

Building Assessments and Rubble Removal in Quake-Affected Neighborhoods in Haiti

BARR Survey Ravine Pentad

FINAL REPORT

Timothy T. Schwartz

With

Yves-François Pierre Eric Calpas

April 2011

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USAID/HAITI

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Introduction

To assist and encourage people to return to their homes after the January 12th 2010 earthquake, USAID funded Rubble Removal Programs including demolition of condemned buildings and the removal of rubble from streets and drainage canals. Between February 2010 and February of this year USAID also supported the Ministry of Public Works Transport and Communications (MTPTC) habitability assessments program in which buildings were structurally evaluated and color-coded green (for safe to return), yellow (one vertex compromised = could collapse in foul weather), and red (both vertices compromised = could collapse at any moment). The precise impact of rubble removal and the assessments on IDP returns was, prior to the current study, unknown.

To determine the contribution the programs made, USAID contracted LTL Strategies to conduct the Building Assessments and Rubble Removal (BARR) surveys. The principal objective was to calculate, to a relatively high degree of accuracy and with a reasonably high degree of statistical probability, the impact on rate of re-occupancy of:

- a) MTPTC assessments on IDP returns,
- b) rubble removal

Hypotheses,

- 1. The program of habitability assessment encourages the return home of IDPs
- 2. The rubble removal program encourages the return home of IDPs

The surveys also presented an opportunity to resolve issues important to the reconstruction and housing effort as discussed and highlighted by participants in the October 4th IHRC Meeting on Housing Reconstruction and Transitional Shelter. Specifically, obstacles to home return; re-occupancy rates of yellow and red building; occupant knowledge of damages and capacity to repair homes; tenure issues (titles, proportion of renters); relationships between return rates and neighborhood services, opinions of camps.

BARR survey's principal focus was a 55 cluster, 3,784 residential building survey of Port-au-Prince neighborhoods severely impacted by the earthquake; and application of the BARR residential building questionnaire to one owner or renter in approximately half of those buildings (1,928). BARR also included focus groups and key informant interviews. But before the Port-au-Prince cluster samples were conducted, the BARR team carried out a pilot study the Port-au-Prince neighborhood Ravine Pentad. This companion report focuses on the Ravine Pentad Pilot Study.

Ravine Pentad

Ravine Pentad is a densely settled, 16.5 acre Port-au-Prince community (~110 x 600 meters). Until the 1960s and 1970s the area comprised the surviving estates of Port-au-Prince gentry, the Church, and the State in the form of the National Bank. Today it is a covers the spectrum from impoverished shanties to three story homes of the original landowners. An improved drainage canal cuts through the bottom of the ravine bisecting the neighborhood into east and west sectors. Slopes on either side range from 30 – 60 degrees (Kessler 2010). Considered among the most severely earthquake damaged neighborhoods in Port-au-Prince, in the months following the earthquake PCI (Project Compassion International) and USAID funded CHF (Cooperative Housing Foundation) assisted the community in recovering and rebuilding.

Text Box A: History of Ravine Pentad

The neighborhood known as Ravine Pentad, evolved at the site of the old Central Bank and the Corvington estate, an elite Haitian family of Lebanese descent that counts among its members George Corvington, Port-au-Prince's most prominent historian; Colonel Paul Corvington, once director of the Haitian Military Academy (1964-1972) and subsequent Judicial advisor to the Congolese government; and Patrick Corvington, the Obama administration's Chief Executive Officer of the US Government's Corporation for National and Community Service (CNCS) (the independent agency that oversees public service and volunteering in the United States, i.e. distributes US federal funds to NGOs).

