



Summary of Findings

Humanitarian Assistance, Resilience, and Rebuilding: The Long-term Impact of the Neighborhood Approach on Post Earthquake Haiti

A Post-Project Sustainability Study of The KATYE Project

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Among the hundreds of projects implemented in response to the earthquake disaster in Haiti was the KATYE Project. Named for the Haitian Creole word for “neighborhood,” the KATYE Project was implemented by Project Concern International (PCI), CHF International (now Global Communities) and USAID’s Office of U.S. Foreign Disaster Assistance (OFDA).

Ravine Pintade post-earthquake

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The January 12, 2010 earthquake in Haiti was the largest natural disaster in the country's history. Residents were confronted with a tragedy of monumental scale and the daunting task of building back. Among the hundreds of projects implemented in response to the disaster was the KATYE Project. Named for the Haitian Creole word for "neighborhood," the KATYE Project was implemented by Project Concern International (PCI), CHF International (now Global Communities) and USAID's Office of U.S. Foreign Disaster Assistance (OFDA) to support a community-led, sustainable approach to recovery. The project's goal was to develop and demonstrate replicable strategies for neighborhood-based humanitarian assistance in heavily impacted urban areas, such as downtown Port-au-Prince, that would meet the humanitarian needs of earthquake-affected households and create the conditions for longer-term recovery and rebuilding.

In 2019, PCI returned to Port-au-Prince to gauge KATYE's long-term impact by studying the project neighborhood of Ravine Pintade, as well as similar attributes of nearby neighborhoods. The study set out to better understand the impact of the Neighborhood Approach on recovery and resilience, as well as to learn the perspectives of project area residents, residents of other neighborhoods, and government officials on the approach relative to the broader humanitarian effort in post-earthquake Haiti.

The study was conducted by PCI with technical and logistical contributions from CORE (formerly JPHRO), and with funding and technical insights from USAID/OFDA.

The study found that the KATYE Project:

- **Delivered long-term, sustainable neighborhood improvements and living conditions**, as measured by engineering studies and interviews of community residents.
- **Provided durable shelter solutions:** A large majority of households perceived the shelter solutions provided by the project as a sustained benefit nearly a decade after the earthquake.
- **Improved neighborhood conditions:** Neighborhood improvements are still perceived by residents to have made a significant positive impact on quality of life, community cohesion, sense of safety, pride, emergency access/egress, and the economic value of housing and land.
- **Improved water and sanitation and installed drainage systems** which are regularly cited as a major improvement over pre-earthquake conditions and continue to have a positive impact on community life.

- **Reduced vulnerability to shocks and stresses**, such as through seismic mitigation in shelters and walls, widening of pathways to facilitate emergency access/egress, installation of retaining walls and flood mitigation infrastructure, and expansion of social spaces to provide staging areas for post-disaster response and mobilization.
- **Increased the number of people able to reside in the neighborhood:** An estimated 25% more people now live in the neighborhood compared to the pre-earthquake population. This is significant given that many agencies assumed that if they reconfigured informal urban settlements using minimum standards and with an eye towards laying a platform for longer-term resilience, it would displace people due to a shortage of space. In fact, reconfiguration of the neighborhood, based on a resident-driven settlements planning process, resulted in the creation of more efficient land use patterns that created post-project housing opportunities.

The study also found that:

- **There are opportunities to improve future approaches to Neighborhood Approach projects**, such as through better design of sanitation and drainage systems and by building local capacity in incremental housing.
- **Residents in nearby comparison communities were generally unable to reconfigure their neighborhoods** to reduce vulnerability, improve access, improve health and safety conditions, or make significant improvements to housing.
- **Policy makers and ministry officials participating in the study** felt that the Neighborhood Approach was most aligned with their views for how shelter and settlement level assistance should be given to communities from early in the response.
- **Although the government had validated KATYE and the Neighborhood Approach** and wanted to use it as the basis for other projects, they struggled to get buy-in from donors and NGOs that were perceived as prioritizing services in camp settings and other more "relief-oriented" assistance, or focusing on "green-field" construction projects.
- **The post-project assessment serves as a strong rationale for integrated, multi-sector humanitarian programming at the neighborhood level**, including shared platforms for substantive community engagement, to address preexisting vulnerabilities and lay the groundwork for recovery and longer-term resilience.

Background

The initial concept and preliminary design for KATYE was initiated immediately after the earthquake by the OFDA Shelter and Settlements (S&S) team and PCI. The shared objective was to build on past practice and lessons learned and to use a “Neighborhood Approach” to humanitarian assistance, defined as a community-led, multi-sectoral process that is anchored in socially defined space, using context-specific strategies to both respond to immediate needs and lay a foundation for recovery, resulting in a safer, healthier, and more resilient neighborhood.

For OFDA, this work was heavily informed by experiences in both rural and urban humanitarian assistance and built on past efforts to concentrate multi-sector activities within socially defined spaces.¹



As depicted in the diagram above, there are five defining characteristics or pillars of the Neighborhood Approach:

1. Promotes emergency responses that are anchored in socially defined “neighborhoods”;
2. Provides an integrated set of interventions to meet a range of needs of affected populations, such as for shelter, protection, health, water, sanitation and hygiene, and livelihood recovery;
3. Meets humanitarian needs while at the same time addressing barriers to recovery and nurturing greater resilience to future shocks and stresses;

4. Engages an inclusive range of local stakeholders and is community driven; and
5. Develops strategies that are highly localized, evidence-based and context-specific.

