

Building Resilience: the Importance of the Customer

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Resilience

re·sil·ience

rə'zilyəns/

noun

noun: **resilience**; plural noun: **resiliences**; noun: **resiliency**; plural noun: **resiliencies**

1. the capacity to recover quickly from difficulties; toughness.

"the often remarkable resilience of so many British institutions"

2. the ability of a substance or object to spring back into shape; elasticity.

"nylon is excellent in wearability and resilience"



Resource Crisis



AN URBAN WORLD

This graphic depicts countries and territories with 2050 urban populations exceeding 100,000. Circles are scaled in proportion to urban population size. Hover over a country to see how urban it is (percentage of people living in cities and towns) and the size of its urban population (in millions).

Urban Population

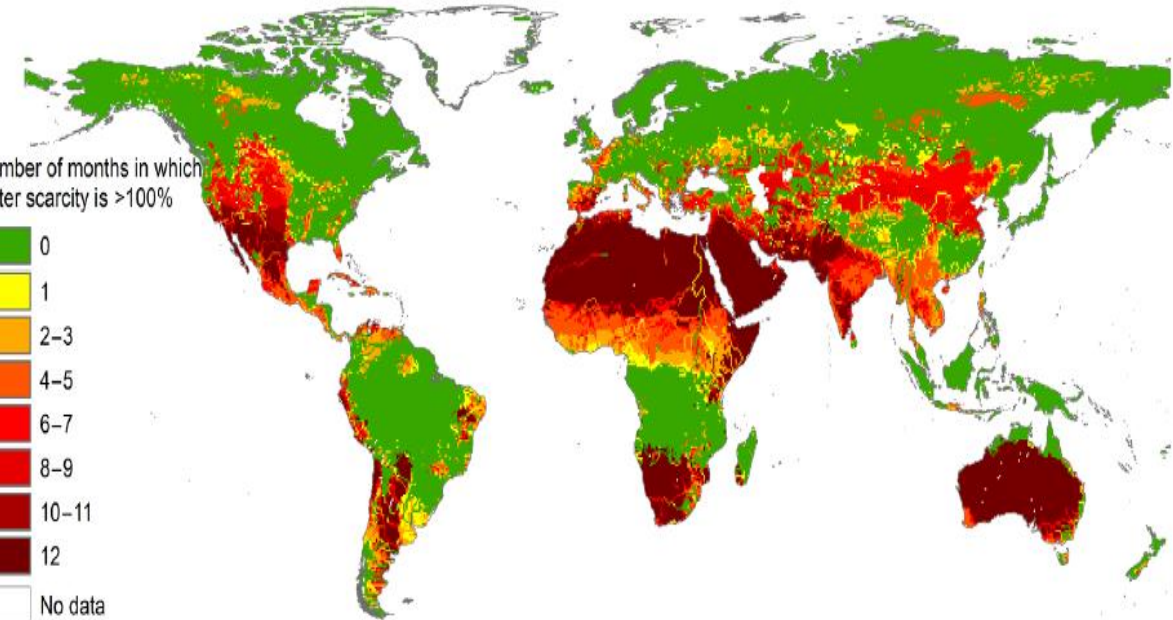
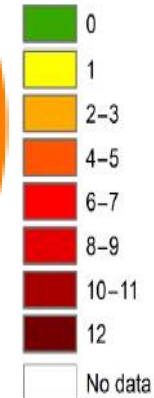
- Greater than 75%
- 50% - 75%
- 25% - 50%
- Less than 25%

