Small-Plot Irrigation
Developing Affordable Irrigation for the World

Sustainable Solutions for the World

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Empowering Global Solutions

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Global Problem:

- Approximately 800 million farmers earn less than 1 USD per day.
- Vast majority own less than 5 acres of land.
- Typically less than 1 acre in scattered plots.
- Production and income severely limited by lack of effective and affordable irrigation.
Small-Plot Irrigation

Specific Local Problem
St. Louis, Senegal
Specific Local Problem

Approximately 50 farmers in same situation in his village alone.
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Current Irrigation Technique

Limits:
- Types of Crops
- Growing Seasons
Desirable Solution:

Provide a low-cost, reliable irrigation system to transport water from a shallow pit well to one acre of land. (Pump, storage, distribution… ?)

Constraints:

- Low cost, less than 50 USD. Must be economically sustainable.

- Ability to fabricate locally
  - Local material
  - Local fabrication techniques

- Simple power source
  - No engines, animals, or electric grid
Small-Plot Irrigation

Current Pump Technologies

International Development Enterprises

“Treadle” Pump
KickStart

“Super MoneyMaker” Pump

Pull water up from about 23 feet and discharge to about 60 feet elevation
Project Goal
Develop an irrigation system that will empower poverty level farmers in the developing world to increase their earning potential and move out of poverty.

Approach:
Adapt, refine, and improve existing pumping, storage and distribution technologies for application in Senegal and beyond.
Plan

Year 1: Develop a system for our one farmer and install the prototype in summer-2010

Year 2: Continue development and refine system

Year 3: Begin distribution to other local farmers and beyond. Establish local manufacturer.