More specifically, in the context of the Haiti earthquake, this approach manifested itself in strategies designed to:

- Identify a socially defined space as the basis for integrated planning and programming between responding agencies as a critical complement to coordination by technical clusters;
- Minimize reliance on camps, facilitate households to shelter in place, and enable the expedited return of displaced populations to their neighborhood;
- Address pre-existing vulnerabilities and promote longer term recovery and resilience from day one as part of humanitarian action;
- Build a shared, inclusive, and participatory community platform recognized by all responding agencies from which the community could have a substantive role in driving the project;
- Address priority matters of concern within shared neighborhood space, such as drainage, access and egress, lighting, risk management infrastructure, and areas for basic social activities; and,
- Engage and work closely with municipal and national governments and other local organizations and private companies.

Among the core technical interventions were: support of a neighborhood level (or “settlements” level) planning process that was community-led and featured neighborhood reconfiguration while addressing concerns associated with land tenure; construction of emergency and transitional shelter; upgrading of water and sanitation conditions and infrastructure; provision of retaining walls and other basic risk mitigation infrastructure; broad programming related to protection, safety, and psychosocial well-being, with an emphasis on children, youth, older people and people with disabilities; restoration of health conditions and provision of direct health interventions; and reinforcing livelihoods and economic recovery.

¹ An example of experience with this overall approach for OFDA was in its response to shelter and other needs in Kabul between 2004 and 2007, where work was organized around specific neighborhoods within administrative districts. (See: Setchell, Charles, and Luther, Caroline, Kabul, Afghanistan: a case study in responding to urban displacement, HPN, December 2009, <https://odihpn.org/magazine/kabul-afghanistan-a-case-study-in-responding-to-urban-displacement/>)

The Initial Results of KATYE



The foundation for work in Ravine Pintade was laid with initial interventions by PCI and OFDA to provide emergency shelter; remove debris with cash-for-work; address immediate health issues; provide basic protection programming, such as safe spaces for children; support for water and sanitation needs; facilitate initial community-led mapping of land boundaries and risks; and lay a foundation of trust.

PCI and CHF (now Global Communities) then joined forces under KATYE to initiate a broader set of multi-sector activities, including the use of heavy machinery, detailed community planning, transitional shelter, and risk mitigation. The KATYE project concluded in early 2012. According to an external evaluation, the project:

- Directly assisted 1,984 families in and around Ravine Pintade;
- Created a community-based planning process that resulted in a neighborhood with improved water and sanitation, roads and walkways;
- Installed retaining walls, adequate drainage and other measures to improve living conditions and reduce vulnerability to future shocks and stresses; and
- Provided 386 durable, transitional shelter units, replacing all the units lost in the earthquake. These transitional shelters, though not designed as permanent housing

were safer and of higher quality, in many cases, than the “permanent” housing destroyed by the earthquake.

The program also:

- Provided jobs and other economic benefits with a total estimated impact on the Haitian economy of more than six million dollars (in the form of contracting in local labor, investment in water infrastructure, cash for work, and other local purchase of materials);
- Operated safe spaces for children and mainstreamed protection for older people, people with disabilities, women and youth, including integrating protection considerations into site planning and recovery;
- Operated stationary and mobile health clinics which provided direct care, health capacity building and health promotion in both Ravine Pintade and the broader area;
- Provided cholera response programming; and
- Mainstreamed health considerations into infrastructure planning, such as strategies to improve sanitation conditions at neighborhood and household level.²

The impacts of KATYE were subsequently studied by third-party reviewers, who found that strategies focusing on neighborhood-level recovery had significant advantages for communities over strategies focusing on camps.³

² Kessler, Earl; KATYE Neighborhood Improvement Program Final Evaluation; Report of Independent Evaluation, April 2012. A copy of the final evaluation can be found here.

³ See: the World Bank's "Haiti: What Did We Learn?" <http://documents.worldbank.org/curated/en/699481494923590147/pdf/115025-WP-PUBLIC-haiti-what-did-we-learn.pdf>. ALNAP: Barrio Mio and KATYE: PCI's Neighborhood Approach in Cities [<https://www.alnap.org/help-library/barrio-mio-and-katye-pcis-neighbourhood-approach-in-cities>]; Also, see the findings of research conducted by Johns Hopkins with facilitation and support by PCI, which found that the “immediate impacts of injury and mortality had marginal influences on long-term household economic security, whereas displacement into camps was strongly associated with negative outcomes for income, employment, and food access.”: https://www.researchgate.net/publication/230731333_The_impact_of_the_earthquake_and_humanitarian_assistance_on_household_economies_and_livelihoods_of_earthquake-affected_populations_in_Haiti