Until the 1960s and 1970s the area that became the neighborhood of Ravine Pentad was mostly bush. It is unclear whether it earned its name from being the hunting site of Guinea Hens, called Pentads or, as one person reported, the site of a market that specialized in the sale of Pentads. But as has occurred in many areas, the caretakers left to watch property of some elite absentee landowners began to sell and cede land access to rural immigrants. The area quickly became an informal residential development—what some may call a 'squatter settlement.' Today It covers 16.5 acres (4.5 hectares). Locals divide it into six sub neighborhoods (*katye*) with East and West being the main 'divide'

Figure 1: Ravine Pentad is located in La Lue area of lower Port-au-Prince (Ave John Brown), near to Fort National and Champ de Mars

Figure 2: It is delimited by the streets Ave John Brown (West), Martin Luther King (South), Ave Poupelard (East), and Ruelle Chrétien (North)

Figure 3: Locals divide it into six sub areas with East and West being the main 'divide'





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1.0 BARR Ravine Pentad Pilot Study

1.1 Ravine Pentad MTPTC Building Assessments

Prior to the survey MTPTC had evaluated most buildings in Ravine Pentad. This meant that with regard to structural assessments most buildings sampled were expected to yield usable data. In fact, 220 of the households were not marked (something that one NGO worker to them being in the red category and considered uninhabitable; 85% of them have been re-inhabited). The impact of structural assessments was captured in the Residential Building survey List (RL). Occupants were asked time of return which was compared to known time of evaluations; occupants were also their opinions regarding the quality of the survey and if survey evaluations influenced their decision to return to the dwelling.

1.2 Ravine Pentad Rubble Removal Program (RRP)

Under the USAID funded CLEARS program CHF removed rubble from two areas. BARR collected data on occupancy rates, rubble removal activity for all residential buildings thereby providing data with which we compare re-occupancy rates for those areas within or near to the rubble removal activity versus those more remote from the rubble removal.

1.3 Ravine Pentad Survey Strategy

The BARR survey team set out to document the MTPTC color code for the expected N= 905 residential buildings in the Ravine Pentad community (found N=708 buildings) and apply the BARR Residential Building survey instrument to all yellow and green color coded buildings (expected N=221 yellow and green buildings; found N=300). Four focus groups were conducted (6 women who have returned or never left the community; 6 men who have returned or never left the community; 6 men from the community who are living in camps; 6 men from the community who are living in camps). A Neighborhood Profile Questionnaire and a map of services and resources (water sources, rubble removal zones, electric service, latrines) and a general history, ethnographic profile, and overview of conditions in the community were completed.

1.4 Ravine Pentad Survey Execution

Two teams of 5 surveyors each (total = 10) worked under the guidance of two supervisors and two team leaders. They counted and documented before and after residence status of all 708 buildings (those destroyed and standing) in the community. After each building was visited and the information documented, white spray paint was used to mark an "L" (for LTL) on the building or wall. All green and yellow marked homes were visited and the Residential Building Questionnaire applied.

The actual data gathering took 4 days, involved 1 team leader, 1 qualitative specialist who oversaw field work and conducted focus groups and key informants interviews, 2 supervisors who managed two teams of 5 interviewers per team (10 interviewers), four vehicles and drivers, and 3 fulltime data entry personnel.

- One Survey Expert and Team Leader
- One Local Quantitative & Qualitative Expert
- Two Supervisors

- Ten Junior InvestigatorsThree Data entry personnelFour Drivers

[for more information on the methodology see Appendix]

Text Box B: Survey Teams, Field Work, and Data Entry

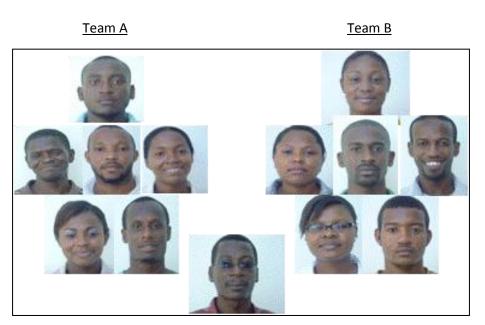


Figure 4: Survey

Surveyors (left to right): Guy Emmanuel Pavilus, Sherley Paul, Fertil Schneider, Gustave Jean Luquel, Daniel Marie Genite, Hedelle Etienne, Olibrice Carmel, Karl-Edouard Joseph, Deborah Etienne, Bruno Jean Thony, Paul Andre Rene, Vena Decelui Mogene, Jacob Michel

