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## Community health promotion and disaster recovery: a PhotoVoice project in Comerío, Puerto Rico

Mark Padilla<sup>a</sup>, Samuel Olah<sup>a</sup>, Armando Matiz<sup>a</sup>, Janice Soliván-Roig<sup>b</sup>,  
Josely Bravo González<sup>c</sup>, José Frau Canabal<sup>c</sup>, María J. Rodríguez Torrado<sup>c</sup>,  
Emmanuel Rivera Méndez<sup>c</sup>, N. Emel Ganapati<sup>d</sup>, Divya Chandrasekhare<sup>e</sup>, Ivis García<sup>f</sup>  
and Robert B. Olshansky<sup>g</sup>

<sup>a</sup>Global and Sociocultural Studies, Florida International University, Miami, FL, USA; <sup>b</sup>Casa Juana Colon, Comerío, Puerto Rico; <sup>c</sup>Social Sciences Department, University of Puerto Rico Medical Sciences Campus, San Juan, Puerto Rico; <sup>d</sup>Public Policy and Administration, Florida International University, Miami, FL, USA; <sup>e</sup>Department of City & Metropolitan Planning, University of Utah, Salt Lake City, UT, USA; <sup>f</sup>Landscape Architecture and Urban Planning, Texas A&M University, College Station, TX, USA; <sup>g</sup>Department of Urban & Regional Planning, University of Illinois at Urbana-Champaign, Urbana-Champaign, IL, USA

### ABSTRACT

**Background:** PhotoVoice – a series of workshops involving participatory photography and narrative-building – was employed in the rural town of Comerío, Puerto Rico (PR) to describe disaster recovery in a rural setting and foster policy dialogue.

**Methods:** Using PhotoVoice workshops and ethnographic observations, the project describes how women affiliated with a local community-based organization described the priorities for disaster recovery in visual images and narratives. We draw analytically upon theories of intersectionality and coloniality to describe socio-structural and community factors that shape community health in the context of ongoing disasters.

**Results:** Analysis indicated that gender and generational differences are key intersecting factors that mediate adaptation to disasters in this setting.

**Conclusions:** The project, which has already shown impacts on local policy decisions, demonstrates the possibilities of using PhotoVoice to foster community-driven crisis responses and policy dialogue that can shape health promotion and disaster recovery responses in PR and elsewhere.

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## Introduction

Numerous scientific and journalistic accounts of Puerto Rico (PR) have argued that the accumulation of economic woes and natural disasters (hurricanes, earthquakes) on the island have exposed fundamental contradictions of the island's status as a colony (technically, a "territory") of the United States (Bonilla & LeBrón, 2019; Borges-Méndez & Caron, 2019). Despite federal investment in the island, the US government's support is always contingent, subject to political debates on the mainland, and lower than almost any

comparable measure of fiscal or disaster-recovery support provided to even the poorest US states (Park, 2021). The resounding critiques of FEMA (the US's Federal Emergency Management Agency) following Hurricane María are a case-in-point: federal response to the island's multiple emergencies has been slow or absent, and local community organizations and mutual aid initiatives have taken up the slack during recent disasters such as María (J. Cortés, 2018; Padilla et al., 2022).

One of the consequences of PR's converging crises is the dramatic loss of the island's resident population due to immigration to the mainland US. Having witnessed at least 500,000 residents relocate to the US between 2010 and 2020 – trends that accelerated after María (D. Z. Rivera, 2020) – the island's demographic profile has shifted dramatically upward in age distribution (Matos-Moreno et al., 2022). Between 2010 and 2022 the old-age dependency ratio (number of individuals aged 65 and over per 100 people of working age) grew from 22.5% to 35.5% in PR (U.S. Census Bureau, 5-year estimates 2022). The elderly have been subject to increasing vulnerabilities as a result. In 2021, for example, thirty-eight percent (38%) of Puerto Ricans sixty-five years and older reported to be below the poverty line, a fact aggravated by the impact of disabilities, which are twenty-seven percent (27%) for this age group (U.S. Census Bureau, 1-year estimates 2022). Among the elderly with any disabilities, thirty-two percent (32%) suffer from ambulatory difficulties and 25.5% experience independent and/or self-care difficulties (U.S. Census Bureau, 5-year estimates 2022).

The rising median age of the population is accompanied by decaying or abandoned vital infrastructure (García-López, 2018) and growing crises of access to health care due to the mass emigration of physicians to the mainland (Y. I. Cortés et al., 2022). While these trends are linked to the acceleration of major climatic events, social scientists have pointed out that their roots extend back to the much longer history of colonial relations that have undermined the country's capacity to respond effectively to structural deficiencies in a wide range of sectors (Bonilla, 2020). These trends, along with economic decline, have been particularly evident in rural PR, since internal migratory patterns and post-disaster structural investment have favored urban areas of PR such as San Juan (Chopel et al., 2021).

