

Applying Community-Based Participatory Research to Ecotoxicology

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What is Community-based Participatory Research?

Community-Based Participatory Research (CBPR) is a health research approach centered on social justice that integrates socioeconomic and environmental factors. It traces its roots to popular education movements and participatory action research.



Cultural humility. All members acknowledge, consistently reflect upon, and challenge explicit and latent power imbalances and take steps to address them.

Cultural safety. Partnerships promote awareness of the broader historical, economic, political, and social contexts that determine health inequities.

Community-Academic Steering Committee (CASC) is at the heart of decision making in CBPR



- Representative of multiple sectors through community-based organizations and community members-at-large
- 15 members (or votes)
- Youth representatives
- Minimum 2/3 should be community residents

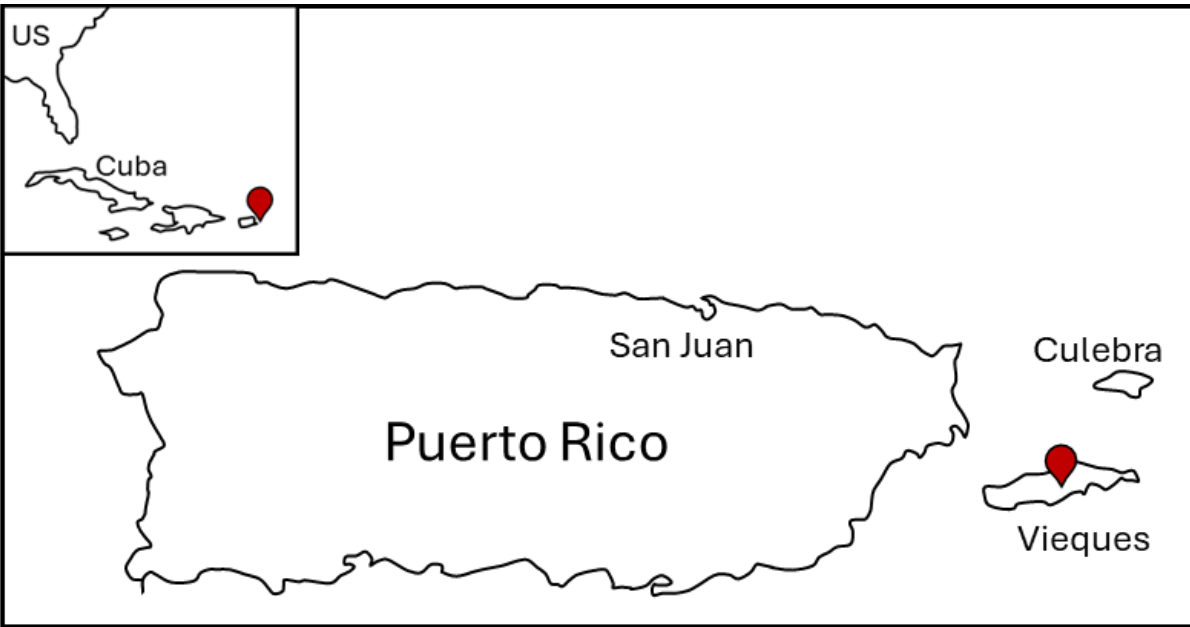


CASC is the decision-making and governance board and determines specific CBPR principles and norms of engagement. Their responsibilities include:

- Develop and decide upon the overall focus and research questions
- Coordinate logistics of study protocols and activities
- Delegate the different aspects of promotion, community outreach, and recruitment of community members for focus groups, fieldwork, citizen scientist workshops
- Work constructively towards conflict resolution when needed.

Community-based Participatory Ecotoxicology Research in Vieques, PR

Environmental Injustice in Vieques, Puerto Rico



Vieques is an island municipality of Puerto Rico. In 1941, 78% of land was expropriated by the US Navy and used for military practice exercises for 60 years while the residents were displaced and forced to live under military occupation.

