

## **WaterBytes – Drinking Water, Sanitation, & Water at Home**

*Recorded by Sara Neville  
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**Voice 1:** 2.6 billion people lack access to adequate sanitation.

**Voice 2:** Freshwater is contaminated by both human and natural waste.

**Voice 3:** Nearly 1 billion people collect their water from unprotected sources.

**Voice 2:** 90% of sewage in developing countries is discharged untreated into watercourses where diarrhea, cholera, dysentery, typhoid, and hepatitis A can be easily contracted.

**Voice 3:** Diarrhea alone is responsible for 1.5 million deaths every year.

**Voice 1:** Water treatment is feasible within homes and schools at point-of-use, but over 50% of schools still lack access to safe drinking water.

**Voice 2:** Safe water is needed not only for drinking, but for food preparation and hygiene.

### **INTRODUCTION**

Our planet is in the midst of a global water crisis. We learn at an early age that water is a renewable resource. Unfortunately “renewable” is often confused with “infinite.” Less than 1% of our planet’s water is readily available and safe enough for human use, but even that supply is limited, due to the amount of pollution, lack of proper sanitation, and the abuse of this resource. Although we cannot create more water, we can choose to maximize what we do have by more effectively managing water sources and distribution systems.

### **WATER FOR DRINKING**

Villages in developing countries are in dire need of clean water for drinking, cooking, and hygiene. According to [drinking-water.org](http://drinking-water.org), the four characteristics of safe water are quantity, quality, reliability, and cost.

- **QUANTITY:** Each person needs 5-13 gallons per day for adequate drinking, food preparation, and personal hygiene. The average household in a developing country operates on 3 gallons a day.
- **QUALITY:** The World Health Organization and other national agencies have created standards that specify the acceptable microbial, chemical, and radiological characteristics of safe water”

- **RELIABILITY:** Water varies by season, year and location, which often makes it hard to rely on.
- **COST:** In conjunction with the United Nations' Millennium Development Goals to dramatically improve poverty in our world, the World Health Organization has said that people should not be traveling more than 1km for water. The cost of walking further is too great for the poor. Not only is it time and energy-consuming, but walking to get water often sacrifices the most important part of a young person's life: education.

### **WATER FOR SANITATION**

Education isn't the only thing taken away from children. 90% of the 42,000 deaths that occur each week from unsafe water, hygiene, and living conditions are of children under five years old.

*According to Charity Water, "Unsafe water and lack of sanitation cause 80% of the world's diseases and kill more people every year than all forms of violence, including war... [but] the UN predicts that one tenth of the diseases in the world can be prevented simply by improving water supply and sanitation."*

Water contaminants are often identified by taste or odor, but many contaminants are hidden from the naked eye and must be tested for.

What else is found in contaminated drinking water? Pathogens like bacteria, viruses, and parasites. Heavy metals: lead, mercury, and arsenic. Hazardous chemicals and compounds: insecticides, and fertilizers.

One of the biggest problems contributing to water issues is the lack of knowledge at the local level. Many people who suffer from water shortage, unsafe water, and poor sanitation do not realize how important hygiene is, and do not realize that water treatment can begin at home. Creating and implementing educational programs is one of the easiest ways to prevent contamination and the associated risks. Unfortunately, many children who could be learning about various hygiene and sanitation initiatives are spending hours a day fetching a negligible amount of water for their families.

### **WATER AT HOME/CONCLUSION**

People in developing countries may not be as educated about water issues and hygiene as they should be, but those of us with access to the internet and social media need to educate ourselves about water and help spread the message. Please check out the supplemental resources listed below to learn more about what you can do to help with efficient water use.

(Time: 5 minutes, 20 seconds)

## Supplemental Links

### **World Health Organization**

- Water Sanitation Health:

[http://www.who.int/water\\_sanitation\\_health/mdg1/en/index.html](http://www.who.int/water_sanitation_health/mdg1/en/index.html)

**H<sub>2</sub>Ouse:** <http://www.h2ouse.org/>

- Learn to be more water efficient

- Take a tour of your house to investigate your water saving opportunities

- Included is a list of the top 5 ways to be more water-efficient at home

**World Water Council:** <http://www.worldwatercouncil.org/>

**drinking-water.org:** <http://drinking-water.org>

- From the National Academy of Sciences

- Provides an overview of the importance of drinking water, water sources, water treatment, and distribution

- Under “Treatment” there is a tab titled “Technologies Discussion Tool” to assess what type of water treatment technology should be used in a particular area

**EPA’s Safe Drinking Water Act (SDWA):**

<http://water.epa.gov/lawsregs/rulesregs/sdwa/index.cfm>

- Learn more about the safe drinking water regulations in our country

**UNICEF’s WASH Initiative:** <http://www.unicef.org/wash/>

- WASH (Water Sanitation & Hygiene, <http://washinitiative.org/>) is an initiative to educate people in developing countries about the important role sanitation and hygiene play in health

- The program was created to enhance child survival and development

**NSF: Public Health & Safety**

[http://www.nsf.org/consumer/drinking\\_water/dw\\_treatment.asp](http://www.nsf.org/consumer/drinking_water/dw_treatment.asp)

- Water treatment devices and tools for your home

**Earth Easy:** [http://eartheasy.com/live\\_water\\_saving.htm](http://eartheasy.com/live_water_saving.htm)

- 25 ways to conserve water at home

## References

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