

Review of: "Analysis of Renewable Energy Deployment and Investment for Rural Health Facility Electrification: A Case Study of Kenya, Ghana, and Rwanda"

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Potential competing interests: No potential competing interests to declare.

Introduction

- Climate change also affects crop yields and ecosystems, which may consequently lead to waterborne diseases.

The link between climate change affecting crop yield is clear, but I am not sure how crop yield consequently leads to waterborne diseases.

- With the recent drop in the cost of renewable energy equipment, especially solar PV equipment, it is now possible to provide vaccines and other basic health care services in remote areas.

How does cheaper PV equate to "providing vaccines"? Did the authors perhaps mean "preserving vaccines"?

- "The study also identified two key energy requirements for sustainable health systems in facilities: firstly, for the provision of electricity for lighting, vaccines and medication refrigeration, and equipment for sterilization, heating, and incineration."

Kindly rephrase this sentence, as it is a bit difficult to follow/understand.

- "emphasize the need for solar PV system deployment in rural health centers. Magda ..."

Pls change the "." after centers to ","

- "This makes the deployment of renewable energy as being beneficial..."

"as being" can be removed.

- "Further, poor health service delivery is a global challenge that needs to be closed."

How about replacing "closed" with "tackled," "solved," or "addressed"?

- "Sub-Saharan Africa faces significant impacts from the climate crisis, despite its minimal contribution to the problem."

This statement, especially the last part, is very debatable. I would not advise including such statements without citations.

- "To address this gap, a four-step methodology..." but only 3 were mentioned, i.e., assessing electricity, review of the

effects, and finally analysis of capital investments.

"an evaluation of the contribution of poor..." was omitted here.

- Ref #20 was cited as one of the sources of information on Table 1, but Ref #20 is about Nigeria, not Ghana, Rwanda, or Kenya. Pls review this.

- "Out of the 538 health centres, about 97 health facilities do not have access to electricity, while 221 health facilities..."

Kindly cite the source as done in the Kenya case study.

- "Since 83% of Rwanda's population lives in the rural area, it implies that only 12% of the population have access to electricity."

Pls check this. Table 1 shows that 83% live in rural areas and 12% of the 83% have electricity. In essence, 17% live in cities (and are assumed to have electricity) + (12% of those in rural areas). That totals to almost 27%, not 12% as stated.

- "...22 micro-hydropower plant projects were commissioned...", pls remove "were."

- "Rwanda's Global Horizontal Irradiance (GHI) shows enormous potential to provide power to the rural health centres as a backup power supply."

Something seems to be missing in this statement. As a backup power supply... pls, what has the potential of being a backup to what?

I am guessing solar, but it is not stated here.

- "In summary, poor household electricity supply..." ???

- Most of the information in step 4 of Rwanda was not cited.

- Kenya Case Study

- "In Kenya, the ongoing pursuit to extend the country's electrical network has brought about an increase in power access," ???

- "In Kenya, about 56% of all the health facilities have a continuous water supply annually..." Water supply? Did the authors mean electricity supply?

- "In addition to inadequate water supply,..." Ditto

- "Specifically, pneumonia, malaria, and cancer lead Kenya's causes of death, with 21,584 people dying from pneumonia

in 2017,..."

This contradicts the information provided in Step 2, where the authors cited the information from CDC-Kenya.

Pls review this discrepancy.

- Ghana Case Study

"about 133 health facilities DO NOT have access to electricity. This implies that the remaining 295 health facilities DO NOT have a power supply.

Pls review this statement; there is definitely an error there. 133 health facilities "do NOT" or "do"??

-"Six of the top killer diseases in Ghana include malaria, lower respiratory infections, neonatal disorders, ischemic heart disease, stroke, and HIV/AIDS"

This last sentence does not seem to tie in with the other content of step 1

Other comment

- Kindly keep the order of presentation the same, i.e., on Table 1 it was Ghana, Kenya, Rwanda; on Table 2, it was Kenya, Rwanda, Ghana; while in the case study section, it was Rwanda, Kenya, Ghana. Please review for consistency.