- In 2003, after grass roots protests and civil disobedience, the Navy left Vieques but left a legacy of pollution.
- The residents of Vieques do not trust the government and are wary of scientists who have said there is no risk from contamination.
- A new approach to study ecological risk was needed that included the community as a partner in the investigation.



CBPR approach to Study Design

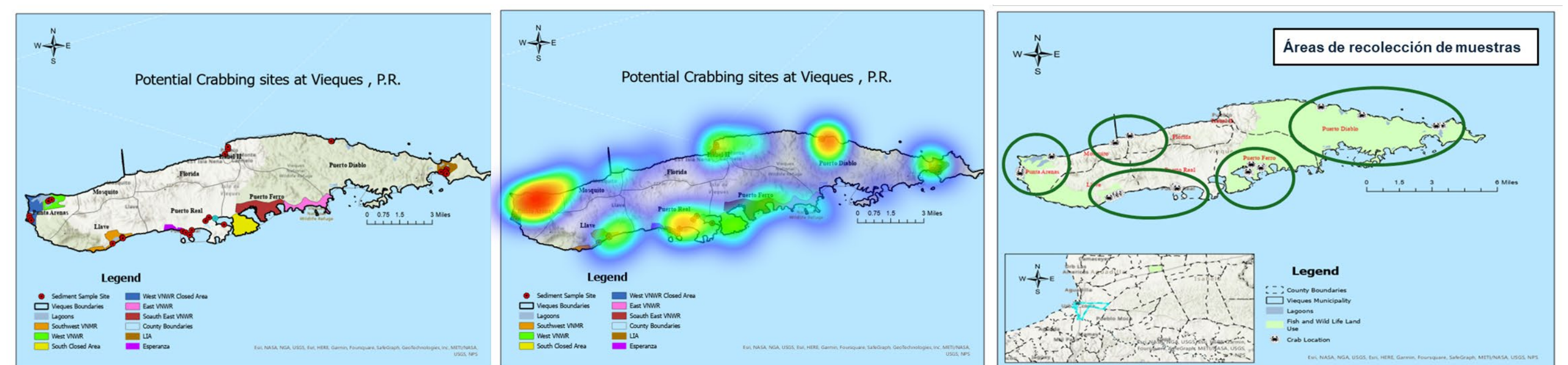


Study Implementation



We codesigned the ecological risk assessment study with the community in Vieques, PR. Green boxes show activities involving the whole community, blue boxes are activities done with the CASC, and orange boxes indicate technical work done primarily by scientists.

