Review of: "Yield Forecasting Model for Maize Using Satellite Multispectral Imagery Driven Vegetation Indices"

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Potential competing interests: No potential competing interests to declare.

Interesting study that attempted the integration of Sentinel-2 and Landsat-8 imagery and NDVI for predicting maize yield in the growing season in Kaharole, Dinajpur. The forecasting model presented in this study has the potential of transferability to other sites with similar characteristics for crop yield prediction. Nonetheless, numerous comments are provided below for consideration by the authors:

1) The title mentions 'Vegetation indices,' but only one vegetation index, i.e., NDVI, was used in the paper?

2) Page 2: A supporting reference for this statement is required: "However, a significant portion of these models has shown to be impractical, particularly those that rely on the collection of field data."

3) Page 2: The line is confusing… "forecasting at a moderate geographic resolution." Rephrase

4) Page 2: The full name for the acronym "AUC" is missing.

5) Page 4: Supporting references are required for the indicated estimates of rainfall and temperature "…rainfall of 1965 mm and 2417 mm, respectively. It is worth noting that approximately 90% of this rainfall is concentrated between the months of May and October. In the Kaharole upazila, the typical temperature range throughout the winter season is from 23.6 to 16.8°C for the greatest value and from 24 to 16.8°C for the minimum value. During the summer season, the average maximum and lowest temperatures exhibit a range of 33.2 to 26.0 and 29.8 to 25.6°C, respectively."

6) Page 4: In Figure 1: The map is not legible. Can the text resolution be improved? What is the map showing, or what does the blue/yellow color variation represent on the map? The map legend is missing.

7) Page 4 under the section "Yield data collection" .. Was there any additional information accompanying the yield data for the periods when they were recorded, e.g., rainfall and temperature estimates, etc.?

8) Page 5: In Figure 5: The map is confusing. Where are 'red triangles' being referred to as per the caption description? The legend indicates 'Maize field union boundary' - but actually refers to green arrows on the map. Are these the maize field locations? If so, where are the boundaries showing the spatial extents of maize fields?

9) Page 7: Acknowledge the limitation(s) of NDVI and also why it was preferred in this study over other vegetation indices?

10) Page 7: In the last two paragraphs: The explanation makes sense; however, the spatial context is missing. Where is the map showing both the locations of the maize fields and their boundaries?

11) Page 8: Table 2: Are the "NDVI values" representing the mean NDVI value computed per maize field? Clarify.

12) Page 9: Tables 3 and 4: Any explanation as to why the Sentinel-2 (mean) NDVI values for seasons 2018-19 and 2019-20 gave consistently higher NDVI values ≥ 0.80 for yield values > 12.0 compared to Landsat-8?

13) Page 9-11: Where are the regression analysis results under the section "Regression analysis of the NDVI values over the field locations"? So far, the results presented under this section are not regression results.

14) Page 10: Figure 3: Why is it important to display the NDVI for the whole region instead of the 20 maize farms considered in this study? How is the distribution of NDVI values within the boundaries of the maize fields?

15) Page 12: Figure 4 - The values on the x and y axes corresponding to NDVI and Yield (t/ha) are not shown?

16) Page 13: Where are the units for RMSE, i.e., t/ha? Furthermore, how accurate is the model? You may want to include the RRMSE % to aid with the interpretation.