

## ***Interactive comment on “Do low-cost ceramic water filters improve water security in rural South Africa?” by Jens Lange et al.***

### **Anonymous Referee #3**

Received and published: 8 August 2016

#### General comments

The manuscript reports on the performance examination of a low-cost ceramic candle filter system (CCFS) for point of use (POU) drinking water treatment in the village of Hobeni, Eastern Cape Province, South Africa. The study presents an important contribution towards improving water security particularly in rural areas with disadvantaged communities like Hobeni villagers. The report emphasizes on the importance of carrying out performance monitoring programs once water treatment devices are distributed in the field rather than depending on data accumulated during laboratory tests. It is important the information presented in the manuscript to be shared among different stakeholders working in water sectors to improve means of securing water in area without centralized treatment systems. However, the authors are advised to work on the few comments below to improve the manuscript.

## Specific comments

Page 1 line 8–9-The second sentence in the abstract is not well connected with the 1st and 3rd statements. It is suggested to be moved down to line 14 or deleted, and thereby the word 'moreover' in line 9 will be deleted as well.

Authors need to be specific and careful when using old information in a new statement. For example in the following cases; Page 1 line 16- replace the word 'they' with 'these slides', page 2 line 1- change the statement 'Their efficiency' to 'The efficiency of these treatment systems', page 2 line 7- replace the word 'them' with 'advanced physical methods' and the likes in the document.

Page 2 line 25- Change the word 'personal' to 'personnel'.

Page 2 line 28- Delete the word 'systems' after CCFS

Page 2 line 29- Change the word 'thereby' to 'thereafter or subsequently'.

Page 2 line 29- What were the criteria used to decide performance evaluation to be done after 8 months? Would it be possible to conduct the evaluation on monthly basis? Is there any possibility that the performance of the CCFS to be affected by seasons in a year?

Page 2 line 26–30- Authors are advised to write this paragraph in past tense. The paragraph describes what was done in their research so is better if reported in past tense with passive voice.

Page 3 line 10- Rearrange the words 'brand the name' to be read 'the brand name'

Page 3 line 15–16- The rate of 1 L/h is able to produce adequate daily drinking water volume. This is with respect to what number of family members in a household?

Page 5 line 11- If about 74 % of visited households had no access to toilet facilities, what were their practices? How have such practices affected the quality of drinking water sources? Based on this observation the authors may as well recommend for

sanitation educational campaigns and behavioral change interventions in the area.

Page 5 line 14–15- Does the absence of digestive affliction attributed to the use of CCFS? If yes, how long Hobeni people have been using CCFS? Were the authors the first to distribute CCFS or CCFS were there before this research. If test results indicated deteriorated water quality (presence of coliform bacteria) what made the communities not to have incidences of digestive afflictions? Were there any other intervention methods in the study area?

Page 5 line 16- Do the authors have any idea as to why the other 40 households abandoned the use of CCFS?

Page 6 line 9–10- The analysis procedure for dip slides as described on page 4 involves incubation of the pedals and vials after exposure time. How accessible are the incubation facilities to the CCFS household users in remote rural villages like Hobeni for them to be able to monitor the CCFS efficiency using this technology?

Page 7 line 5- Change the word 'beyond' to 'below'.

Page 14 figure 5- Authors needs to redraw the figure and extend the scale to include even the highest frequency parameters. Also y-axis needs to be labeled.

Page 16 figure 7- Authors are advised to indicate the unit for levels of education in the figure.

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