

2021

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### Recommended Citation

Holladay, Patrick J.; Méndez-Lázaro, Pablo; and Brundiers, Katja (2021) "From hurricanes to pandemics: community-based transformation and destination resilience in Utuado, Puerto Rico," *Journal of Sustainability and Resilience*: Vol. 1 : Iss. 2 , Article 1.

Available at: <https://digitalcommons.usf.edu/jsr/vol1/iss2/1>

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Publisher's Note: Journal of Sustainability and Resilience (JSR) (ISSN:2744-3620) is published bi-annually by the Sustainability and Resilience Institute (SRI) of New Zealand. The opinions expressed in this paper are those of the authors and do not necessarily reflect the official policy of SRI. SRI remains neutral about jurisdictional claims in published maps and institutional affiliations.

# From hurricanes to pandemics: community-based transformation and destination resilience in Utuado, Puerto Rico

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Received: 17/06/2021

Revised: 22/07/2021

Accepted: 26/07/2021

Published: 20/08/2021

**How to cite:** Holladay, Patrick J.; Méndez-Lázaro, P. and Brundiers, Katja (2021). From hurricanes to pandemics: community-based transformation and destination resilience in Utuado, Puerto Rico. *Journal of Sustainability and Resilience*, Volume 1, Issue 2, Article 1.

**Abstract:** Community-based tourism that is both sustainable and resilient lends strength to the community-based tourism system. Local mobilization of resources, cohesiveness, coordination, opportunities for change, healthy social and natural capital, economic diversification, strong leadership, and management that embraces creativity all build resilience. An example from Utuado, Puerto Rico is presented that illustrates these concepts with conceptual parallel of Hurricane Maria's devastating impact to that of COVID-19. Post-coronavirus tourism should support local communities that could be resilient, creative, adaptive and transformative while it protects and provides long-term benefits to local communities and people.

**Keywords:** COVID-19, Community, Resilience, Tourism.

## Introduction

The coronavirus has crippled tourism industries worldwide with disproportionate impacts to, for example, low-wage tourism employees (Higgins-Desbiolles, 2020) and less-developed countries reliant on tourism revenue (Rogerson & Rogerson, 2020). As Donella Meadows wrote (2008, p.78), “loss of resilience can come as a surprise, because the system usually is paying more attention to its play than to its play space.

One day it does something it has done a hundred times before and crashes.” The theoretical framework of this paper is social-ecological resilience, which explains that linked social and ecological systems are vulnerable to disturbances (Holling, 1973). Disturbances to tourism systems include unexpected perturbations like human-induced crises (Hall, 2010) and natural disasters (Ritchie, 2004). However, resilient tourism systems—those with inherent capacities to absorb disturbance

while maintaining function, structure and feedbacks (Walker & Salt, 2012)—have the potential to buffer these impacts.

This paper calls for a stronger turn to the resilience dynamics in tourism systems to mitigate the potentials for collapse. Innovation, short-term goals, monitoring and adaptive management, in fact, can keep a tourism destination in a stage of high resilience (Holladay, 2018). Community-based tourism that is both sustainable and resilient lends strength to the community-based tourism system (Lew et al., 2016). Given the catastrophic impacts of the coronavirus on tourism (Nyaupane, Morris & Li, 2020) the new era of tourism (post-COVID-19) should be community driven. Tourism communities need capacities to adapt, embrace transformative potential and build adaptive capacities. Local mobilization of resources, i.e. self-organization, enhances resilience to negative impacts through cohesiveness, coordination and trust (Holladay & Powell, 2013). This is underpinned by opportunities for change, strong social and natural capital, economic diversification, strong leadership, and management that embraces creativity (Cheer & Lew, 2017), particularly at the community level (Ruiz-Ballesteros, 2011).

