

Review Form 1.6

Journal Name:	Asian Journal of Environment & Ecology
Manuscript Number:	Ms_AJEE_88617
Title of the Manuscript:	Bn ASSESSMENT OF ENVIRONMENTAL AND SOCIO ECONOMIC BENEFITS OF RIVER SITI HYDROPOWER SCHEME IN MOUNT ELGON BIOSPHERE RESERVE, UGANDA
Type of the Article	

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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	<p>One of the most interesting research topics on hydropower is the assessment of its environmental and socio-economic impacts or effects. This study, through the rational methodology, contributes to providing useful findings in Uganda. However, there are some notes below that need to be considered for revision:</p> <p>1) In the methods, the authors need to add the list of evaluation criteria and the reasons for using this list.</p> <p>2) In the discussion, the study needs to add more evidence on environmental, socioeconomic and sustainability assessment studies from hydropower projects in Africa and in the world to compare the same and different points as well as the limitations of this study.</p> <p>3) Many statements in the manuscript are lacking the citations, e.g.:</p> <p>+ In 2012 the Government of Uganda allowed the Elgon Hydro PVE Ltd Uganda, a private company to construct a small hydropower station on R. Siti but also tapping water from the neighbouring R. Nyalit, with generation capacity of 21.5 MW.</p> <p>+ The weir (intake) of the power station is about 1.2 Km inside Mt Elgon National Park, which is a biosphere reserve and part of Mount Elgon trans-boundary ecosystem. The whole hydro power scheme infrastructure falls within Mt. Elgon Biosphere Reserve, Uganda. The weir is located within the buffer zone and the power generation house as well as power line system in the transition zone. It should be noted that Mt Elgon ecosystem is an important water catchment for both Kenya and Uganda.</p> <p>+ Siti Hydropower project is situated in the north- western slopes of Elgon National Park (Biosphere Reserve) in Chesowero Village, Bukwo District. The catchment upstream of the take-off points for River Siti is 202.3 square kilometres. The drainage basin for the project comprises of two rivers; Siti and Nyalit with their head water arising from Mt Elgon National Park (Biosphee Reserve) as shown in Fig.1.. However, R. Siti catchment contains several narrow sub-water sheds which are between 2,0 -2.5 square kilometres. The Siti hydraulic stake off points are located at coordinates 34°38'6" E 1°21'5" N on River Siti and 34°38'6" E 1°20'26" N on River. Nyalit.. The study area was sparsely settled (on average there were 20 homesteads per square kilometre) because it is largely a rocky area and the southern part is occupied by Mt Elgon National Park (Biosphere Reserve).</p> <p>+ That said, the installation of hydropower system in the study area coupled with the recent construction of tarmac road (Kapchorwa- Suam Road) through the project area was unprecedented development that had created public excitement and sense of hope.</p> <p>4) Meanwhile, some statements, although cited in the study, are not run/shown in the reference list, e.g. (noted in blue words):</p> <p>+ In light of this, Mayor et al., 2017 consider two key benefits of hydropower, provision of renewable low carbon and endogenous energy and increasing the capacity of water storage.</p> <p>+ Like other small hydropower technology projects, Siti Hydropower depends on small river water flow (Ferreira & Camacho, 2016), The power project was implemented in two phases.</p> <p>+ Like any other forest ecosystem in the country, the neighbouring communities depend on Mt Elgon Biosphere Reserve as a key source of fuel wood for domestic use, including cooking and a source of light and heat Bamwesigye et al., 2020; Egeru 2014).</p> <p>+ According to Environmental and Social Impact Assessment (ESIA) report, the project was designed in such a way that 1.5MW of power would be supplied to local people through rural electrification program.</p> <p>+ This is in agreement with the study by Gurunga et al., 2011 which reveals that although benefits of micro hydropower rural electrification in Nepal were immense, more than 44% of the people did not have access to electricity.</p> <p>5) There are too many cumbersome typographical errors that show the lack of succinctness and professionalism compared to the standards of an international scientific paper. Especially, the reference list was not run automatically and many of them are lacking the relevant information types (such as, DOI, type of publication, etc.). Besides, please note in the red words/backgrounds, such as:</p>	

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	<p>+ Bn ASSESSMENT OF ENVIRONMENTAL AND SOCIO ECONOMIC BENEFITS OF RIVER SITI HYDROPOWER SCHEME IN MOUNT ELGON BIOSPHERE RESERVE, UGANDA</p> <p>+ In addition, energy drives all other sectors of the economy such as food, health, environment, water and others (Adebayo <i>et al.</i>, 2018; MEMD, 2015) ■ In light of this, Mayor et al., 2017 consider two key benefits of hydropower, provision of renewable low carbon and endogenous energy and increasing the capacity of water storage.</p> <p>+ In total 38 house hold heads, whose homesteads were found along the power line were administered with a questionnaire.</p> <p>+ Perhaps this excitement explains the reason as to why some of the respondents could not realize that although there were some benefits to gain from the hydroelectric power station, the project had some inherent and inevitable negative environmental and social impacts, including the diversion of river water flow ■ The above shortcoming notwithstanding, the Siti hydropower station has been able to provide clean renewable energy to rural community that would have taken long to access power from the national grid-</p> <p>Regarding the utilization of power, majority of the respondents indicated that they would use the power of lighting homes and run small scale enterprises (60.5%) and the rest of the respondents would use it for only lighting (39.5%). As shown in Table 2.</p> <p>+ Like other small hydropower technology projects, Siti Hydropower depends on small river water flow (Ferreira & Camacho, 2016), The power project was implemented in two phases.</p> <p>+ etc.</p>	
Minor REVISION comments		
Optional/General comments	Overall, this manuscript requires a serious major revision if it is considered for publishing.	

PART 2:

	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)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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