Abstract

Around the world different living circumstances have an enormous yet poorly quantified impact on human water consumption. Water consumption levels are in turn closely linked to health and quality of life, particularly where access to water is limited. These facts place significant water and health impacts in the hands of those who make design and implementation decisions about living circumstances – professionals who are not necessarily experts in matters of water. This investigation was an examination of the abundant yet discordant and atomized data on human water consumption, providing a summary of water consumption modifiers and water consumption numbers over a wide range of circumstances, in table form, to those involved with dwelling infrastructure, water/sanitation, hygiene, or other water-impacted fields. Disambiguation of the water consumption concept was necessary, which encompasses three categories of consumption: footprint, domestic, and ingestion. Footprint water consumption was documented to be greater than domestic consumption by an order of magnitude. Domestic consumption was found to be ~99% defined by our surroundings and to vary between 7 and 600 lpcd. Principal modifiers of domestic consumption are service level, sanitation decision (dry vs. flush), presence of metering, use of low flow fixtures, residential lot or compound size, and climate. Sanitation decision is linked to substantial health externalities. Price appeared to have a less-than-anticipated impact, due likely to social/health restraints in applying strict economic principles. Dwelling size was found not to be a modifier. Relative impact of modifiers discussed. Narrative 44,000 words; Ref. 160. Note: An executive summary can be found at the end of this document.