Point One Filter™ Field Study
Give Clean Water- Nadi Fiji

Purpose:

A field study was conducted by Darrel Larson and team of Give Clean Water® workers on February 10th, 11th and 12th 2009 to evaluate the effectiveness, ease of understanding, and ease of use of the Sawyer Point One Filter™.

Methodology:

402 filters were obtained from Sawyer Products in October, 2008. Roughly 800 5-gallon water buckets were obtained from Visy Plastic in New Zealand. We drilled holes into the buckets and installed a Point One Filter™ kit onto each bucket and then placed filters in 402 different homes in four Fijian villages representing over 2,000 people on the big Island of Fiji in the Nadi town area. Each family received a bucket with the filter attached and a clean bucket to catch the filtered water. The villages that received filters were Yako Village, Bavu Village, Momi Village, and Tau Village. These filters were placed between October 21-24 by a team of 36 people on a pace of 50 filters in the morning and 50 filters in the afternoon. Each team had GPS coordinates and maps to find the houses that had previously been marked by the Give Clean Water team. The participants were given directions on how to use the filter by team members from Give Clean Water. They were also explained how to care for the filter – including the required cleaning/back-washing of the filter, and pre-filtering muddy water using a cloth or t-shirt.

An additional 100 filters were obtained from Sawyer Products in January and distributed in February to an international rescue center in Latoka Town, two schools in the Nadi town area, and two schools in Latoka. The team of three workers from Give Clean Water distributed and explained how to use the filters to the schools and rescue center. After Fiji's worst Cyclone to date, all five places double as evacuation centers in case of emergency. The schools have around 800 students each. They previously had no clean water source. The international rescue center provides food and clothing to over 800 people per week.

February 10-12th, approximately 115 days after the first units were placed, follow-up was performed by a team of three Give Clean Water workers that reside in Fiji. The team spent thirty hours that week visiting each household using the GPS coordinates to locate each residence.

Results:

In general, diarrhea and stomach pains are common problems throughout Fiji. Prior to receiving the filters their main water supply filtered at 10 microns, which allowed bacteria and protozoa to pass through. Those who don’t drink out of the tap get their water out of a well, stream, borehole or rain collection device that is more contaminated than the public water supply. All sources we tested in the villages were contaminated with bacteria. Where we installed filters, everyone was drinking the dirty water and was getting sick. Fiji does have a "boil your water" campaign going,

but few people do it. Nobody we found in the villages boiled their water, and the schools drink from the tap (10 micron filtered water).

The filters were easy to assembly to the buckets. All the residences the filters were given to, were excited to participate in the study. Of the 502 filters, all are still in use. All residents understood the significance of clean water. In every case, the people were using the filters from every three days, to every day, depending on the size of the family and their water needs. Each home was visited and it was documented that all residences reported that no illnesses were contracted during the test period. It should be noted that during the test period, a severe flooding condition occurred. Those residences that were not part of the field study contracted parasites and became ill. While not the intent, these people became the "control group". Families from neighboring villages that were flooded traveled to the homes that had filters to get clean water. All those in the "control group" wished they had received the filters and are excited about the possibility to get them in the future.

Conclusions:

The Sawyer Point One Filter™ is both easy to use and understand how to use. Even children were effectively able to use the filter. More importantly it can be concluded that it works 100% of the time. The ease of use could be demonstrated by the continued use of the product by the test subjects. The understanding of the required maintenance can be demonstrated also by the continued use. It could be argued that if the cleaning method was too cumbersome or complicated then some would stop using the product. We did not find this to be the case. The overall effectiveness of the filter is judged by the fact that no participates became ill, while those not using the filters did.