

Review of: "The Contribution of Subsistence Agriculture to the Livelihoods of the Smallholder Farmers in South Kivu Province, Democratic Republic of Congo"

Christoph Spurk

Potential competing interests: No potential competing interests to declare.

The article has a lot of potential to clarify questions about types of subsistence farming, the influence of different variables on the type of subsistence farming, and the consequences for incomes and livelihoods.

However, the article misses:

clear research questions with clear hypotheses,

a clear definition of the various variables used in the questionnaire and how they were measured,

a clear description of the questionnaire and the method of administering it. What exactly was the "random sampling method" (was there a list of farmers? How trustworthy is that list?)? Did the farmers fill the questionnaire by themselves, or in a face-to-face interview with an enumerator? Paper and pencil? Online? How were enumerators trained?

There is confusion about the definition of socio-economic status. Is it really the "person's work experience"? I doubt.

What is the difference between income level and socio-economic status? How were both measured in the questionnaire?

The income level of small-scale farmers is very difficult to measure, at least not only in money. It varies a lot, and a lot of income is in kind.

Later on, the article speaks about "sustainable" livelihoods. What does that mean? How is livelihood measured?

The direction of influences is not clear. Subsistence farming is hypothesized to influence socio-economic status, and in turn, the socio-economic status then influences subsistence farming? This needs more clarity. And it is difficult to measure those mutual influences, if that is what the authors think.

I also miss a clear description of the variables, including definition, measurement, etc. It would allow the reader to understand the study.

Discussion and conclusion should not repeat the results of the study. The discussion posits the results within the world of other articles about the same issue, and the conclusion highlights the consequences of the results for further research, policy, extension, etc.

Methodologically, it has to be highlighted that significance levels do not say much. What we need additionally are effect sizes of the various variables/factors. A factor or variable can be very significant but have only a small effect.

In general, I think that the study works with a very small number of factors, neglecting other factors that are relevant. In data analysis, this can lead to wrong results. The significance of the factors considered will vanish once more factors are included. This is in the nature of statistical analysis. This is a major failure of many articles on agricultural development in Africa.

For example, other factors mentioned in the literature about small-scale farmers are

previous innovations done by the farmer

personal attitudes to innovation

exposure to information from various sources (extension, radio, other farmers, farmer groups)

managerial capacity of farmers

Knowledge of farmers about Agriculture

membership in groups

networks

security of access to land

see this literature:

Kuehne, G., R. Llewellyn, D. J. Pannell, R. Wilkinson, P. Dolling, K. J. Ouzman, and M. Ewing. 2017. "Predicting Farmer Uptake of New Agricultural Practices: A Tool for Research, Extension and Policy." *Agricultural Systems* 156: 115–125. <https://doi.org/10.1016/j.agsy.2017.06.007>.

Meijer, S., D. Catacutan, O. Ajayi, G. Sileshi, and M. Nieuwenhuis. 2015. "The Role of Knowledge, Attitudes and Perceptions in the Uptake of Agricultural and Agroforestry Innovations among Smallholder Farmers in Sub-Saharan Africa." *International Journal of Agricultural Sustainability* 13 (1): 40–54. <https://doi.org/10.1080/14735903.2014.912493>.

Pannell, D. J., G. R. Marshall, N. Barr, A. Curtis, F. Vanclay, and R. Wilkinson. 2006.
“Understanding and Promoting Adoption of Conservation Practices by Rural Landholders.”
Australian Journal of Experimental Agriculture 46 (11): 1407–1424. <https://doi.org/10.1071/EA05037>.

or

Christoph Spurk, Carmen Koch, Reto Bürgin, Louis Chikopela, Famagan
Konaté, George Nyabuga, Daniel Bruce Sarpong, Fernando Sousa & Andreas Fliessbach (16
Nov 2023): Farmers’ innovativeness and positive affirmation as main drivers of adoption of
soil fertility management practices – evidence across sites in Africa, The Journal of Agricultural
Education and Extension, DOI: 10.1080/1389224X.2023.2281909
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