

Professionals' Perspectives on Water Governance and Sustainability in the Phoenix Area

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How do academic and water professionals perceive sustainability in relation to Phoenix area water governance?

i. Sustainability Principles

What does sustainability look like?

A short set of critical sustainability principles, largely derived from Gibson's work, was used for this study

Sustainability principles refer to the broad criteria needed in order to achieve a sustainable state within a system.

Precaution & adaptation refers to the need for decision-making to be evaluated with regard to the risks of unintended, adverse effects as well as the ability to respond to and reverse these adverse effects.

Socio-ecological system integrity emphasizes the development and maintenance of a human-ecological relationship and which meets the current and long-term needs of the whole system.

Resource efficiency & maintenance emphasizes the need to avoid waste, reduce damages, and decrease overall human use of natural resources in order to achieve long-term resource efficiency

Socio-ecological civility and democratic governance refers to participatory decision-making which fosters collective understanding and responsibility.

Meeting basic human needs requires that all people have the rights and access to basic needs for a decent life. Decision-making should not strip away these rights or accessibility.

Intergenerational & Intragenerational equity requires that current population has access to the resources to support a decent life and has the opportunity for improvement, while supporting or enhancing the opportunities for future generations.

Interconnectivity of global system refers to the need to recognize that actions and decisions that are made at a local level can have global implications.

Summary of Findings

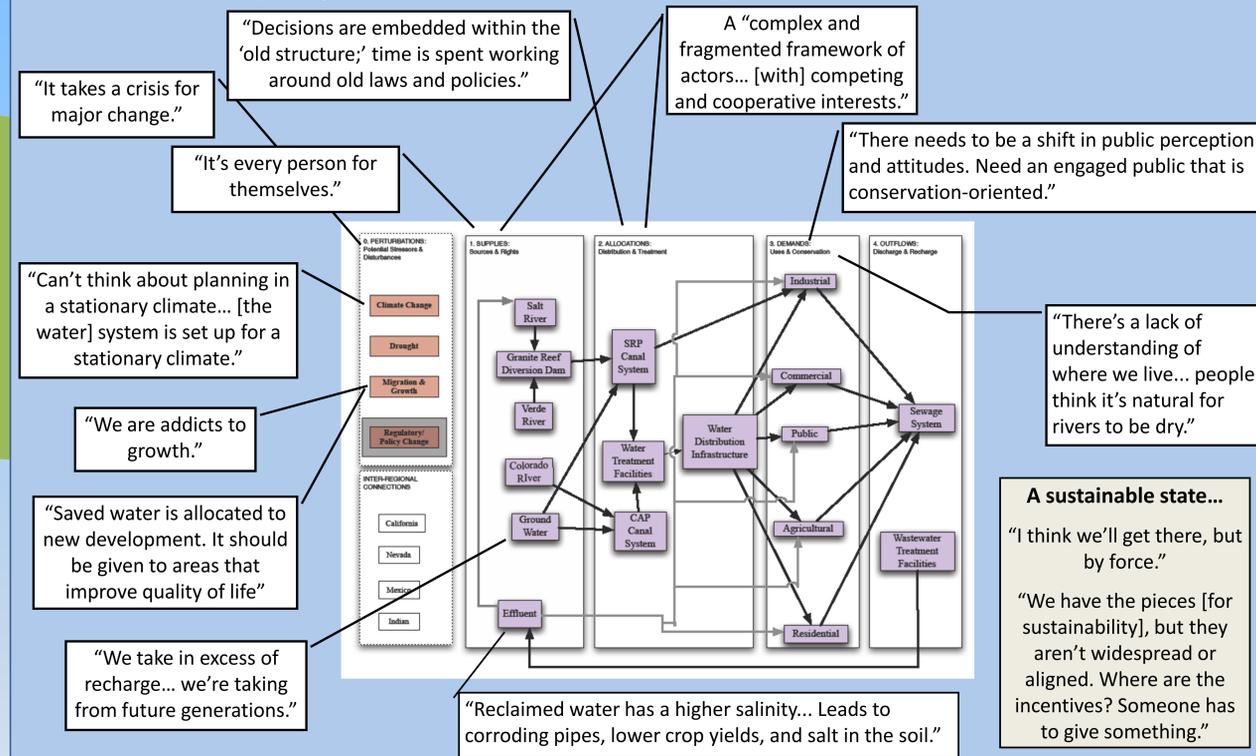
- Overall, participants agreed that each of the seven broad sustainability principles were important and relevant for Phoenix area water governance.
- When asked to identify which principles were most critical for achieving sustainability, overall each principle was identified between 3 – 5 times.
 - 5X: **Precaution & adaptation, Socio-ecological system integrity, & Resource efficiency & maintenance**
 - 4X: **Socio-ecological civility and democratic governance & Meeting basic human needs**
 - 3X: **Intergenerational & Intragenerational equity & Interconnectivity of global system**
- When asked about the application of these critical principles within the current water system, most participants indicated that there are areas where these principles *should* be fulfilled, but few areas where they *are*. The most common responses indicated that:
 - Precaution & adaptation** is well expressed within the Supply (1) phase of the system
 - Interconnectivity of global system** is not well addressed anywhere within the water system
- All participants agreed that **environmental water needs are not well-addressed**; **climate change** was identified as a common challenge to water governance throughout the interviews.
- Participants each had a **different description of a sustainable state** for water governance in the Phoenix area.

