

Interactive comment on “Effect of water depth, Inlet water temperature, and fins on the productivity of a pyramid solar still – An experimental study” by Malik Yousef Al-Abed Allah and Mohammad Omar Abu Abbas

Anonymous Referee #1

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This paper deals with pyramid solar still. The authors did an experimental study on the effect of water depth, inlet water temperature, and fins on the productivity of such a system. They found that productivity increased by decreasing the water depth and increasing the inlet water temperature. Also, it increases by using fins at the bottom of the pyramid solar still. This paper could publish in Drink. Water Eng. Sci. journal, however, the following comments must be covered: (1) In the Abstract, the last sentence Line 42: one value of the productivity is missed as there are three temperature values. (2) In the introduction: # Line 84, the word unsalted water is not correct. # Lines 126

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and 128, what is meant by PCMs and A48, authors must clear these abbreviations. # Line 152, Agrawal et al (2017) found that the efficiency of the solar still decreased by decreasing the water depth. This is reverse to what is found by other referred articles in the Introduction part and even to what is found by authors in this paper. The authors should explain that. # Authors did not refer to Arunkumar et al. (2012), while they have concluded that the productivity of solar still solely depends on climatic parameters and water temperature. An increase in water temperature results in an increase in evaporative and convective heat transfer coefficient in solar still. Also, the authors did not refer to Nayi and Modi (2018). They concluded the same effect of inlet water temperature in a comprehensive review on pyramid solar still. Arunkumar T, Vinothkumar Amimul Ahsan, Jayaprakash R, Kumar Sanjay. Experimental study on various solar still designs. ISRN Renew Energy 2012. (Kuldeep H. Nayi, Kalpesh V. Modi. Pyramid solar still: A comprehensive review. Renewable and Sustainable Energy Reviews 81 (2018) 136–148. (3) In the Experimental setup and procedure: # Line 192, what is PSS?, the Figure number is missed. # Authors did not declare the inlet of water and the water collection from the system in Figs 1 & 2. # Authors did not describe the way for controlling the water depth in the system and how they measure it. Also, the way for raising the temperature of inlet water is not described. # Authors did not mention on what bases they select the range of water depth (1–5 cm) and the range of inlet water temperature (30–50°C).

(4) In Results and discussion: # Line 210, the title is Results and discussion, 's' is missed. # Line 224, the word “temperature” is missed. # Figure 5 caption, it is not during experimental days, it is with different water depth during experimental hours. # Discussion for why the productivity increases by decreasing the water depth is missed and there is no comparison with what was found in the literature for this effect. # Fig. 6 caption, it is not during experimental days, it is during experimental hours (X-axis is in hours). This is a common error in the text also. # Line 243, the last sentence must be rephrased. It is not clear. # Line 252, it is not clear what is meant by 1 cm step? # Fig. 8 caption, depth is plural. # Discussion for why the freshwater production increases by

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decreasing the water depth is also missed. # Authors must revise the English of the manuscript. There are many errors in typos and grammar.

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