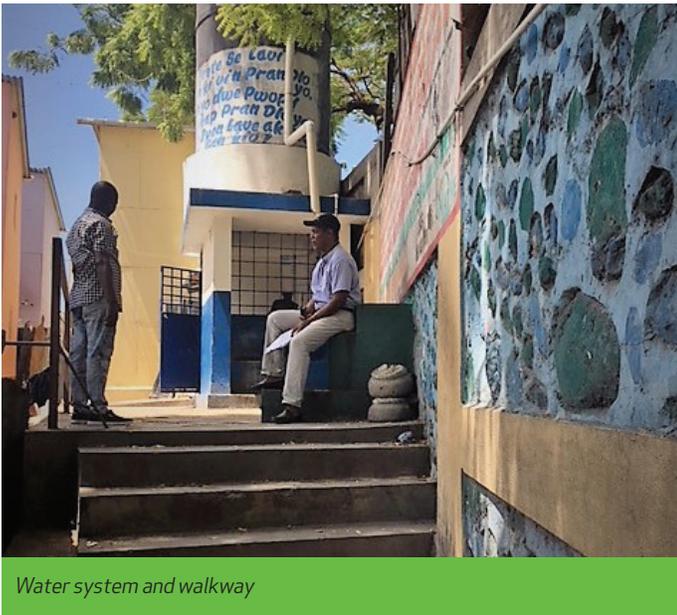
Overview of Results of a 2018-2019 Study on the Status of Ravine Pintade

About the Study's Methodology

To measure the impact of the KATYE project, PCI and CORE Relief conducted focus group discussions (FGDs) and key informant interviews (KIIs) with a broad range of actors involved in and/or familiar with the project's implementation, including Ravine Pintade residents (who received humanitarian assistance during KATYE), community leaders, individuals from adjacent neighborhoods, protection actors, and community health workers.

Utilizing a qualitative, cross-sectional design, the study asked participants to compare aspects of the neighborhood before the earthquake, during the reconstruction period, and in the years following to assess the sustainability of project activities and their impacts. Similar methodologies were used in comparison communities to evaluate the relative benefits of the Neighborhood Approach against other humanitarian methods. The results of the FGDs and KIIs were supplemented by a series of infrastructure assessments conducted by trained engineers to examine the status of the project's physical assets, including drainage systems, sanitation infrastructure, water supply systems, shelter and housing, retaining walls, bridges and roads, and rainwater harvesting systems. The notes from FGDs and KIIs were compiled by JPHRO and analyzed by PCI staff. Members of the original research team then conducted additional inspections, FGDs and KIIs to ask follow-up and clarification questions based on the first review of information.

PCI and CORE also conducted interviews with governmental representatives, humanitarian assistance policy makers, donors, and members of the academic community with familiarity on the post-earthquake context, approaches utilized by HA agencies, and the Katye project, specifically. In some cases, these interviews were recorded.



The Justification for Returning to Ravine Pintade to Assess the Long-Term of the Neighborhood Approach

The findings from the independent evaluation and other studies following the completion of the project in 2012 demonstrated KATYE had been successful in its aims and informed the trajectory of the broader response and recovery. However, the project also included long-term objectives, including setting the groundwork for recovery over time, which required analysis years after the fact to properly evaluate success. To complete this analysis, nine years after the earthquake (and seven years after the completion of the project), USAID/OFDA provided funding support to PCI to conduct a study of Ravine Pintade to gauge longer-term impacts, assess similar attributes of nearby neighborhoods in Port-au-Prince to better understand the relative impact that the Neighborhood Approach had on recovery and resilience, and survey the perspectives of government officials on the approach relative to the broader humanitarian effort.

The decision to conduct the study was also informed by the degree to which the Neighborhood Approach to emergency response has become increasingly recognized by implementing agencies, donors, and governments as a promising practice that can be scaled to other urban communities. The approach has since been tested and proven in Latin America, Asia (such as the Philippines and Nepal), the Middle East and Africa, and has also been adapted as a strategy to build the capacity of local public and private stakeholders in countries in Latin America and the Caribbean to reduce vulnerability in high-risk urban settlements. As a result, there is a mutual interest on the part of USAID/OFDA, PCI, and other partners to expand the evidence base, identify and share lessons learned, and better understand and strengthen the approach in order to have lasting, positive impacts on communities affected by crises.

This was complemented by a literature review of existing materials on Katye and the broader humanitarian assistance response in Haiti, including case studies compiled by other agencies and members of the academic community and Katye project documentation, including the external evaluation of the Katye project, conducted in 2012.

Findings on Shared Neighborhood Infrastructure: Before the earthquake, Ravine Pintade had little by way of planned public space or infrastructure, easily passable pathways, staircases, public tables or benches, or mitigation infrastructure, such as retaining walls or lighting. Pathways were estimated to be an average of 70 cms wide or less, were not lit and dark at night, were frequently muddy, and land boundaries left little or no room to improve upon or expand public space. What public infrastructure or pathways did exist were destroyed by the earthquake.⁴ In its response, KATYE aimed to clear rubble, re-plan, reconfigure private and public space and make high priority improvements to basic community infrastructure. Some infrastructure, such as retaining walls and improvements to access and egress, was designed to be durable in order to reduce risks in the event of future disasters. The more durable infrastructure put in place by the KATYE project continues to be maintained and is in good condition, and the associated reconfiguration and upgrading of public space led to long-term community benefits. For other elements, KATYE focused on transitional shelter and settlements interventions that were intended to last up to three years. The study's findings found that these installations had significantly more durability than their original intended lifespan. However, eight years after the conclusion of the project, issues of maintenance and upkeep have emerged which have not been adequately addressed by the community or by follow-on development activities.

