

Do low-cost ceramic water filters improve water security in rural South Africa?

General comment: This study evaluates the performance of 51 ceramic candle filters (CCFS) for the production of safe drinking water in rural South Africa. The authors evaluated different factors which affect the performance of CCFS and propose the use of dip slides as cost-efficient alternative to standard laboratory tests for detection of microbial contaminants. The authors have successfully shown that the performance of the filters is affected by various factors which reduce the filters' life span. Overall the manuscript is well written. Having said that, I have the following comments for the authors:

- a) Page 2, line 12: Please acknowledge recent literature publications which have looked into ceramic and biosand filters.
- b) Page 2, line 25: What is the accuracy of dip slides?
- c) Page 3, section 3.1: Please add more information about the CCFS e.g. pore size, shelf life, dimensions etc. What type of contaminants do they remove?
- d) Page 4, line 5: Please clarify on the filtration procedure and filtrate collection. Was the filtrate discarded after 7 h of filtration or filtration was allowed to run for 48 h with filtrate collected after 7 h, 24 h, and 48 h?
- e) Page 5, line 26: The filters may be damaged during cleaning resulting in poor performance. Please explain how the filters were cleaned in the field. Is this the recommended cleaning procedure?
- f) Page 5, line 27: The water quality for the water sources (in terms of microbial contamination and turbidity) may differ due to seasonal variations in rainfall. How did the water quality change for the different water sources (during rainy and dry seasons) and how did this affect the performance of CCFS?
- g) Page 6, line 24: Did the flow rate of the filters change over time? How does this correlate with filter performance?