

Drink. Water Eng. Sci. Discuss., author comment AC2
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Reply on RC2

Omololu Ogunseye and Kamar Oladepo

Author comment on "Performance analysis of a basin-type solar still during harmattan" by Omololu Ogunseye and Kamar Oladepo, Drink. Water Eng. Sci. Discuss., <https://doi.org/10.5194/dwes-2021-19-AC2>, 2022

Reviewer's Comment 01: The solar stills in these experiments show a very low productivity (5 times lower or more) compared to conventional solar stills in literature. The problem here is that the authors fail to explain why this productivity is so low.

Authors Response 01: Reviewers' comment has been addressed and some explanations for low productivity was added to the paper.

Reviewer's Comment 02: The solar stills in these experiments show a high TDS in the distillate (about 2x the concentration in literature). The authors fail to explain the bad distillate quality.

Authors Response 02: Explanations on the reason for high DS has been added as suggested by the reviewer.

Reviewer's Comment 03: Too many parameters are changing in the same experiment to draw any scientific conclusion. To give an example: The correlation between rainfall and productivity is investigated. But during rainfall it is also probably cloudy, and the irradiation is much lower. Both glass temperature as well as water temperature are influenced by the rainfall.

Authors Response 03: The authors would like to clarify that the correlation matrix generated using the collected data provided some insights to the existing relationship between the variables without implying cause and effect. Having that preliminary understanding as indicated in line 164 to 171, the authors further explored the data to draw some conclusions. We acknowledge the interrelatedness of the mentioned variables; however, the correlation analysis was mainly to identify pattern and was the first step of the analysis.

Reviewer's Comment 04: It is not clear why the authors selected certain parameters to evaluate. So why for instance correlate relative humidity of the air with the productivity in the solar still? What is the logic behind this? In my opinion the humidity of the surrounding air is not influencing the evaporation/condensation process in the solar stills.

Authors Response 04: The parameters selected was based on literature reviews and preliminary data collected during the experiment. The authors agree with reviewer's observation on the unlikely influence of relative humidity on productivity which seems to

be counter-intuitive. However, our data revealed some correlation. The data was analyzed further to identify trend and to help draw some scientific conclusions.