Concrete stairways are intact and safe; walkways are clear and passable and largely free of obstructions; and in nearly all neighborhood areas, the public walkways have not been encroached upon for construction of private space or other private purposes. All handrails are intact and well maintained. Retaining walls are in good condition, without signs of damage that could undermine their structural integrity. Public infrastructure intended to promote neighborhood resident engagement and interaction, such as seats and tables, remain intact and usable, available for the public, and have not been re-purposed or privatized. In some cases, they are showing signs of wear and tear due to heavy use. While the solar public lighting installed in coordination with UN agencies and the Government of Haiti were frequently cited as positive contribu-



Public walkways, stairs and mitigation infrastructure constructed by the project (photographed in 2018)

“KATYE gave us evenings. Before the earthquake we didn’t sit outside and talk at night with neighbors. Now we have places to sit and lighting. Neighbors stay out late at night talking. The neighborhood feels safe and more social and friendly.”

tions by study participants, many lights observed by the study were no longer functioning due to lack of maintenance. There is no information within the community about who at the municipal level is responsible for their maintenance (a problem which appears to be shared across many areas of Port-au-Prince).

Residents felt strongly that improvements to shared infrastructure had a significant positive impact on the neighborhood. The most commonly cited benefit was an improved sense of safety from disasters and other hazards. This included improved safety from the effects of rain, erosion or landslides, wind, flooding, and earthquakes. In addition, it included improvements in access to the neighborhood by emergency services, including police, fire, and emergency health, which eased evacuations.⁵ Communities also felt that upgraded public space led to an increase in “neighborhoodliness,” overall well-being, and solidarity. Examples cited by community members included that “neighbors look after one another,” “help each other find work,” there is “more understanding and brotherhood” between neighbors, a shared sense of pride in Ravine Pintade, respect for public areas, cleanliness, and efforts by community members to beautify personal and shared spaces.

4 Kessler, Earl. KATYE Neighborhood Improvement Program Final Evaluation; and internal PCI documentation on the emergency response. P.10

5 Improvements in access and egress likely took on particular significance because of the high number of people that died or were injured because rubble from neighboring structures trapped them inside their homes, died in between houses trying to escape, or because emergency rescue crews were not able to get to individuals in need.

Participants also commented that the neighborhood was less vulnerable to crime and felt safer. Residents felt that this was due in part to the fact that, previously, it was uncommon for people to stay outdoors or socialize at night. Because of improvements in lighting, entryways, walkways, stairs to sit on, and public chairs and tables, neighbors and visitors stay out late and socialize outside their homes. Lighting in general was cited as having a significant impact on a sense of safety and security, pride, cohesion, and social activity within the community.

Residents that participated in the KATYE project generally believed the community's active participation in the redesign and reconfiguration of the neighborhood contributed to the quality of the neighborhood infrastructure and increased social cohesion among residents. This was not universally the case, however. In one sector of the neighborhood (zone "138"), residents felt that there was tension between neighbors due to how land was divided. In a second case, there was tension between residents because a homeowner constructed over the clean-out for the septic tank used by other neighbors, leading to problems with their toilets.

Housing, Land, and Occupancy: For a large majority of households, the housing solutions provided by the project continue to be perceived as a sustained benefit and an improvement over pre-earthquake housing. Frequently cited benefits included the wind and seismic mitigation measures incorporated into their design, safety in relation to future disasters, security, and overall appeal. Shelter assessments conducted by study engineers determined that most one and two-story KATYE

structures remained intact, with the majority (76%) of housing foundations constructed by the project in good condition and without signs of deterioration. No signs of deterioration that had structural safety implications were identified. Additionally, the majority (80%) of the inspected shelters maintained their original hurricane strapping incorporated into the project design to address multi-hazard risk, suggesting the shelters can withstand high winds significantly better than pre-earthquake shelters.

Study engineers found that stairs leading to the project's two-story houses were largely intact and in good condition, (85%) with no inspected staircases demonstrating recognizable risks to community members. In 96% of cases, spaces in the immediate vicinity of houses were determined to be in good condition and houses remained easily accessible and without impediments to evacuation of the area. Most (88%) of the shelters inspected still had secure doors with locks in place, although the two-story shelters had higher incidences of insecure and/or damaged doors. Similarly, 88% of shelters inspected had windows that were intact with some sort of shades added by occupants for privacy. While no quantitative pre-earthquake data exist on the number of households that had doors they could secure, focus group discussion participants and key informants largely reported that their houses are now more secure, private, and feel safer in relation to crime than their housing pre-earthquake. This, combined with residents' views about improved conditions in public areas, indicates the creation of improved overall "neighborhood effects" over time, relative to pre-earthquake conditions.

While they have outlasted their original intended life span of 2-3 years (the study was completed between eight and nine years after construction), approximately 50% of the shelters appeared to require maintenance. This was especially the case with two-story shelters, the majority of which require improvements. According to study engineers, most leaks appeared to be associated with a failure to maintain adequate caulking or patching between side panels of the walls, constructed as part of upgrading efforts initiated after the completion of the KATYE project, allowing water to enter the shelter. Of those shelters with leakage problems, 70% of two-story shelters had signs of leaks between side panels (versus only 25% of one-story shelters). Some residents also reported that they had not yet generated an adequate solution to improving ventilation upstairs in warmer months and noise insulation between floors.

