1. **[line 12 to 23] Within the abstract, I would recommend to highlight the fact, that the article deals with early warning systems in respect to extreme rain and flooding earlier than at the end of its last sentence. Since Nepal has to face a multitude of natural hazards such as earthquakes, landslides and others, this would help to grasp the focus of the article early on.**

The abstract has been edited so that it is clear the paper deals only with Nepal's flood early warning system.

2. **[line 30 to 44] I highly appreciate the integration of a multitude of perspectives and approaches within the introduction of the theme, e.g. the fact, that early warning should be "adaptable for individuals with varying perceptions of risk". Nevertheless, the integration of an industry perspective towards early warning would help to better understand the different requirements for effective early warning (What do stakeholders from industry and/or agriculture expect from an early warning system might be different from what a family expects).**

The authors recognise that the perspective of industry towards early warning is of interest to certain readers, however, the focus of the paper is clearly defined as "community members and individuals at risk". The authors believe the perspective of industry on EWS is outside the scope of this paper.

The following paragraph has been added to the end of the introduction to clarify the focus and scope of the paper:

"Nepal's flood early warning system has undergone significant development in recent years. This paper aims to analyse and understand the current flood early warning system in Nepal, considering available data and forecasts, information flows, early warning dissemination and decision making for early action. The research reviews the availability and utilisation of complex forecasts in Nepal, their integration into dissemination chains and decision support tools, considering their impact on improving early action to increase the resilience of vulnerable communities to flooding."

3. **[line 46 to 50] Within the literature review a reverence to SDG 13 (https://sustainabledevelopment.un.org/sdg13) can also help to understand the political background and integration.**

Agreed that EWS contribute to the SDGs, but address a variety of the goals (rather than just 13). Sentence edited to:

"Early warning systems are increasingly important in Disaster Risk Reduction (DRR), and are emphasised in the Sendai Framework (2015) and Sustainable Development Goals."

4. **[line 63 and 64] The authors mention four elements and three cross-cutting issues that are taken and derived from the quoted UNISDR initiative. What might be missing in this list is capacity building within the public domain. The authors occasionally mention that extended education within the realm of Earth systems science can play an important role in increasing the efficiency of early warning systems, nevertheless it seems that the authors do not see education efforts at the core of their analysis. If this is intentional, e.g. because the authors want to focus their analysis on the decision making routine within the**

administrative bodies responsible for early warnings, this should be stated clearly as early as possible.

Sentence edited to reflect the specific sub-titles from the UNISDR definition:

"Across each of these four elements, four cross-cutting issues emerge: effective governance and institutional arrangements; a multi-hazard approach; involvement of local communities; and consideration of gender perspectives and cultural diversity (UNISDR, 2006)."

The following paragraph has been added to the end of the introduction to clarify the focus and scope of the paper:

"Nepal's flood early warning system has undergone significant development in recent years. This paper aims to analyse and understand the current flood early warning system in Nepal, considering available data and forecasts, information flows, early warning dissemination and decision making for early action. The research reviews the availability and utilisation of complex forecasts in Nepal, their integration into dissemination chains and decision support tools, considering their impact on improving early action to increase the resilience of vulnerable communities to flooding."

5. **[line 81] Please review the way sources and publications are cited.**

Sources and publications are cited in line with the journal guidelines.

6. **[line 93] Parallel to the concept of "end-mile", I have heard the term "last mile" – maybe it can help to understand this paragraph, if this concept is mentioned here, too.**

End mile and last mile terms are used synonymously in the literature and are interchangeable. In the paper, the term end-mile is used twice and last mile twice. These have been edited to 'end-mile' for consistency in the paper to avoid confusion.

7. **[line 189 to 195] Climate change is also increasingly challenging traditional knowledge (also known as indigenous knowledge). In Nepal, I presume, indigenous knowledge still plays a significant role in decision making, e.g. in agriculture and other aspects of social life. If climate change alters traditional knowledge, this will have effects on early warning as well. In addition, holders of traditional knowledge (community elders, etc.) might experience a loss of credibility. This might influence the distribution of early warning information on a local level, too. While I am convinced that this effect is a crucial one for communication, the article is focused on the decision making process rather than on the dissemination of early warning to the public. Therefore, this article might not be the place to discuss the influences of climate change on traditional knowledge holders and their credibility but should mention this problem.**

The authors recognise this is an important issue, but do not feel that this paper is the appropriate place to deal with this issue (as the reviewer suggests), even in passing. By 'mentioning' this problem, the authors believe this will unnecessarily introduce a very complex theme to the paper that is not dealt with any further, which is not of benefit to the reader.

8. **[line 196 to 198] A reference to Fig.1 could help to understand the geographical setting.**
Reference to Fig.1 inserted.

