

Institution: Liverpool Hope University		
Unit of Assessment: C14 Geography and Environmental Studies		
Title of case study: Influencing national cultural preparedness for environmental extremes in Malta		
Period when the underpinning research was undertaken: 2013 – ongoing		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Dr Victoria Kennedy	Lecturer in Tourism	September 2012 – present
Dr Kevin Crawford	Senior Lecturer in Geography	September 1997 – present
Associate Professor Janet Speake	Associate Professor in Geography	September 1993 – November 2019
Professor David Chester	Professor of Environmental Science	September 2013 – August 2020
Period when the claimed impact occurred: 2016 – ongoing		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact (indicative maximum 100 words)		
<p>Research by Liverpool Hope University has significantly increased awareness and understanding of environmental hazards in Malta, by changing and creating a cultural preparedness for hazard events at a national level. Tangible benefits are evidenced in greater stakeholder collaboration amongst national decision-making bodies. Stakeholders are now actively seeking input and advice at different levels from the local to the national government. This has resulted, not only in an increased recognition of the importance of hazard education and training amongst the population, but also and more specifically amongst the transient tourist population upon which Malta's economy is heavily dependent.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>Research on hazard awareness in Malta has been undertaken since 2016, though underpinning research for this strand builds upon interdisciplinary research interests from researchers in the Department of Geography and Environmental Science leading back to 2003.</p> <p>Four main themes underpin this research:</p> <ul style="list-style-type: none"> (a) vulnerability and culture, addressing human agency and responses to hazards; (b) hazard exposure in coastal locations, identifying the vulnerability of the island nation; (c) the tourism industry in Malta, recognising the importance of the tourism for the economy; (d) and stakeholder networks and engagement, exploring key power relations and decision-making. 		

Initially the research was informed by Professor Chester's long-standing expertise in vulnerability research in hazard exposed areas with a strong focus on human response to such events. Subsequently, the research has changed to incorporate a greater focus on Drs Kennedy and Crawford's expertise in stakeholder engagement in tourism destinations and natural hazards in Malta. It further draws on the expertise of research collaborators at the University of Malta, specifically Professor John Schembri and Dr Ritienne Gauci.

Key findings include:

(a) The role of indigenous knowledge on island vulnerability and culture

Indigenous and local knowledge and their importance in disaster risk reduction (DRR) and preparedness frameworks have been studied widely, with Professor Chester focusing on human responses to disasters in Italy (Sicily) and the Azores [R2]. The research highlights the importance of acknowledging human agency in, and cultural understanding of, how natural hazards affect resident populations, whilst at the same time building a culture of resilience [R1, R4].

(b) Natural hazard exposure (Malta)

Though perceived to be a non-disaster-prone destination, Malta is hazard exposed because of the impacts of volcanic eruptions (volcanic ash from neighbouring Mount Etna), earthquakes, tsunamis, droughts, flash floods and slope failure [R4]. Due to the small size of Malta, much of the critical and tourism infrastructure is located in coastal areas, increasing the vulnerability of the islands should a disaster occur. Preparedness for disasters is currently 'siloes' in Malta, with different government departments and the civil protection authorities being involved in the development of disaster risk reduction (DRR) frameworks [R1, R4].

(c) The changing nature of tourism and changing tourists in Malta

Malta has undergone a number of changes with respect to the development of tourism, moving away from traditional mass tourism, to more varied (post-mass) forms of tourism. Increasingly there is a focus on niche markets. This shift has been evidenced in the work of Speake & Kennedy [R5, R6], outlining a clear migration of Malta's tourism policy focused on niche markets and higher spending tourists. Evidently, Malta's strategy has been successful with a thriving and growing tourism industry (reached 2.8 million tourists in 2019), yet communication between the major tourism industry players and the Maltese Government, and vice versa, is underdeveloped [R1].

(d) Understanding stakeholder engagement in networks in the tourism industry

Stakeholder networks are dynamic and flexible, often resulting in changed networks over time which are based on stakeholder interests and role sets [R3]. In the tourism industry, stakeholder engagement can be particularly difficult to monitor and sustain, due to shifting power relations and relevant interests of stakeholders. Ensuring true engagement is achieved, stakeholders from all levels (local to national) have to be included in decision-making, especially in policy environments [R1], where stakeholder engagement can contribute to improved destination leadership and resilience [R1, R3].

