Thank you for your help Pere Ilric, pastor St Michel, Saltadere, Haiti





History of the Project

- Conceptual work started in 2010
- Requested by Pastor to help remedy the irrigation water shortage in Saltadere, Haiti
- Water is for school garden that raises food for students



Funding

- Generosity of Diocese of Richmond Battaglia
 Grant for \$5000 allowed initiation of project
- Successful additional fundraising from foundations, major donors, and parishioners raised \$15,000.
- Four to one leverage of Battaglia Grant monies
- Additional in kind support amounted to about \$5000 value

Project Challenges

- Height of school garden above river too great for suction pumps such as hand driven pumps.
- Lack of power at school to run an electric pulp
- Severe variation of flow in river, especially in rainy season
- Vandalism potential
- Developing know-how locally to repair and maintain pump

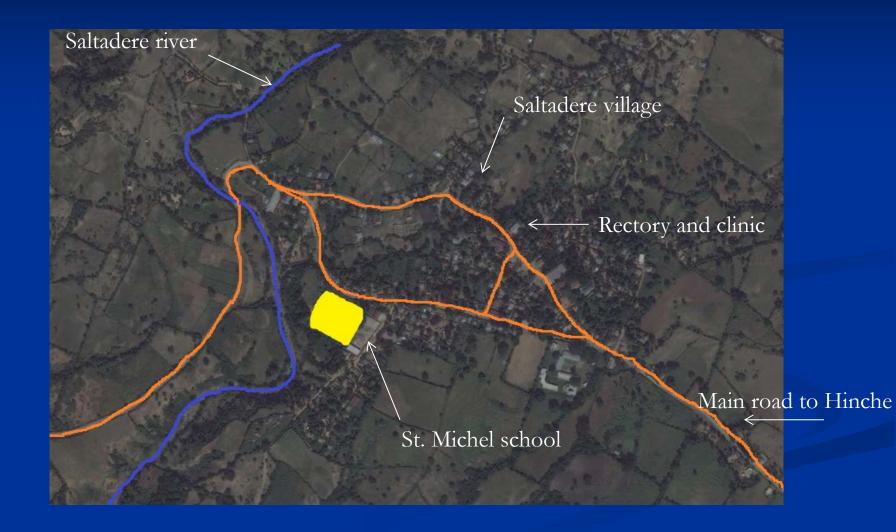
Design Solutions

- Jet pump allowed pumping at heights up to 100 ft.
- Photovoltaic power unit, and pump designed for low voltage DC allows very effective use of power
- Minimal installation in river bed required, use of a hardened crib inlet
- All major components placed in secured school compound





Overview Project Location



Agricultural Pumping at St. Michel School- Saltadere, Haiti



About the Project

- Utilizes the Saltadere river to irrigate the approximately one acre of gardens at the school
- A jet pump was installed to bring the water from the river up about 100 feet to two 600 gallon cisterns at the school
- Irrigation allows the gardens to be used for growing 4-5 crop cycles versus 1-1.5 without





Project Elements - Hardware

- \$16,500 of Materials and Supplies
 - Solar frame, array, and electronics (Haitian vendor)
 - Special built 24V 3600rpm motor
 - Gould jet pump designed for 120' horizontal lift
 - 1 ½ and 1 ¼" Polypipe (600' + each)
 - Brass fittings
 - **■** Electronics
 - Two 600 gallon poly cisterns
 - Miscellaneous plumbing and electrical supplies









Project Elements - Services

- \$1,500 of site Labor
 - Has included trenching, tree removal, lifting solar array to school roof, construction and placement of river site water siphon, etc.
 - Mostly labor with some skilled wages at \$10/week average.
 - Agronomist teacher for school
- \$1,000 of Local Transportation for solar array





Elements of the System

- Solar was selected over the on-site diesel generator due to its relatively low operating cost
 - Diesel fuel costs \$15+ per gallon in Haiti
- Solar panel system purchased in Port au Prince
- Pump and motor designed and purchased in the U.S.
- Plumbing supplies purchased in the Dominican Republic