As has been described in numerous global settings, in the context of the rapid acceleration of emigration, local communities and households often respond to resulting structural constraints by further relying on women (Clissold et al., 2020; Fothergill, 1996). While multinational bodies such as the United Nations have urged disaster policy reforms to address gender in Disaster Risk Reduction (DRR) initiatives globally (United Nations International Strategy for Disaster Reduction, 2009), there is insufficient research on how local gender dynamics articulate with the disaster recovery process. Such is the case in Comerío, PR, a rural mountainous community formerly founded by tobacco farmers and small-scale agriculturalists, but which now faces a demographic transition toward aging-in-place under conditions of structural disinvestment, flooding, landslides, regular blackouts, and decaying infrastructure.

An emerging body of literature addresses how gender intersects with social capital in disaster settings (Ganapati, 2012, 2013; Nakagawa & Shaw, 2004, J. D. Rivera & Nickels, 2014). While feminist critiques within disaster studies have long pointed to the gender hierarchies that shape women's vulnerability during disasters (Enarson et al., 2007), cross-national research demonstrates that women are often positioned at the nexus of multiple

social, economic and caregiving networks that can be leveraged in disaster situations to adapt to acute and prolonged recovery processes and their health sequelae. Women's involvement in grassroots, gender-based organizing has been acknowledged as a source of resilience (Enarson et al., 2007), but there is a need for practical case studies that illustrate how women's strengths can be leveraged and their voices amplified to contribute to disaster resilience and health promotion.

Through a collaboration with a local non-profit community organization (*Casa Juana Colón*), which works on a range of community concerns from a gender perspective, our team conducted a participatory PhotoVoice project in 2022 and 2023 to document and describe community responses to disaster and recovery in Comerío. The project sought to examine how a group of twelve (12) women volunteers critically assessed the priorities, needs, and potential solutions for community recovery in the context of disasters and an aging population. The visual method of PhotoVoice, incorporating photographs and narratives generated by participants themselves, was an ideal means to leverage local women's expertise and creativity, and resulted in a traveling gallery that has been exhibited in multiple sites both within PR and internationally (Realities and Dreams in Comerío, 2022), reaching local, municipal, national and international audiences. As will be discussed further below, the gallery has impacted local health promotion priorities and public use of space, marking a shift towards greater community participation and outreach to policymakers through arts-based initiatives.

In this article, we analyze themes emerging from participants' photographs and narratives, conduct visual analysis of representative images, and draw upon ethnography to reflect on the use of participatory visual methods such as PhotoVoice in identifying policy solutions to address rural conditions in PR. We focus particular attention on the central themes emerging from the project related to the intersection of gender and age. While this intersection places a particular strain on women, it unfolds within a broader context of PR's colonial status and the resultant constraints on disaster preparedness and recovery, which increasingly rely on families and communities to fill the gaps resulting from broader structural abandonment.

## Background

Comerío is an ideal site for a participatory community study of health and disaster recovery because it represents many of the vulnerabilities faced by rural mountainous communities in PR, as well as a history of community activism and policy advocacy. Comerío was founded in the early nineteenth century in the site of a colonial hacienda. Like tobacco growers in other parts of the highlands, *comerieños* organized to take advantage of the opportunities that tobacco could provide in the aftermath of U.S. occupation in 1898 (Levy, 2015). By the early 20th century, the town had electricity provided by a dam and a handful of flourishing tobacco processing factories.

The struggle for workers' and women's rights grew in the early-to-mid-twentieth century as a result of cycles of tobacco expansion and contraction, unfavorable local conditions, shifting consumer trends, and global economic forces (Levy, 2015). Strong antecedents of community mobilization in Comerío are reflected in the life story of one local woman, Juana Colón, after which *Casa Juana Colón* (founded in 2004) is named. Born into a coffee-growing hacienda in 1886 of formerly enslaved parents,

Juana Colón worked as a laundry woman and fought alongside tobacco workers, gaining prominence in the 1919 Cigar Workers Strike. Juana is remembered for her healing abilities, commitment to community solidarity, and use of social networks to advocate for administrative and policy changes. By taking her name, Casa Juana Colón intends to improve living conditions in Comerío through a female memory of self-reliance and community participation.

One of the town's primary contemporary challenges involves the loss of health care personnel. By the end of 2018 there were 105 designated health provider shortage areas (HPSAs) in PR (Chandra et al., 2021); this number had risen to 130 by 2021. By 2021, Comerío had three designated HPSAs for each of these areas of care, indicating it suffered from extreme health care access challenges. Its dental and mental health-care providers were ranked 23/26 and 21/26, respectively, in terms of priority for assignment of clinicians (U.S. Department of Health Services, Human, 2023). Most strikingly, they had received their designation as HPSAs in 2002, yet little had been done to address these access challenges (U.S. Department of Health Services, Human, 2023).

Reflecting broader trends in rural PR, Comerío experienced a population decline of nine percent between 2010 and 2020 (U.S. Census Bureau, 2010; Decennial Census and 5-year estimates 2022). This is complicated by a demographic scenario in which eighteen percent of the population of Comerío is aged sixty-five or over and more than half of households (fifty-two percent) have people aged sixty or over (U.S. Census Bureau, 5-year estimates 2022). In addition, nearly half (forty-nine percent) of those between sixty-five and seventy-four have some kind of disability, with self-care and ambulatory difficulties being the most common.