In 41% of the cases, residents were observed to have made adaptations to the housing, including adding areas for outdoor cooking, livelihood activities, and washing. However, the study found an overall inadequate local capacity to continue to maintain and improve upon housing infrastructure over an extended



Retaining Wall Decorated by the Community



Tables constructed by Katye for community activities

Contrary to commonly held assumptions at the time, rebuilding improved neighborhood and housing infrastructure with better standards did not result in forced evictions or displacement due to a shortage of space. The neighborhood is now home to an estimated 25% more people, and most residents in Ravine Pintade were there before the earthquake.

period. This finding validates a recommendation made by the project's external evaluation, that the approach would have benefitted from providing an incremental development plan to assist the community in continually maintaining and upgrading transitional shelters after the project ended, such as through access to financing or savings.

Except for a small number of landowners that lost large houses in the earthquake, the value of residents' land and houses are universally perceived to have increased significantly from pre-disaster levels. They are also generally perceived to be of higher value to comparable houses in immediately surrounding communities. When rentals in the neighborhood become available, they are considered in "high demand" and rented quickly. At present, the average rent for a house built by the project is estimated between 20,000 -30,000 HTG depending

on the size (\$257- \$384). Rents for comparable houses in nearby neighborhoods where formal housing is available was estimated in key informant interviews to be near 20,000 HTG, though the study was unable to collect adequate reliable data to substantiate that estimate, in part because the size, type and quality of housing across neighborhoods varied significantly. The primary reasons cited for the increase in land values include safety of buildings, pathways and public infrastructure and the formalization of new roads.

Contrary to what many agencies feared may be the case if they improved housing infrastructure in neighborhoods post-earthquake, the study team did not find evidence of land or housing disputes, forced evictions, or other displacement of residents due to an influx of wealthier households after the project ended (often described as "gentrification"). Most people now residing in the neighborhood lived in Ravine Pintade before the earthquake. This is also significant given the study found that the project is widely perceived by residents to have led to increased land and housing values.

Importantly, the study also found that, contrary to the concern that fewer people would be able to return to their neighborhood if humanitarian response activities attempted to reconfigure space for longer-term resilience, an estimated 25% more people live in the neighborhood than pre-earthquake. There are several explanations for how the space was able to be upgraded and still accommodate more people, including the following.

- An increase of 3,142 m² in usable, reclaimed land due to retaining walls and other infrastructure that leveled and backfilled land on a slope;
- An increase of 17% more land for housing (from 9,496m² to 11,160m²)⁶ through the donation of land from landowners with more space for the benefit of other families, water systems, walkways, and other public space;
- The use of two-story shelters accommodated more returns; and
- According to some community members, the increased demand to live in the neighborhood is leading to higher density of occupation in the shelters.

This was a significant finding, providing evidence that implementing humanitarian assistance at the neighborhood level does not by definition displace people—a concern that factored into other projects' decisions to provide services in camps. In the case of Ravine Pintade, an emphasis on neighborhood planning and reconfiguration, as an alternative to camps, led to a net population increase over pre-earthquake levels.

Drainage: The drainage systems installed by the project are regularly cited as a major improvement over pre-earthquake conditions and continue to have a positive impact on community life. Examples of the reasons for this are that it has decreased flooding, decreased the amount of mud in between and inside houses, improved walkways (since walkways tended to also serve as channels for water runoff), significantly reduced the presence of unpleasant odors emanating from mud mixed with fecal matter and other raw waste, and decreased the number of flies.

However, study engineers and community members identified several areas of the neighborhood in which the drainage infrastructure has been inadequately maintained and is functioning inadequately. In part, the lapse in maintenance may be due to a decline in the effectiveness of water committees established in each zone of the neighborhood, which were responsible for reinforcing community maintenance of infrastructure. As part of the project, these committees purchased water for resale within the community, a strategy that in its outset saved money for the community (since buying bottled water was exceedingly expensive), and generated savings for the committee that could be utilized for maintaining water and sanitation systems. While the profits from the sale of water were being used to sustainably provide the community access to clean and low-cost water, the study team was unable to find evidence that profits were also being reinvested in sanitation.



Toilet constructed by Katye

In addition to discussing gaps in effective maintenance, the study engineers, key informants, and community members identified potential strategies for how the drainage systems could have been installed differently to make them easier to maintain. This includes suggestions that the main drain lines be larger (the main lines were six inches PVC), made of a heavier gauge material that is more durable when being cleaned, have increased slope in areas that transverse the hillside, and have more access points where they can be cleaned out rather than running for long courses underground. It was observed that the simpler “canal” drainage systems installed by KATYE and the community are in some ways more effective as they are easier to keep free of obstructions.

Water Harvesting: KATYE mobilized the community to install 300 water harvesting systems within Ravine Pintade, constructed from locally available materials, and intended to supplement water for everyday uses, such as cleaning and cooking, but not for drinking. The study team used observations by engineers, focus groups, and key informant interviews to assess the status of the rainwater harvesting systems, the percentage still in use, and gauge the community’s perception of the value of the water harvesting systems over time. Participants in key informant interviews and focus groups consistently shared that the systems were considered valuable and provided a useful source of water and economic savings year-round. At the time of the study, approximately 47% of households still had operable systems.