Mitigating tourism system vulnerabilities necessitates a stronger turn to the resilience dynamics enhanced through community-based tourism development (Weis, Chambers & Holladay, 2021). In anticipation of this, tourism communities should embrace transformative potentials and build adaptive capacities (Bec, McLennan & Moyle, 2016). Evidence of tourism system recoveries after the terrorist attacks on the United States on September 11th, 2001 (Blake & Sinclair, 2003), the 2008 global economic recession

(Papatheodorou & Rossello, 2010) and other pandemics (Hall, Scott & Gössling, 2020), such as SARS and Ebola (Jamal & Budke, 2020) supports this assertion. To illustrate these concepts, an example from Puerto Rico is presented that illustrates moving the local system into high resilience after a system collapse following Hurricane Maria. A conceptual parallel of Hurricane Maria's devastating impact to that of COVID-19 and then how communities can rebound is the nexus of thought.

## Methods

The authors of this paper are part of a multi-university, multi-organization team that are working together on an agritourism development initiative in Utuado, Puerto Rico. The initiative team has a partnership with a community organization called the Primary Health Services and Socioeconomic Development Corporation or *Corporación de Servicios de Salud Primaria y Desarrollo Socioeconómico El Otoao* (COSSAO). The purpose of the initiative is to determine whether and how agritourism can improve the quality of life, socioeconomic development, agricultural sustainability and resilience in the municipality of Utuado, Puerto Rico. The information presented in this paper is built on direct observation and field visits (Babbie, 2020) to Utuado, Puerto Rico in 2018 and 2019. No field visits were possible in 2020 because of COVID-19 restrictions. During 2020, monthly Zoom meetings were held among stakeholders that allowed for the continuation and development of this agritourism initiative.

## Discussion

### *An example from Utuado, Puerto Rico*

Since the world is still gripped in the uncertainties of COVID-19, an evidence-based example is presented now. In 2017, Hurricane Maria left a path of destruction

as it crossed Puerto Rico. One of the hardest impacted was the central mountain region of Utuado where it took 10 days for local assistance and 42 days for federal assistance to arrive (Rodrigues, 2021). The region, however, has a community organization called COSSAO led by a dynamic local leader and deeply invested community members. For decades, COSSAO has been working with seven barrios in Utuado who have been historically underserved by the government and external aid (Rodrigues, 2021). The destruction of Hurricane Maria was the tipping point for community action (Holladay et al., 2019). Deeply frustrated by the lack of assistance after the hurricane, COSSAO and its members began rebuilding in a way that they had control of and was both resilient and sustainable.

### ***Theoretical Implications***

When framed from a social-ecological resilience perspective, this community renaissance in Utuado, Puerto Rico is a model of success. Why? Because it had post-hurricane crisis planning that included future proofing resources, entrepreneurship opportunities for change. Additionally, there were emphases on building healthy social and natural capital, economic diversification, strong leadership, and community-based (agri)tourism development. Theoretically, this type of post-hurricane crisis planning can be reflected towards COVID-19 pandemic responses and crisis responses in general. Here is a real point of emphasis. In Utuado, in order to mitigate a future system collapse they chose to, for example, go “off-grid” (no reliance on municipal utility failures after a hurricane hits), took on their own health care (no reliance on external medical assistance that may not be able to reach the area), and self-organized (no reliance on external management or government to slow down response actions). Furthermore, the community members are expanding the use of agribusiness, resilient food cropping

(e.g. breadfruit *Artocarpus altilis*) solar, well water and other interventions throughout the communities to build resilience in the region.

### ***Practical Implications***

Local management interventions included rebuilding a collapsed bridge and aqueduct, building the only community health clinic in the area with solar power and well water, strengthening food security through resilient crops and agroecological farming, and diversifying community revenue streams with new agritourism development (Holladay et al., 2019). The anchor for agritourism is a venture called Hacienda Rullan in the barrio of Tetuan. This socioeconomic community agritourism development initiative includes a re-imagined 1960’s era coffee roasting facility that will house a tourism information center, heritage museum and café (Figure 1), a demonstration coffee farm and guest lodging (Holladay, et al., 2019).