3. References to the research (indicative max. of six references)

[R1] Kennedy, V., Crawford, K.R., Main, G., Gauci, R. & Schembri, J.A. (2020) Stakeholder's (natural) hazard awareness and vulnerability of small island tourism destinations: a case

study of Malta. *Tourism Recreation Research*,
<https://doi.org/10.1080/02508281.2020.1828554>

[R2] Branca, S., **Chester**, D.K., De Beni, E. and Duncan, A.M. (2017) Landforms and landscapes of Mount Etna (Sicily): Relationships between volcano environments and human activity: In: Soldati, M. and Marchetti, M. (eds), *Landscapes and Landforms of Italy*, Springer, Berlin, 467-478.

[R3] **Kennedy**, V. & Augustyn, M. (2014) Stakeholder Power and Engagement in an English Seaside Context: Implications for Destination Leadership. *Tourism Review*, 69(3), 187-201. DOI: <https://doi.org/10.1108/TR-06-2013-0030>

[R4] Main, G., Schembri, J., Gauci, R., **Crawford**, K., **Chester**, D. & Duncan, A. (2018). The hazard exposure of the Maltese Islands. *Natural Hazards*, 92, 829-855. DOI: <https://doi.org/10.1007/s11069-018-3227-x>

[R5] **Speake**, J. & **Kennedy**, V. (2019) 'Buying' into the waterfront dream? Trajectories of luxury property led developments in Malta'. *Tourism Management*, 71, 246-258. DOI: <https://doi.org/10.1016/j.tourman.2018.10.014>

[R6] **Speake**, J. & **Kennedy**, V. (2019) Changing aesthetics and the affluent elite in urban tourism place making. *Tourism Geographies*, DOI: [10.1080/14616688.2019.1674368](https://doi.org/10.1080/14616688.2019.1674368)

All journal outlets are internationally established with submissions subject to peer review.

Grants awarded:

- a. **Kennedy**, V., **Crawford**, K., **Speake**, J., **Chester**, D., Gauci, R., Schembri, J. & Main, G. (2018) '*REFresh and REFine*', *Higher Education Innovation Fund* (£2,500). 'Hazard awareness and vulnerability of tourism destinations in the Maltese Islands.'
- b. **Kennedy**, V., **Chester**, D., Gauci, R., Schembri, J., **Crawford**, K., Main, G., Smyth, T. & **Speake**, J. (2017) *REFocus*, *Higher Education Innovation Fund* (£3,000). 'Hazard awareness and vulnerability of tourism destinations in the Maltese Islands'.

4. Details of the impact (indicative maximum 750 words)

Two conference workshops (February 2018 and February 2019) were held in Floriana, Malta, entitled "*Hazard awareness and vulnerability of tourism destinations in the Maltese Islands*". The purpose of the conference workshops was to present research into hazard exposure of the Maltese Islands to attendees and to then discuss the research presentation in workshops, which included focus groups and hazard mapping exercises. Overall, 20 stakeholders ranging from scientific academics, private sector, government organisations/ministries and NGOs contributed. The research emerging from the conference workshops has created impact under the following four headings:

- I1 - creation of a national Tsunami Advisory Board
- I2 - improved communications amongst different levels of government with regards to disaster risk reduction (DRR) frameworks
- I3 - hazard awareness training to be included in educational establishments and tourism industry
- I4 - greater stakeholder collaboration between different sectors

I1 - creation of a national Tsunami Advisory Board

From a policy dimension, the research has resulted in two members (Professor Schembri and Dr Gauci) of the wider research project team from the University of Malta, being invited to be part of a national Tsunami Advisory Board, which is coordinated by the Director of the Civil Protection Department (CPD) [S1, S6]. Following the conferences in 2018 and 2019, the Tsunami Advisory Board was set up in 2019 to help support and facilitate the work of the CPD in relation to tsunami preparedness and to form part of a scientific advisory team. Professor Schembri and Dr Gauci were invited as a direct result of the conference workshop, due to their scientific expertise [R1, R4].