Monitoring contaminants in Blue Land Crabs using CBPR



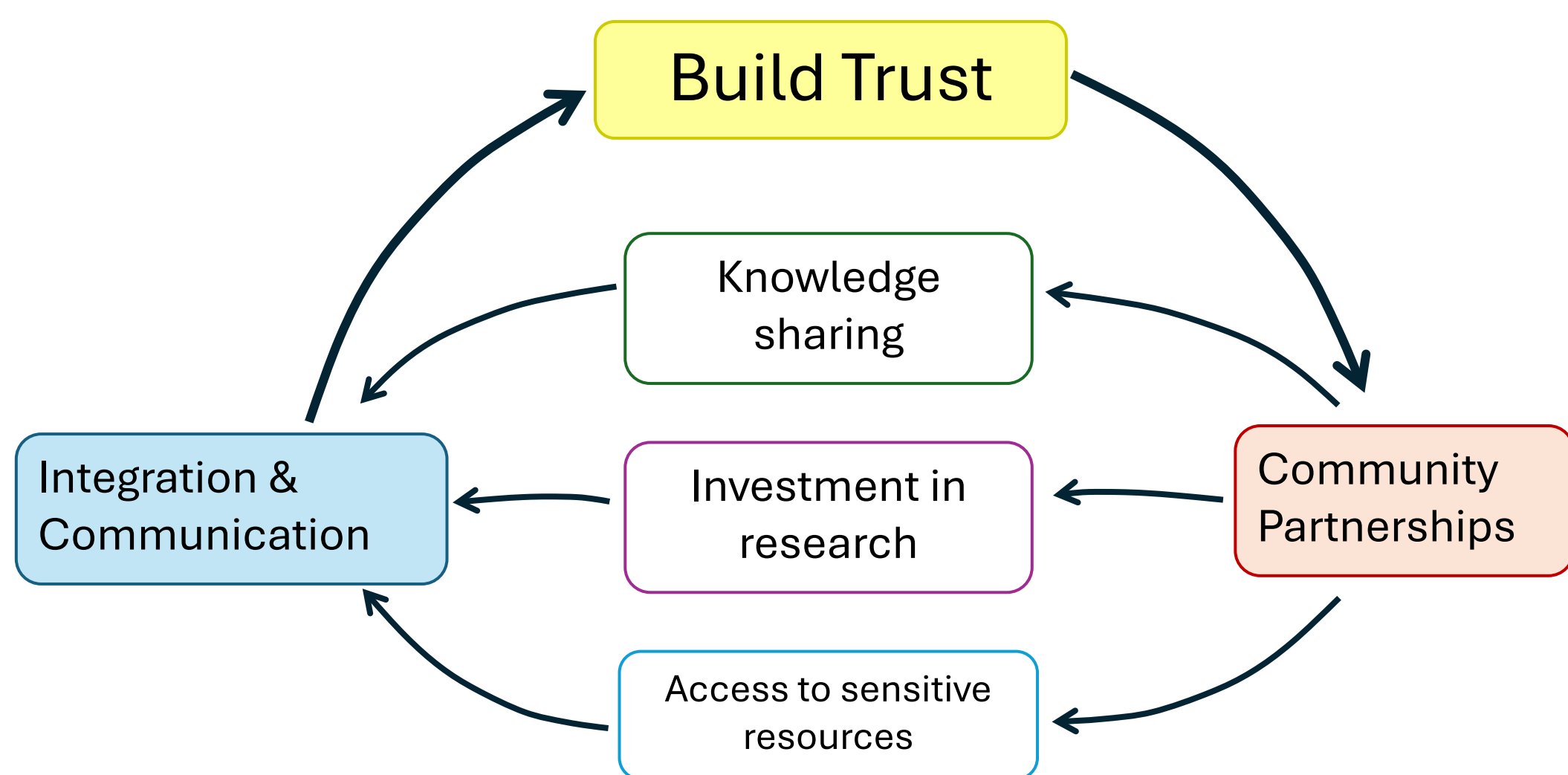
CASC members were involved in all stages of study design and implementation. We met with US Fish and Wildlife to determine where crabs could be found (left map). CASC members indicated the areas on a virtual map where we should sample crabs producing the heat map in the middle. Working with community members and crabbers, we found five main areas and twelve specific sites where crabs could be collected (right map).

We relied on community crabbers to collect crabs using traps and hand collection at night. This work would not be possible without their expertise.



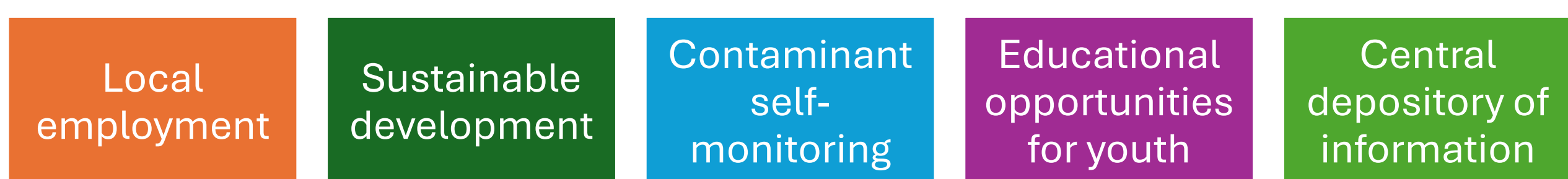
Benefits of Community-based Participatory Approach in Ecotoxicology