Comerío's median annual income is fifteen percent below the national average of \$24,667 and compares poorly to neighboring municipalities. Unemployment is nearly quadruple the national average (25.9 vs. 6.7). Women and elderly are the most affected by economic vulnerabilities, as more than half of the population below the poverty line (fifty-three percent) is female, and of people aged sixty-five and older, forty-five percent are also below the poverty line (U.S. Census Bureau, 5-year estimates 2022).

Rather than disconnected compounding events, the waves of disaster faced by PR are the product of colonial disinvestment, which magnifies vulnerabilities such as gender and age. The colonial status of PR in times of extreme climate events has resulted in the normalization of "slow emergency" – an ongoing state of disaster with woefully inadequate government response (Padilla et al., 2022). In Comerío, two predominant forms of such normalization involve the loss of healthcare services and the US's initiatives to relocate local populations deemed to be living in zones of high disaster risk.

Concerned mainly with risk management, the US's relocation and rebuilding initiatives do not commonly address the present nor future health needs of an aging and resource-poor community. In these policies, which discursively rely on mainstream understandings of community resilience, health promotion usually comes as an afterthought emerging from economic development once the community is relocated. For aging rural communities like Comerío, marked by reduced medical and care personnel, promoting health has not been prioritized in recovery efforts (Varas-Díaz et al., 2023). In this broader structural context, women who have remained in Comerío are shouldering the increasing care needs of their families and a growing vulnerable aging population while facing relocation

policies and a loss of medical providers. This socio-historical setting is the foundation for the voices that emerged in the PhotoVoice project.

## Research approach and methodology

Participatory photographic approaches have often been used to describe and critically assess the social context of health inequalities and in needs assessment (Bourgois, 2009; Graham et al., 2013; Harley, 2015; Helm & 2015; Mmari et al., 2014). "PhotoVoice", a structured approach to community-based photography (C. C. Wang, 1999; C. Wang & Burris, 1997), combines critical reflection and the use of captioned photographic imagery to provoke policy dialogue and community self-advocacy. It also fosters collective awareness of broader political-economic and social factors that shape everyday experience (C. C. Wang, 1999).

PhotoVoice adapts Freirian principles of "praxis" (Freire, 1993) to reframe community concerns as fundamentally problems of social structure and invites participants to take an active role in addressing these problems through targeted social and policy analysis. The method has been used in a variety of ways in health-related research and practice (Graham et al., 2013; Harley, 2015; Mmari et al., 2014; Padilla et al., 2019; C. Wang & Burris, 1997). For this project, PhotoVoice was considered as a potential method by the project PIs due to the history of community activism in Comerío; the preexisting interest of the staff and volunteers at Casa Juana Colón in arts-based and creative initiatives; and because the women leaders who participated in the project requested strategies to amplify their voices and develop policy solutions from the ground-up, in the spirit of their founder. Given these contextual conditions, the investigative team offered PhotoVoice training and workshops to 12 women leaders. Upon their acceptance, we conducted PhotoVoice workshops between May and August 2022, and ongoing collaboration on resulting exhibitions extending until the time of this writing.

In addition to a launch and month-long curation at Comerío's *Casa de la Cultura*, the project has been presented or displayed at: Casa Juana Colón; four health promotion and disaster recovery conferences in Puerto Rico and Portugal; the Health Sciences Campus of the University of Puerto Rico; amongst community-based organizations in Miami, Florida; and at Florida International University. A brief video summarizing the project has been circulated online and via social media outlets.

The study protocol was approved by the Institutional Review Board at Florida International University (Protocol #111853). Participants' status as existing clients of this non-governmental organization assisted us in maintaining contacts with these individuals over the course of the project. These activist-artists participated in PhotoVoice workshops at Casa Juana's offices led by Dr Matiz-Reyes – a researcher on our FIU-based team with many years of experience working with vulnerable populations and a skilled community facilitator who had conducted numerous prior PhotoVoice projects with Latino populations (Graham et al., 2013; Padilla et al., 2019; Witkowski et al., 2021). Doctoral students from the University of Puerto Rico's Graduate Program in Public Health co-facilitated sessions and contributed to ethnographic notetaking of all sessions, under the guidance of lead investigator Padilla.

Ten (10) three-hour collaborative workshops were held in a large community multi-purpose room at Casa Juana Colón. Through 3 months of regular meetings and

participatory co-learning discussions in 2022, activist-artists met with our team to learn about photographic techniques, ethical procedures, captioning, policy mapping, the selection of images to create a story, and the logistics of developing an exhibit. Approximately 40 pictures were chosen representing a wide range of scenarios, following analytic, ethical, policy and artistic criteria established by the group. Importantly, participants decided to select images and create interpretations for them collectively, prioritizing the group's mission of social and policy change over the original intentions of the individual photographer. While the photographer's intentions were thoroughly discussed in collective discussions, selection of images for the final exhibition and captioning was done collectively and based on a process of consensus-building. For this reason, our analysis in this paper highlights the collective decisions of the larger group, rather than the motives or intentions of individual artists.

