Review of: "Gamification of the overexploitation of natural resources. An operational game based on System Dynamics"

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I thoroughly enjoyed reading this article, and appreciate its very practical application and scientific communication aspects. The authors include enough detail that anyone can take this tool and use it to teach the very important systems phenomenon of overshoot and collapse which, in my experience, is challenging and somewhat counter-intuitive even for mathematically sophisticated students to grasp.

Part of reviewing this paper rather late means that I could browse previous reviews (which I appreciate about this open model of peer review!), so I will try not to repeat too much of what previous reviewers discussed (several commenters suggested a collaborative version/mode of the game, which the authors said they are working on, and I too am eager to see this). I also agree with other commenters that the unique contribution of this paper (as opposed to the game itself) could be clearer.

Rather than re-hashing those points, I'll focus on the treatment of Ostrom's work in the paper, which deserves a bit more attention. It's not quite true that Ostrom said only ‘small, traditional’ communities can prevent over-exploitation of resources, nor that these communities necessarily protect their resources. Rather, moreso than larger governance arrangements, they tend to exhibit the characteristics needed for successful sustainable management of resources (control over the resource; ability to monitor the resource closely; ability to impose penalties for mis-use; ability to come to common agreements; etc.). Without including this nuance in the paper, and in the way this topic is discussed with students, we risk having them walk away thinking it's impossible to sustainably manage common resources on a global scale, which it is not (Ostrom didn't say that), but it certainly is challenging.

It's also worth noting that Garrett Hardin was a eugenicist and white nationalist, with some appalling views about immigrants and the poor which influenced his work, including his views on management of the commons (he used the overexploitation argument, for example, to argue for anti-immigrant and nativist policies). It's always challenging to grapple with the complex legacy of historical scientific figures, but I do feel this context is important to mention in any paper, or any curriculum, that cites Hardin's work.

Overall, an enjoyable and useful read!