



# A Model for Clean Water for Africa

## THE SITUATION

Water is life. Clean water is good life. Dirty water is bad life, or death. Yet more than 2 billion people drink contaminated water every year. A million die from it. Tens of millions are made sick. The tragedy is that this is entirely preventable.

Part of the problem is that contamination in water varies. Some contaminants are inorganic: ammonia; nitrates; sulfates; etc. Some are organic: E. coli; Dysentery; Cholera; Diphtheria; Coliform; etc. Both types of contaminants are debilitating. In the right concentration, both can be deadly.



The good news is that contaminated water is relatively easy and inexpensive to fix, especially in the context of schools, where children gather. The cost is around \$.60 (sixty cents) per child per year. This is vastly lower than the cost of sickness and death that comes from the use of dirty water. It is significantly lower than the cost of conventional solutions.



**The conclusion is arresting: providing clean water is one of the most effective—and cost-effective—public health options available to the developing world. This project demonstrates that proposition as proven in schools in Uganda.**

## THE PROJECT

The Pilot phase of the project will deliver pristine drinking water to 23 schools and more than 70,000 students in the Kampala area of Uganda. The water is 99.99% pure, meeting WHO and all African national water quality standards. The total cost of the project (see details, below) is \$42,550. This works out to \$.59 (fifty-nine cents) per child per year for a seven-year period.

The project is conceived, funded, and overseen by [The Global Uplift Project](#) (TGUP). TGUP’s Ugandan partner, [Nsawo Community Development Project](#) (NCDP), handles installation and reporting. The project uses the patented water filtration system of Netherlands-based [Sensiblu](#). Ugandan national university labs are used to test every installation for post-installation water purity.

## THE SOLUTION

**Sensiblu** delivers municipal-scale water filtration to school-scale communities, at a fraction of the cost of alternative systems such as ultraviolet or thermal treatment.

The Sensiblu system:

- Is powered by the pressure in the water delivery system: **no electricity required**.
- An internal turbine creates electrolysis using salt to produce chlorine disinfectant.
- One pound of salt filters 11,000 gallons of water to WHO quality standards with 99.9% removal of viruses and 99.99% removal of bacteria.
- The system delivers 99% lower operating costs and 95% lower maintenance costs compared to other systems. This is a significant “plus” for budget constrained schools in Africa.

Number of schools	23
Children per school (average)	450
Children helped in year 1	10,350
Cost per installation	\$1,500
Number of installations	23
Initial Program costs	\$34,500
Cost for maintenance per year	\$50
Number of years	7
Number of schools	23
Total maintenance costs	\$8,050
Total Program costs, 7 years	\$42,550
Number children helped, 7 years	72,450
Cost per child helped per year	\$ 0.59

## RESULTS TO DATE



TGUP and NCDP have completed installation at eight schools in the Kampala, Uganda area. Post-installation water quality tests were conducted by the Ndejje National University Water Research and Development Center. The results are:

- All installations are meeting WHO drinking water purity standards including for ammonia, nitrates, sulfates, and turbidity.
- 100% reduction in E. coli and coliform organic pathogens.
- Combined population of 3,187 students served, so far.

TGUP and NCDP will complete the Pilot intended installations. Then, they will be ready to extend the system to other African countries looking for cost effective clean water systems.