The ethnographic method of participant observation was incorporated into the research approach to document the process of community health promotion through PhotoVoice and to conduct targeted, informal policy maker interviews at exhibitions and during subsequent interactions with community leaders as they occurred naturally. Ten PhotoVoice exhibitions conducted to date were well attended by policy makers and community leaders representing government, public health, disaster recovery, non-governmental organizations, and academia. Interactions with and observations of these audiences were intended to provide an additional source of ethnographic data on the impact of the project on broader health promotion decision making affecting Comerío. Ethnographic notes were taken by the first author and five doctoral student research assistants during PhotoVoice sessions, exhibitions, and community outings, including interactions with policy makers. These notes, capturing verbatim speech whenever possible, were thematically coded using NVivo software. Four team members employed open coding to identify the most significant themes, focusing on three broad domains: 1) Perceived challenges of the community in responding to disasters and health needs; 2) Proposed responses to these challenges, including policymaker perspectives and decision-making, and 3) Social interactions and dynamics during the ten PhotoVoice workshops held in Casa Juana Colón. A focused codebook was created to identify, organize, and relate themes within these domains. The emergent, grounded meta-theme of the intersection of gender and aging was also used to code textual data. The coded data was discussed between team members in regular analytic meetings, and excerpts illustrating them were organized and selected for presentations and publications. For this analysis, we explore the responses of the community in the context of vulnerabilities related to gender, aging, health, and access to services, which were among the central themes of the study.

## Results

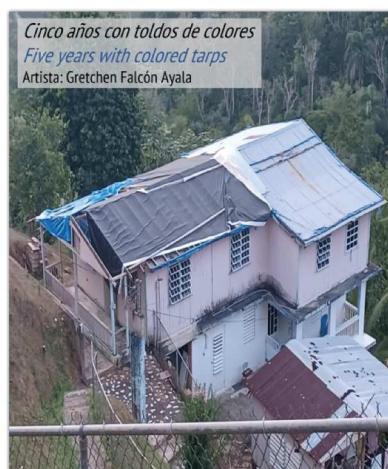
In this section, we present six of the twenty-four (24) images selected by the team of activist-artists to represent the themes they identified for the PhotoVoice gallery. Along with their titles and captions, the photographs express key domains identified by the participants to promote reflection, inform policy discussions, and foster health promotion initiatives. Additionally, they encapsulate narratives linking individual and collective experiences and needs pertaining to greater community engagement, housing, transport,

education, water, and health promotion. The images we include do not exhaust all the themes explored by the team. For brevity, we include the images along with their titles and descriptions in Spanish and their English translations.

### **Normalized infrastructural vulnerabilities**

The activist-artists selected images representing environmental risks, challenges, and health vulnerabilities the community confronts on a quotidian or routine basis. These images and their often-poignant titles fuse testimonies of the lingering burden of environmental disasters on access to safe housing, transport, education, water, and health promotion and care. But they also draw attention to the ways that structural deterioration has been normalized to the point of invisibility, requiring critical visual practices to reveal them.

*Five years with colored tarps* (Figure 1) exemplifies how even a half-decade after hurricane María, many working-class residences still lack proper roofing. The title calls attention to the extended timeframe for federal assistance programs, for which the blue tarps have become a visible (but now quite familiar) reminder of the near total abandonment by public safety-net programs such as FEMA. The colored tarps familiar to inhabitants of Comerío represent the aggravated impact suffered by lower-income residents and are a call to expand government programs for recovery. The pervasiveness of tarps in the town, and throughout much of PR, is revealed by the photographer's vantage point



**Descripción:** Cinco años después del huracán María, muchas residencias de la clase trabajadora aún continúan con toldos azules.

**Alternativas:** 1. Crear comités de barrios que representen y comuniquen sus necesidades para presentarlas en espacios públicos. 2. Ampliar la cobertura de programas del gobierno para trabajadores con bajos ingresos que viven con techos de colores.

**Description:** Five years after Hurricane María, many working-class residences still have blue tarps.

**Alternatives:** 1. Create neighborhood committees that represent and communicate their needs to present them in public spaces. 2. Expand coverage of government programs for low-income workers living with colored roofs.

**Figure 1.** PhotoVoice gallery image: *Five Years with Colored Tarps*.

from above, making visible what has become quotidian in the extended disaster recovery process. Indeed, our fieldnotes taken during the co-learning workshops and the launch event emphasize the revelatory power of images to render visible what is often unseen by residents, despite their proximity to such issues. Participants repeatedly marveled at how the project “opened their eyes” to community conditions that they were unable to see before.

