

## ***Interactive comment on “Climate and resource information as tools for dealing with farmer-pastoralist conflicts in the Sahel” by O. Mertz et al.***

### **Anonymous Referee #3**

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1. Does the paper address relevant scientific questions within the scope of ESD? Yes. The paper can be seen as a reconnection between climate and biophysical data for planning needs and prevention of conflicts between farmers and pastoralist in the Sahel. The paper focuses on the perception and utility of data for local farmers. It is important to re-qualify what conflicts means. The large geopolitical conflicts are related to socio-political conflict, but many micro-conflicts arises in relation to competition for resources that are affected by climate change. 2. Does the paper present novel concepts, ideas, tools, or data? The data and tools are not novel, the outcome of the analysis are very novel and informative. The issue of informed decision making by local stakeholders has been described as suitable way to address various risks and climate

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related threats. This paper helps re-qualify the information needs and the subsequent improvement needed to address current challenges. The paper was not explicit about sources of conflicts in the Sahel and reduced those to socio-politically conflicts. Many studies argue that that shortfall in zoning and governance are exacerbated by climate change. Another dimension is political marginalization. Usually pastoralists are not usually part in exercising their duties (no real territories) and claiming their civil right is not part of their culture. Conflicts may also arise because of the discrepancy between free riders citizens and compliant citizen opposing the agriculturalists and the pastoralists. From typical examples in the Sahel, drought are favorable conditions for violence because of resource scarcity (e.g. doi: 10.1177/0022343311427343 ) 3. Are substantial conclusions reached? The conclusions are very useful, yet I let me in doubt how those could derived from a limited sample of practitioners, who we do not know about their origins and who they represent. The paper did not clarify that in many instances, the relationships between pastoralist and farmers are based on traditional rules. Taking the example of Senegal, the symbiotic relationship—farmers had their pastoralists during the dry season to manure the land and harvest the crop residues—was a real social norm. Farmers symbolically prepared for some sort of rewards for the pastoralists staying in their field over the dry season. Every farmer had therefore his pastoralist. This linkages was joint points between two civilizations where each player had a reward. The conflict raised when more fragmentation took place, monetization of the economies, and transformation of social norms imposed by new land management systems. These shift in practices explains a transition to more economic centric goals rather than cultural dimension of such activities. The reality might be more complex than what was deemed important here, that is the importance of a zoning approach. Traditionally, moving herds is part of a civilization, where shepherds are tested for their ability to move around the animals without losing any. As part of the culture, a zoning as a new dimension of management might be useful but not enough to reduce the importance of traditional herd's displacement! 4. Are the scientific methods and assumptions valid and clearly outlined? I have real concern that strong conclusion could

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be derived from a sample of 26 participants who were selected in a very unclear way and then use their qualitative assessment to derive quantitative outputs. I am not a socio-economist, but a response to the method approach used will be very enlightening. Additionally, the fine time and spatial scale information requirement is generally true need for community but recent CCAFs experience in Senegal (using rural radios), or METAGRI project in Cote d'Ivoire, clearly demonstrated a general interest on aggregated climate services. The sowing dates and length of the growing season were useful for decision to be made on-farm to adapt to likely seasonal profiles. 5. Are the results sufficient to support the interpretations and conclusions? Intuitively YES, the results and novel lenses of exploring the challenges are useful. I was unclear about the merged approach of identifying information needs for farmers and pastoralist. To me the two groups have different information needs but the analysis seems to put them in the same group when exploring data and information requirements. The study is more like an expert knowledge assessment and will be easily dismantled by control of facts from practitioners in the ground. The authors recommended a real time system of disaggregated data at daily basis to help farmers and pastoralist. Is there any example of such a system in the world? Is that possible given the level of technology we have in Africa? 6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? No. The qualitative information might not be appropriate to generate quantitative evidence and the sample size to me very limited. The experts might not have covered the range of opinions needed to develop the outputs. The traditional knowledge is not fully accounted in the modern assessment of information needed for informed decision by herders. Also, a distinction needs to be made between data and information. Information adds more value to data and gives examples of application rather than pure data dissemination. 7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution? Yes. 8. Does the title clearly reflect the contents of the paper? Yes. 9. Does the abstract provide a concise and complete summary? Yes. . . But the disregard to climate change trends is quite worrisome to me. Many previous

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studies showed the importance of climate change in the Sahel including perception analysis of such trends. The authors themselves are part of that community. 10. Is the overall presentation well-structured and clear? Yes. Except Figure 1. We do not know is that is % or absolute values. In any case I doubt about representativeness of the information given the very small sample size? 11. Is the language fluent and precise? YES 12. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used? N/A 13. Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? Figure 1 14. Are the number and quality of references appropriate? YES 15. Is the amount and quality of supplementary material appropriate? N/A

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[Interactive comment on Earth Syst. Dynam. Discuss., doi:10.5194/esd-2016-21, 2016.](#)

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