Review of: "Pedogenic Characterization of Alluvium-Derived Soils in the Arid Region of Rajasthan, India"

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Potential competing interests: No potential competing interests to declare.

This kind of field research, which provides the first source of field information, is important, although it may not be published in other journals. The equations for skewness and kurtosis in LaTeX format are poorly written. Specifically, for kurtosis, it appears as if only Q3 is in the numerator, while I suppose it should be Q1-Q3. I advise using the \texttt{frac} command in LaTeX to clearly show the fraction equation.

From Table 8, the author discusses the increase in the clay/sand ratio in the B horizon in both profiles, indicating the illuviation of the clay fraction. In Pedon 6, the clay/sand ratio certainly increases from 0.347 at Ap to 0.740 at B1, which is more than double. However, if we look at Table 3, the increase in clay percentage is from 18.2% to 26.5%, which is a 45% increase. Why did an increase of only 45% in clay result in such a large increase in the clay/sand ratio?

Finding this puzzling, I calculated the total fraction in both profiles (clay + silt + fine sand + coarse sand) and found that the value decreased from 95.1% to 82.9%. This means that in the B1 horizon, 17.1% of something is not shown, which could be medium sand. If so, then the percentage of medium sand should be shown in Table 3. Actually, the clay/sand ratio in Table 8 should have been calculated by summing “fine sand” + “coarse sand” in Table 3, not including “medium sand”. If medium sand is missing in Table 3, it should be added to the clay/sand ratio, and the values in Table 8 will change.

From Table 3, I get the impression that the clay percentage is highest in the B1 horizon in Pedon 6, and illuviation is most prominent in the B1 horizon. The clay fraction might not be due to illuviation but rather from the parent material. I am not sure based on the information in this paper alone.