

## REVIEWER #1

The topic is very interesting and challenging , basically the linkage between the climate change from one hand and the socio-economic and environmental aspects are things significantly needed in the future. the Author/s providing a very good information with scientific sounds.however I believe the main major area that need to be revisit and organize is the structure of the work ,below are also my comments wish to find it helpful to the Author/s to improve this nice piece of work:

- **Abstract**

Lines 15 and 16 repeated sentence

We have re-phrased this sentence to remove some repeated information.

- **Introduction**

Lines between 51-60 sounds more like methodology and has nothing to do in the introduction sector, please focus on the objective here and embedded this paragraph in the Method section

We think the Reviewer is correct this paragraph may provide too much detail upfront and have shortened it to more concisely present the purpose/overall objective of the paper and include less methodological detail.

Lines 61-68 need to restructure to highlight and reflect only the main objective of this work.

We have reduced the length of this paragraph to more concisely present the structure of the paper. It is important that we explain the structure and logical flow of this paper upfront. Our use of different theoretical frames to study a single case may not be familiar to many readers of this journal and an explanation of how we structure the contents of this paper is critical to helping readers understand our arguments.

The introduction is too long with narrative details that can be turned to figures, a good example the section 1.1 the way describing the climate change how influencing the drinking water safety in particular for rural areas, too many basic details could be easily illustrated by one figure to demonstrate the domino affect. Please reflect the text to figure that will

We agree with the Reviewer that this background information seems relatively long for this journal. We have condensed much of the information in section 1.1 into a table which reduces the overall word count and is clearer and easier for readers to refer to.

The 1.2 section is completely related to methodology should be integrated there and has nothing to do with introduction.

We understand how sections 1.1 and 1.2 might seem out of place falling under the 'introduction' header. This information, however, is not part of the methodology either per se, so we have created a new header titled "Climate and water safety" and have placed our literature review under this.

- **Materials and Methods**

Lines 219-223 repeated paragraph recommend to remove.

Following the Reviewer's previous suggestion, we have condensed the paragraph in section 1 that introduces the case study, and have condensed this paragraph, so they no longer repeat the same detail.

Recommend to start the 2.1 with the case study and region of interest then start 2.2 with the methods used (considering the above comments mentioned where most of paragraphs in introduction has included the methods or work and integrating this paragraph with the lines from 223 to 278 to form the methods part.

We think it is sensible to provide the description of the case study site before the methods, and have incorporated this suggestion.

We have moved the literature review content out of the introduction as the Reviewer previously suggested, and now place it in its own section "Climate and water safety". Our review of literature on the adaptation, vulnerability, and resilience theory and practice informs our methodology, but does not comprise our materials or methods for this study.

The author/s didn't justify why they using these 3 approaches? What is the distinguished by using these approaches? Could sentences of justification is highly recommended.

We agree that a statement justifying our choice of these approaches is useful have added lines under section 3.2 to explain we chose them on the basis that they have each discretely emerged in theory, practice and policy as highly influential approaches to managing climate change in other sectors.

Fig.1 need to provide with better quality, the resolution is not comparative and please add the north sign to the figure for better orientation.

We have added cardinal directions to Figure 1. We see that the Figure appears to have good resolution on the .docx version of the manuscript, but it becomes slightly degraded when exported to a.pdf version. We recommend that the Reviewer looks at the .docx version of the manuscript for the Figures. We can provide the editors with the original copy of the figure if a higher resolution is needed for publishing.

Since no surface water is available and the island rely on Groundwater and rainwater, the followings information are needed: 1. The basic metrological information about the region of interest (Temperature, perscipation, humidity..etc.) 2. The basic information for the 8 hand-dug water wells depth, yield and elevation if available. 3. The water table level and major type of aquifer. 4. The percentage of contribution of rainwater and the groundwater for householders consumption and for which purposes (i.e. agriculture, domestic ..etc.)

We agree that additional meteorological and hydrological information is useful for providing context of the water service on the island. We have added some regional level secondary data on precipitation and temperature from the Vanuatu meteorological authority at the beginning of section 3.1. However, our study did not collect detailed data on hydrological characteristics of the groundwater or consumption patterns as this was outside the scope of our study.

Who is the authority (if any) responsible on gives the digging water wells or establishing a harvesting unite? and what is the policy of water rights (if any)?

We have added information about the policy context in Vanuatu which recognises community-based committees as the managers of rural water supplies, and supports householders to invest in rainwater tanks.

What is the specification of the solar pumps that have been used?(type of panel, size of battery, weight of energy..etc.) Please add couple sentence in this context.

We agree this information could be useful for understanding the over-abstraction/salinization issue experienced in the community, however data on the technical characteristics of the solar pump were not collected.

## • Results

Lines 329-331 , very good point, and thats why we should add more details about the wells depth and water table as highlighted above, the frequency of this type of flash rain happened also would help to figure out the weight of potential contamination and impact.

We agree that additional data on the groundwater, and on frequency and intensity of rainfall events, could be used to inform a model of water contamination. Although it was not within the scope of this study to collect this level of data, we have added lines under section 4.1 to note that this type of data is useful for informing climate response actions.

Lines 333 - 340 here there are some information and about the wells ,I would highly recommend to allocated these information and the information needed that highlighted previously to the case study site paragraph.

It does seem more appropriate to include this technical information on the wells along with the case study description where the wells are first described. We have incorporated this suggestion.

Lines 344-370 , sea water interaction with groundwater is a common thing at this case and this is why need to mentioned about the type of aquifer available,however a big question to rise here in terms of differentiate between the contamination from the rainwater and the sea water interaction with groundwater, this I would say out of the scope of this current project but could be a good idea to raise this question in this work to build a future project by means of standard experimental field work fishing water samples for rainwater and groundwater with/without the sea water interaction to conduct a conceptual model for the sources of water contamenation, this will be linked to the climate change and sea level increasing.

These are good points in terms of informing some adaptation actions. We have added lines under section 4.1 that more data could be collected to inform responses as mentioned previously.

Lines 358-360, recommendation for future work to have a numerical model for the water balance verses the climate change impact to predict the shortages, such a model would be helpful to give indicators and actions how to bridge the lean time.

As above, we have added lines under section 4.1 to note that further data could be collected to inform responses.