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# ***Interactive comment on “The nexus of oil, conflict, and climate change vulnerability of pastoral communities in Northwest Kenya” by J. Schilling et al.***

**J. Schilling et al.**

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Revision Memo to Anonymous Referee #1 (17 August 2015)

Authors: We thank the Reviewer for her/his positive and constructive comments and suggestions.

Reviewer: The paper does fit the aims and scope of the journal by “conceptualizing, modelling, quantifying and predicting system behaviors and global change.” It specifically examines whether oil exploration in the Turkana District will make pastoral communities more vulnerable to climate change. It draws on two bodies of literature, one showing the detrimental impact of the oil industry on the environment and communi-

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ties in other parts of the continent; and the second, the impact of climate change on pastoral conflict.

Response: We thank the Reviewer for acknowledging the suitability of the paper for the journal's aim and scope.

Reviewer: The paper is unique in coupling these two effects; however it ultimately fails to link oil exploration to increased ethnic conflict, the second part of their second research question (p. 1167).

Response: To clarify, it is not the aim of the paper to link oil exploration to increased ethnic conflict but rather to explore “the risk of the oil exploration to create new conflicts or aggravate existing ones” (p. 1167). So the paper does not try to establish a link between oil exploration and inter-community conflict. The aim is rather to point to potential impacts of the oil exploration on inter-community conflict.

Reviewer: Based on interviews with town dwellers, the paper documents the discontent and tension with the oil exploration company, Tullow Oil.

Response: To clarify, the paper documents the discontent and tension of local pastoral communities with Tullow Oil but no town dwellers have been interviewed.

Reviewer: Newspapers have reported thefts and vandalism at oil exploration sites. The authors discuss the degradation of the environment occurring with oil exploration and extraction, rendering it less suitable for watering and feeding livestock; and the fencing off land by oil companies making it inaccessible to pastoralists. The authors also show the increase in violent conflict in the Turkana-Pokot border region within a four-year period that coincides with the period of oil exploration. However, they fail to provide any evidence directly linking pastoral conflict with oil exploration. For now the paper gives only a warning of the possibility of violent conflict, which is nonetheless an important point to make known. Oil exploration could force more Turkana pastoralists into the border zone where they would be more vulnerable to Pokot attack. However without

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further evidence, the actual rise in conflict in conjunction with oil exploration could be just coincidence. Pastoral conflict does occur in cycles with annual fluctuations in rainfall.

Response: To clarify, the raids shown in Fig. 1 (p. 1197) cover the period 2006 to 2009. Oil was first found in Turkana in 2012. Hence the two do not coincide. The purpose of Fig. 1 is rather to show that the region where oil has been found recently is one that has seen strong raiding activity in the past. We agree with the Reviewer that the paper “gives only a warning of the possibility [of aggravation] of violent conflict” between communities. The research has shown that there are only indications which point to an aggravation of inter-community conflict, for example through the mechanisms the Reviewer has mentioned. But nowhere in the paper do we claim that there already is a strong link between oil exploration and inter-community conflict. Instead, we phrase this very carefully. Examples from the respective section (3.2.2) include “there is a concern that” (p. 1183, l. 16), “To what extent oil exploration will affect land rights and prices is however too early to say” (p. 1183, l. 19/20), “Employment with Tullow could also become a source of conflict between communities” (p. 1183, l. 26/27, emphasis added). In the Synthesis section we stress again “There were indications that oil exploration affects the Turkana–Pokot conflict through an alteration of security presence and potential greed driven motivations over territory and oil compensations but this finding is less reliable than the others” (p. 1184, l. 26-28, emphasis added).

In summary, the “failure” to “provide any evidence directly linking pastoral conflict with oil exploration” as stated by the Reviewer is due to the fact that the research simply did not find a strong link (yet) but rather gave reasons for concerns and indications for a potential risk of oil exploration to aggravate existing inter-communal conflict.

Reviewer: Linking oil exploration with increased ethnic conflict is problematic in this paper because the authors overlook two important aspects of Turkana social organization in the ethnography. One is the Turkana are organized into territorial “sections” that circumscribe migratory routes in good rainfall years. While border conflict and oil

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exploration may occur in the same southern region of the Turkana District they are in different Turkana sections and may not involve the same Turkana groups (see Adem et al. 2012).

Response: We agree with the Reviewer that the Turkana move with their livestock in smaller groups, called “sections” (Reviewer) or “kraals” (Schilling et al. 2012b, p. 6). We thank the Reviewer to pointing us to the Adem et al. paper which we find very relevant. We have now made reference to the Adem et al. paper in sections 1, 2 and 3 of our paper. Adem et al. (2012, p. 1) show that “most of the raiding against the Turkana occurs while the herds are on transitional moves, splitting from, and coalescing at, the margins of expansive plains, en route to patches of dry season ranges”. This is mostly the case along the border areas between the Turkana and the Pokot. So in theory the Turkana kraals engaging in violent raids with the Pokot could be different ones than those Turkana communities (Lokwamosing, Lopii, Nakukulas) we interviewed. However, in practice Fig. 1 shows that these communities (and particularly Lokwamosing) are heavily exposed to raids. The interviews with the community members show that they see the Pokot as their greatest enemy (see p. 1176, l. 21, p. 1180, l. 1/2, p. 1181, l. 1, p. 1183, l. 14). Hence the Turkana people who are now exposed to the oil exploration are the same people exposed to the violent conflict with the Pokot.

Reviewer: The other aspect of Turkana social organization is the divide between pastoralists and town-dwellers, the latter are individuals and families who are no longer able to survive as pastoralists and have moved to towns where they can find wage labor (see Broch-Due and Sanders 1999). Pastoralists and town-dwellers might have different expectations, be differentially impacted by oil exploration and climate change, and therefore require different policy responses.

Response: We agree with the Reviewer that town-dwellers are likely to be impacted differently by oil exploration and their engagement with the oil company is also likely to be different when compared with pastoralists. However, the paper is not concerned with town-dwellers. Since no down-dwellers were interviewed, we cannot say anything

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about this group. We purely focused on the type of community members specified in the method section (see 2.2). The issue of the town-dwellers is nonetheless an interesting one. In the last paragraph of the paper (p. 21) we now suggest to study the effects of oil exploration on town-dwellers in future research.

Reviewer: Also it is not clear whether Turkana pastoralists would violently engage oil companies the same way they do the Pokot, or the same way that town-dwellers do.

Response: The Turkana violently engage with the Pokot mostly in the form of livestock raids and other forms of attacks. We have described this in a previews study (Schilling et al. 2012b) which we reference several times in the present paper (for instance on p. 1165, 1168, 1170). In the section on community–company conflict (3.2.1) we describe how the concerned Turkana communities engage with the oil company. This engagement includes road blocks (p. 1176) as witnessed by the research team and community demonstrations and storming of an oil site, including lootings and destruction of property (as reported by newspapers, p. 1177).

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