



SDI Review Form 1.6

Journal Name:	Journal of Energy Research and Reviews
Manuscript Number:	Ms_JENRR_51083
Title of the Manuscript:	Design of Stand-Alone Solar-Wind-hydro based Hybrid Power System: Case of rural village in Malawi.
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Abstract: i. NASA ? full meaning?	Abstract i. National Aeronautics and Space Administration of United States of America (NASA)
Minor REVISION comments	<p>Introduction:</p> <ol style="list-style-type: none"> The road map for Africa encourages rural electrification because Africa is home to the largest unelectrified population in the world, with about 600 million people lacking access, expected to reach 700 million by 2030. Make this statement a clear as possible The main challenge with one energy source such as solar photovoltaics is during the night and when there is no sun. please amplify the challenge The fact that renewable energy sources are also distributed sources offers an opportunity to save on the capital investment for the transmission and distribution of electricity. please recap Since most common hybrid systems are associated with two systems then combining all the three systems (wind, hydro and solar) the output is expected to be much greater than the two stage hybrid systems. Please recap Figure which figure?? <p>Materials and methods:</p> <ol style="list-style-type: none"> rainy season (December, January, February and March) please double check if Dec – March is rainy season in Dwangwa Figure 1: The daily load profile for the study site Name the site Figure 2: Configuration of the system in HOMER definition of terms in the diagram?? The monthly averaged value for Global horizontal radiation were obtained for a period of 22 years from July, 1983 to June, 2005 please recap July, 1983 to June, 1993 no current data?? Figure 3: Monthly average wind speed in Dwangwa what year? Figure 4: Wind power curve of Generic 10 kW wind turbine what year? The cost reduction for a wind turbine is around 12% between 2015 and 2025 is this an estimate?? The efficiency for the turbine was assumed to be 90%. Why is the efficiency less than 100%?? Reference citation in the text is not consistent <p>Results and discussion:</p> <ol style="list-style-type: none"> Systems Optimization and Selection of Scenarios be consistent with presentation of headings constraint values what are these values?? during no sun recap the results were not compared with other scholarly works The battery state of charge in figure 18 indicate that the month of September, storage was heavily used by the load which is evidenced by low hydropower capacity due to low water levels please recap and be sure that the battery is already in use 	<p>Introduction</p> <ol style="list-style-type: none"> Sentence modified as: (In Africa, approximately 600 million people have no access to electricity and the population without access to electricity is expected to reach 700 million by 2030) Modified as: (The main challenge with one energy source such as solar photovoltaics is inconsistent availability of sun for instance at night and cloudy days hence requiring large storage thereby making the system more expensive.) The sentence removed. However, the preceding sentence has been modified as follows: (The most obvious direction to take is to use available renewable energy resources to meet the increasing demand.) Sentence modified as: (Thus, combination of two or more renewable energy systems has greater output power than one system) “Figure” word removed. This was typing error. <p>Materials and methods:</p> <ol style="list-style-type: none"> True. You may check https://weather-and-climate.com/average-monthly-Rainfall-Temperature-Sunshine-in-Malawi. However, I have removed months. The name of the site included (Figure 1: The daily load profile for Dwangwa villages) Definition of items in the diagram included [Figure 5: Configuration of the system in HOMER (Hydro/PV/Wind/Battery)] Sentence removed and modified the next sentence as (Figure 3 shows Dwangwa’s average solar radiation and clearness index from 1983 to 2005.) No current data available. With reference to the word “average”, [Monthly average wind speed in Dwangwa were obtained from 1983 to 1993 hence no need to include period] This power curve was obtained from HOMER software after inputting the data. Otherwise, the wind power curve of Generic 10 kW wind turbine is generated from the monthly average wind speed mentioned above. Sentence modified as follows (According to [25], the estimated cost reduction for a wind turbine is about 12% between 2015 and 2025) Any machine cannot have 100% efficiency due to losses. These losses include mechanical and electrical losses. References have been rectified. IEEE format has been followed. <p>Results and discussion</p> <ol style="list-style-type: none"> Heading modified Constraint values means all the input data. Thus, the statement has been replaced with input data. The statement “during no sun” has been removed. The results have been compared with other works as: (In [28], a simulation of hydro based hybrid system was conducted at Sundargarh district of Orissa state, India, using HOMER where the COE was estimated as \$0.207/kWh. Hafez and Bhattacharya [29] made similar analysis with diesel generator and without at Waterloo, Ontario and found COE of \$0.278/kWh and \$0.639/kWh respectively. In Saint Martin Island, Bangladesh, COE was \$0.34/kWh for PV/Wind and battery combination [22] while in Jimma, Ethiopia the COE is \$0.045/kWh for PV and small-hydro hybrid system [30]. The demonstrate that the results found from this study matches with other systems and support data.) Sentence modified as (Figure 18 illustrate the battery state of charge.)



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Optional/General comments	Great contribution. A little extra work, especially on the results section, will enhance the quality of this manuscript.	
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PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	<ul style="list-style-type: none">No