

A retrospect: disaster realities in game world

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Introduction

Serious games are designed to “look into” and simulate real-world issues (e.g. wars and armed conflicts, urban planning, environmental management) (Abt, 1970). These games can either be digital or analog and are primarily designed to increase awareness, entertain and or be part of learning programs (Aldrich & DiPietro, 2009). Over the past three decades, the application and popularity of serious games has expanded to raising awareness on disaster risk reduction (DRR). The steady rise of serious games in the realm of DRR stems from the following benefits, which re-echoes claims since the 1970s (See Figure 1).

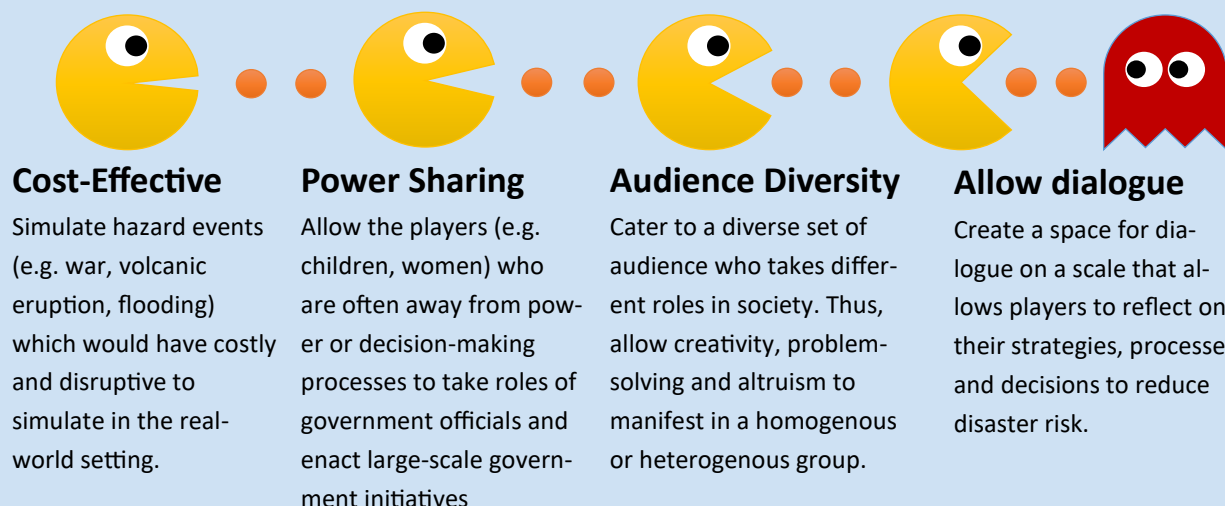


Figure 1: Benefits of disaster serious games (Abt, 1970; Gampell & Gaillard, 2016; Culibar, 2020)

This policy brief posits that in order to build evidence and reshape gamification of DRR, we must first step back and analyse how games represent DRR, including the key concepts that underpin it (i.e. hazard vulnerability, capacity, prevention, mitigation and preparedness). We explain in this brief that these representations, intricately weaved into the game layers, are an extension of the realities and practices it offers to the players. Figure 2 highlights an overview on how ten non-commercial serious games depict DRR concept using Wisner et al.’s (2011) expanded disaster risk mnemonic and Winn’s (2009) Design, Play and Experience Framework for serious games.

Significant Findings:

- All ten serious games portray disaster as an event and not a process. In games, therefore, the portrayal of disasters follows the dominant view of the so-called hazard paradigm, wherein hazards encompass disruptive physical characteristics (e.g. strong winds, big waves). The loss of lives and other assets then are linked to poor risk perception and preparation to the hazard impact. This dominant view undermines vulnerability, that include social processes (e.g. unequal distribution of wealth and



Figure 2: Disaster realities in game world (Culibar, 2020)

power) that account for most disastrous outcomes (Wisner et al., 2011).

- The concept of hazard serves as a vehicle to introduce DRR measures (i.e. prevention, mitigation, preparedness) in games. Hence, risk reduction measures in games particularly highlight hazard focused measures at different scales (individual, household and community at large).
- Most of the games depict unsafe living conditions and actions of the local people (individuals and collectives) as the root causes of vulnerability to hazards. Therefore, the games tend to blame individuals for their own vulnerability to disasters.
- Disaster serious games, as a tool, can valorise local people as knowledgeable and capable of shaping, leading and implementing DRR measures. However, this portrayal places accountability onto local people who are away from decision-making processes and the process that form the root causes of vulnerability.

Recommendations

- The serious game community should utilise almost 50 years of disaster scholarship to recalibrate game storylines to simulate the root causes of vulnerability and its reduction. A vulnerability inspired game plot may tease the decision-making and problem-skills of powerful authorities in DRR. Also, this type of game narrative may serve as a platform for powerful DRR actors to see the causality of disasters beyond the hazards.
- The game design community should document the process of a game's development and allow access to researchers and practitioners should such document exist. The document can significantly identify whose voices and realities are captured in the iterative process of game design and address misrepresentations in gamifying disaster and DRR.
- Although it is cost-effective to simulate volcanic eruptions or tsunami through game narratives; the profession and logistics required to develop a serious game are not cheap. More importantly, gamifying disaster realities is an arduous task that demands time. Therefore, ample amount of funding and time must be considered to produce game narratives that will significantly contribute to DRR.
- The disaster research community should map and analyse disaster realities of other disaster serious games, especially commercial ones that reach a broader audience of players.