



**University of Idaho**

College of Agricultural  
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# **LOW-COST WATER WELLS FOR DEVELOPING COUNTRIES**

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- [Waterforallinternational.org](http://Waterforallinternational.org) (drilling method training)

A photograph of two young children walking on a dirt path through a lush green field. The child in the foreground is a boy wearing a dark blue shirt and brown shorts, carrying a large blue plastic bucket on his head. The child behind him is a girl wearing a white top and a patterned skirt, carrying a yellow plastic jerrycan. The field is filled with rows of young green plants, likely corn, and the path is a simple dirt road. The overall scene suggests a rural, agricultural setting where children are responsible for carrying water.

Children/Women:  
Vulnerability



Limited water quantity

# **ALTERNATIVE CONTAMINATED WATER SOURCES**



Typical Water Source





**COMMUNITY-DRIVEN PROBLEM SOLVING**

# APPROPRIATE TECHNOLOGY: PERCUSSION HYDRAULICS





Passive ejection of cuttings in drilling mud





# DRILL TIP

Drill Tip: Leaf spring from automobile

Bell Reducer

2 Straight couplers





# **FINISHED WELL INFRASTRUCTURE**

# Supplementary Material



**PUMP**

# FINISHED-WELL INFRASTRUCTURE CRITICAL CHARACTERISTICS

- Locally available components
- Repairable (no proprietary parts)
- Inexpensive materials (\$150-\$200 USD)
- Simple construction



# **SOCIO-CULTURAL ASPECTS OF THE WELL PROJECT**

# **POVERTY**

**LACK OF RESOURCES AND/OR  
KNOWLEDGE**

**VERSUS**

**SHAME & POWERLESSNESS**



# COMMUNITY ENGAGEMENT

# COMMUNITY-IDENTIFIED CHALLENGES

- Personal Safety
- Distance & Time
- Children's Education
- Water Quantity & Hygiene
- Disproportionate Impact on Women & Children

# Well Cooperatives

Ten Households:

- Provide Labor
- Buy materials

We:

- Provide drill equipment
- Training (first two wells)





My goal is not to rescue or create dependency but to equip and empower communities to provide clean, accessible water for themselves.