

Dear editor

Thank you very much for your feedback on the manuscript. We followed your advice and solved all the issues that you highlighted, and agree the manuscript improved through this round of revision.

- In the introduction, we changed the order of the names of the measures to improve clarity.
“The robustness of additional extension services, lowered credit rates, ex-ante rather than ex-post cash transfers, and improved early warnings was evaluated under different climate change scenarios”
- L37 We added “potential” to better reflect the uncertain nature of this sentence
“Drought risk models are important tools to inform policy makers about the potential effectiveness of adaptation policies and ...”
- L180 We changed “robustness” for “effect” as this is a more applicable term in this context.
“While they not have a known probability of occurring, they enable testing the effect of the on-farm adaptations and top-down drought disaster risk reduction strategies on drought risk under changing average hydro-meteorological conditions.”
- L190 We added the explanation of the acronym (Generalized Extreme Value)
- L206 We changed multiple sentences (mainly the verbs) in order to better describe how interventions positively influence the intention to adapt of certain groups
“As shown in Wens et al (2021), extension services are most effective when offered to younger, less rich and less educated people, or to those who already adopted the most common measures. Similarly, early warning systems are changing the intention to adapt mostly for less educated, less rich farmers, or those not part of farmer knowledge exchange groups. The ex-ante cash transfer drives the adoption of more expensive measures for those who spend already a lot of money on adaptation, the most. Access to credit is preferred by less rich farmers, who have a larger land size, are members of a farm group, went to extension trainings, have easy access to information and/or are highly educated (Wens et al. 2021). “
- L214 We clarified emergency aid is always given in the model, while the two “more than reactive” scenarios have additional interventions (emergency aid is not seen as a new intervention in the model – also the historic period has this). Since this wording is used throughout the text (reactive and no intervention) we decided to explain it rather than remove it.
“No (new, pro-active) interventions are implemented. Only emergency aid (standard in the ADOPT model to avoid households to die) is given to farmers who lost their livelihoods after drought disasters; this food aid is distributed to farmers who are on the verge of poverty to avoid famine.”
Moreover, we explained the link between training and extension services.
“Besides, emergency services are provided in the form of frequent trainings given in communities with poor practices to improve their capacity related to drought adaptation practices for agriculture.”
- L255 We changed the y-axis as suggested to better visualize the differences of interventions.
- L286 We changed “with” to “to”, as this is the better preposition to use in this context
- L287 We added “potential” to better reflect the uncertain nature of this sentence
“Clearly, an increased uptake of measures under this intervention scenario would potentially offset a potentially harmful drying climate trend.”
- L314 We elaborated the link between charcoal burning and poverty, adding a reference.
“It should be kept in mind that ADOPT does not consider (illicit) coping activities in the face of droughts which can – if a drought warning is send out – allow households to avoid buying food at high market prices or to engage in other income-generating activities such as food stocking or charcoal burning (Eriksen et al., 2005).”

- L416 We added the explanation of the acronym (Agent-based models)
- L481 We removed “(non-)governmental” which was a relict from the previous revision round
- L501 We added a short sentence to sections 4.2, 4.3 and 5.1 to highlight the delayed effects
L286: *“The adoption of adaptation measures by households influenced their maize yield and thus affected the average and median maize harvest under the different future climates and drought risk reduction interventions – with an increasing effect over the years (increasing difference in harvest between reactive and other scenarios, Fig. 6).”*
L304: *“It is important to remark that the difference between the intervention scenarios and the reactive scenario is only clearly visible after more than 10 years under most future climate scenarios.”*
L398: *“However, depending on the climate scenario applied, the effect of increased adoption due to a prospective interventions on household maize production, thus on food security and poverty, is only visible after a few years under drier conditions and after more than ten years under wetter conditions.”*

Respectfully,

Marthe Wens