



Water Privatization and Socially Constructed Scarcities: A Case Study of Phoenix, Arizona



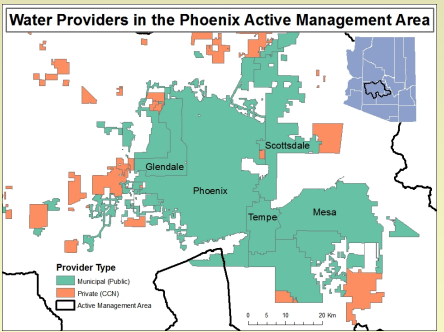
Brian J. Pompeii

Decision Center for a Desert City, ASU, PO Box 878209, Tempe AZ
School of Geographical Sciences, ASU, PO Box 870104, Tempe, AZ

Overview

Phoenix, AZ is a desert city experiencing rapid population growth in the face of uncertain climate conditions. Population growth occurring on the urban fringe of the Phoenix metropolitan area has occurred so quickly (45% from 1990 to 2000) that municipalities have passed the responsibility of providing water to these new consumers onto private entities. The private water companies receive permits called CCNs (Certificate of Convenience and Necessity) from the Arizona Corporate Commission (ACC) which grants the sole rights of providing water in a given area. **The purpose of this analysis is to investigate whether private providers:**

1. charge higher rates than municipal providers,
2. serve more socio-economically and demographically vulnerable populations,
3. increase monthly block-pricing structures more steeply,
4. and rely on less secure water sources than municipal providers.

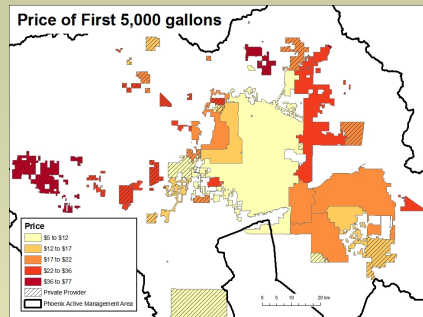


Map 1. Study Area

Socially Constructed Scarcity

Yapa (1996) defines socially constructed scarcities as a resource deficiency caused not by natural or physical processes, but institutional processes. A growing trend worldwide, and in Phoenix, is the institutional process of privatizing water distribution. Once privatized, water becomes a commodity with a new economic value. The new value reflects infrastructure and transportation costs, as well as profit for the private institution. The value of pre-privatization water only reflects infrastructure and transportation costs; the added cost associated with profit is socially constructed. This thesis may, or may not, be relevant in Phoenix, AZ where it has been argued that private water companies offer cheaper prices due to regulations placed on them by the Arizona Corporate Commission that disallow price increases to the consumer in the name of conservation or in reaction to shortages.

1. Do private providers charge higher rates?



Map 2. The price of the first 5,000 gallons of water used; municipal and private providers.

Why use 5,000 gallons as a measurement of price?

The Water Infrastructure Finance Authority of Arizona (WIFA) defines 5,000 gallons as the monthly minimum amount of water needed to satisfy indoor residential use.

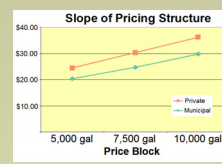
Independent Samples Test					
		t	df	Sig. (2-tailed)	Mean Difference
Mean Price	Equal Variance Assumed	-1.195	53	0.237	-4.19503
	Equal Variance Not Assumed	-1.468	50.13	0.148	-4.19503

Although the mean of the private providers is higher (\$24.46) than the municipal providers (\$20.26) there is no significant difference in price between them based on the t-test reported above.

2. Do private providers serve more socio-economically and demographically vulnerable populations?

	Population	% Non-White	Per Capita Income	% in Poverty	% Over 65
Private	290,000	12%	\$26,515	8%	22%
Municipal	2,800,000	23%	\$22,190	12%	10%

The table above contains attributes related to the social vulnerability of an area. Based on these simple observations the municipalities are serving more socio-economically and demographically vulnerable populations. The private-provider consumers are generally middle-class suburbanites living on the newly developed urban fringe.



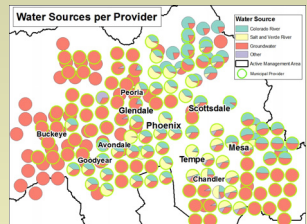
3. Do private providers increase monthly block-pricing structures more steeply?

Municipal Pricing Structure Slope = 4.76
Private Pricing Structure Slope = 5.87

Water rates increase with usage faster in private providers than in municipal providers.

4. Do private providers rely on less secure water sources?

The table below displays the water sources for private and municipal providers from 2000-2005 as reported by the Arizona Department of Water Resources (ADWR). Surface water from the Salt and Verde, and Colorado Rivers are sustainable sources; whereas groundwater overdraft is nonrenewable and unsustainable. The proliferation of private providers who do not have access to sustainable sources would put 300,000 people in jeopardy if the state were to restrict groundwater overdraft.



Map 3. Each pie represents a private or public provider and displays the proportion of each water source used.

	Salt and Verde River	Colorado River	Groundwater	Other
Private	0%	22%	74%	4%
Municipal	40%	35%	19%	6%

Conclusions and Further Work

• Preliminary test results show no significant difference between the price of indoor-residential water use between municipal and private providers

• Private provider consumers are not demographically vulnerable. Further research will analyze whether the higher prices reflect conservation or profit-maximizing mechanisms.

• Water rates increase with usage more steeply in private providers than in municipal providers, but further work is needed to explore this relationship.

• 74% percent of the water supplied by private providers comes from groundwater, compared to 19% for municipal providers. In times of water shortages, or if the state were to enforce current groundwater policies, the residents of private service areas would be more vulnerable than those in municipal service areas

Sources
Yapa, Lakshman. 1996. What Causes Poverty?: A Postmodern View. Annals of the Association of American Geographers 86(4): 707-728

Acknowledgments
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