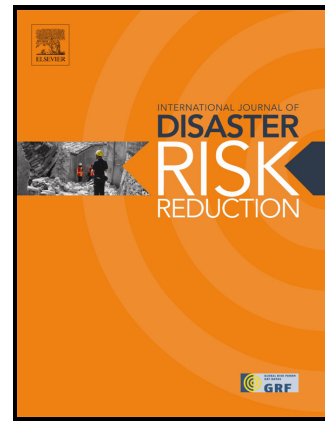


## Author's Accepted Manuscript

Towards disaster resilience: A scenario-based approach to co-producing and integrating hazard and risk knowledge

Tim Davies, Sarah Beavan, David Conradson, Alex Densmore, JC Gaillard, David Johnston, Dave Milledge, Katie Oven, Dave Petley, Jonathan Rigg, Tom Robinson, Nick Rosser, Tom Wilson



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## ACCEPTED MANUSCRIPT

1 **Perspective**

2 **TOWARDS DISASTER RESILIENCE: A SCENARIO-BASED APPROACH TO CO-PRODUCING AND**  
3 **INTEGRATING HAZARD AND RISK KNOWLEDGE**

4 Tim Davies<sup>1,2\*</sup>, Sarah Beavan<sup>1</sup>, David Conradson<sup>1</sup>, Alex Densmore<sup>2</sup>, JC Gaillard<sup>3</sup>, David Johnston<sup>4</sup>,  
5 Dave Milledge<sup>2</sup>, Katie Oven<sup>2</sup>, Dave Petley<sup>5</sup>, Jonathan Rigg<sup>6</sup>, Tom Robinson<sup>1</sup>, Nick Rosser<sup>2</sup>, Tom  
6 Wilson<sup>1</sup>

7 **Abstract**

8 Quantitative risk assessment and risk management processes are critically examined in the context  
9 of their applicability to the statistically infrequent and sometimes unforeseen events that trigger  
10 major disasters. While of value when applied at regional or larger scales by governments and  
11 insurance companies, these processes do not provide a rational basis for reducing the impacts of  
12 major disasters at the local (community) level because in any given locality disaster events occur too  
13 infrequently for their future occurrence in a realistic timeframe to be accurately predicted by  
14 statistics. Given that regional and national strategies for disaster reduction cannot be effective  
15 without effective local disaster reduction measures, this is a significant problem. Instead, we suggest  
16 that communities, local government officials, civil society organisations and scientists could usefully  
17 form teams to co-develop local hazard event and effects scenarios, around which the teams can  
18 then develop realistic long-term plans for building local resilience. These plans may also be of value  
19 in reducing the impacts of other disasters, and are likely to have the additional benefits of improving  
20 science development, relevance and uptake, and of enhancing communication between scientists  
21 and the public.

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