The Status of Sanitation Infrastructure: Prior to the earthquake, 38% of households lacked a latrine. Many households utilized neighbors’ latrines (often for a fee) or relied on



Rainwater Harvesting In Use (2018)

defecation in plastic bags, generally deposited into the ravine. Study participants frequently cited that the installation of the toilets was an important improvement to the community in terms of convenience, hygiene, and a sense of safety. However, the results of the study suggest that, while many of these installations served their purpose well for several years of use, problems of maintenance and in some cases, community relationships, have undermined their long-term effectiveness.

While most bathrooms observed still had a toilet cover and door and did not have a noticeable odor, several had damage to the top plate. Of the latrine blocks observed, two-thirds still had locks on the door for privacy, and all still had ventilation installed. None of the bathroom blocks had handwashing systems still in operation.

While some households still clean out their septic systems and maintain their bathrooms, community members identified several problems related to sanitation infrastructure:

- In one case, a septic tank installed on the land of a private owner and serving more than one household was built over when relationships between the families soured, resulting in an inability to service the septic system.
- Some households commented that there wasn't always adequate water to flush the toilets (although all of them acknowledged that water was often available from rainwater harvesting systems or water points that could be used for this purpose).
- Some community members commented that, while the community had voiced a preference for these types of "modern and comfortable" toilets, they had not universally followed the trainings for their use and maintenance. As a result, the systems have begun to function poorly and maintenance is irregular.

KATYE and community committees negotiated regular (twice weekly) garbage pick-up in the community by the municipality (SMCRS). Regular SMCRS pick-up was designed to encourage households to collect waste in a small bin designed for garbage and bring it to the SMCRS trucks. Regular SMCRS truck routes and installation of community bins were first realized in February 2012. According to key informant interviews and focus groups, trash service to the neighborhood continues to function and is well utilized.

The Current Status of Water Provision: In order to assess the current status of access to water in Ravine Pintade, the study team examined water infrastructure, management of water points by committees and conducted focus groups and key informant interviews. By most accounts, the water systems constructed by the KATYE project continue to be well



Business in the neighborhood

maintained and function adequately, providing affordable and clean water to the community. Four of the five original water points are still functioning, although some tanks are beginning to show signs of wear and tear due to heavy use. In one case, the system built by the KATYE project has been integrated into the formal water system operated by the National Directorate of Potable Water and Sanitation (DINEPA), and the committee has been trained in the management of the waterpoint according to DINEPA's policies and procedures. The remaining waterpoints continue to be operated independently by the community.

The community water business set up by KATYE continues to save local households significant amount of money when compared to the cost of bottled water for drinking. Community members now regularly drink water from the tank in addition to water in sachets and bottles. Bottled water averages 25 HTG per gallon versus two HTG per gallon for an equivalent amount at the waterpoint. At present, the communities purchase 3000 gallons for 2250 HTG per delivery and sell it to community members at two HTG per gallon (typically by the five-gallon bucket). This translates to an estimated US\$48 profit per truck. With an average of four trucks per week and after staffing costs for each waterpoint (which is estimated at \$50 per month) the estimated monthly revenue of each waterpoint is approximately \$718. In the original design of KATYE, these profits were to be managed by the water committee for the purpose of purchasing more water, maintaining the waterpoints, as well as upgrading community level sanitation infrastructure and drainage. The research team was unable to find evidence that these funds were being utilized for this purpose.



The New School Built in the Community from Shelter Materials Provided by the Project

Overall Perception of Disaster Risk: Perhaps the clearest consensus on the part of the community with regard to the benefits of the project was that it made the community safer. There is a universal perception on the part of the community that the project was able to decrease vulnerability to natural hazards, particularly earthquakes. Among the examples why community members felt that they were less vulnerable were:

- Proper building materials and techniques were used in construction, including lighter materials for roofs;
- Strong foundations constructed underneath housing infrastructure, particularly in the case of the two-story shelters.
- The construction of retaining walls;
- Improved access and egress for both evacuation and accessibility for emergency services; and
- Reduced flooding, mud, improved sanitation, and reduced trash, and an overall more hygienic and cleaner neighborhood.

Business Activity: Residents report that the amount of economic activity in the neighborhood since its recovery has greatly increased. This was perceived to be in part because:

- An increase in the number of people in the neighborhood;
- More space for businesses (in public areas and at household level);
- Improved circulation and walking and vehicular traffic; and
- Increased safety.

Suitability for Children, Older People, and People with Disabilities: When residents present at the time of the KATYE project were asked about the impact of the children's programming provided during the life of the project, they universally agreed that the children's play areas established were important to the community and had a significant role in helping children in the wake of the disaster. There was also a general sense in the community that the neighborhood was better for children and youth now than before the earthquake.

Examples of how the neighborhood reconfiguration impacted the lives of children provided by participants included that children often use public tables and chairs, including for their studies after school and on the weekends. The lights in public spaces make the neighborhood feel safer for children, and streets (specifically the cul-de-sacs) provide spaces for kids to play. Community members also felt that a new school that had been established in the center of the neighborhood, using a shelter provided by the project, improved the area for children.⁷ Neighborhood residents also generally agreed that the stairs, roads, pathways, houses, lighting, bathrooms and drainage systems in neighborhood improved the lives of older people and people with disabilities.