During the training workshops, the volunteer leaders expressed concerns about housing relocation programs, commenting that the most remote neighborhoods of Comerío are often left out of community improvement initiatives but simultaneously targeted for relocation due to their location in “high disaster risk” zones. The fact that families continue to live in such zones without any intention of leaving, however, was a reality repeatedly expressed. In a key informant interview, a female community leader expressed to our team that there was an open secret that policy makers refuse to acknowledge: local residents are highly resistant to being relocated from their families’ historical homes and will likely return to them even if they are targeted for relocation. Thus, concerns about access to these abandoned remote areas were portrayed in multiple photographs, particularly from the neighborhood of El Cielito, which the activist-artists toured with the team of ethnographers.

**Figure 2**, *My life step by step*, represents how older homes in such neighborhoods are at particular risk, often accessed via a single staggered access road or path in areas prone to landslides. As throughout PR, many residents inhabit houses that were built



**Descripción:** Familias que viven en hogares de muchos años, cuentan con una alta probabilidad de experimentar derrumbe y deslizamiento; solo dependen de una vía de acceso.

**Alternativas:** 1. Mejorar accesibilidad por medio de construcción de rampas. 2. Identificar áreas para establecer otras vías de entrada al hogar.

**Description:** Families living in homes of many years, have a high probability of experiencing collapse and landslide; they only depend on an access road.

**Alternatives:** 1. Improve accessibility by building ramps. 2. Identify areas to establish other routes of entry into the home.

**Figure 2.** PhotoVoice gallery image: *My Life Step by Step*.

without official permits and therefore without regard to hazard mitigation policies. The memory of settlement by previous generations is still present; residents occupy available lots and build homes that expand cross-generationally as households grow, as our fieldnotes on conversations with local residents indicate. There is a strong attachment to place associated with houses that were built through hard work and sacrifice over years, which is a much stronger motivation to stay than being relocated to a presumably “safer” zone. Nevertheless, the daily adversities that residents face without ramps are often ignored by policy makers and are only addressed in situations of extreme hazard, if at all, as [Figure 2](#) suggests.

Moving around the mountainous geography of Comerío affects the elderly in particular. The emergency pedestrian path pictured in [Figure 3](#) has fallen into disrepair due to lack of maintenance, to the detriment of seniors, especially those with mobility issues. Many inhabitants must climb through narrow passages to access their homes. The volunteers recalled the unsettling experiences of obtaining emergency medical help through these tapering alleyways, some of which could be obstructed by fallen posts or vegetation. The leaders portrayed not only the infrastructural and financial needs to improve accessibility and safety, but also the involvement of community members themselves. Thus, [Figure 3](#) calls for the collaboration between different members of the community, the municipality, and homeowners to educate the public on maintenance. This image underscores the role of self-management and grass-root initiatives in leading and empowering disaster recovery and improving accessibility, such that the community assumes leadership in safeguarding the elderly.



**Descripción:** Camino peatonal de emergencia destruido por falta de mantenimiento afecta la accesibilidad física y calidad de vida de adultos mayores.

**Alternativas:** 1. Crear alianza entre dueños, comunidad y municipio para mejorar el acceso. 2. Orientar a la comunidad sobre cómo responsabilizarse de sus propiedades. 3. Llevar a cabo proyecto de autogestión comunitaria para limpiar y arreglar caminos.

**Description:** Emergency pedestrian path destroyed due to lack of maintenance affects physical accessibility and quality of life for older adults.

**Alternatives:** 1. Create an alliance between owners, community and municipality to improve access. 2. Guide the community on how to take responsibility for their properties. 3. Carry out a community self-management project to clean and repair roads.

**Figure 3.** PhotoVoice gallery image: *Neither Plan A, Nor Plan B*.

### **From abandonment to hope: community health promotion**

The PhotoVoice gallery showcases narratives of the desertion of public spaces that has overtaken Comerío in the aftermath of disaster. Hovering as a common theme in many of the images, physical and moral abandonment intermingles with aspirations of improvement and hope. *Where did the learning go?* (Figure 4), asks one image of an abandoned school closed since the impact of hurricanes Irma and María in 2017. In the aftermath of its damage, some schools and recreational areas had to be closed due to safety concerns. As stated in the caption, these spaces can become areas compromising security and where substance use occurs. However, the activist-artists decided to portray in these images the potential for recovery and hope. Aware of the need to assess damages and evaluate possible new uses of space, the artists see the opportunity to turn abandonment into solutions to promote community health, such as housing for Alzheimer's patients and the headquarters of Community Security (Figure 4).

Our fieldnotes highlight how for participants, the invisibility of these under-utilized and decaying zones can become an opportunity for advancement if the community participates in "auto-gestión" (mutual aid or collective advocacy). For instance, during one workshop in which solutions for mobility issues among the aging population were being discussed, one participant mentioned that "we have normalized living like this, but we need to visibilize these situations. We have the solution in our hands. We are the leaders of what happens in the community." The ethnographer noted, "the rest of participants immediately assented by clapping or simply nodding." In the spirit of Juana



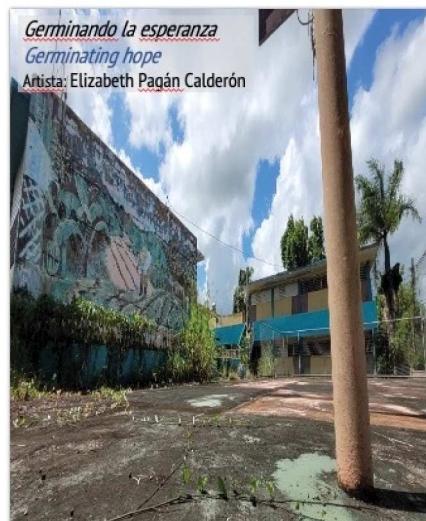
**Descripción:** Escuela abandonada a causa de los cierres ocurridos en el 2017 representa inseguridad para la comunidad por la incidencia criminal relacionada al consumo de drogas.

