly serve DUCs with a population of around 1,100.

Data sources: California Office of Environmental Health Hazard Assessment, PolicyLink. Map created by UC Davis Center for Regional Change, December 2017.
Mapping Unincorporated Communities

Our 2018 study, updates prior Policy Link mapping effort (2013) with 2010 census data:

350,000 people

Live in 450 low-income unincorporated communities in the San Joaquin Valley

71% live w/in a CWS

247,000 residents of DUCSs were fully overlapped by a CWS boundary or service area

21% may not be served by CWS

73,500 residents of DUCSs were partially overlapped by a CWS boundary or service area

8% outside of service area

26,800 residents of DUCSs were not overlapped by a CWS boundary or service area (domestic well reliant)
Vast majority of DUC water systems are small and privately owned
3: Who is not getting safe water?

Map 3. DUCs Within or Intersected by Out-Of-Compliance Community Water Systems
Access to Safe Drinking Water is Inadequate

- 1 in 4 water systems serving DUCs are providing unsafe drinking water to ~ 44,000 residents
- 26,800 residents on private wells are also likely to receive unsafe drinking water
- Most out of compliance systems are small (25>200 connections)

Source: Map 2. Compliance Status of DUCs Within or Intersected by Community Water Systems

<table>
<thead>
<tr>
<th>CWS System Compliance Status</th>
<th>No. of Residents</th>
<th>No. of DUCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN or RETURNED to COMPLIANCE</td>
<td>257,324</td>
<td>197</td>
</tr>
<tr>
<td>Full Overlap</td>
<td>197,898</td>
<td>129</td>
</tr>
<tr>
<td>Partial Overlap</td>
<td>59,426</td>
<td>68</td>
</tr>
<tr>
<td>OUT- OF- COMPLIANCE</td>
<td>43,599</td>
<td>57</td>
</tr>
<tr>
<td>Full Overlap</td>
<td>30,201</td>
<td>36</td>
</tr>
<tr>
<td>Partial Overlap</td>
<td>13,398</td>
<td>21</td>
</tr>
</tbody>
</table>
Drinking Water Problems

- **Quality:** Nitrates, Arsenic, Uranium, 123TCP, pesticides, etc.
- **Quantity:** Dry/ inadequate wells
- **Affordability:** Triple cost (high rates, bottled water replacement, health impacts)
Access to Safe Drinking Water is Inequitable

Hispanic residents:

- 49% of SJV residents but 68% of DUC residents
- 63% of DUC residents and 66% of city residents with unsafe water
- 64% of DUC residents w/o water system service

% DUC residents with unsafe drinking water

2010 US Census
5: How close is safe water?

Map 5. Proximity of DUCs to In-Compliance Public Systems
Proximity is an important metric. Suggests feasibility of service extension or consolidation.

**Proximity analysis 1**

Centroid to centroid

DUC

**Proximity analysis 2**

‘Least cost path’ via road networks

East Porterville,
- DUC
- Outside CWS boundary
- 7,558 people

< 1mi from the City of Porterville
Mapping **Distance to Safe Water**

A *least-cost path analysis* (road network based) between a DUC and the closest IN-COMPLIANCE system:

- **Percent of DUCs:**
  - < 500': 67%
  - 500' - 1 mi: 11%
  - 1 - 3 mi: 11%
  - > 3 mi: 9%
  - No safe water w/in 10 mi. radius: 3%

Source: [Table 3B. Least Cost Path Analysis](#)
Proximity to in compliance publicly-owned water system by DUC residents without safe water or not fully overlapped by a boundary:

350,000 people
Live in 450 low-income unincorporated communities in the San Joaquin Valley

44% live within 500’
65,344 DUC residents not fully intersected by CWSs or without access to safe drinking water

22% live within 1 mile
32,768 DUC residents not fully intersected by CWSs or without access to safe drinking water

33% live beyond 3 miles
49,057 DUC residents not fully intersected by CWSs or without access to safe drinking water
Drought Emergency and Municipal Service Extension in East Porterville:

- DUC on private (dry and contaminated wells)
- Community Water Center + other local non-profits
- Emergency bottled and hauled water
- Extra-territorial Service Agreements

755 homes now connected
Study Recommendations

1. Improve enforcement of existing laws on water system consolidation and annexation
2. Enforce city/county land use and annexation policies
3. Expand and sustain funding for existing water systems and new connections for DUCs
4. Enhance and coordinate data systems
5. Expand study (statewide, waste water, cost, private wells, small systems)
1. Improve enforcement of existing laws on water system consolidation and annexation

- Focus on extending service (not just existing systems)
- Expand SWCB consolidation mandates (SB 88/ SB 522; SB 1263)
- Enhance community petition power
- Incentives/ requirements on new extensions
- Non-physical consolidation for dispersed communities
2. Enforce city/county land use and annexation policies

- Cities/counties must assess needs of DUCs in General Plans (SB 244)
- LAFCO protect interests of DUCs in municipal/district annexations
- Address discriminatory and historical land use patterns
3. Expand and sustain funding for existing water systems and new connections for DUCs

- Funding for Operations and Management
- Accessible to DUCs
- Safe and Affordable Drinking Water Fund (Monning) **SB 200**, and (Garcia) **AB 217**
Thank You/ Questions?

Study

https://regionalchange.ucdavis.edu/publication/water-justice

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