

## **Appendix7**

### **Story: Unwillingness to Pay for Household Drinking Water Treatment and Safe Storage**

*Over the past five years, multi-disciplinary team of engineering and business students have been on a learning curve when it comes to understanding customer willingness to pay for HWTS. Willingness to pay was investigated through contingent valuation surveys, meaning that the interviewees were asked, in essence: “Contingent upon receiving this product, how much would you pay for it (what value would you put on it)?” Often this process was facilitated by the so-called “split-case method” - offering the customers a range of values to find their cut-off point. However, teams found that this approach could give subjective and unreliable answers, depending on the starting price offered.*

*It was decided that an auction would be an interesting alternative method to determine willingness to pay. We organized such an auction for the residents in La Cano, Peru, where the water problem is one of the severest in the region. Forty-one people, representing about 1/4 of the 170 total households in that village, were present. The MIT team offered three solutions: a water treatment plant, household ceramic/sand filters or the SWS household chlorine system, which included the household chlorine product and the 20 liter safe storage bucket.*

*We began the auction with the lowest price, asking how many people were willing to pay this lowest amount, and recorded their answers on a blackboard at the front of the meeting room. Then we raised the price until no one was willing to pay anymore. The herding effect was significant. Below are cost versus willingness to pay results gathered on the three different options:*

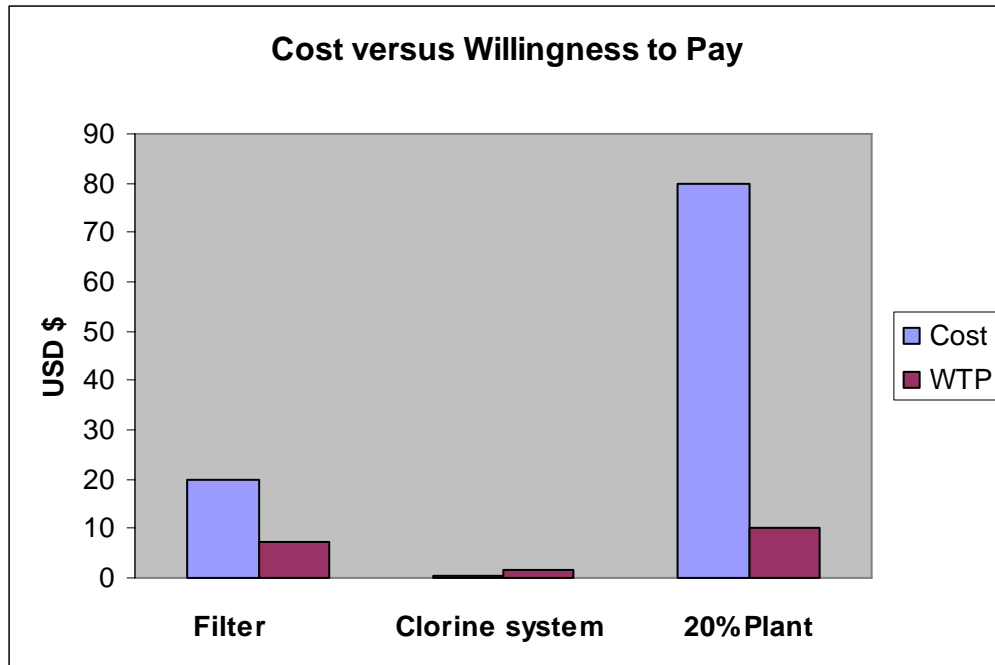


Figure 6: Cost versus Willingness to Pay (WTP) for filter, chlorine system, water treatment plant.

We can see from Figure 6 that the highest willingness to pay (about \$9) is for 20% of a water treatment plant. The villagers who participated in the auction and those who hosted it all had a good laugh and the two highest bidders did walk away with a ceramic/sand filter and a SWS set-up purchased at what turned out to be a substantial “discount” cost. Auction participants were particularly excited about the municipal water treatment plant option, partly because the community had recently been recipients of an unsuccessful implementation of the HWTs. Auction participants perceived the lack of convenience of the two HWTs, especially when they have been promised a possible piped municipal system by their local mayor and saw the successful completion of one in a neighboring community. Nonetheless, even while their expressed willingness to pay for the water treatment plant option was the highest amount offered, it still fell far short of the amount needed.

Unsatisfied with the accuracy of our results either with surveys or with the auction, we next resolved to try direct sales. First, we identified a group of higher income farmers (the average income of these farmers was about \$300/month) who told us that, given a quality guarantee, they would be willing and able to pay market price for household filters. Usually these people live in the big towns and come to their farms on weekends. They told us they would like to have these household filters on their farm when they come on the weekends - this would replace the need for buying or bringing water. The families of their cowboys could use the filters during the week.

On the strength of this advice, we chose the day after the farmers got paid to go to market and try to sell the filters off the back of our old pick-up truck. Despite our best efforts,

*nobody bought filters from us that day. This might be explained by the lack of guarantees we offered and/or by our own lack of marketing skills. Or, it might just be that because this La Joya District area had had a poorly run program of HWTS (See earlier “Tale of Two Districts”), the answer was simply that no one was interested. (Adapted from Cerilles, J., et al, 2004)*