

# Management of Water Resources in Los Angeles

## Introduction

Water management requires balancing multiple uses and competing demands. In water-scarce urban areas such as Los Angeles, CA, this can be a challenging process. California is currently experiencing the worst drought since official record-keeping began in the late 1800s. According to the California Department of Water Resources, 2013 was one of California's driest years on record. Some experts are saying that if the upcoming winters don't have higher than average precipitation California only has 12-18 months of water left (Famiglietti, 2014). The data collected by the National Drought Mitigation Center shows that all of California is registered as in "severe drought" and that 82% is registered as in "extreme drought", including Los Angeles, the largest city in the state (NDMC, 2014).

## Water situation

Los Angeles depends on water coming from the snowmelt in the Sierra Nevada, the Colorado River basin and local groundwater mainly on the coast. The water is transported by the Los Angeles Aqueduct and the Metropolitan Water District, a wholesale entity that takes water from the Colorado River and the State Water Project and sells it to its member cities (WEF, 2014). The Colorado River Basin is "the most over-allocated river system in the world" according to a study published in Geophysical Research Letters (AGU, 2014). Data used from NASA's Gravity Recovery and Climate Experiment has shown that the Colorado Basin has lost nearly 65 cubic kilometers of freshwater over the last 9 years, with three-quarters of the loss coming from groundwater (AGU, 2014).

The Governor of California, Edmund G. Brown, declared a drought state of emergency on January 17, 2014 and called for a 20% voluntary reduction of water use for the state (State of California, 2014). In Los Angeles the average per capita water use is 152 gallons/person/day and has shown a 1-4% increase in use since the state of emergency (Famiglietti, 2014). However, a new report has shown that overall California has reduced its water consumption by 11.5% overall for the month of August, with cities adopting strict conservation measures (State of California, 2014). Climate change has been linked to the current drought by a recent Stanford study which stated that higher temperatures caused by greenhouse gases are pushing storms and precipitation northward, but the evidence is inconclusive.

## Competing demands

As with anywhere, the Los Angeles region experiences a number of competing demands on its water supply. These demands are affected by weather, demographics, behavior of users, and conservation plans (LADWP, 2010). The Los Angeles Department of Water and Power groups users into the following categories: single-family, multi-family, commercial, industrial,

government, and non-revenue. Non-revenue accounts for the “difference between total water use and billed water use, includes water for firefighting, reservoir evaporation, mainline flushing, leakage from pipelines, meter error, and theft” (LADWP, 2010). Single-family households consume the roughly 36% of the region’s water, followed by multifamily (29%), commercial (18%), non-revenue (7%), government (6%), and industrial (4%) (LADWP, 2010).

Though these percentages have remained fairly constant, weather variability can cause overall water use to fluctuate around 5% above or below average for a given year (LADWP, 2010). Aside from these slight variations, conservation measures have kept consumption levels relatively stable over the last few decades despite the fact that population in the area has been growing by 1.3% annually since 1980 (LADWP, 2010).<sup>1</sup>

### **Decision-making process**

According to the Business Dictionary (2014), a stakeholder is “a person, group or organization that has interest or concern in an organization”. Furthermore, a stakeholder can influence or be influenced by the organizations “action, objectives and policies” (Business Dictionary, 2014). In the case of the severe drought in California, stakeholders include basically everyone who has an interest in the allocation of water resources. This includes, for example, inhabitants, communities and municipalities, agriculture, industry, hydropower facilities and many more (DWR, 2014). In events of severe water shortage, particularly in cases, where the water supply has been significantly reduced over a longer period of time, the allocation of water resources is difficult. In California, a complex framework of federal, state and common law principles, juridical decisions, as well as agreements and contracts governs the use and supply of water, overall aiming at balancing public and private interests (CWP, 2005). The State Water Resource Control Board (SWRCB), which is a part of the California Environmental Protection Agency, is responsible for allocating water resources to the stakeholders. In addition to this, the SWRCB is authorized to impose regulations on the general public, prohibiting actions like washing cars or supplying “decorative water features” with clean drinking water in order to reduce the overall water consumption (DWR, 2014).

### **Water as a right**

California declared a human right to water in 2012 by signing the AB 685 into law, which intended to guide various stakeholders in taking into account the use of water for human consumption, cooking and sanitary purposes while tackling the water-related challenges (IHRLC, 2013). In general, AB 685 sees the water as a basic need and right of general public regardless of their social, economic and ethnic/racial backgrounds. Thus, as mentioned by Human Rights Institute in Columbia Law School (2012), everybody should have an access to

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<sup>1</sup> “Average water demands in the last five years from FY 2004/05 to 2009/10 are about the same as they were in FY1980/81 despite the fact that over 1.1 million additional people now live in Los Angeles” (LADWP, 2010).

clean and affordable water that is adequate for basic human needs. However, disadvantaged communities in California, especially impoverished unincorporated communities, are still facing significant water challenges such as contamination, inadequate infrastructures, financial costs and barriers to access the water in public areas (IHRLC, 2013, p.4). "In part because of decades of structural neglect and non-investment, these communities experience overwhelming infrastructure deficits. Among those deficits, lack of access to water and sanitation drives instability and lack of certainty in long-term viability" (Pannu, 2012, p.234). To solve this problem, AB 685 stresses that state agencies have to identify and prioritize vulnerable communities while providing water to citizens and assure clean and affordable water for all (IHRLC, 2013, p.4).

The concept of 'human right to water' underlines the quality, quantity, accessibility and affordability of the water. These four factors "emphasize improving access to safe drinking water for underserved communities through non-discrimination, public participation, and accountability" (IHRLC, 2013, p.6). At this point, non-discrimination and equality should be emphasized to achieve meaningful public participation of all citizens, which necessitates the transparency and accountability of the governance bodies (IHRLC, 2013, pp.8-9). By this way, various stakeholders can better contact with the citizens who suffer from water challenges.

## **Conclusion**

Los Angeles is an example of a metropolis where water availability is an ongoing problem. This challenge is complex and multidimensional, involving many competing water demands and a variety of stakeholders. Therefore, the management of water resources should take a holistic view and should follow a participatory process. Recognizing that California has declared water a human right, water management and allocation processes should acknowledge the needs of all community members and should not prioritize one group's interests over another.

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