Review of: "The impact of land use practice on the spatial variability of soil physicochemical Properties at Wondo Genet, Southern Ethiopia"

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Potential competing interests: No potential competing interests to declare.

The abstract concisely summarizes the study, presenting the objectives, methods, and key findings. The focus on evaluating soil quality across different land-use types (natural forest, plantation forest, and agricultural land) and soil depths provides a clear context. However, the abstract could improve by:

1. While the data is presented, the underlying ecological implications of these variations are not explicitly linked to the broader discussion of land management or soil health.
2. The GIS-based geostatistical approach is mentioned but not emphasized in terms of its contribution to understanding spatial variability.

Weaknesses and Areas for Improvement:

1. The paper references relevant global studies but lacks sufficient emphasis on regional studies from Ethiopia or neighboring countries. Incorporating more local data would contextualize the findings and enhance their applicability.
2. While statistical significance ($p<0.05$) is noted, the paper does not delve deeply into the potential ecological or management implications of the observed differences. For instance:
    1. How do these findings inform land-use planning or sustainable agricultural practices?
    2. What thresholds of soil property changes are critical for ecosystem stability in this region?
3. The discussion could also explore how specific vegetation types (e.g., Cupressus, Grevillea) influence soil properties differently.
4. While kriging interpolation is mentioned, the study does not provide a detailed visual representation or discussion of the spatial variability of soil properties. Including maps or spatial models would greatly enhance the paper's impact.
5. The study focuses on current land-use types but does not account for historical land-use practices that might influence soil conditions. For example, agricultural land might have been forested decades ago, affecting baseline soil properties.
6. While microbial biomass carbon (MBC) and nitrogen (MBN) are reported, the paper does not discuss the potential functional roles of these microbial communities in nutrient cycling or soil resilience.
7. The language is generally clear but occasionally redundant, especially in the introduction and methodology sections.

Streamlining these sections would improve readability.

8. Tabular data (e.g., Table 1 on soil aggregates) is comprehensive but would benefit from visual representation (e.g., bar graphs or histograms) to better illustrate trends.