VIDEO GAMES AND DISASTER RISK REDUCTION: NEW OPPORTUNITIES FOR LEARNING?

OVERVIEW

Increasingly, international organisations (e.g. UNESCO, UNISDR), governments (e.g. Canada), non-government organisations (e.g. Save the Children, Christian Aid) and researchers use video games to raise disaster and disaster risk reduction (DRR) awareness. Video games, in general, are suggested to contribute toward an individual's thinking, attitude and behaviour. Existing research points to video games as a cognitive stimulus, focusing upon game users' exposure to game content and features. However, literature about how users' experience game content, design and outcomes is lacking. Not to mention a paucity of studies regarding the effectiveness of disaster themed video games at building disaster awareness. The increasing prevalence of disaster themed video games highlights a significant gap in the research area of both disaster and video games. This poster presents a synthesised version of a larger typology designed to specifically deconstruct disaster video games. Games like Stop Disasters, Disaster Watch, Fallout, SimCity and Tropico demonstrate how these games instil disaster awareness, through DRR and the associated components of prevention, mitigation and preparedness. This typology is one component of a larger PhD thesis assessing disaster and DRR awareness in video game users and exploring the effectiveness of video games as tools for DRR.

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DRR	Post Apocalyptic	Management Simulation
Stop Disasters (UNISDR,2008). Inside the Haiti Experience (PTV Productions, 2010). Earthquake Response (Save the Children, 2010). Disaster Watch (Christian Aid, 2006). Earth Girl: The Natural Disaster Fighter (EOS, 2013). Sai Fah- The Flood Fighter (UNESCO, 2014).	Fallout 3 (Bethesda Game Studios, 2008). Fallout New Vegas (Bethesda Game Studios, 2010). Metro series (4A Games, 2010-2013).	Simcity (Maxis, 1989-2013). Tropico 5 (Haemimont Games, 2014).

PREVENTION

The intention to completely avoid potential impacts through advance action.

Stop disasters requires players to build basic services like hospitals, schools and housing before the chosen scenarios disaster strikes. These services are required to be placed in areas of minimum risk allowing them to stay standing after the event to achieve the games goals.

The Fallout series uses the concept of underground vaults equipped with necessary basic services for life underground like medical facilities, schools, fresh water and housing to serve the residents of the vaults.

In Simcity players are required to set landuse regulations for their city and then provide these areas with basic services. These services often have a radius of effect which determine the response to an event. Having a successful road layout is also important to ensure rapid emergency response.

MITIGATION

Strategies and actions which attempt to lessen the adverse impacts of hazards and related disasters.

Stop Disasters highlights the use of information which builds public disaster awareness. When players implement such awareness building tools they may achieve a higher rate of survival after the event, depending upon the players other actions in the scenario for example making sure buildings are in low risk areas.

In Fallout 3 the player can help a local store owner in writing a wasteland survival guide. The player completes various quests, for example, regarding radiation, animals and safe places to find supplies. How the player completes this quest determines the guides usefulness with survivors either praising or cursing it. This guide also makes an appearance in the follow-up game Fallout New Vegas.

In Tropico 5 players are able to invest in a disaster relief fund policy. This policy continually deducts a set amount of money from the cities budget policies every few turns which is then used after a natural hazard strikes to reduce the rebuilding costs.

PREPAREDNESS

Knowledge and capacities to effectively anticipate, respond to and recover from likely hazard events.

Players of Disaster Watch search for clues in the landscape which hint toward an impeding event After players sort through the relevant clues and the not so relevant, players guess what the potential disaster scenario will be. After successful identification actions are taken to lessen potential impacts.

Fallout 3 and Fallout New Vegas both have in game radios available for the player to listen to while travelling the wasteland. These radio stations not only provide news updates of your wider actions upon the wasteland but also contain warnings like raider locations and other useful information like how to deal with radiation.

EA in collaboration with the Red Cross have designed a downloadable content (DLC) for Simcity 4. The DLC adds a Red Cross emergency management centre, in the case of a disaster Red Cross tents are seen across the city providing relief to the citizens. With every DLC bought a portion goes to the Red Cross.

REFERENCES

Articles
Gampell, A.V. & Gaillard, JC. (2016). Stop disasters 2.0: Video games as tools for disaster risk reduction. *International Journal of Mass Emergencies and Disaster* , 34(2): 283-316.
Video Games
Bethesda Game Studios 2008, *Fallout 3*, cross-platform: PC, Bethesda Softworks, Maryland.
Christian Aid 2006, *Disaster Watch*, computer game: PC, Playerthree, London. Haemimont Games 2014, *Tropico 5*, cross-platform: PC, Kalypso Media, Worms.
Maxis 2013, *Simcity*, computer game: PC, Electronic Arts, California.
UNISDR 2008, *Stop Disasters*, computer game: PC, Playerthree, London.

OUTCOMES

As this simplified content analysis of various disaster related video games depicts, DRR video games and mainstream video games which are not necessarily DRR specific can provide an opportunity for players to build disaster awareness. The games used in the typology all meet various criteria of the specific categories for successful DRR and with further study may prove positive tools to raise and reinforce players disaster and DRR awareness . Video games are more accessible than ever as tablets and smartphones become more common, removing console restrictions and creating gamers of all ages. Video games have the ability to show long-term dynamics compressed into short-term experiences allowing players to recalibrate their intuition. With a definite and attractive direction there is a serious possibility that video games with a DRR undertone could potentially reach audiences of all ages to become powerful positive tools for building DRR awareness.