Turbidimeter

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AguaClara needs a reliable and simple method for candidate communities to monitor the turbidity of their water supply. Portable turbidimeters cost $400 or more and thus are too expensive to provide to a large number of candidate communities. This semester our goal is to design a low budget (under $20), accurate turbidimeter. These turbidimeters will be provided to candidate communities to determine the source water turbidity range and hence the type of water treatment required. The currently complete turbidimeter prototype can read NTU values down 15 NTU. There are ten of these prototypes currently being used in communities on Honduras.

Current Research

The current turbidimeter team is working on being able to create a prototype which can read NTU values below 15 and hopefully down to 5 NTU or lower. Throughout the fall semester the team worked on experimenting with a variety of colored LED lights, different patterns and different size HDPE blocks to see if there was a way to be able to read 10 NTU or less on a 60 cm turbidimeter. Toward the end of the semester the team found a design that seemed like it would work well, but did not have time to test this design enough. This design consisted of a blue LED light and a larger HDPE block than the original design (please see the fall 2011 final report for more details).

Future Research

In the future more research needs to be done on the turbidimeter design that could possibly read NTU values down to 7 or 8 NTU. This design seems promising but too few tests have been done to be able to determine how accurate this design actually is. In the future a turbidimeter longer than 60 cm should also be reconsidered. While a 60 cm turbidimeter is more user friendly than a longer one it may simply be impossible to read NTU values lower than 10 or 15 accurately with such little length.

Members

Heidi Rausch
Julia Morris
Documents

	Challenges	Tasks	Teach-In	Presentation
Fall '11	? Unknown Attachment	? Unknown Attachment	? Unknown Attachment	? Unknown Atta
Summer '11	? Unknown Attachment			? Unknown Atta
Spring '11	? Unknown Attachment	? Unknown Attachment	? Unknown Attachment	? Unknown Atta