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Drinking Water
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Discussions

Interactive comment on "Solar Distillation of Impure Water from Four Different Water Sources under South-Western Nigeria Climate" *by* Saheed A. Adio et al.

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In the paper the results are presented of experiments with a home build solar still. The experiments are monitored well and the results are useful. But there are some parts of the paper that need clarification.

s10: rephrase this line (havoc is not the appropriate terminology). For instance: The major problems caused by scarcity of drinking water

s20: TDS-measurment is in this case probably measured with electrical conductivity. The meter is measuring the EC and a linear relation is assumed between EC and TDS.

So on the display there a a TDS-reading. This linear relation is not very accurate. The proper way to measure TDS is to measure all the ions in the water matrix in mg/l and add them up to obtain the total amount of dissolved ions. So I would suggest only to talk about EC in this paper.

s51 here electrolysis is mentioned but this is a process to split water in H2 and O2. What is meant is electrodialysis. This is a process with two different membranes and two electrodes pulling ions trough the membranes resulting in one diluate (less ions) and one concentrate (more ions) stream.

s90: Why is roof water carcinogenic? I can imagine that it contains bacteria and viruses (from the birds on the roof) and it can contain metals like iron and zinc from the roof material but I cannot imagine that it contains carcinogenic compounds. If this is possible please refer to literature to prove this.

s96 refrase "as a result of indiscriminate drinking of water". Drinking water according to the WHO-guidelines will never contain water born diseases. So probably you mean that people use water that is not treated to drinking water or the quality is not meeting the WHO-guidlines.

S106 mention here also the m2 of the solar collector because this surface area contributes to the solar heat that is collected during the experiment.

S207 avoid terminology like "ridiculous"

S210 mention the brand of the measuring equipment (but the TDSmeter is in fact a conductivity meter)

s281 mention which graph is the active and which graph is the passive setup (probably: a and d are active and b and c are passive setups)

s323: mention that EC and TDS-removal rate is not very relevant in this case because the starting TDS is already below the WHO-guidlines. If seawater or brackish water was investigated this was a more relevant parameter. And for seawater the reduction

rate should be something like 99.9% to obtain drinking water.

s336 the table here (tabel has no number!!!) shows a unit I cannot understand: Maximum daily production rate (kg/m2hr). So probably the proper unit is kg/(m2.day) In the table you should mention for comparison your results for the passive setup and the active setup. And mention if the m2 of the solar collector is used in this calculation. Becasue in fact you should refer the production to the total m2 surface area you use to collect solar heat.

s346 The XXXX should be replaced by numbers??? Please do so. Otherwise delete this part.

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