As part of KATYE, neighborhood youth conducted a study of the messages behind common graffiti in the neighborhood. The purpose of the program was to help youth understand the messages being communicated and to analyze and discuss the economic, social, and political issues associated with them. KATYE then hired artists to paint messages on the walls that represented the perspective of community members on issues of importance, such as respecting elders, going to school, health, and hygiene. The study noted that all the artwork designed for public walls was still in place and not graffitied over.

Health: When asked about the impact of health programming provided in the immediate wake of the earthquake, there was consensus that the health clinic and mobile health staff in the neighborhood operated by PCI and its partner CARPA helped the community with their recovery. The health services received by Ravine Pintade (as well as neighboring communities that utilized the clinic) were perceived as convenient, regularly utilized, and added a sense of safety (particularly in relation to the outbreak of cholera which took place during project implementation). Community members also commented that KATYE trained community health workers and built the capacity of the local community in issues related to chronic health and water and sanitation, and that the community was more aware of health issues than before the earthquake because of the trainings they had received from the project.

⁷ A private school in the neighborhood was destroyed in the earthquake and removed by residents as part of the KATYE project. It was not re-established, however.

Similarly, participants generally were in agreement that the installed neighborhood infrastructure improved the health environment. Examples of why residents perceived the community was healthier included that they had better housing, better drainage, formal walkways, less mud, and fewer flies. In some cases, households felt like ventilation was an improvement over past housing, while in others (particularly for two-story houses), residents felt that it was inadequate.

Observations on the Current Status of Comparable Neighborhoods

PCI studied other communities to assess the degree to which neighborhoods that received more traditional forms of humanitarian assistance had fared over time relative to Ravine Pintade, including areas immediately adjacent to the Ravine Pintade, in Nazon, and Fort National. This included whether they were able to repair and provide shelter, reconfigure the settlement to allow for drainage, improved access and egress, formalize water and sanitation systems, and included the perspective of the community on their recovery. The criteria for inclusion as a comparison community was to have received assistance from humanitarian assistance agencies working across the sectors; like Ravine Pintade, but had not received significant subsequent development or housing programming after the initial phase of humanitarian assistance; and were in areas that were similar to Ravine Pintade in terms of the challenges posed by geography, density, and socio-economic status. PCI also considered recommendations for where to focus the study from the Government of Haiti. Neighborhoods selected were considered representative of other neighborhoods that did not receive assistance similar to that provided in Ravine Pintade.



A comparison community. KATYE can be seen across the ravine in the background

The findings from engineering assessments and community meetings in the comparison neighborhoods stood in sharp contrast to those in Ravine Pintade. Areas observed by the study that did not receive coordinated neighborhood-based and community-driven neighborhood reconfiguration and planning as part of humanitarian assistance have largely not managed to recover. Moreover, in some respects, the way humanitarian assistance was provided created long-term challenges for the community, particularly as related to housing, water and sanitation, protection, health and access.

Shelters in comparison areas more commonly featured informal construction techniques with found materials, such as tin sheets, wood, cement and block, and without a solid foundation or structural elements to facilitate/anticipate upgrading. Except for houses along roads that were more formal, most appeared to be unable to provide adequate protection from the elements. Many had dirt floors, and many provided little privacy, windows, or adequate doors. Roofs were largely constructed of tin sheeting, in some cases combined with plastic sheeting provided by humanitarian agencies after the earthquake.

In most cases, shelters were built up against those of their neighbors and/or had shared walls. There was little evidence of reconfiguration of houses or other public infrastructure to improve access, install water and sanitation systems or mitigation infrastructure and reduce vulnerability to future shocks and stresses. There was also often no lighting of shared spaces.



A shelter in a comparison site built with found materials and left-over emergency supplies



Comparison sites not reconfigured as part of humanitarian assistance had significant challenges related to access and egress

The comparison sites had installed little or no risk mitigation infrastructure, such as retaining walls or formal drainage systems. Rubble that continued to pose a risk to residents had yet to be cleared, including perched on hillsides above community areas, posing significant risk to residents in the event of landslides. Several communities were at risk of flooding and the spread of disease due to unsanitary conditions.

There was little formalization of walkways for access and egress in comparison communities. Most pathways were dirt, or a combination of dirt and informally applied concrete, often also serving the purpose of open drainage. Capacity for evacuation of sick or injured residents was likely limited, and in many cases, households were located far from roads where they could be accessed by emergency services.

Many spaces between shelters had visible trash and strong odors of urine. In neighborhoods where no trash removal service is available, communities resort to creating large rubbish piles near houses due to lack of other options for removing solid waste. Community members report that many of them rely on defecation in bags for sanitation needs and have constructed their own individual or shared pit latrines. Residents cited an important need for installation of neighborhood drainage systems.

In all, the study suggests that the conditions required for recovery of housing and neighborhoods as a whole had not been put in place in comparison neighborhoods. There was little evidence that communities had been able to improve upon the planning and configuration of their shelters or public spaces after the earliest phases of the emergency response. In areas adjacent to the KATYE project, this led to inequities that persist today. This was accompanied by a significant frustration voiced in communities that the government, NGOs, and the UN had raised expectations of “building back better” but had not delivered.

