

Public perception and participation in water reuse

Troy W. Hartley

*Department of Resource Economics and Development, University of New Hampshire, Durham, NH 03824, USA
Tel. +1 (603) 862-1729; Fax +1 (603) 862-0208; email: troy.hartley@unh.edu*

Received 4 November 2004; accepted 29 April 2005

Abstract

The Water Environment Research Foundation in the United States funded an interdisciplinary and integrative social science study on public perception and participation in water reuse within the US. It employed a three-phased research protocol consisting of 1) literature review and three comprehensive case studies, including interpretive white papers from five different social science disciplines and public health and environmental engineering scientists, 2) a multi-stakeholder workshop to promote integrative, interdisciplinary analysis of the literature and case study findings, and 3) peer-review among twenty-one social science and water resource management experts. The case studies included examples of potable and non-potable reuse, with elements of success and failure. Five themes were identified as critical to building and maintaining public confidence in water resource management and water reuse decision-making: managing information for all stakeholders; maintaining individual motivation and demonstrating organizational commitment; promoting communication and public dialog; ensuring a fair and sound decision-making process and outcome; and building and maintaining trust. The study produced guidance for water resource professionals with a strategy for assessing the community context and developing a principle-based approach to public outreach, education and participation.

Keywords: Perception; Trust; Information; Communication; Motivation

1. Introduction

Water can be a limited resource in an expanding global economy and population. Many water resource professionals believe that reclaiming water after it is treated in a modern wastewater treatment plant is an important and underutilized element of sustainable water resource manage-

ment. Water reuse for non-potable (e.g., irrigation, industrial) or indirect potable (e.g., discharge into drinking water reservoirs or supply) purposes has been considered across the United States, but particularly in drier or drought-ridden communities, such as Arizona, California, Colorado, and Texas; or communities experiencing substantial

Presented at the International Conference on Integrated Concepts on Water Recycling, Wollongong, NSW Australia, 14–17 February 2005.

population and economic growth that place a strain on water supplies (e.g., Georgia and Florida). It is only a matter of time before other communities consider non-potable and potable water reuse options.

Survey and case study research since the 1970s has found that the public in many of these states supports the general concept of using reclaimed water and has been somewhat supportive of non-potable reuse initiatives [1]. People generally favor reuse that promotes water conservation, provides environmental protection benefits, protects human health, and cost effectively treats and distributes a valuable and limited resource. However, as the water options become more tangible to people with specific proposed projects in their communities and the likelihood of human contact increasing, attitudes change — the public's support wanes [2].

In consumer surveys conducted in Orange County, California, where a water reuse initiative is currently underway, the public expressed concern that the reclaimed water was originally wastewater [3]. A survey study in 2000, in the UK, corroborated the existence of a “source” factor. It found people more willing to use recycled water from their own wastewater than from second parties or a common public source [4]. In other words, the “yuck factor,” the term that US water professionals have used to discuss the visceral reaction of displeasure and distain expressed by the public in regards to water reuse, may be tempered by an individual's proximity to the waste source. Table 1 summarizes the factors that seem to contribute to the degree of public acceptance of water reuse, according to survey and case study research from the late 1970s to early 2000 within communities considering water reuse options.

In addition to these site specific factors that may contribute to shaping the public's perception and the nature of their participation in water reuse decision-making, there are some significant national and regional trends in the US. In general, trust and confidence in public agencies and

Table 1

Factors contributing to the degree of public acceptance of water reuse

US public acceptance of water reuse seems to be higher when [2–5]:

- Degree of human contact is minimal
 - Protection of public health is clear
 - Protection of the environment is a clear benefit of the reuse
 - Promotion of water conservation is a clear benefit of the reuse
 - Cost of treatment and distribution technologies and systems is reasonable
 - Perception of wastewater as the source of reclaimed water is minimal
 - Awareness of water supply problems in the community is high
 - Role of reclaimed water in overall water supply scheme is clear
 - Perception of the quality of reclaimed water is high
 - Confidence in local management of public utilities and technologies is high
-

officials is in decline in America [6,7] — this appears to also be true for the wastewater utilities. Likewise, belief that even the best technologies can remove all impurities and pathogens from wastewater is in decline, at least in California [2]. Furthermore, while the public has reported trusting university-based scientists and the medical community on technical and health issues related to water reuse, preliminary survey evidence showed people trust their own personal impressions of water quality (often based upon the water's cloudiness or turbidity) more than these experts [4,8].

In the 1990s, a number of high profile indirect potable water reuse projects in the US encountered stiff public opposition. The public took political action and prevented water reuse projects from being implemented in these cases. Terms like “Toilet to Tap” and “Sewage Beverage” were common in the public dialog. In San Diego, the newspaper published a cartoon of a dog drinking from a toilet and a man behind the dog saying, “Move

Download English Version:

<https://daneshyari.com/en/article/629149>

Download Persian Version:

<https://daneshyari.com/article/629149>

[Daneshyari.com](https://daneshyari.com)