

# Community-Based Well Maintenance in Rural Haiti

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- No consensus on best approach to maintaining wells (Ahuja et al. (2010), Zwane and Kremer (2007))

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- Following a 2009 donors' conference "donors provided only \$40 to \$70 million of the more than \$350 million in pledges and continued to direct assistance through NGOs rather than the government" (USIP (2010))
- Of \$194 million in US gov post-earthquake contracts until April 2011, 2.5% awarded to Haitian firms (CEPR (2011), Dupuy (2010))

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Issue of time



# Alternative Approaches in Rural Areas

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  - Evidence of effectiveness (Curtis and Cairncross (2003))
- Infrastructure Improvements: Wells and Capped-Springs
  - Typically at community-level due to costs
  - Evidence of effectiveness (Parker and Skytta (2000)), but do not address transportation/storage (Wright et al. (2004))

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- Need better evidence on approaches to maintaining wells (Zwane and Kremer (2007))
- Measures of outcomes must include time dimension – water-person-years (Koestler et al. (2009))

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  - Organization of local water committees
  - Committees responsible for collecting funding for operations and maintenance
  - Construction and hardware typically subsidized by government/NGO
- Effectiveness of community-based approach
  - Côte d'Ivoire: breakdown rate from 50 to 11% at 1/3 cost of top-down approach (at 13,500 water points – World Bank (1996))
  - Positive evidence from Pakistan (Khwaja (2009)), India and Sri Lanka (Isham and Kähkönen (2002))
  - Strength of committees determines success (Parker and Skytta (2000))

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  - 60 percentage point decrease in uptake of ITNs in Kenya (Cohen and Dupas (2010))

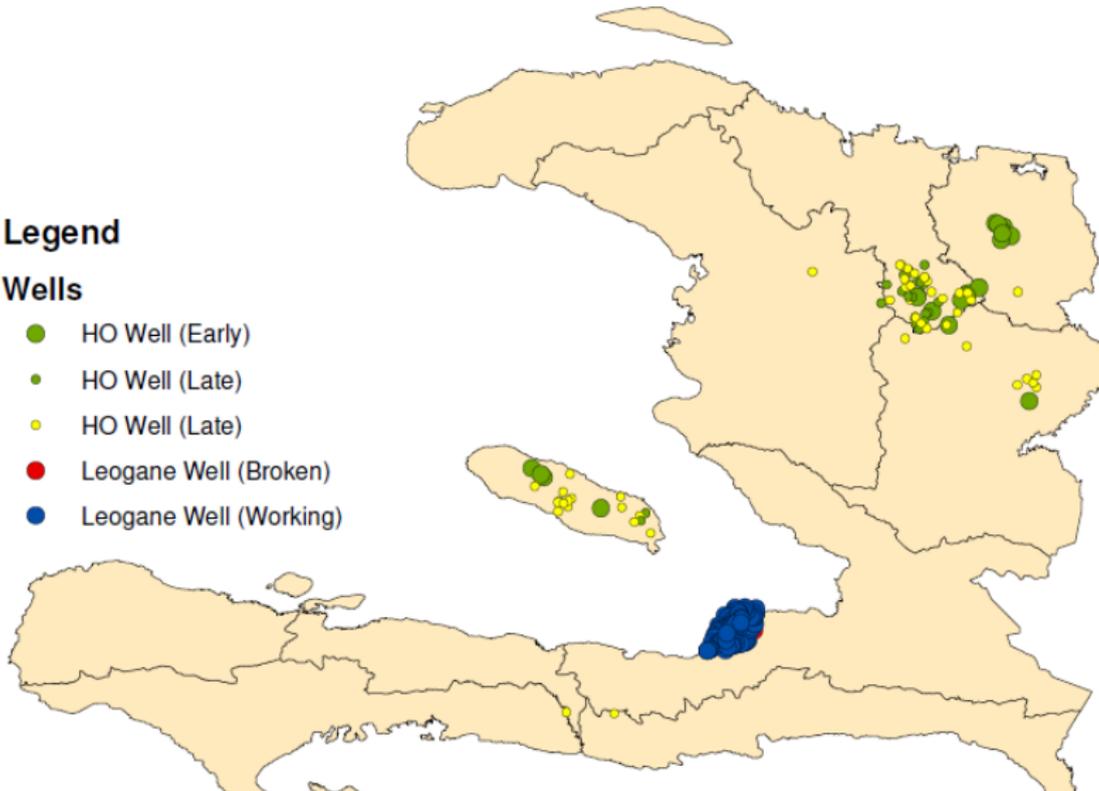


## Wells in the Data Set

### Legend

#### Wells

- HO Well (Early)
- HO Well (Late)
- HO Well (Late)
- Leogane Well (Broken)
- Leogane Well (Working)