Building community trust leads to better science

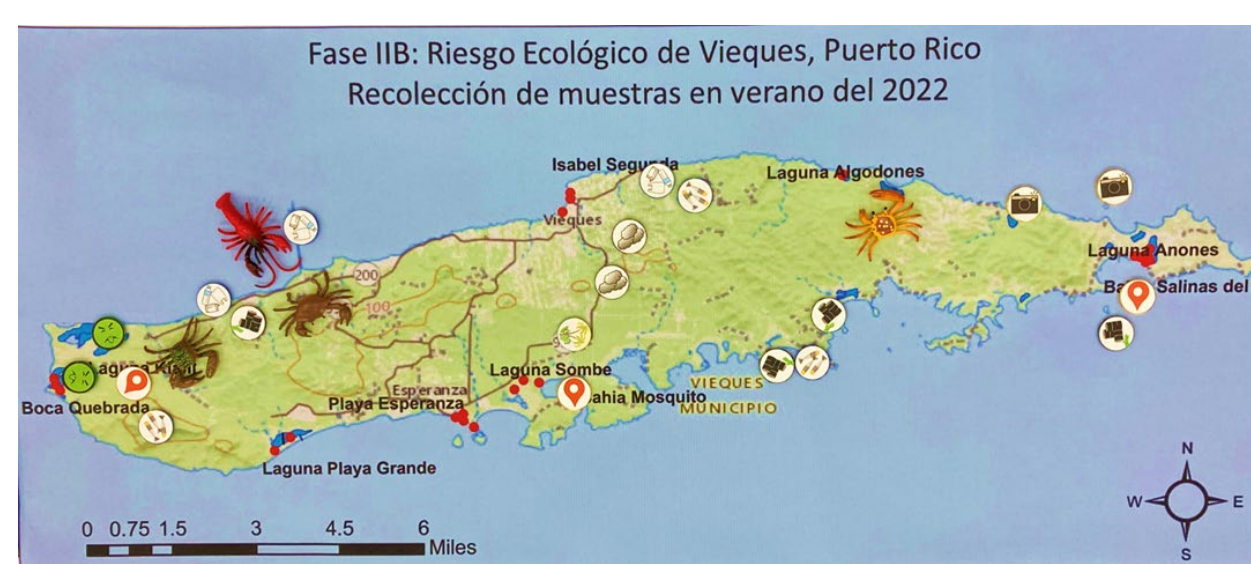


CPBR helps to build trust between the community and scientists leading to community partnerships many co-benefits. Trust must be maintained by active communication and integrating the community into the research.

Community Benefits



Knowledge sharing



Community members are experts of their own environment. They can provide critical insights that are not obvious to outside observers. During a community workshop, residents placed symbols on a map of Vieques, and we listened to their stories to learn more about the history of contamination on the island.

Investment and interest in research

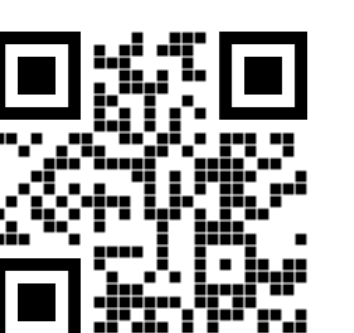


When community members feel respected by scientists, they are willing to volunteer and provide resources to help the project. Here, we are recruiting citizen scientists to collect and test soil samples. The community provided the space and food to support our work.

Access to sensitive information, sites, and other resources



When community members trust the scientists involved in the research, they are more willing to share sensitive information or provide access to private land or difficult to access sites. Here we are sampling at Laguna Sombe, a hidden lagoon that was only assessable by hiking in on an unmarked trail. Community cooperation was essential for finding this area.



<https://saludparavieques.org/>



funded by EPA
grant CR839978