**Figure 1. 1960’s era coffee roasting facility in Tetuan, Utuado, Puerto Rico**  
(own source)



The project is currently being used as a food distribution hub in response to COVID-19 and will also build on local health and well-being through agro-therapy, provide tourism workforce training, create jobs and build a network of partners to strengthen social and natural capitals in the region.

## Conclusions

The world needs to take this “opportunity” presented by COVID-19 to shift towards more inclusive and wide-spread social well-being (Lambert, et al., 2020). This shift could enable the tourism industry to disentangle itself from unsustainable practices (Ioannides & Gyimothy, 2020) and become more creative, more innovative, more peaceful, more inclusive, and more resilient moving into the future (Lew et al., 2020). This engenders hope in the face of COVID-19’s impacts on tourism (Mostafanezhad, 2020) and an urgency to not return to a pre-pandemic status quo (Nepal, 2020). Post-coronavirus tourism should be approached in a way to support local communities within a system that could be resilient, creative, adaptive and transformative in nature.

Recent research on natural disaster response (Estevao & Costa, 2020) indicated that planning, trust and cooperation were all important approaches for resilience. Further, flexibility (Yeh, 2021) and innovation (Kristiana, Pramono & Brian, 2021) have been shown as successful strategies for dealing with COVID-19 impacts. In this paper, the example from Utuado, Puerto Rico was presented. This initiative is actively developing long-term benefits, social, economic and ecological, to local communities and people. What is happening in Utuado is enhanced resilience, wherein experimental adaptive management interventions help the system build resilience. In other words, they are continuing to innovate and experiment with new interventions and innovations.

## Limitations and Future Research

The main limitation is that this research note relies on observational data. The research team will be collecting further

data, both quantitative and qualitative. Future research will include understanding the agritourism system to include all relevant actors, policies, incentives, challenges, assets, unique qualities, opportunities for innovation and leverage points. Other work will include conducting a community-based visioning process for a shared vision of agritourism and its contribution to agricultural sustainability and resilience. Complementary to this will be co-creating strategies with farmers to develop their agritourism products and services on their farm.

## Acknowledgements

This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number LS20-339 through the Southern Sustainable Agriculture Research and Education program. USDA is an equal opportunity employer and service provider.

**Publisher’s Note:** The views and opinions expressed in this article are those of the authors and do not necessarily reflect the Sustainability and Resilience Institute New Zealand official policy. The institute remains neutral about jurisdictional claims in published maps and institutional affiliations.



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### Author profile



Dr. Patrick J. Holladay is an Associate Professor in the School of Hospitality, Sport and Tourism Management at Troy University. His research focuses on sustainability, resilience, and community development. His work is conducted largely through the lens of tourism but crosses into areas like culture/heritage, agriculture, food security, natural resources and faith/spirituality. He has worked in tourism, conservation, environmental education, national park management, sustainability and community development in Eastern Europe, the Caribbean, Central and South America, and Southeast Asia as well across the United States.

### Author profile



Dr. Pablo Méndez-Lázaro is currently an Associate Professor at the Department of Environmental Health of the University of Puerto Rico, Graduate School of Public Health. Pablo is currently PI and Co-PI on NASA research projects exploiting new technologies in ways that benefit all segments of socio-ecological and technological systems by applying Earth Observing Data and Remote Sensing to research on public health and vulnerable populations. Recently he has been invited by the US Global Change Research Program to serve as the Chapter Lead for the US Caribbean Chapter of the Fifth National Climate Assessment (NCA5).

### Author profile



Katja Brundiers is a Clinical Assistant Professor at the School of Sustainability, College of Global Futures at Arizona State University. Katja studies how individuals bring about change for sustainability in disaster contexts, specifically how they leverage windows of opportunity to initiate long-term sustainability transitions. Drawing on these insights, she explores how to design professional education that integrates education for sustainable development and disaster management to advance resilience. Her research on disasters and sustainability took place in Sri Lanka (2006), Indonesia (2014) and New Zealand (2015).