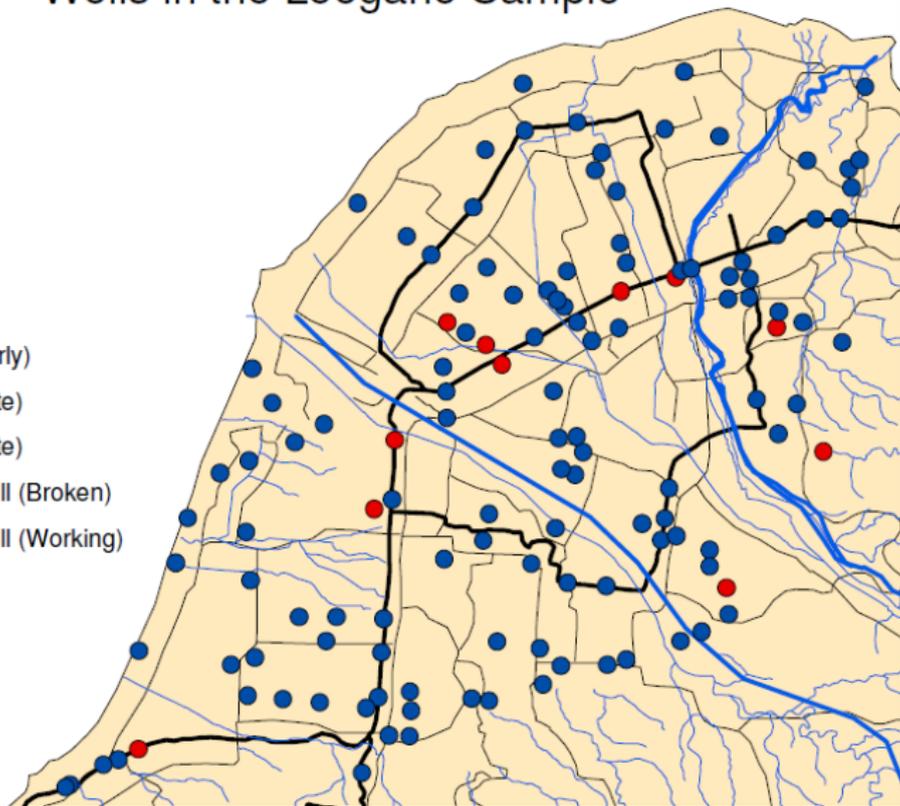


## Wells in the Leogane Sample

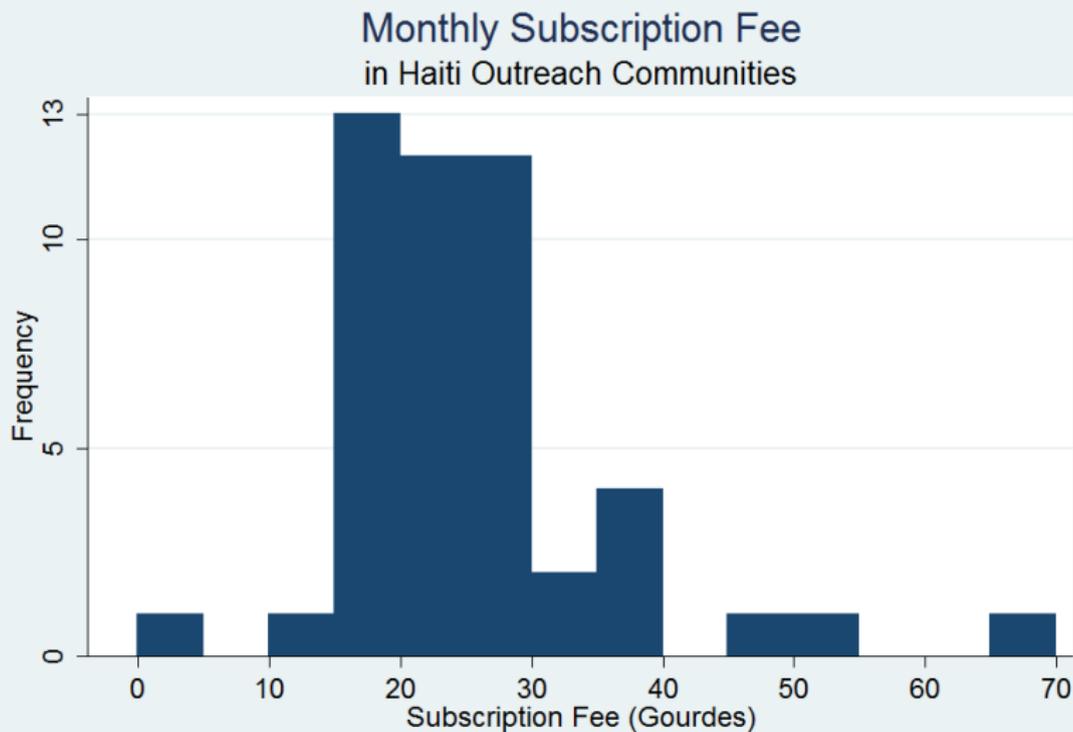
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