I2 – improved communications amongst different levels of government with regards to disaster risk reduction (DRR) frameworks

A consequence of the conference workshops has been improved communications amongst stakeholders from different organisations (private sector, national government) and specifically the sharing of resources related to hazards and early warning systems, such as the use of *Meteoalarm* (Europe’s web-based weather service) on tourist facing websites [S7]. Following the 2018 conference, the Malta Tourism Authority (MTA) [S7] considered to broaden out training for MTA staff to focus more closely on environmental and coastal developments and weather-related hazards. Improved communication, as well as an awareness of the remits of other entities, can help break down the ‘silos’ in DRR research in Malta as identified in R1. For example, the Head of the Marine and Storm Water Unit (Ministry for Transport, Infrastructure and Capital Projects, Malta) [S4] noted (following 2019 conference):

“Our organisation is mostly involved in public works interventions related to marine and stormwater structures in Malta. Lately we have become very much involved in issues related to hazards related to coastal erosion mostly along the rocky formations along our coastline. Your presentations were mostly related to the relations between natural hazards and the tourist industry. In a way, your presentations, opened up a new perspective at how we should view our work [sic].”

I3 – hazard awareness training to be included in educational establishments and tourism industry

One of the biggest impacts has been awareness raising of hazards events on Malta, with a particular focus on the tourism population. The Gozo Catholic Diocese have used the information from the conferences to implement staff awareness training with a focus on staff in tourist-facing roles and visitor attractions (churches/citadella) [S5]. Furthermore, influenced by the researchers, a greater awareness of hazards has led to a cultural shift amongst Maltese stakeholders. For example, it has been recognised that it is important and necessary to integrate hazard awareness training into education, not only in schools but also in pre-schools/nurseries and day-care centres for the older generation. One measurable impact has been the translation of fire hazard education into kindergartens and primary schools by the CPD. Tailored educational materials/handouts for students were rolled out in September 2019 [S1].

I4 – greater stakeholder collaboration between different sectors

The conference workshop has had a direct impact on stakeholder recognition of natural hazards on Malta as a national rather than local impact, requiring a greater collaboration amongst stakeholders in managing this risk in terms of preparedness and response [S2, S3, S4]. An additional dimension has been the recognition of the impact of the Covid-19 pandemic on the

need for better preparedness by the Maltese Civil Protection Department (CPD), which will be reflected on and researched by the CPD post-pandemic [S8].

From a tourism perspective, the researchers have induced a cultural change in stakeholders in recognising the vulnerability of the tourist population, particularly of those using individual (e.g. Airbnb) rather than collective accommodation [S3]. Individual accommodation is a growing sector in Malta and has resulted in stakeholders perceiving tourists in such individual accommodation as 'being part of the neighbourhood'. A direct impact of the research has been the recognition that vulnerable tourists cannot be ignored or become the *de facto* 'responsibility' of local people, particularly if communication networks are interrupted. Tourists would then not have access to appropriate information but would be reliant on educated local residents in the event of a disaster [S2].

5. Sources to corroborate the impact (indicative maximum of 10 references)

[S1] **Director of the Malta Civil Protection Department (CPD)** (Interview transcript - can verify impacts of hazard awareness and education on local population and how this is being implemented at national level, e.g. Tsunami Advisory Board)

[S2] **Zammit, A.** (2018) Malta's natural hazard preparedness questioned. *The Sunday Times of Malta* [online], 11 March 2018, available at: <https://www.timesofmalta.com/articles/view/20180311/local/maltas-natural-hazard-preparedness-questioned.672880>

[S3] **Zammit, A.** (2019) Strong wind warning for mass tourism. *The Sunday Times of Malta* [online], 9 March 2019, available at: <https://timesofmalta.com/articles/view/strong-wind-warning-for-mass-tourism-anne-zammit.704038>

[S4] **Head Marine and Storm Water Unit (Ministry for Transport, Infrastructure and Capital Projects, Malta)** (evidence from questionnaire statement)

[S5] **Gozo Catholic Diocese** (evidence from questionnaire statement)

[S6] **Tsunami Advisory Board email** - Dr Ritienne Gauci

[S7] **Malta Tourism Authority** - (evidence from questionnaire statement)

[S8] **Director of the Malta Civil Protection Department (CPD)** - email correspondence