

Interactive comment on “Assessment of the effectiveness of Payment for Ecosystem Services (PES) in the delivery of desired Ecosystem Services in Sasumua catchment, Kenya” by Charles Nduhiu et al.

Anonymous Referee #1

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The article describes a very recent study on PES in a small Central Kenyan watershed. Total suspended solids (TSS) in the river are monitored during two rainy seasons 2015 and 2016, one before and one after implementation of sustainable land management (SLM) practices, and simulated by SWAT.

The description of materials and methods focuses on field data collection and parameterization of SWAT to represent the SLM. Because observing approximately 40% less TSS in the March-May rainy season in 2016 as compared to 2015, it is concluded that the PES scheme is effective in accelerating SLM practices.

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While the title suggests a focus on the PES concept, the article is essentially only about monitoring and simulating the impact of some SLM practices on the reduction of TSS in river runoff, i.e., land management practices to reduce soil erosion. And even this is only poorly founded on the comparison of only two rainy seasons – one before and one after implementation of SLM. In the whole article, I cannot see any attempt of an “ecosystem” approach, meaning “a community of living organisms in conjunction with the nonliving components of their environment”.

Instead of advising on details of the article, I recommend to reconsider the main purpose of the article: If the title remains the same, I would expect a thorough discussion of the policy issues (magnitude of the incentives, conditions for getting payments, technical and/or scientific support of implementation, training of farmers, long term maintenance, etc.), and less on the technical details of monitoring and simulating the physical processes.

Should the focus turn to monitoring and modelling the physical effects of land management practices – which is still worth publishing – then, in my opinion, more data are required. Most land management practices do not have their final effect right in the first season after implementation, but need some time to stabilize.

Recommendation: reject the article, because title and contents do not match. Consider to re-submit either a policy focused article according to the current title, or focus on the monitoring and simulation issues with a title like “Monitoring and modelling the effect of sustainable land management practices on soil erosion”. Or both.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-541, 2016.

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