**Alternativas:** 1. Evaluar posibles daños ocasionados por los huracanes Irma y María, y los terremotos por la condición de "columnas cortas". 2. Reutilizar la escuela como Cuartel Municipal y Seguridad Comunitaria de inmediato. 3. Evaluar su utilización como centro de atención para adultos mayores o complejo de vivienda para pacientes de Alzheimer.

**Description:** School abandoned due to the closures that occurred in 2017, it represents insecurity for the community due to the criminal incidence related to drug use.

**Alternatives:** 1. Assess possible damage caused by hurricanes Irma and María, and those associated with earthquakes due to the condition of "short columns". 2. Reuse the school as Municipal Headquarters and Community Security immediately. 3. Evaluate its use as a care center for the elderly or a housing complex for Alzheimer's patients.

**Figure 4.** PhotoVoice gallery image: *Where did the Learning Go?*



**Descripción:** Zonas recreacionales abandonadas con potencial riesgo de convertirse en "hospitalillos" o espacios de consumo de drogas.

**Alternativas:** 1. Realizar un diagnóstico comunitario participativo que permita visibilizar las situaciones que afectan la salud de la comunidad. 2. Reutilizar las facilidades como una cooperativa o empresa comunitaria agrícola. 3. Desarrollar centro educativo continuo de talleres diversos para todas las edades.

**Description:** Abandoned recreational areas with a potential risk of becoming "little hospitals" or spaces for drug consumption.

**Alternatives:** 1. Carry out a participatory community diagnosis that makes it possible to make visible the situations that affect the health of the community. 2. Reuse the facilities as a cooperative or community agricultural enterprise. 3. Develop a continuous educational center with diverse workshops for all ages.

**Figure 5.** PhotoVoice gallery image: *Germinating Hope*.

Colón herself, these women advocated for mobilizing their own and their community's capacity for autonomous action while also pressing for public sector accountability.

In *Germinating hope* (Figure 5), it is precisely a call to the participation of the community to "diagnose" potential new uses for a derelict recreational area that have a direct role in promoting health. With a mural of the agricultural roots of Comerío as backdrop, vegetation sprouts and takes over the basketball court. The accompanying caption provides a resilient counter-narrative to the image of decay, suggesting that a space that potentially serves as a new hotspot for drug use could be converted into a new education center or a farmers' cooperative. The activists find hope for a just and inclusive recovery in many abandoned structures like this. In thinking through alternative uses for closed recreational and educational facilities, the activists highlighted the promotion of community health and wellbeing rather than reactive, individualized interventions for disaster preparedness.

In their pictures and narratives during PhotoVoice sessions, the activist-artists reiterated the challenges of a declining sense of belonging in the context of structural crisis, but also emphasized the need to hold the authorities accountable through systemic community pressure. As fieldnotes and several of the alternatives proposed by activists in their photographs indicate, ensuring that local and national authorities leverage resources and expand policies to attain an equitable recovery can only be achieved through community engagement, monitoring progress, and collective advocacy.

This is illustrated by our team's ethnographic note documenting an intervention from one of the participants regarding the importance of using the PhotoVoice project and their collective political power to advocate for disaster recovery support that they deserve:

We want a just recovery, and participation to transform spaces is vital. Communities can demand that this is accomplished. Casa Juana Colón has been, for a long time after María, advocating for our participation in the recovery initiatives. Even if they're federal funds like FEMA they are Puerto Rican funds. We pay them through mortgages. Hence, we have the right to claim. In reality, politicians use them to gain votes. In Casa Juana they're needed for health care and housing, and we have a gender perspective. Women as care takers and children are the most vulnerable. We need to fiscalize and put pressure on politicians to make sure they do what they are supposed to do. (6.1.22)

Indeed, many images delve into the memories of life before disaster that express nostalgia for a time of characterized by social integration, solidarity and belonging. For example, one activist-artist captures her now closed primary school and yearns for its "rescue" (Figure 6), evoking melancholy for her younger years in school. Passing by on a daily basis with a friend – both of whom participated in the PhotoVoice project – she wonders when they will be able to go back to the school. The image of a bright day and a flower facing the school transmits the hope of maintaining and adapting the space to store resources and kits for environmental emergencies.