Installation in Haiti 2012 and 13











Volunteers

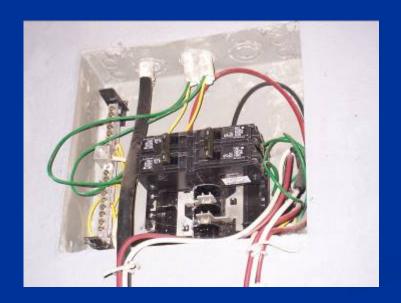
- No money was expended on volunteers, support to volunteers, or for volunteer's labor
- A number of items for this project, especially tools required, were donated by St. Thomas committee members or the volunteers on this project
- The project required over a dozen separate trips to Haiti by a team of 6 individuals from our committee, and involved a number of local Haitian workers





Final Status of the Project

- Various repairs and improvements were made
- Circuit breaker for the pump was faulty and no replacement was available in Haiti, supplies from USA were obtained
- The irrigation system is operational and will be available for the start of arid season this October







Students are taught good farming practices





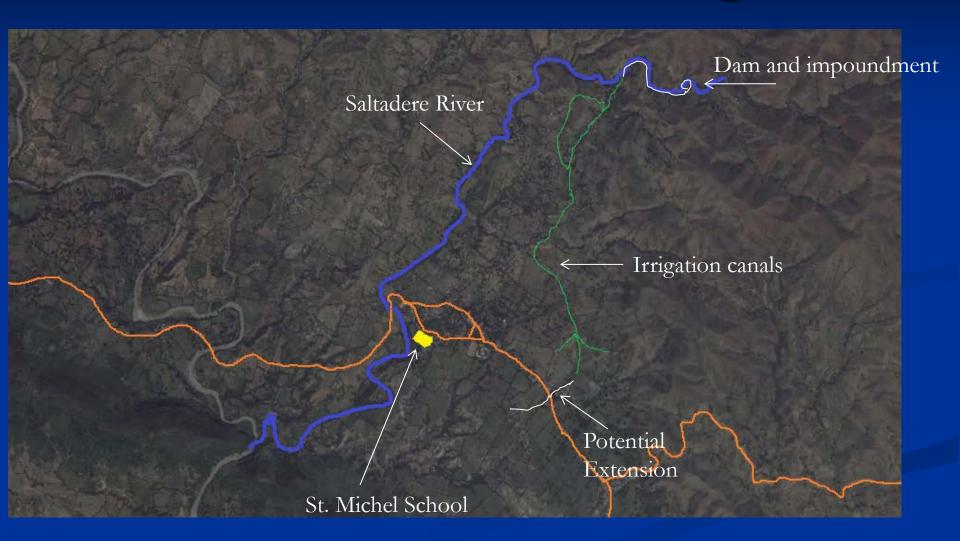
Sustainability

- About half the project expenditures were with Haitian vendors
- Garden serves about 1000 children in St. Michel school
- Agronomist teaching good farming practice to rural children, who can apply the lessons on their own farms.
- Excellent opportunity to expand irrigation and link into newly installed viaduct
- Electric power produced also used for school computer lab

Recently Installed Irrigation Project North of Saltadere Village

- USAID sponsored irrigation project installed in past two years north of the village of Saltadere
- Dam built on Saltadere River created a large compound for irrigation water
- Network of irrigation canals and gates installed
- Network stops short of village and does not reach the area south of Saltadere
- A local ditch system was installed to reach this area but causes erosion and is not gated

Potential extension of irrigation



Next steps

- Monitor the agriculture production for the next three years, and periodically report
- Pipe irrigation water to the rectory garden across the street from the school
- Develop a working relationship with the local agriculture irrigation committee
- Share irrigation water with community

Thank you for your support for Haiti --- Mesi anpil



Here is the future



Battaglia grant participants

- Bob Fromm chief engineer
- Anne Knasel chair of St. Thomas Aquinas Haiti Committee
- Pete Benedetto water engineering
- Andrew Heekin student engineer and installer
- The many generous institutions and individuals who contributed time and funding to this effort

St. Tomas Aquinas & Holy Comforter Haiti Committee Our group of about 40 parishioners has been supporting St. Michel parish, clinic and school for over 10 years

