

Multi-Sector Community Mitigation Program

Tool 1: Participatory Design: A Co-Design Methodology ¹

Introduction

The purpose of this tool is to guide communities participating in the Multi-Sector Community Mitigation Program ("MSC") in the implementation of the participatory design processes.

This tool will allow for a reflective dialogue so that both the team that will support the community in the implementation of the process, as well as the inhabitants of the community, can make informed decisions.

Participatory Design

To participate means to 'be part' of an activity or process. It is to have **a voice** in making spaces work according to our real needs, whether practical or emotional. In the context of housing design and construction, participation refers to the inhabitant taking part in decisions concerning the formal configuration, spatial segmentation and construction materials that make up his or her domestic space. Participation can be assimilated to an educational process, not only in terms of giving and receiving but also in terms of sharing knowledge.

Participatory design is a design methodology under which the designer *designs with* the users or inhabitants of a space. Hence it is also called Co-Design. In most of these processes the users or inhabitants are part of a community residing in a delimited territory. The methodology resembles an educational process under which an exchange of knowledge and experiences is developed between the designer and the inhabitants. Under this exchange the designer identifies the needs of the inhabitants while inviting the inhabitants to question the space they inhabit. And it is through this exchange that the designer, **together with the inhabitants**, develops architectural alternatives to the current space to achieve a better quality of life for the inhabitants.

Due to the involvement (participation) of the inhabitants in all stages of the process, participatory design reinforces the inhabitant's sense of belonging to the designed space. This sense of belonging in turn translates into a commitment by the inhabitants to the maintenance of the designed space, which attributes to a greater sense of security for the inhabitants.

¹ For the purposes of this guide, the research "*Casas Resilientes en Puerto Rico: resistir el desastre redefiniendo la vivienda*".¹ This research defines some parameters so that housing, particularly in Puerto Rico, can be resilient and at the same time adapt to the different needs of its inhabitants.

Inhabitants' participation can be carried out from the planning stage and can even extend to the construction of the spaces.

Resources

The implementation of a participatory design process requires a multidisciplinary team whose members have experience working **with**, but not **for**, people. That is, the members of a participatory design team must be excellent communicators and must have a background in community development works.

The discipline that leads the team is architecture, since what is implemented is a design process that will result in an architectural proposal. Disciplines or skills that could complement the architect, always depending on the particular needs faced throughout the process, are *planning, placemaking, civil engineering, mediation, psychology, economics*, among others.

Fundamental characteristics of a participatory design team are **flexibility, empathy, and assertiveness**. *Flexibility* is necessary to adapt strategies to the circumstances of the inhabitants and the space being served. *Empathy* facilitates the development of bonds of trust and respect between the team and the inhabitants, which in turn favors the identification of needs, concerns, or interests of the community or collective. And *Assertiveness* allows the team to manage the expectations of the participants in the process.

Methodology

Getting to know the community: First, the participatory Design Team needs to **know** the community by **listening** to the community. Through informal visits to residents, participating in typical community or collective activities or events, and/or holding community meetings, the community's history, culture, concerns, and grievances should be understood. Tours of the community guided by the residents themselves will help to learn about and understand the current design of the community, the role it plays in the community's culture, and the challenges it presents.

Design workshops: After gaining knowledge about the social (cultural and historical), environmental, and economic characteristics of the community or collective, a series of design workshops are proposed to discuss the following topics: optimal **location, safety** or structural resistance, **accessibility, sustainability, and adaptability**. Below are a series of questions that serve to explore each topic. It is suggested that a design response should emerge from each question as a solution.

1. Location

- What are the characteristics of the soil where my community is located? What are the consequences?
- What are the environmental characteristics of my community and its surroundings? What are the consequences?
- Do I have family/friends and essential services (grocery store, medical services, recreational areas, etc.) nearby?
- What is the projected impact of climate change on my community in the next 5, 10, 20, and 50 years?

2. Safety or structural strength

- Is the structure of my home stable? Does it withstand natural disasters? Has it been damaged by natural disasters? Why?
- Has the structure of my home deteriorated over time? Why?

3. Accessibility

- Is my home accessible to people with disabilities - reduced mobility or functional diversity - and the elderly?

4. Sustainability

- Does my home have good natural ventilation? If no, why?
- Does my home have good natural lighting? If no, why?
- Does my home have reliable access to electricity and potable water? If no, why?

5. Adaptability

- Have I added spaces to my home (terrace, canopy, rooms, bathrooms, etc.)?
- Can I add spaces to my home?
- Can I divide spaces in my home (divide a room or living room, add an interior bathroom, etc.)?

The workshops should have **visualization tools** (e.g., aerial view map of the community) that allow residents to 1) gain diverse perspectives on the environmental challenges facing their community and 2) explore design solutions to these challenges. The architect and his/her team should **educate and direct** residents toward viable, appropriate, effective, and sustainable solutions.

Final Presentation: The result of the design workshops must be an architectural proposal **approved** by the community. The proposal needs to be presented to the residents in a clear, precise, and visual manner.

Documentation of community involvement is necessary to substantiate approval of a design proposal.

References

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Yara M. Colón Rodríguez y Omayra Rivera Crespo. *Casas resilientes en Puerto Rico: resistir al desastre redefiniendo la vivienda* en Revista de Arquitectura (Bogotá), vol. 23, núm. 2, 2021. pp. 84-93

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