*El rescate de la escuela María C. Huertas*  
*The rescue of the María C. Huertas School*  
Artista: Sockie Martínez Fernández

**Descripción:** Escuela elemental cerrada protegida y vigilada por la comunidad con la esperanza que algún día se pueda reabrir.

**Alternativas:** 1. Convocar a ex alumnos, voluntarios y municipio para rehabilitar el espacio como centro de acopio para emergencias. 2. Idear acceso a recursos mediante alquiler de salones y brindar tutorías mediante propuestas al estado.

**Description:** Closed elementary school protected and watched over by the community in the hope that one day it can be reopened.

**Alternatives:** 1. Summon former students, volunteers and the municipality to rehabilitate the space as a collection center for emergencies. 2. Devise access to resources by renting rooms and providing tutoring through proposals to the state.

**Figure 6.** PhotoVoice gallery image: *The Rescue of the María C. Huertas School*.

## ***Intersections of gender and age in ethnographic observations***

*(Ethnographic fieldnote excerpt, Casa de la Cultura Community Center, PhotoVoice Gallery launch event, 03.13.2023):*

In the room of El Cielito community center, a sense of hope and joy could be felt as PhotoVoice participants, most with their own invitees, placed the posters with their photographs on easels to exhibit their work for the launch. (...) There were nearly twelve people already and I noticed a man who sat by himself third row close to the podium [I would later find out this was senator V.] (...) In her speech, J., a leader of Casa Juana Colón, remarks that to understand the gallery it is indispensable to acknowledge that the effects of Irma and María visibly linger on. She mentioned the problem of housing, in her own words: "You have no idea the amount of people who reach out to us, victims [of gender-based violence] or not, in search of adequate housing, especially after María.". J. would then close by reminding the audience of Juana Colón, emphasizing the town's precedent of female leadership. (...) After J.'s intervention, the audience of around 35 people clapped and N. (an elderly woman) took the stage. A former schoolteacher, N.'s delicate voice set the tone for the story of her relocation after her house became inhabitable: "... I had to accept the pain of leaving the house where my children had grown after the tree destroyed my roof (...)" N. highlights how she was fortunate to have vitality despite her diabetes and relatives to help her cope with the damages to her home and to move, while others "have it much harder, either because they are alone, they have some form of disability or the trauma of what happened is too much for them". N. joined J.'s closing remark in saying "after this [PhotoVoice] process, I hope we grow as a community and stories like mine reach the people with power to make changes in Comerío"

Fieldnote excerpt from community ethnography, El Cielito neighborhood, 07.27.2022:

In the visit to El Cielito we observed ... [that] one of the most impactful stories [from families in the neighborhood], is the family with a child with functional disabilities who depends on his mother and grandparents to go up and down an unsafe and steep way.

Our ethnographic observations shed additional light on the photographs by contextualizing the stories behind them and highlighting how gender and age intersect along the three main analytical axes: 1) the gendered challenges of the community in responding to disasters and their implications for health care; 2) proposed responses to these challenges that involve intersectional justice and health promotion incorporating a gender perspective; and 3) social interactions and dynamics during the workshops held in Casa Juana Colón. By describing the launch event (which some policymakers attended) and the situation in remote areas of Comerío, the ethnography powerfully encapsulates how the intersection of gender and age were common threads running throughout the activists' assessment of the planning before disaster and key areas to address in recovery policies.

During the analysis sessions, the participants challenged the post-disaster recovery approaches as insufficient to address the needs of the community and advocated for an approach to recovery that actively contributes to community health beyond merely reacting to disasters. The intention of the group was to acknowledge how care obligations can disproportionately overburden women, especially during disasters, but also in the quotidian aspects of their everyday lives within the context of increasing precarity. Women, who were often the household leaders who interfaced with emergency and relocation agencies, drew explicitly upon a gender perspective in describing the project

as an opportunity to promote community health and recovery of infrastructure by strengthening existing social networks. Simultaneously, they were expected to offer moral support to cope with the emotional consequences of devastation, invent solutions for health care during power blackouts, cope with shortages of food and provisions, and deal with housing crises. Mostly middle-aged, the activists' responsibilities taking care of both the elderly and young people in their families and social circles would on occasion prevent some from attending PhotoVoice workshops. Navigating their households through catastrophe and recovery with unstable socioeconomic conditions and often amidst domestic violence has taken a toll on many women in Comerío, as [organization name removed]'s counselors attest.

Ethnographic evidence contextualizes the impact that outmigration has for the care and mental health of older adults left behind after broken social support networks due to migration or relocation. Virtually all participants had children or relatives who had migrated at some point out of Comerío (to the US in most cases). The physical isolation that some of the photographs portray compounds the social isolation created as family-based care systems erode. N.'s intervention during the launch event in the fieldnote above underscores how support networks are critical during and after disasters. While the artist-activists emphasize the vulnerabilities of the elderly, the wellbeing of children and young adults has also been impacted as the closure of schools and recreational areas have not only affected the community's social fabric but also food security for children who no longer benefit from meals at school. The example of the child with reduced mobility in El Cielito illustrates how unstable caregiving and crumbling infrastructure affect both the eldest and the youngest.