ii. Water Resource Challenges

What are critical challenges for water governance in the Phoenix area?

Academic and water professionals identified critical challenges for water governance & achieving sustainability

Water governance refers to the decisions and decision-making processes concerning the use, management, and protection of water resources, encompassing the activities and coordination of a variety actors and stakeholders.



iii. Applying Principles to Practice

How do sustainability principles apply to water governance in Phoenix?

Participants applied sustainability principles to local water governance

Precaution & adaptation

- very critical due to our climate, high variability, & drought
- requires long-term and conservative planning for water resources
- not practiced with regard to salinity in reclaimed water

Socio-ecological system integrity

- requires recognition of our region /climate with regard to water use behaviors and management
- water can't have 100% human use; ecological uses of water are currently undervalued
- need to assess vulnerability of systems due to climate change & long-term drought

Resource efficiency & maintenance

- relates to the challenge of long-term planning
- requires dense & efficient living to conserve water
- need to inform people how to avoid water waste
- current site selection of wastewater treatment plants (inefficient; centralized)

Needs to recognize the "difference between efficient and appropriate uses of water."

Socio-ecological civility and democratic governance

- "Is a long-term process that requires social buy-in for change."
- should act as a bridge between allocation & demand
- requires more collaboration among water providers

Meeting basic human needs

- we need to first identify how much water is needed per person to live comfortably
- is upheld within smaller, community systems

Intergenerational & Intragenerational equity

- current groundwater overdraft reduces water supply & quality for future generations
- water needs to be fairly priced to ensure equitable access for the current generation
- future generations should have at least the same water amenities as now, without taking away from the current generation

"We're deferring the tough decisions to future generations."

Interconnectivity of global system

- refers to the inter-regional impacts of our decision-making and actions (Mexico, Nevada, California, etc)
- important due to the impacts of climate change on water supply

Concluding Thoughts & Next Steps

The interviews revealed specific professional perspectives on water governance & sustainability

- clear areas of agreement, such as the lack of allocated water for environmental uses, and definite areas of divergence, such as the role of agriculture within Arizona
- clear preferences for different water terms (e.g. effluent vs. reclaimed water); terminology was sometimes a barrier
- suggestions for the water model; these will be used to make the model more representative of Phoenix area water governance

Overall, the interviews highlighted the need for collaboration across stakeholder groups. Next, this research hopes to contribute to a shared stakeholder understanding of critical water issues and effective governance, while developing cohesive visions for a sustainable future state through a workshop format.

"Sustainability has come to mean... a balance between groundwater drafting and replenishment. This is a constrained view with many limitations. It doesn't account for in-stream flows or non-human use."

Methods

We conducted seven face-to-face interviews with local water professionals and ASU academics. The interviews consisted of open-ended questions and mapping exercises using core sustainability principles derived from the literature and a basic model of the Phoenix area water system.

- We discussed:
- Broad principles for sustainability
 - Challenges for water governance and sustainability
 - How these sustainability principles specifically apply to Phoenix area water governance

Participants were selected based upon their involvement with Phoenix area water governance and academia.

