Dear Somnath Baidya Roy,

we thank you for your constructive way of editing our interdisciplinary manuscript! Motivated by the comments of Referee # 3 we have again slightly revised our manuscript (changes in blue color) to improve the clarity of the paper and its goals. We hope that the revised version meets your expectations – otherwise we are open for further comments and suggestions.

Best regards in the name of all authors
Wolfgang Gurgiser

Response to Referee # 3:

We thank the Referee for her/his critical view on our manuscript which helped us to once again self-critically reflect our concept and work. Overall, we believe that we made progress in combining two areas of research which rely on very different scientific approaches and have prepared the ground for further research focusing on new questions arising from our work.

Referee Comment: *It finds lack of synergy between the two knowledge systems. This is not surprising and I would have expected the article to spend more time analyzing why these differences occur. Instead, we have a rather dense account of the methodology employed and two very long and difficult to understand sections of the agro-relevant criteria for the precipitation statistics (Section 4.2) and the Precipitation analysis (Section 4.3).*

Response: Before presenting our research there was no evidence for discrepancies between the two knowledge systems (human perceptions and meteorological records) regarding precipitation in the region. Such discrepancies might not be surprising but in our opinion this in no way means that we can forego a rigorous and transparent proof – the latter purpose requiring the methods to be presented in detail. For our work this might be particularly true because there is no "standard-methodology" to compare these knowledge systems and we want to motivate any reader to critically review our strategies/methods.

Referee Comment: *Rather than so much technical detail, I would have valued a more detailed account of the actual qualitative perceptions of different peasants, how they are socially differentiated and what else is being articulated through peasants' views of rainfall (E.g politics of anticipation/ hope etc.).*

Response: The claimed information is definitely interesting while obtaining a "holistic overview" is typically a stepwise process, e.g. investigating other reasons (than changes in precipitation) embedded in peasants' perceptions is especially promising as soon as there are at least some evidences (as provided in our study) that measured precipitation patterns might not have changed significantly.

Referee Comment: *It is disappointing that more men were interviewed and that the reason given was because men are the ones in charge of water management. Even if this is the case, it would have been good to interview different women of different ages and see what comes up. This kind of gender bias at the very outset is surprising. Age presumably plays a key role in this kind of analysis, with older women and men, usually being more articulate and vocal about precipitation change.*

Response: Of course we have interviewed women of different age but they referred to their husbands when they were asked about agricultural issues. Probably this was not clear enough in our manuscript until now, so we have added information in Section 3.1, from line 128 onwards.

Referee Comment: *It would have also been good to develop a stronger conceptual framework trying to make sense of the divergences in knowledges/ uncertainties at stake, taking into account questions of scale, wider drivers of change and the multiple factors that influence rainfed agriculture.*

Response: We see our research as a progressive process and the conceptual framework has to develop further with each piece of the puzzle set in the right place.

Referee Comment: *I am no expert on the Andes but I know from work on rainfall and uncertainty dynamics in drylands, that downscaling is incredibly complicated; that conventional meteorological accounts cannot make sense of high local variation and variability and that local perceptions capture a range of other issues (e.g. socio political changes, land use patterns; land/ water interfaces; etc. etc) that are not a part of scientific analyses . The article alludes to these issues but only in the summary at the end.. These issues instead could be far more central in the paper.*

Response: We agree with the Referee that precipitation gradients in some areas (like in ours) can be very strong and thus, the value of meteorological records is limited. However, the available data allow giving a first assessment which could be seen as a request for further research activities on that issue. The same is true for the other issues mentioned by the Referee. We are currently preparing new project proposals that could yield the required resources to successfully address these topics.

Referee Comment: *The article is not easy to read. It should be edited for clarity and many technical details can be put in an appendix. Instead, greater elaboration of local people's perceptions as well stronger analysis of why there is this discrepancy in rainfall data on the one hand and local people's perceptions on the other would make this a far more compelling article.*

Response: As this interdisciplinary work brings together rather different scientific disciplines some details might seem complicate or useless for some readers while for some others not. The chance to publish our work in a reproducible way is very important for us to share and discuss our knowledge with other experts from different disciplines and to stress the need of further research.