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Public Perceptions of Drought and Support for Diverse Water Policy Alternatives

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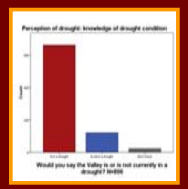
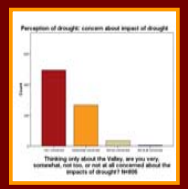
Introduction

The way urban dwellers prepare for and respond to drought will determine the impacts on their lifestyles and livelihoods. The decision to prepare and respond is dependent on the recognition of the existence of the drought and its potential and realized impacts, but the urbanite's experience of water shortage is mediated through a managed system designed to provide reliable water regardless of climatic conditions. Because awareness of a hazard can trigger adaptation and adjustment, understanding the public's perception of drought and how that perception affects support for changes in water policy is important for water resource management. This research therefore examines public awareness of the ongoing drought and concern about drought impacts in the Phoenix metropolitan area as a determinant of support for changes in water pricing and use, including re-use. Using the 2006 Phoenix Area Social Survey (PASS), the following questions were examined:

1. Does the knowledge that the Valley is currently in drought impact the level of concern about possible impacts of drought?
2. Does the knowledge that the Valley is currently in drought increase the level of support for possible policy changes designed to deal with water shortages?
3. Does concern about the impact of drought increase support for possible policy changes designed to deal with water shortages?

Frequencies for Explanatory Factors: Drought Awareness and Concern





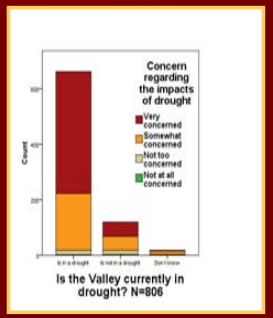
Survey Methods

The 2006 PASS was administered by randomly selecting households from forty metropolitan-area neighborhoods. The survey was designed to measure people's perceptions of risk, attitudes, values, knowledge, and behaviors in order to better understand respondents' environmental preferences and actions, as well as the way they are affected by the socio-physical environment. Topics included water supply, quality, and conservation, air quality and transportation, climate change and urban heat island effect, land use, preservation, and growth management. Throughout the survey process, materials and resources were provided in both English and Spanish. Respondents could opt to access and complete the survey online, by telephone, or in person by appointment. Follow-up provided when there was no response included letters/postcards, phone messages when phone numbers were available, and in-person visits. Through the use of these methods, a minimum response of 50% was obtained. Of the 1,584 sample, 808 completed surveys were received for a 51% response rate.

Results

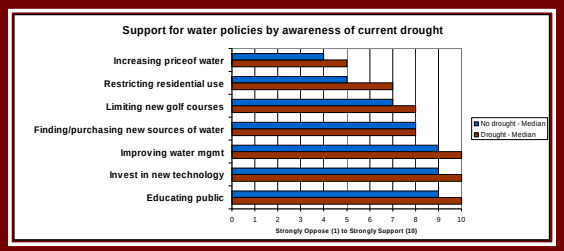
Hypothesis 1. Awareness as a determinant of Concern

Concern for the impact of drought was positively correlated to the awareness of the current drought (R^2=.262, p=0.000)



Hypothesis 2: Respondents who believe the Valley is currently in drought demonstrate higher support for policies to ensure the Valley has enough water in the future than those who do not have that knowledge.

Would you say the Valley is or is not currently in drought?	*Mean (Standard Deviation)*		*Median*		*Mode*	
	IS	*IS NOT*	*IS*	*IS NOT*	*IS*	*IS NOT*
Increasing priceof water	5.18 (3.19)	4.58 (3.09)	5	4	1	1
Restricting residential use	6.79 (2.82)	5.97 (3.16)	7	6	10	5
Limiting new golf courses	7.13 (2.75)	6.87 (3.03)	9	8	10	10
Finding/purchasing new sources of water	7.98 (2.51)	7.49 (2.46)	9	8	10	10
Improving water mgmt	8.59 (2.02)	8.29 (2.29)	10	9	10	10
Invest in new technology	8.87 (2.02)	8.38 (2.11)	10	9	10	10
Educating public	8.95 (2.03)	8.32 (2.13)	10	9	10	10

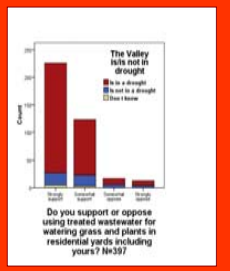


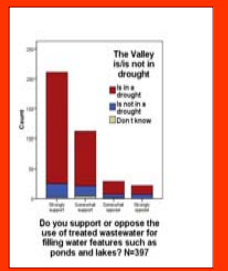
Policy Support correlated with Concern for the effects of drought	R^2	Sig.
Invest in new technology	0.287	0.000
Increasing price of water	0.160	0.000
Restricting residential use	0.291	0.000
Educating public	0.300	0.000
Limiting new golf courses	0.248	0.000
Improving water mgmt	0.297	0.000
Finding/purchasing new sources of water	0.130	0.000

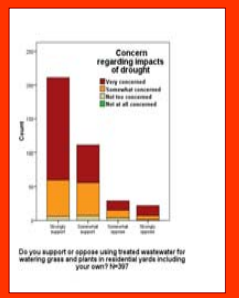
Hypothesis 3: Respondents who exhibit higher levels of concern for the effects of drought support policies designed to ensure the Valley has enough water in the future at higher levels than those with lower levels of concern.

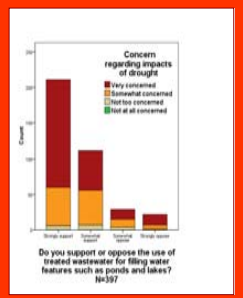
Exploring support for water re-use

One possible adjustment to water shortages caused by drought is to reuse the water that is already in the system. Wastewater reuse has the potential to be an important element of sustainable water resource management. The technology is developed and is operational in many countries, including the U.S., but has not even begun to reach its potential. The lack of public support has been cited as one reason for slow acceptance of wastewater reuse. Understanding public attitudes toward re-use under different environmental conditions could assist water managers in designing and implementing re-use policies in the future. The charts shown below demonstrate that there is increased support for re-use among respondents who are aware of and concerned about drought. The survey utilized a split sample for questions regarding water re-use in order to test reactions to "treated" and "reclaimed" water. This research examined only the results for "treated" wastewater.









Conclusions

The vast majority of Phoenix residents (82%) recognize the existence of drought at the time of the survey. Their awareness of drought contributed to increased support for possible policies designed to ensure that the Valley has enough water in the future. Awareness was a determinant of concern about the impacts of drought as well. Concern for the impacts of drought was positively correlated with policy support. Increasing the price of water and finding/purchasing new sources of water had the weakest correlation to concern, and increasing the price aroused more opposition than support. These findings may be of use in policy application for educational purposes by government or water management institutions.