World's population

2015: more than 50% residing in cities

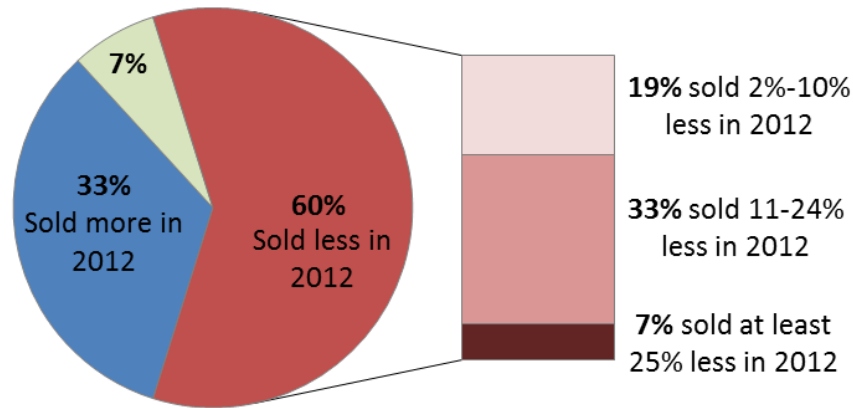
2050: 80% will reside in cities

Number of months in which water scarcity is >100%



Financial Crisis

Total Water Volume Sales in 2012 Compared to 2006 in 129 Utilities Nationwide



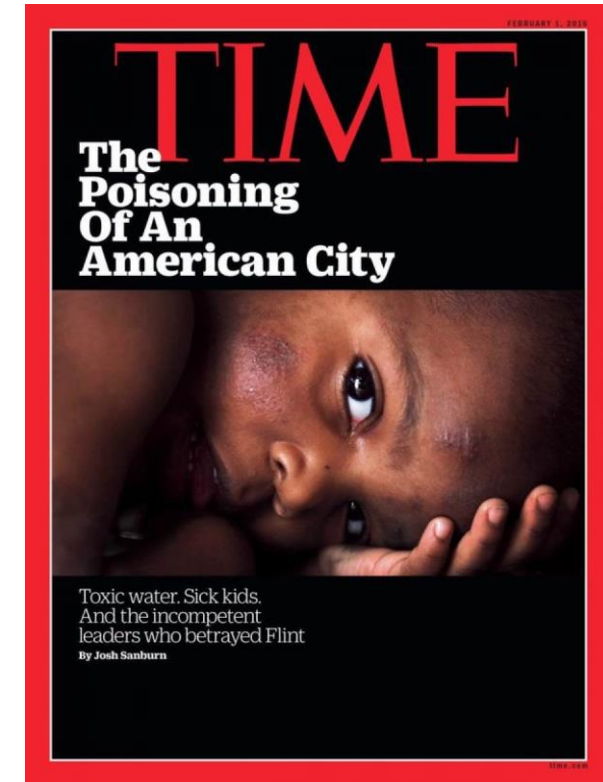
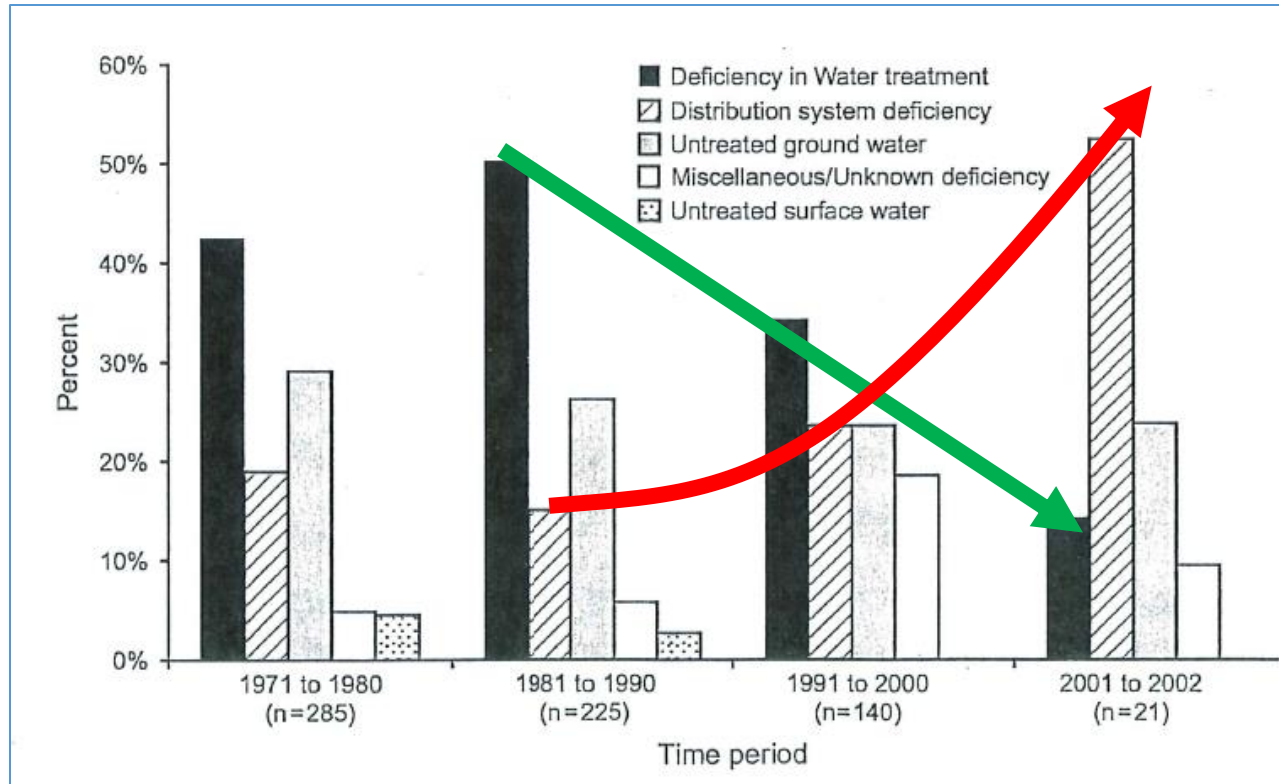
2011-2035 Totals			
(2010 \$M)	Replacement	Growth	Total
Northeast	\$92,218	\$16,525	\$108,744
Midwest	\$146,997	\$25,222	\$172,219
South	\$204,357	\$302,782	\$507,139
West	\$82,866	\$153,756	\$236,622
Total	\$526,438	\$498,285	\$1,024,724

Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill and Raftelis Financial Consultants, Inc. Data Source: Biennial, national AWWA-RFC Water and Wastewater Rate Surveys in 2006 and 2012. Water utilities that reported their total daily gallons sold (MGD) in 2006 and 2012 are included in this analysis. 81% of the sampled utilities increased total number of accounts from 2006 to 2012.

Conservation, Fixture Efficiency, Regulations, Awareness



Operational Crisis



Utility + Customer

Utility

- Resource
 - Manage water resources within availability
 - Be able to withstand drought and disruptions in supply
 - Be able to effectively manage growth
- Financial
 - Full Cost Recovery (CAPEX, OPEX, TOTEX)
 - Be able to weather the effects of conservation, fixture efficiency, regulations
- Operational
 - Adapt to changing water quality conditions
 - Improve response to operational events

Customer

- Resource
 - Understand water use at a granular level
 - Be able to respond to short and long-term water availability issues
- Financial
 - Be provided the tools necessary to manage their own costs
- Operational
 - Leak detection and abnormal use identification
 - Be able to interact with the Utility on water infrastructure issues

