

CONVERGE COVID-19 Working Groups for Public Health and Social Sciences Research

Research Agenda-Setting Paper

This paper was written to help advance convergence-oriented research in the hazards and disaster field. It highlights areas where additional research could contribute new knowledge to the response to and recovery from the pandemic and other disasters yet to come. Questions about the research topics and ethical and methodological issues highlighted here should be directed to the authors who contributed to this paper.

Working Group Name:

Agricultural Resiliency and Sustainable Rural Livelihoods in Puerto Rico

Working Group Description:

Our Working Group aims to strengthen farmers and farmworkers households' adaptive capacity in emergency management in rural Puerto Rico. Given that community health centers are amongst first responders in a disaster, this Working Group will work with them to build their capacity on serving farmer and farmworker's households. Considering farmers and farmworkers' exposure and sensitivity to constant shocks—after Hurricanes Irma and Maria in 2017, Puerto Rico faced droughts, earthquakes, and a pandemic—our Working Group is determined to increase the understanding of compounded shocks and emergency management in rural Puerto Rico. We strive to collaborate with community leaders, agricultural households, and community health centers through the development and facilitation of participatory emergency management plans.

Priority Research Topics and Specific Research Questions:

Priority Research Topics	Potential Research Questions
1. Compounding disasters faced by farmer and farmworker's households in rural Puerto Rico: Hurricanes, earthquakes, and the COVID-19 pandemic.	<ul style="list-style-type: none"> • <u>Research Question 1</u>: Do households' needs for effective emergency management vary by disasters? • <u>Research Question 2</u>: What were the main impacts faced by households during each emergency? • <u>Research Question 3</u>: What barriers are households facing to prepare for the 2020 hurricane season in relation to the COVID-19 pandemic and the Puerto Rico government's restrictions on movement? • <u>Research Question 4</u>: What assets (or capitals) do farmer and farmworker households have available to better prepare, respond, and recover from shocks?

<p>2. Farmer and farmworker households' food security outcomes during the COVID-19 pandemic in rural Puerto Rico.</p>	<ul style="list-style-type: none"> • <u>Research Question 1</u>: What are rural Puerto Rican farmer and farmworker households' food security levels during the current COVID-19 pandemic? • <u>Research Question 2</u>: How have food access barriers differed or remained the same after Hurricanes Irma and Maria, the 2020 earthquakes, and the pandemic? • <u>Research Question 3</u>: To what extent farm characteristics, such as agro-diversity, land tenure, and other livelihood assets (e.g., social networks) relate to food access during the pandemic? • <u>Research Question 4</u>: How has households' food acquisition been affected by the Puerto Rico government's restrictions?
<p>3. Health needs of farmer and farmworker households' in rural Puerto Rico.</p>	<ul style="list-style-type: none"> • <u>Research Question 1</u>: What barriers have farmer and farmworker households faced in accessing healthcare and medicines during the pandemic? • <u>Research Question 2</u>: What are the specific health services households are lacking in the area they live? • <u>Research Question 3</u>: What are households' healthcare needs, and how that compare to other areas in Puerto Rico?
<p>4. On-farm management and decision-making during the COVID-19 pandemic in rural Puerto Rico.</p>	<ul style="list-style-type: none"> • <u>Research Question 1</u>: What strategies have Puerto Rican rural farmers and farmworkers employed to subsist and maintain their operations during the ongoing COVID-19 pandemic?
<p>5. Networks, resources, and sustainability of efforts</p>	<ul style="list-style-type: none"> • <u>Research Question 1</u>: What networks and resources are available for farmers and farmworkers to depend on before, during and after a disaster? • <u>Research Question 2</u>: Are grassroots and organic community networks sustainable and effective when implemented during different emergencies?

Ethical / Methodological Considerations:

Our Working Group is focusing on the intersections of disaster research, emergency management, and sustainable agriculture to build capacity amongst farmer and farmworker households and the community health centers that serve these groups in rural Puerto Rico. In this changing climate, the Caribbean islands are expected to experience more frequent and stronger droughts and hurricanes. Notwithstanding that some islands are susceptible to earthquakes, volcanoes, and tsunamis. Puerto Rico, which is going through a socioeconomic crisis, was still recovering from Hurricane Irma and Maria when earthquakes hit the southwestern part of the main island in January 2020. This became more complicated as the COVID-19 pandemic and associated government restrictions started in March 2020, which were then soon followed by preparations for the 2020 hurricane season. As such, emergency management plans should be developed through participatory means, and consider compounding disasters. Following this, our Working Group is grounded on the Extension for Community Healthcare Outcomes framework (The ECHO model™), which guides participatory emergency management plans. We aim to contribute to conversations on the development of methodologies that are participatory, intersectional, and culturally appropriate.

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