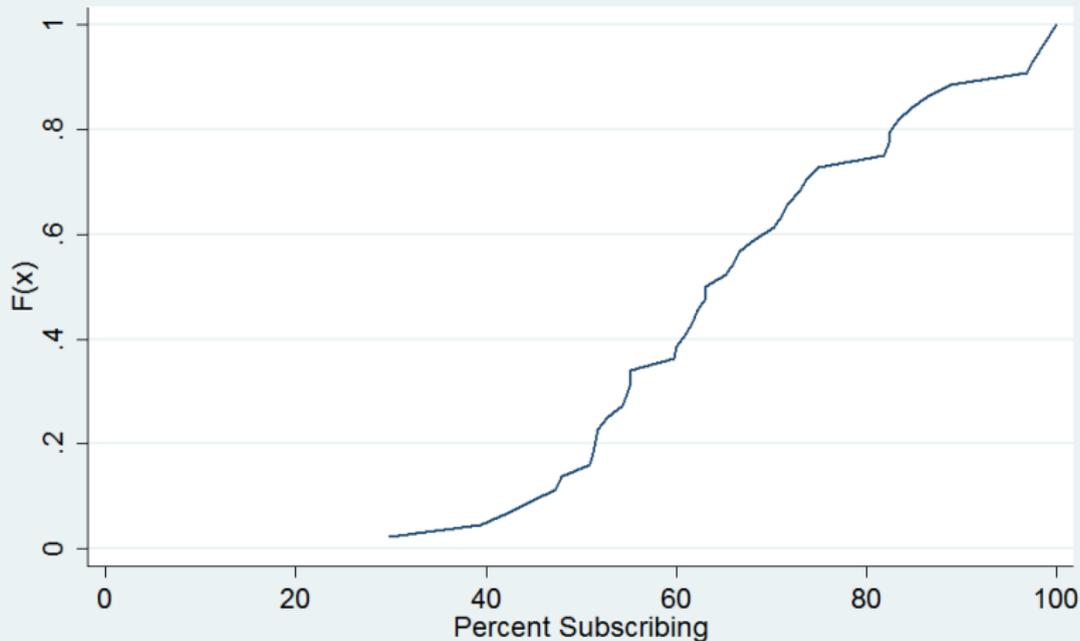
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Source: Haiti Outreach

