

Review of: "Assessing the Forest Transition Hypothesis: Are Deforestation Dynamics Different Across Continents?"

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Potential competing interests: No potential competing interests to declare.

1. Abstract:

The abstract looks shallow, though, covers a broad geo-temporal scope. However, the abstract failed to clarify how regional variations are accounted for, nor did it address the potential inconsistencies in data quality across different countries, which could affect the validity of the conclusions.

Also, the study does not sufficiently address how the findings differ from or expand upon existing literature, leaving questions about the study's contribution to the broader field.

2. Introduction:

The introduction gives an inclusive summary of the forest transition concept and its theoretical underpinnings, but it lacks a clear articulation of the study's novelty. The study addresses the limitations of previous research; nevertheless, it does not explicitly highlight how this study's approach, particularly the use of HDI over GDP and the broader dataset, offers a significant advancement over existing literature.

The study objectives of determining the plausibility of forest transition at a continental level and estimating development thresholds are well stated in their context, but the introduction could have been more strengthened if a more detailed rationale for choosing these specific objectives were explained.

3. Methods:

Data sources: The reliance mainly on FAOSTAT and UNDP data introduces bias as they may not fully capture local variations in forest cover, especially in regions with limited data access and capabilities. While data coverage seems robust, the study does not address potential discrepancies or changes in data collection methodologies over the 31-year period, which could affect the consistency and comparability of the data across time and regions.

The explorative data analysis lacks a deeper statistical examination of the identified outliers. In addition, the use of HDI as the sole indicator of development may oversimplify the complex factors influencing deforestation and reforestation processes.

The decision to test linear, quadratic, and cubic models under the regression model sub-session is methodologically sound, but the emphasis on the cubic model's consistency across quartiles lacks a discussion on whether this model is

the most theoretically justified or simply the best fit statistically.

The reliance on mean absolute error (MAE) may not be enough; the study would be more strengthened by applying other performance metrics, such as Bayesian Information Criterion (BIC), to ensure a more comprehensive assessment of model fit.

The identification of forest transition stages using the roots and minimum of the cubic function is applaudable, but the method's reliance on a mathematical model without sufficient ecological or socio-economic validation may oversimplify the complex processes underlying forest transitions, particularly across diverse regions.

4. Conclusion:

The conclusions would benefit from a more detailed discussion of the specific socio-economic or political factors that may contribute to these variations, as well as a critical reflection on how these findings align with or challenge existing literature on forest transitions.