ACADEMICIA: An International Multidisciplinary Research Journal
ISSN: 2249-7137 Vol. 11, Issue 12, December 2021 SJIF 2021 = 7.492
A peer reviewed journal

# EXAMINING THE EFFICIENCY OF DIFFERENT KINDS OF SOLAR STILLS

**Ravindra K Jain***

*Professor,
Department of Civil Engineering, Faculty of Engineering,
Teerthanker Mahaveer University, Moradabad, Uttar Pradesh, INDIA
Email id: ravi.engineering@tmu.ac.in

**DOI: 10.5958/2249-7137.2021.02643.4**

## ABSTRACT

*In the area of desalination, solar is still the best technique. The solar still is a device that uses energy that is freely and abundantly accessible on our planet to turn wastewater into fresh distillate water. Fresh water is required and demanded by people all around the globe. Solar stills are used to address this issue by increasing the production of drinking water. Solar stills may be constructed even by untrained workers, using easily accessible local materials and no complicated design. The purpose of this essay is to compare the different variables that affect the solar still's output. This in-depth analysis will also shed light on the need for further study and suggestions in the field of desalination. Aristotle proposed a technique for evaporating polluted water and then condensing it for drinkable use as early as the fourth century. The first recorded work on solar distillation, however, was done by Arab alchemists in the fifteenth century.*

**KEYWORDS:** *Basin, Desalination, Fin, Reservoir, Solar, Vapor.*

## REFERENCES:

1. V. Velmurugan and K. Srithar, “Performance analysis of solar stills based on various factors affecting the productivity - A review,” Renewable and Sustainable Energy Reviews. 2011.
2. V. Velmurugan and K. Srithar, “Solar stills integrated with a mini solar pond - analytical simulation and experimental validation,” Desalination, 2007.
3. A. A. El-Sebaii, M. R. I. Ramadan, S. Aboul-Enein, and N. Salem, “Thermal performance of a single-basin solar still integrated with a shallow solar pond,” Energy Convers. Manag., 2008.
4. Z. M. Omara, A. E. Kabeel, and A. S. Abdullah, “A review of solar still performance with reflectors,” Renewable and Sustainable Energy Reviews. 2017.
5. A. K. Kaviti, A. Yadav, and A. Shukla, “Inclined solar still designs: A review,” Renewable and Sustainable Energy Reviews. 2016.
6. Z. M. Omara, A. S. Abdullah, A. E. Kabeel, and F. A. Essa, “The cooling techniques of the solar stills’ glass covers – A review,” Renewable and Sustainable Energy Reviews. 2017.
7. K. Selvaraj and A. Natarajan, “Factors influencing the performance and productivity of solar stills - A review,” Desalination. 2018.

**8.** A. E. Kabeel, Z. M. Omara, and M. M. Younes, "Techniques used to improve the performance of the stepped solar still-A review," Renewable and Sustainable Energy Reviews. 2015.

**9.** A. E. Kabeel, Z. M. Omara, F. A. Essa, A. S. Abdullah, T. Arunkumar, and R. Sathyamurthy, "Augmentation of a solar still distillate yield via absorber plate coated with black nanoparticles," Alexandria Eng. J., 2017.

**10.** A. E. Kabeel and S. A. El-Agouz, "Review of researches and developments on solar stills," Desalination. 2011.