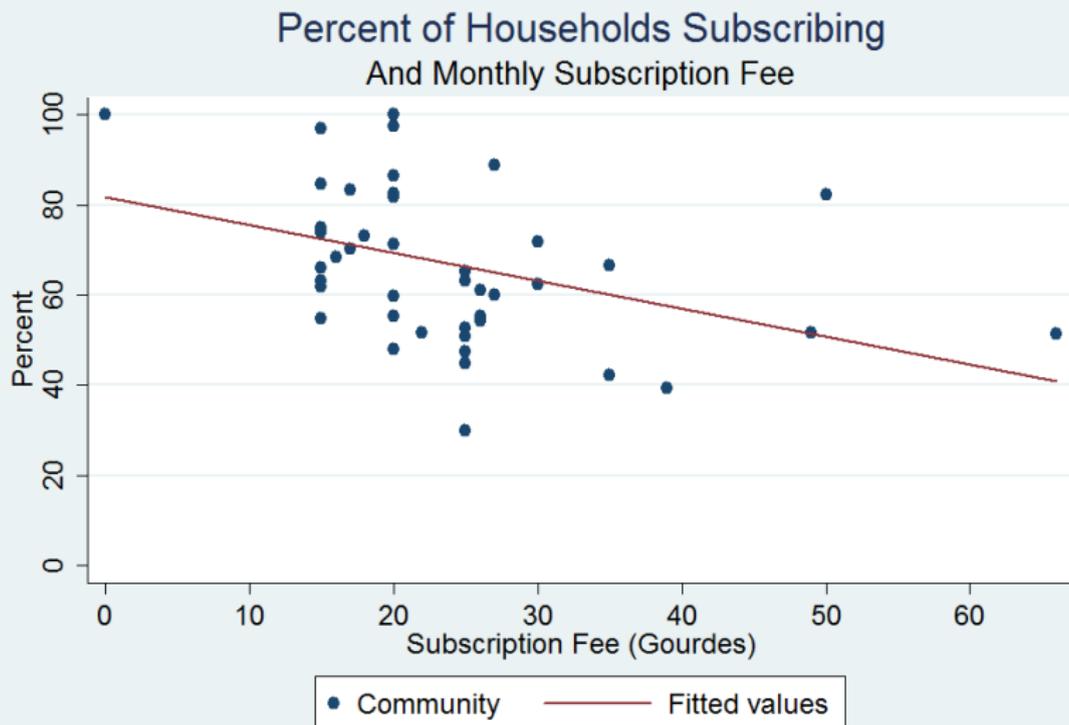
# Percent Subscribing

CDF of Percent of Households Subscribing  
in Haiti Outreach Communities



Source: Haiti Outreach

# Percent Subscribing and Subscription Fees



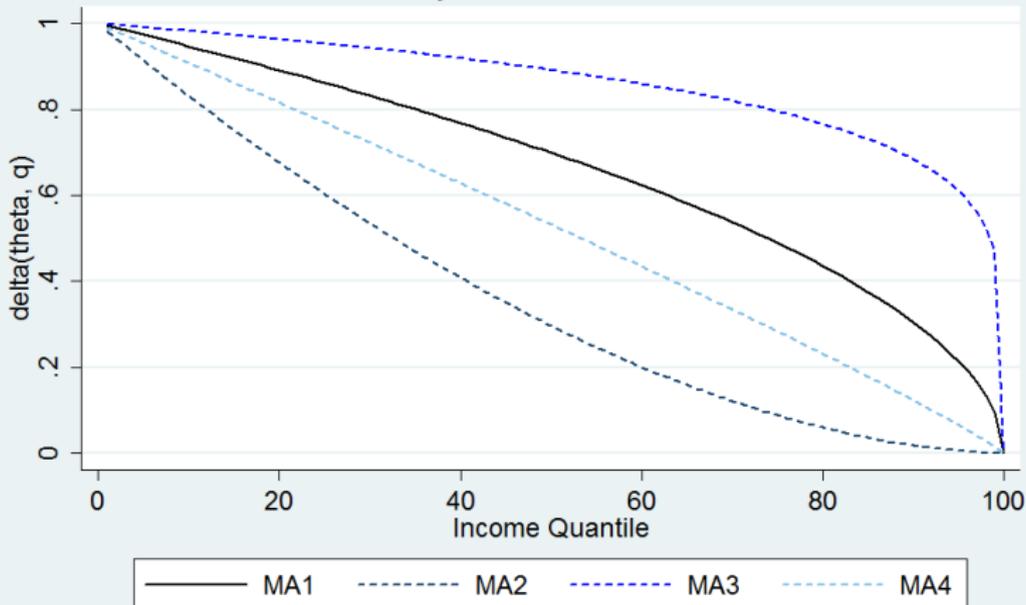
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# Descriptive Statistics

Sample	n	Functioning	Broken	n Unobserved
Leogane	127	116 (91.34%)	11 (8.66%)	24
Haiti Outreach	21	21 (100%)	0 (0.00%)	1

Standard intervention  $\Leftrightarrow \theta > \theta^* = 0.516$   
Community-based intervention  $\Leftrightarrow \theta < \theta^* = 0.516$

Estimated Weights Attached to Water-Person-Years  
by Income Quantile



Sources: 10000 Simulations Based on Data from Haiti Outreach/JEN/Author

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Checklist complete - community-based interventions on paper

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### Data Collection and Analysis

- Patterns when plotting wells on Google Earth

# Animator





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- You get what you pay for

# Resources

