



ILSI



Water Safety

Water I: Pursuing a Safe & Reliable Supply

Water as an Essential Nutrient

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Tuesday, 24 January 2017



Water Safety

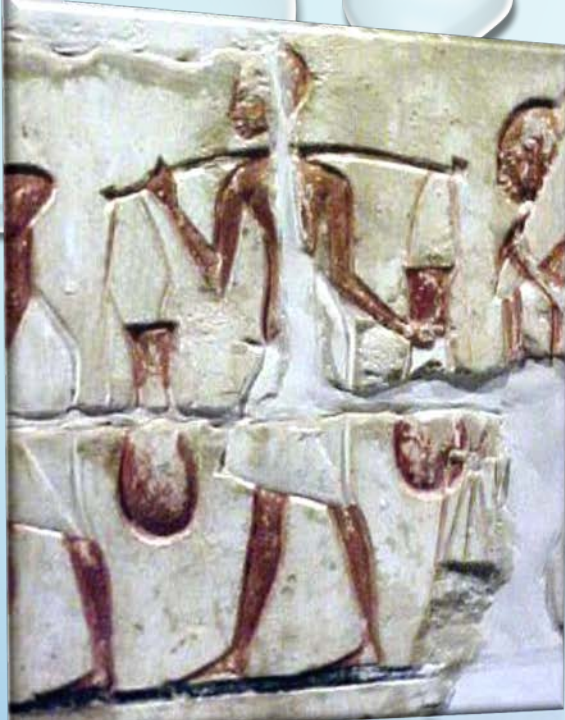
- SOME HISTORICAL BACKGROUND

- HEALTH

- INITIATIVES (STUDIES CASES)

- FUTURE





- Since water is absolutely essential to human life, it should not be surprising that it is an important component of human history.
- Most of the great ancient civilizations depended on a particular source of water.
- Water facilitated relatively rapid transportation prior to about 1850 C.E.
- Water was a fundamental aspect of the era of exploration and discovery from the late 15th through the 18th centuries.
- Water was also thought to be an essential aspect of the Industrial Revolution in all kinds of manufacturing processes.

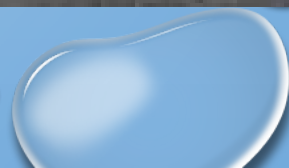




Fig. 1 Demographics and consumption are the main pressure on water

.....but the availability of clean and fresh water remains a limiting factor on the size and density of population centers, and is expected to remain so into the foreseeable future.

In 2030, 47% of world population will be living in areas of high water stress.

Most population growth will occur in developing countries, mainly in regions that are already experiencing water stress and in areas with limited access to safe drinking water and adequate sanitation facilities.

Where water resources or infrastructure or sanitation systems are insufficient for the population, people fall prey to disease, dehydration, and in extreme cases, death.

