

# Review of: "Experimental Behavior of Solar Still Using Mixed Oxides Mn-Fe/Silicone Resin Composite as Selective Solar Absorber"

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Potential competing interests: No potential competing interests to declare.

Hi dears,

I would like to extend my sincere gratitude to the Peer Review Team of Qeios for extending an invitation to contribute. It's been an enriching experience engaging with the platform, and I am thankful for the opportunity. Having gone through the peer review process, I would like to offer a few remarks aimed at enhancing the quality of this submission paper.

## Review

The title provides a clear indication of the focus of the research, which is on the experimental behavior of a solar still utilizing a mixed oxide Mn-Fe/silicone resin composite as a selective solar absorber. This addition helps to immediately convey the key aspect of the study, enhancing the clarity and relevance of the research.

## Abstract Review:

- Clarify the purpose: Start with a clear statement about the research's objective, such as addressing the need for sustainable water solutions in areas with limited access to clean water.
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- Methodology overview: Briefly outline the experimental setup and methodology used to evaluate the optical properties of the Mn-Fe oxide composite and the performance of the solar still.
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- Results summary: Provide concise results of the optical properties evaluation and the performance of the solar still, emphasizing key findings such as the high solar absorbance and thermal efficiency achieved.
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- Significance: Highlight the significance of the novel hybrid material and the potential impact of the research on providing clean water solutions in remote areas.

## Conclusion Review:

- Recap of findings: Summarize the key findings from the research, including the thermal efficiency achieved, water

production rate, and quality of the distilled water.

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- Implications: Discuss the implications of the findings, such as the potential for widespread adoption of solar still technology to address water scarcity issues.
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- Future directions: Suggest avenues for future research, such as improving thermal efficiency and increasing daily water production, to further enhance the viability and effectiveness of solar stills as a sustainable water solution.
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- End with a clear conclusion that reinforces the importance of solar stills in providing clean water and emphasizes the need for continued research and development in this field.
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- **Review of Introduction:**
- Clarity and Flow: The introduction provides a comprehensive overview of solar distillation, its significance, and the challenges it addresses. The flow of ideas is logical and sequential, facilitating understanding for readers.
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- Background Information: The introduction effectively establishes the context by explaining the importance of solar distillation, its historical development, and its relevance in addressing water scarcity issues, particularly in regions with abundant seawater and high solar irradiation.
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- Technical Details: The introduction includes relevant technical information about solar stills, such as their design variations, materials used, and the role of selective absorber coatings. These details help set the stage for the subsequent discussion on the experimental behavior of solar stills using mixed oxides Mn-Fe/silicone resin composite.
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- Integration of Literature: References to existing literature and research findings add credibility to the introduction and demonstrate an understanding of the broader context within which the current study is situated. However, it could be beneficial to integrate specific citations within the text to provide further support for the points being made.
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- Connection to Research Objectives: The introduction effectively connects the background information to the research objectives by highlighting the need for improvements in solar still design and materials to enhance efficiency and productivity. This connection sets the stage for the subsequent discussion on the experimental evaluation of the proposed mixed oxide composite as a selective solar absorber.
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- **Overall**, the introduction lays a solid foundation for the research paper by providing a clear and comprehensive overview of the topic, integrating relevant technical details, and establishing connections to the research objectives. However, minor adjustments such as integrating specific citations and refining the transition between paragraphs could enhance the overall coherence and readability of the introduction.