Perspectives Of Haitian Policy Makers And Ministry Officials On The Neighborhood Approach and the Overall Emergency Response Effort

Government officials participating in the study reaffirmed the enumerated findings. The government continues to see itself in a position where they are left to untangle informal settlements that have rebuilt themselves around assistance that did not address critical issues related to planning and infrastructure; formalize camps that have become entrenched; or grapple with the fact that NGOs helped communities rebuild in dangerous areas. They are in the position of giving households parcels of land in locations where they have settled and trying to make settlements work if residents do not wish to move. “It’s the work of a surgeon,” as one government official put it.

In their view, this is in part attributable to a disproportionate focus on the part of the government, donors, and NGOs on providing services to people displaced into camps for long periods of time and decongesting Port-au-Prince by building housing outside of the urban center. While this approach enabled agencies to avoid challenges posed by crime, lack of clarity in relation to land tenure and limited space, it resulted in a lack of effort and resources dedicated to addressing challenges in neighborhoods, thus contributing to the overall limited recovery of the entire Port-au-Prince metropolis.

The humanitarian community was not perceived to have the capacity to partner with local counterparts to create basic, well-planned, durable neighborhood level infrastructure. This meant that instead, residents were provided services in camps or installed temporary solutions, such as mobile toilets or latrines that were not maintained or sustainable, at the expense of strategies that would have engaged communities in incremental or progressive investment in construction that could become permanent. Transitional shelters were often placed wherever clear land was available, with little or no coordination with WASH or neighborhood-level site planning.



A view of the KATYE project from across the ravine, where people live in continued high levels of risk (photo 2018)

Participating government officials also stated that there was a perception of NGOs as struggling to extend opportunities to communities for substantive participation and a sense of ownership, and instead they created an environment characterized by a dependency on—and competition for—resources given by NGOs. This was likely exacerbated by a lack of coordination and collaboration of NGOs at the neighborhood level and the absence of shared community engagement mechanisms.

When asked about the Neighborhood Approach and KATYE specifically, Haitian policy makers and ministry officials participating in the study stated that the Neighborhood Approach was what they sought from the beginning of the post-earthquake humanitarian response. And, by organizing at the neighborhood level, it could provide a framework for government actors to ground and organize the efforts of the international humanitarian community, encourage inter-cluster coordination, and to better direct and engage with assistance so it addresses critical challenges related to humanitarian assistance and recovery.

Although the government had validated KATYE and the Neighborhood Approach and wanted to use it as the basis for the “Rehabilitation of 16 Neighborhoods and Voluntary Return of Residents from 6 Camps Project,” (commonly referred to as “16/6”) in their view, NGOs and donors were not yet on the same page. They stressed that donors needed to have buy-in for the overall approach for NGOs to be able to use funds to implement these types of strategies at the neighborhood level. By the time NGOs, the government, and donors were all in agreement on what should be done in specific neighborhood areas, there were insufficient funds and time to be able to implement the plans.

Conclusions

The study's findings suggest that if humanitarian assistance organizations can succeed in integrated programming and neighborhood-based activities as a complement to sectoral-based coordination, build shared platforms for substantive community engagement, address preexisting vulnerabilities and lay a platform for recovery, it can lead to improved humanitarian outcomes and improved long-term resilience.

The sector's experience with the Haiti earthquake response reaffirms that humanitarian action—both by individual organizations and in the way agencies coordinate—must be more accountable for longer-term outcomes and create lasting conditions for resilience to shocks and stresses.

KATYE and the broader Haiti experience also raise disconcerting questions about costs, and more specifically, opportunity costs: what were the real costs of providing services in camps and other humanitarian strategies over a period of years in the wake of the disaster? Would those resources have been better utilized in tackling neighborhood challenges early on? And how would Port-au-Prince be different now if the international community had been effective at collaborating with local counterparts from day one to address neighborhood challenges and support basic planning to reduce vulnerability and improve resilience.

More than ten years on from the earthquake, these lessons have only grown in importance, particularly in the face of an exponential global growth of informal urban settlements. Greater capacity to program at the neighborhood level in emergencies requires a significant tolerance for programmatic risk and uncertainty, broad technical bandwidth and agile management capacity. This will require:

- The collective capacity to address challenges associated with population density, land tenure and ownership, and the ability to work within sites that require reconfiguration to be suitable for the provision of basic infrastructure;
- Strategies that continue to strengthen how humanitarian organizations working in complex contexts engage with communities to build trust and allow for their substantive participation and leadership;
- That humanitarian actors not be limited by assumed barriers in the planning and implementation of programs, but instead build off assessed needs, resources and capacities;
- That the sector revisit what it means for implementing organizations to coordinate and collaborate, including complementing the cluster system with efforts to coordinate integrated programming across socially defined neighborhoods, and
- That we again question the utility of the notion of a “relief to development continuum” and “strengthening the humanitarian-development nexus,” and instead recognize that what agencies and their local counterparts do in the earliest days of disaster response can undermine – or enhance – the ability for communities to recover over the long term.

The lasting impact of the KATYE project for the community in Ravine Pintade reaffirms the importance of a new path forward for disaster response. Utilizing an integrated, community-led approach, designed and built at the neighborhood level, can create transformative change, support health, safety and livelihoods and reduce vulnerability to disasters over the long term.



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