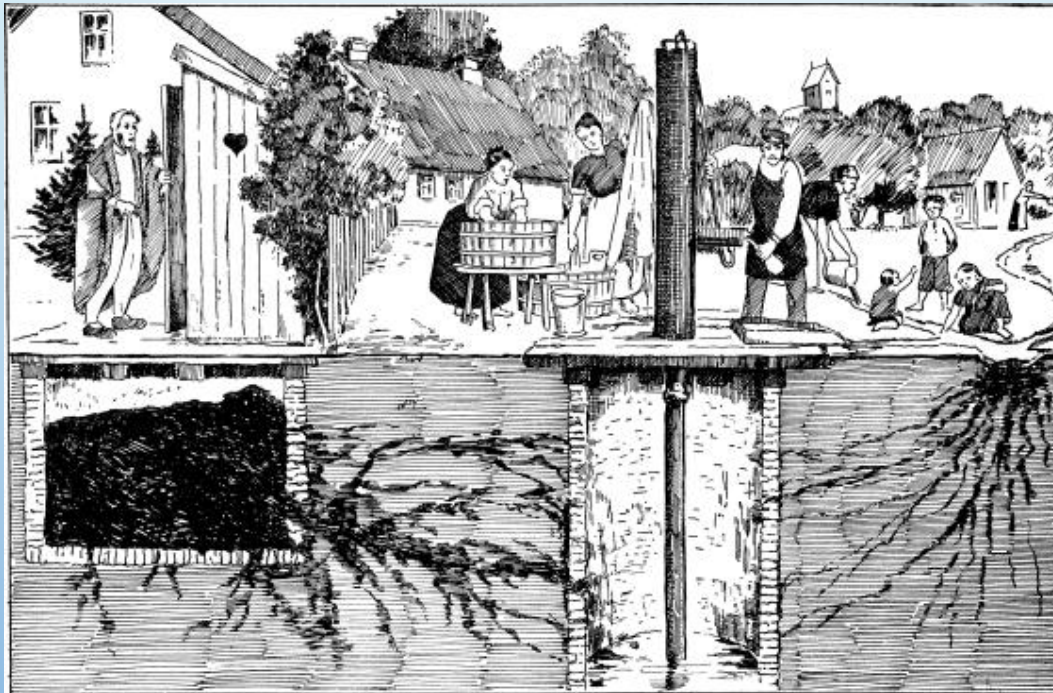


Fig.1 A 1939 conceptual illustration showing various ways that typhoid bacteria can contaminate a water well (center)

Water, hydration, and health

Barry M. Pugh, Brian E. Oakes, and David H. Robertson

The review summarizes the current knowledge of water intake in a population-based health study, including the effects of water intake on hydration, and the effects of hydration on health and energy intake, and the effects of hydration on health and energy intake. The review also discusses the effects of hydration on health and energy intake, and the effects of hydration on health and energy intake.

Introduction

Water is essential for life. It is the most abundant chemical substance in the human body. Water is essential for the chemical and physical processes that sustain life. Water is essential for the chemical and physical processes that sustain life. Water is essential for the chemical and physical processes that sustain life.

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1. Madsen, C., Borer, T., Madsen, J., & Madsen, J.

A metabolic investigation of the effects of day-long consumption of tea, coffee and water on alertness, sleep onset and sleep quality

Received 15 January 2002; Accepted 15 December 2002

Abstract The effects of coffee, caffeine and water on alertness, sleep onset and sleep quality were investigated in a randomized, controlled, crossover study. The study was conducted in a laboratory setting. The study was conducted in a laboratory setting. The study was conducted in a laboratory setting.

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Health

The current knowledge of water intake on human health includes:

- overall patterns of intake,
- factors linked with intake,
- water homeostasis mechanisms

Studies are covering:

- effects of variation in water intake on health and energy intake,
- weight,
- human performance and functioning (i.e. cognition, alertness, sleep quality)

MOH/UNICEF, 2011, Study on the correlation between sanitation, household water supply, mother's hygiene behaviours for children under 5 and the status of child nutrition in Vietnam

Khan et al., Reduction in childhood malnutrition in Vietnam from 1990 to 2004. *Asia Pac J Clin Nutr* 2007,16: 274–278

Takanashi, et al., Improved food selection of mothers on complementary feeding practice in Vietnam, 41st Asia-Pacific Academic Consortium for Public Health (APACPH) Conference, 3-6 December, 2009, Taipei, Taiwan, Poster presentation



Initiatives

Project SWAN (Safe Water and Nutrition)

2001- ILSI Japan and its partner National Institute of Health, Vietnam, launched Project SWAN

-> collaborative, multisector effort among engineers; disease and nutrition experts; educators; and communications experts.

-> to enable local communities to use existing community assets to create and maintain a safe and sustainable water supply.

-> to improve recognition of the importance of drinking water, food hygiene and nutrition, and sanitation at the household level.



Initiatives

Project SWAN (Safe Water and Nutrition)

2015- ILSI Japan and ILSI Southeast Asia Region, engaged several partners (Southeast Asian Ministers of Education, Organization Regional Centre for Food and Nutrition, the Yasmina Foundation, and local engineering consultants) in Indonesia

-> to conduct a pilot Project SWAN program in a rural district of the country.

