

# Can Solar Lanterns Improve Youth Academic Performance?

## Experimental Evidence from Bangladesh\*

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### Abstract

Kerosene based lighting has been widely used in developing countries for nighttime study for children where electricity coverage is inadequate and limited. Off-grid portable solar-based lighting could be a useful alternative that can provide clean and adequate lighting for study. To rigorously investigate the effectiveness of such off-grid solar products in un-electrified areas, we conducted a randomized controlled trial in river islands of northern Bangladesh where no grid-based electricity was available. We found that solar lanterns significantly increased home study hours among treated children, especially in the night and before exams. School attendance rate also initially increased due to the provision of solar lamps but such effects faded away over time. However, the increased study hours and initial school attendance improvement did not translate into better academic performance. Varying the number of products received within the treatment groups also unaffected these findings. These findings may suggest the limited effectiveness of solar products, as long as other education related inputs remain unchanged.

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