

# Global Citizen Water Initiative

## Introduction

The Global Citizen Water Initiative (Citizen Water) aims to empower communities worldwide to access healthy drinking water. It incorporates simple, inexpensive water quality test kits; clear, multi-lingual and multi-media instructions; and open source spatial mapping. This unique blend of community empowerment and global information exchange enables people—regardless of location, economic class or scientific training—to participate in improving drinking water quality in their communities.

## Problems Addressed

1. Diarrhea and illness due to water-borne pathogens
2. Waterborne epidemics such as cholera, typhoid, and arsenic poisoning
3. Incompatibilities between water parameters and implemented treatment methods
4. Insufficient community access to local water quality information
5. Insufficient community access to desired treatment and supply options
6. Insufficient understanding of the parameters affecting water quality on a local level
7. Insufficient knowledge among researchers and regulators about contaminant distributions.



## Prior Art

Water testing field equipment exists for research purposes. Due to price, complexity, and lack of local distribution networks, this equipment is inaccessible to low-income communities in developing nations. Prior water quality interactive maps are limited to water access and ecological health.

## Teaching



Citizen Water partners with local NGOs and universities to provide in person, written, illustrated, and video instructions to interested communities.

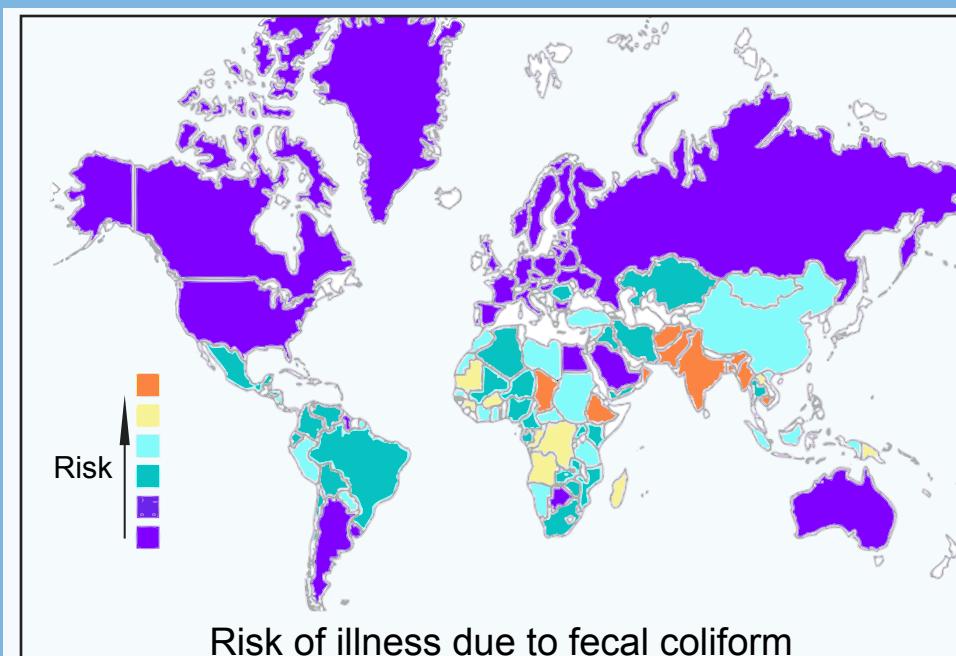
## Testing

The Global Citizen Water Initiative makes compact, rugged, and **easy-to-use** water test kits available to **low-income, non-technical individuals** in developing nations for only **\$1.50** per water source tested. Village teams in **China, Ghana, and the Dominican Republic** are already collecting water quality data in conjunction with Citizen Water.

## Test Kits



- Turbidity, pH
- E. coli/coliform
- Arsenic, Fluoride...



## Mapping

Citizen Water's water quality mapping database helps link communities with appropriate treatment options and provides an information tool for optimizing engineering and regulatory interventions.

## Implementation

### Global dissemination of ideas and information

- ```
graph TD; Website[Website] --> OrganizationalPartnerBuilding[Organizational Partner Building]; OrganizationalPartnerBuilding --> Trainings[Trainings]; Trainings --> LocalDissemination[Local dissemination of goods and services];
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- Water testing instructions
  - Maintaining healthy water supplies
  - Water treatment/supply options
  - Partner building through website
  - Outreach to NGOs and local universities
  - Train regional water testing instructors
  - Establish local test kit distribution networks

### Local dissemination of goods and services

- ```
graph TD; LocalDissemination[Local dissemination of goods and services] --> Testing[Testing]; Testing --> Treatment[Treatment]; Treatment --> DataMapping[Data Mapping]; DataMapping --> ImprovedIntervention[Improved Intervention];
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- Community partners purchase test kits
  - Regional instructors provide technical support
  - Communities report data for entry into database
  - Connect to suitable local treatment providers
  - Local NGOs facilitate funding
  - Citizen science data entered into water map
  - Online dissemination of information about global drinking water quality
  - Regulators and researchers use data to optimize interventions

## Quotes

*The biggest problem is the diarrhea. It is very bad with the children. My husband's sister also got blood in her diarrhea and died from it.* — Lumo Tser, Quma Village



*[My villagers] do not have a problem, but people who come to visit my village always get sick with diarrhea and vomiting. Even our relatives don't want to visit us on New Years.* — Dolma Dago, Leh, Ladakh



*I am so happy to learn [of Citizen Water]. This is really useful for me. Every time we almost spent approximately \$100 USD for testing the water. Thank you very much.* — CaiHua Dorji, Zhengga Village



## Acknowledgements

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## Team