2016- ILSI Japan and ILSI Southeast Asia hope to begin full implementation of Project SWAN in a test location in Indonesia.

N= <100.000

Global Initiatives like SWAN found many of the same circumstances of lack of safe water and health issues:

- inadequate treatment facilities and procedures
- low public awareness of the importance of safe water;
- food hygiene
- nutrition
- sanitation.





Initiatives

In sum.....

Further investigation is required about the extent to which water intake might be important for disease prevention and health promotion especially in younger population...

As for or children under five, water and sanitation-related diseases are one of the leading causes of death.

Over 800 children die/day from preventable diseases caused by poor water, and a lack of sanitation and hygiene.

Initiatives (i.e. SWAN, ONU, UNICEF, UNESCO, WWAP...) are improving access to clean water and reducing malnutrition, raising awareness and implementing educational tool



Initiatives

- While some other, like “Water Project H2Ooooh!” focus on education



-> to encourage a greater understanding of the situation related to water resources in our world today and the issues related to its use, to its exploitation and to its limited supply.

N= 6,000 students ages 6 to 16 from (Italian schools)
storyboard on the theme of water Educational course (i.e. videos, books..)



“You see, because water is a precious resource and we need to be careful not to waste it.”



United Nations
Educational, Scientific and
Cultural Organization

World Water Assessment Programme (WWAP)

UNESCO » Natural Sciences » Environment » Water » WWAP

A- A+

Water

IHP

IHP-VIII Water Security

WWAP

- About
- World Water Development Report
- Case Studies
- SDG 6 - Synthesis Report
- WWAP events - Archive
- Indicators
- World Water Scenarios
- Water and Gender
- Capacity Development
- Conflicts & Cooperation (PCCP)
- Outreach
- Contact Us

UNESCO-IHE

Water Centres

Water Chairs

WWAP contribution to the "Budapest Water Summit 2016 Messages"

"As water is the most threatened resource today, it needs to become the central question of the political thought and action", declared His Excellency Mr János Áder, President of Hungary, in his opening speech at the Budapest Water Summit 2016, which was held in Budapest on 28-30 November 2016. The Summit aimed at discussing the role of water as a source of cooperation, peace and development, instead of conflicts and global risks. To this end, participants of the Budapest Water Summit 2016 proposed solutions for the relevant international bodies by adopting the "Budapest Statement 2016"



The World Water Assessment Programme (WWAP) of UNESCO contributed in drafting this important document, which summarizes the major political recommendations of the participants to the larger political community. [Read more](#)

More events and news

NEWS

12.12.16
WWAP contribution to the "Budapest Water Summit 2016 Messages"

20.11.16

HIGHLIGHTS

WORLD TOILET DAY 2016: TOILETS AND JOBS World Toilet Day



WORLD WATER DEVELOPMENT REPORTS

- ▶ NEW! Water and Jobs, 2016
- ▶ Water for a Sustainable World, 2015
- ▶ Water and Energy, 2014
- ▶ Managing Water under Uncertainty and Risk, 2012
- ▶ Water in a Changing World, 2009
- ▶ Previous editions, 2006 & 2003.



Water and Jobs: ...





Thank You





Water Safety

Water I: Pursuing a Safe & Reliable Supply

The session will explore the challenges associated with contaminants and toxicities in water & efforts underway to ensure a safe and reliable supply of water.

- **Drinking Water Contamination** - *Shane Snyder, PhD, University of Arizona*
- **Water Disinfection By-Products and their Safety** - *Brian Cummings, PhD, University of Georgia*
- **Global Lessons Learned: Case Studies on Lead and Arsenic** - *Alan Roberson, PhD, Corona Environmental Consulting*

A follow-up session (“Water: Part II”) will be part of the 2018 scientific program and will focus on water management, sustainability, global supply/distribution, agricultural systems, and environmental factors.