How Do You Fight the Coronavirus Without Running Water?

A Project of Forgotten People, CDC and Water Resources Action Project, Inc.
Presentation Roadmap

Introduction to Forgotten People, CDC:
• Origin, past projects and collaborations

Challenges affecting the communities:
• History of region and current crises

What we are doing to help
• Water delivery to Big Mountain and other communities
• In-home storage and distribution systems
• Hand washing stations & arsenic filters
Who are we?

• Forgotten People is a grassroots organization on the Navajo Nation
• Founded in 2005 to defend families resisting forced relocation and environmental degradation by Peabody Coal
• After the end of the relocation program in 2009, FP focused on rebuilding the communities
• Major emphasis has been on providing access to safe drinking water
Black Falls Water Project

- In 2008 – 2010, FP worked with US EPA to provide safe drinking water and sanitation to 10 families in the Black Falls community on the NN
- Project was connected to Superfund cleanup of abandoned uranium mines
- People were hauling water from unsafe sources
Black Falls Water Project - Grassroots Driven Development

- Projects were designed, led, and built by the local community
- Local ownership provides sustainability and empowerment
Black Falls Water Project – Phase 1

- Initial project installed basic storage and distribution systems and launched a community water delivery coop
- Phase 1 system used an above-ground tank, gravity-fed to sink for safe distribution
- Provided an immediate solution to need for safe water delivery and storage
In the 2nd phase, we partnered with the EPA and IHS to build full bathrooms in the homes.

Phase 2 used underground cisterns with solar-powered pumps attached to full bathrooms constructed from foundation up.

The project received Environmental Excellence Award from Navajo Nation and was featured on US EPA web site.
FP – EWB Collaboration

- Between 2013-2019, FP worked with several chapters of Engineers without Borders to improve the design of the phase 1 system
- Design added solar-powered pumps, on-demand hot-water, and grey water outflow to the low-cost, off-grid system
Historical Challenges Facing the Communities

Relocation: Between 1974-2008, over 15,000 Navajo were forcibly relocated

Bennett Freeze: Between 1966-2009, all repairs and construction of homes and infrastructure in the area was outlawed
The Current Challenge

Article from NYTimes, May 5, 2020 report the devastation taking place in our community.

How Do You Fight the Coronavirus Without Running Water?
Article from NYTimes, May 2, 2020 describes the challenges faced on Navajo Nation.

https://www.nytimes.com/2020/05/02/opinion/coronavirus-water.html
Pandemic has made it more difficult to access water

- Elderly people depend on younger family members to visit and haul water for them
- Visits are blocked by weekend shutdown that closes all access to reservation
- Younger people curtail visits to prevent risk of infecting their elders
- Risk of infection stops people from transporting water
Storage of water in homes is also a problem

- Homes have insufficient storage for the increased amount of water needed for frequent hand washing
- Larger storage capacity would reduce number of trips made by water haulers and keep people safe longer
- Existing storage systems are often contaminated, increasing risk of infection and decreasing ability to fight new infections
What are we doing to help?
Big Mountain Area, Navajo Nation

• Providing free water delivery to the elderly using 275 gallon tank on back of pickup truck
• Constructing and distributing handwashing stations that use water efficiently
• Providing new containers to increase safe storage capacity at each home
Water delivery in Big Mountain

- 27 families identified with immediate urgent need; as many as 150 homes also need.
- Because of remote location and difficult terrain, delivery takes about 4 hours for each home.
- Requires full time work plus vehicle maintenance.
Big Mountain - Current status

- Andy Dann delivers food, firewood, sanitary supplies and water to 30-50 families every 3 weeks, as well as building/distributing hand-washing stations

- Requests for support:
  - High capacity water pump which can save an hour off each trip
  - 50 gallon tanks for outside storage at homes; 5 gal. tanks for inside
  - Long term goal is to provide the Phase 1 storage/distribution systems for 150 with delivery coop similar to Black Falls
What are we doing to help?

Hotevilla, Hopi

• Providing new 20 gallon containers for storage at home and 5 gallon container for hand transport from tap in village
• Constructing and distributing handwashing stations that use water efficiently
Hotevilla Current Status

- Andrew Qumyintewa currently provides weekly food deliveries
- Water is available in village, but has to be transported to homes manually
- Requests for support:
  - 20 gallon homes storage units to provide increased capacity for hand washing and safer storage
  - 5 gallon jerry cans to transport water from source to home
  - Handwashing stations for efficient washing
Hand washing stations

- Construction and distribution of low-cost, water-efficient handwashing system
- Education on the importance of washing hands
Arsenic Testing and Filtering

- Arsenic contamination has contaminated the public water supply on the Hopi Reservation and affects sources used on the Navajo Nation
- We plan to provide low-cost testing systems that enables the families to check the safety of their water
- We also plan to deploy a low-cost low-tech filtration system as a pilot program