CholeraMap: Satellite-derived Waterborne Disease Early Warning for the Masses
Cholera remains a major threat to global health

Disease burden is severely underreported

80% of cases could be treated with ORS

Existing EO-based warning systems target high-end technical users

The remote populations are typically outside information umbrella

Women, who typically make household water and health decisions in most of the developing world, rarely have access to such information

The reality is:

Ultimate end-users of water and health-related information in South Asia and Sub-Saharan Africa are outside our reach

CholeraMap

- An inclusive dissemination approach via smartphone application
- Geospatial water quality and cholera risk directly for grassroots
- Influence safe water/sanitation behavior and disease awareness
Monsoon floods
Saltwater intrusion
MATLAB
Cases
Months
MATLAB sub-district
Population: 500,000

- Field workers visited 2000+ households
- Explained cholera risk and project goals
- Surveyed members on water/sanitation
- Got agreement with smartphone owners
- Registered 1500 application users (750 control and 750 treatment)

Cholera risk includes:
- IMERG rainfall observations
- TRMM/GPM rainfall anomaly
- SERVIR NMME rainfall forecast
- MODIS land surface temperature
- SRTM land surface elevation
- SEDAC population density

1 x 1 km cells
Updated monthly
Biweekly SMS text
Local languages

Validated with:
ECBS Cholera Surveillance data
Bill and Melinda Gates Foundation
Information flow from URI server to smartphones in the hands of the population of Matlab.

Risk levels:
- High Risk
- Med Risk
- Low Risk

The risk of cholera outbreak in your locality is very high.

To save yourself from high risk of cholera:
- Wash hands
- Boil water
- Eat healthy food
- Use latrine
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Thank you!

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