

# DESALINATION: AN OPTION OF SUSTAINABLE MASS WATER PRODUCTION

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**A** detailed comparison of numerical models (with and without considering humid air properties) for the estimation of water production from a solar water distillation device is presented. An extensive laboratory production experiment has been undertaken using 15 sets of external conditions to determine the evaporation characteristics and condensation coefficients to incorporate with the current evaporation and condensation models. The accuracy of the evaporation flux generated by the two current evaporation models (Dunkle's and Ueda's models) is examined using the field experimental data. The evaporation flux values given by the conventional models of Dunkle and Ueda are associated with notable underestimation and overestimation, respectively. It is revealed that the upgraded models have the smallest deviations between the model estimated values and the observed data can predict the daily production flux more accurately.

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