9. **[Line 211 to 220] The last paragraph of 3.0 and the first paragraph of 3.1. should be merged. 211 to 213 are a good introduction to the paragraph, that starts in line 215.**

Last paragraph of 3.0 has been moved to beginning of 3.1.

10. **[line 219 and 220] The abbreviations used in the text are not used in Fig.2. This might lead to misunderstandings.**

The sentence has been edited to focus only on the telemetry system in figure 2 – further on the paper describes the communication channels described in figure 6.

"These monitoring stations are located on main rivers (Fig.1). If the river level passes the threshold of danger level upstream, national and district authorities and key community members are alerted (Fig.2)."

11. **[line 226] The authors mention Fig. 6 here. Maybe the figures can be re-ordered so that Fig 6 can become Fig 3 (and all others have to change respectively)? This would allow a continuous numbering within the text.**

Figures have been re-ordered and figure numbers have been edited throughout to give an ordered flow.

12. **[paragraph 4] The research methodology is described quite poorly. It does not become clear, what exactly has been done to better understand the decision making routines. How were the interviews conducted and documented? How were the interviews analyzed? What are key parameters used to analyze the interviews? The authors do focus on socio-economic parameters of the responders - thus the readers are provided with good background information. The way a qualitative analysis was conducted still seems not clear to the reader. In chapter 5, a descriptive analysis of the interviews is provided and the following chapters are built upon the findings described here.**

We have added to the methodology section an additional paragraph (see below) on the data analysis. The methodology describes how interviews were carried out and what subjects were covered by the interviewers. Interviews were coded according to standard methodologies. We are not sure what the reviewer means by "key parameters" because qualitative data analysis does not seek to measure anything but rather to understand nuances that quantitative methods cannot.

"Qualitative data analysis throughout was conducted using the same codes, which emerged from the dataset itself. The data were coded in two stages, with an initial stage to identify codes across the dataset and then a subsequent recoding using the finalised codes. The final analyses are organised below by scale, focussing first on national-level, then sub-national level and then community level."

13. **[line 690 to 694] I am curious, if there are similar studies about the efficiency of SMS in early warning from other places of the world? Maybe there are case-studies from the Indonesian Tsunami Early Warning System or the Japanese, US or Turkey Earthquake warning system?**

The following sentences have been added to the literature review:

"Choice of the communication channel and format can significantly affect who and how many people receive or have access to the information. With the increase in use of mobile phones worldwide, SMS messaging provides an opportunity for quick dissemination at a wide scale, but there are often remaining challenges around access and understanding (related to factors such as literacy and language) particularly for marginalised groups (Budimir et al., 2017; Brown et al., 2019)."

14. [line 719 to 727] I was wondering, if there is a causal effect on the two observations. Are there significant differences in the demographic composition between central and western regions? If so, this might be an explanation for the observations as well as a starting point to adjust early warning accordingly for the two regions and beyond.

The differences between the study site responses is more likely related to the familiarity with the EWS than demographic composition. The following paragraph has been added to the discussion in the Risk Knowledge section:

"The differences in community perceptions and requests for improvement of warning information between study sites is likely to reflect people's understanding, knowledge and familiarity with the early warning system. For example, community respondents in the East are less familiar and experienced with the more recent system and less knowledgeable about the potential improvement options available to them; they are mostly happy with the warning format, would prefer more in-person communication, and are less likely to react to warning. In comparison, the flood early warning system in the West and Central study sites are well established and community respondents have a longer history of receiving early warnings. As a result, their responses reflect more appropriate reactions to receiving warnings and more critical assessment of the type and format of messaging, requesting more innovative forms of messaging and more clarity in the content."

15. [765 to 775] The content of the end of the first paragraph within 6.1.2.1 and the next paragraph seems to be doubled. Please check, if this can be formulated differently.

We are not sure what duplication the referee is referring to here.

16. [line 760 and 793 and 822] All three paragraphs are numbered 6.1.2.1

Sections re-numbered appropriately.

17. [line 823] "Producers and users" are mentioned – but who are they? Please describe the two groups. Are they producers of agricultural goods e.g. farmers and their customers?

Sentence beginning edited for clarity:

"Producers and users of flood early warning information…"

18. [line 862] There is a blank missing in "onthe" .

Space added.

19. **[line 870 to 873] This is crucial information that should be mentioned earlier. The lack of resources (only four people for flood forecast) is an important fact – maybe other resources are sparse, too?**

This is mentioned previously in section 3.1 and the limited capacity of Nepal's Flood Forecasting Section is described.

20. **[line 920] Are there words missing in this sentence? (": : : experiences in, the use : : :") technical corrections required**

Sentence edited to:

"Nepal has a lot of experience to share, and is also well positioned to learn from countries with more experience, for example from those that use decision support tools."

21. **[line 760 and 793 and 822] All three paragraphs are numbered 6.1.2.1**

Sections re-numbered appropriately.