

Peer Review

Review of: "A Simple Board Game for Modeling the System Dynamics of Deforestation"

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This article describes an interesting board game for educational purposes, developed to raise awareness of the complexities of forest management by making the participants play with deforestation and afforestation dynamics. The game mechanics are based on simplified model functions describing predatory-prey interactions and seek to reproduce realistic dynamics of decline and recovery in the tree “population”. Overall, the article is well-written and easy to follow. Here are some remarks and possible improvements:

- Game test:

It is not clear if the game was tested with human participants or only through computer simulations. A more structured series of game sessions would be beneficial in testing if the game really reproduces the expected socio-ecological dynamics despite different players’ choices and if it produces the desired learning effect in the players (for tools and methods to assess serious games learning outcomes, see [\[1\]](#)). Observing players’ behavior during the game sessions, moreover, would allow interesting insights into multiple aspects, such as the willingness of the players to reduce deforestation, or the emergence of competition/collaboration dynamics.

- Discussion:

Although the author discusses the choices made in the developing process throughout the different paper sections, a clear “Discussion” session is missing now. Such a section would be an adequate space for discussing more in-depth the results of the experiment and their implications. Topics to be further discussed include, as mentioned before, the effect of the game experience on the participants,

the resemblance of the ecological dynamics reproduced to the environmental dynamics observed in reality, the emergence of particular behaviors and collaboration or competition dynamics among the participants, the implications of the different sets of rules.

- Game variants:

I found the game variant for promoting sustainable forestry particularly interesting, especially since the mechanics are designed to reflect real-life initiatives. In my opinion, this part should be moved to the main text, leaving only practical guidelines to implement the game in the Appendix. The variant could also be explored deeper, by testing and discussing the actual effects of the rules on the game outcome and the relationship between the impact in the game and the observed effects of such initiatives in the real world. Other insights could be derived by assessing the understanding and the attitude of the participants toward those kinds of initiatives before and after playing the game.

References

1. [△]Robert-Jan Den Haan, Mascha C. Van der Voort. (2018). *On Evaluating Social Learning Outcomes of Serious Games to Collaboratively Address Sustainability Problems: A Literature Review*. Sustainability, vol. 10 (12), 4529. doi:10.3390/su10124529.

Declarations

Potential competing interests: No potential competing interests to declare.