Our ethnography highlights activists' perspectives on resilient community solidarity through female leadership. Indeed, for the activists, photographs render visible to policy-makers the normalized coexistence within landscapes of abandonment. Against the backdrop of poor funding, planning, and poor healthcare access, women operate as makers of recovery. To these women leaders, the resilience that local and U.S. politicians demand from them comes at the cost of them leaving behind their homes and sacrificing their present and future mental and physical health.

The PhotoVoice project provided an opportunity to visibilize these intersections between gender, aging, and caregiving that had often become normalized and invisible, echoing the importance of using a gender-based framework for making a "just recovery" and pushing policy makers to promote community health and wellbeing. After the launch of the gallery, a local government representative mentioned to the second author that he was struck with a photograph entitled *Childless education*, which documents an abandoned school similar to the conditions described above in [Figure 6](#):

As a community leader of barrio Piñas Arriba, one of the photographs that impacted me was of the school that was closed back in 2015 before the hurricane (...), it showed a horse climbing the stairs of the school as it was abandoned and being used as an animal shed. So we gathered the community to propose ideas on how we could use this resource (...): community parks, a collection center for future environmental events, housing, a running track (...) And we voted before we brought it up to the municipality. (*Interview excerpt with lawmaker C., Casa de la Cultura Community Center, 08.29.2023*)

This policy maker then explained the importance of the PhotoVoice gallery to make this appeal and obtain the funding. Collaborating with the municipality, this leader subsequently obtained \$1 million in funding from the Housing Department to repurpose the former school into a space to promote health and wellbeing for the community of Comerío.

## Conclusion

In the PhotoVoice project “Realities and Dreams in Comerío: A Just Recovery”, the activist-artists used photography and critical thinking to uncover the experiences, challenges and opportunities for improvement in response to disasters while expressing broader concerns about the health and well-being of the community. This has generated a new sense of hope among the participants and has energized appeals to key stakeholders in Comerío and beyond. The images presented in the launch of the exhibit addressed concrete spaces for policy change by, for example, advocating for collective action within a gender perspective; acknowledging women’s critical role in recovery and their disproportionate burden as household heads; repurposing abandoned public spaces to serve community needs; addressing structural decay through public works aimed at protecting a growing aging population with mobility challenges; and deepening commitments to hold authorities accountable while organizing for desperately needed mutual aid.

Having followed the group continuously until the time of this writing, the PhotoVoice project has indeed begun to impact the local policymaking agenda. Beyond the exhibitions held and cited above, there are ongoing discussions to display the gallery in the Puerto Rican Congress, spurred by a senator who attended a session at [name of community organization]. In a recent visit to Comerío by our research team, a local government representative shared plans to convert an abandoned school into a community space with recreational, retail, and disaster provision storage areas, explicitly referencing the PhotoVoice exhibition as an inspiration for small-scale participatory initiatives to promote health and wellbeing. Importantly, the proposed design of the community space involves the collaboration of activists and other community members tied to this project. The experience of Comerío has also informed a PhotoVoice project in the coastal community of Loíza, PR, contributing to an emerging network of community leaders critical of federally imposed disaster relocation efforts that neglect the community’s sense of belonging.

The PhotoVoice project in Comerío provides an important addition to the literature on strategies to leverage women’s social capital in the service of disaster and health resilience (Ganapati, 2012, 2013; Nakagawa & Shaw, 2004, J. D. Rivera & Nickels, 2014). Indeed, given the local successes of the project and participants’ ability to interface with policy-makers at various levels, it demonstrates how arts-based initiatives informed by a critical gender analysis may be able to shift policy dialogue and agenda setting in disaster settings. Through the workshops, exhibitions, and public presentations, participants explicitly acknowledged women’s unique contributions to grassroots organizing and called for community members to leverage women’s power in the service of community health promotion. While acknowledging the burdens of women’s caregiving responsibilities for children and older family members, as well as the constraints of gender hierarchies, the project sustained a Frierian analysis that foregrounded women’s potential to

lead community mobilization in the spirit of Juana Colón. This suggests that consciousness-raising may be a critical component of successful strategies to foster disaster resilience and health promotion in Global South settings such as Comerío.

The backdrop for these efforts is the colonial status of PR, which contributes to its shortage of medical personnel, mass emigration, inadequate care for the aging population, and deterioration of public infrastructure. While conditions of coloniality tend to provoke rhetoric involving local and household-level “resilience” and to normalize a chronic state of emergency, the participants in this project drew upon a critical gender analysis to make injustice visible and to press for state accountability in times of crisis. Calls for female leadership in recovery and community-led health promotion ran through the workshops and interactions between the artists-activists. Yet participants expressed awareness that women cannot bear the brunt of disaster resilience alone; instead, they saw their role as one of policy advocacy to secure the support they need and deserve. After all, what they termed “just recovery” in the title of the gallery urges viewers to recognize the persistent injustices rooted in the broader structural abandonment, requiring an ongoing decolonial commitment to *praxis* – critical reflection, social solidarity, and collective action.

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