Figure 5



Team Co-Leader and qualitative data analysis Yves Francois Pierre reviews maps and GPS points with surveyors. Figure 6: Data Entry Team

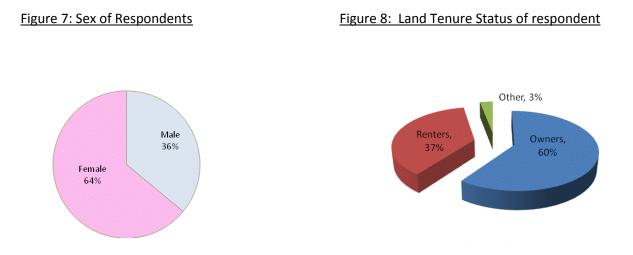


Kendy Pierre, top, Martine Delisca, right, Gertude Gilles, left

2.0 Results

2.1 Respondent

Fifty-eight percent of the 215 <u>respondents</u> were female, 42% were male. Sixty percent were owners of the building in which they lived, 37% renters, and the remaining 3% of respondents were caretakers, neighbors, or guests. The median age of respondents was 42 years old.



2.2 Population

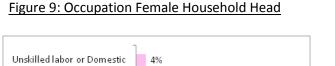
BARR researchers found that prior to the earthquake Ravine Pentad had 708 residence buildings with a total of 924 residences (1.3 residences per building), with an average residence unit size of 5.04 people. The total population was 4,421. These figures are much different than those used in recent CHF reports about Ravine Pentad.

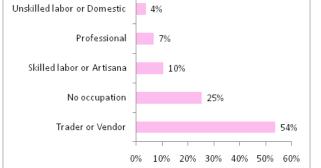
Counts			
	BARR		
Total buildings	708		
Resident Units	924		
Pre Quake Pop	4,421		
Persons per building bldg (all bldngs)	6.5		
Persons per residence (all rsdncs)	4.7		
Persons per building (all occupied bldgs)	6.5		
Persons per residence (all occupied rsdncs)	5.04		

Table 1: Summary of Building, Residences and Population Counts

2.3 Employment

Employment and economic endeavors were typical of popular Port-au-Prince neghiborhoods. More than half of all female household heads were engaged in selling; 25% said that they had no economic occupation; 21% were domestics, cooks, clerks or professionals. Males were overwhelmingly skilled laborers and artisans (33%); teachers, policemen or government officials (16%), with a disturbing 29% reporting no occupation.





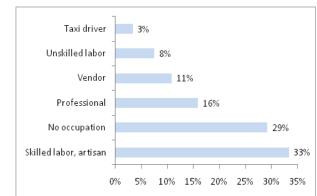


Figure 10: Occupation Male Household Head

Fifteen percent of all residences sell or produce something out of the home (Figure 11). Of these 53% were small convenience stores with food staples, rum, and hygienic products; 13% was sale of potable water, 19% fell into the category of other which typically indicated specialization in one or a few commodities (Figure 12).

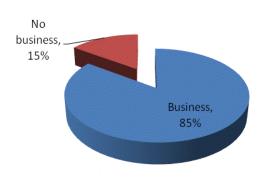
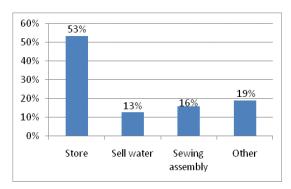


Figure 11: Residences with Businesses in Them

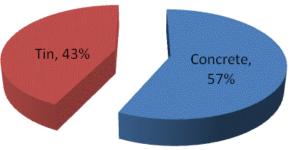




2.4 House Construction

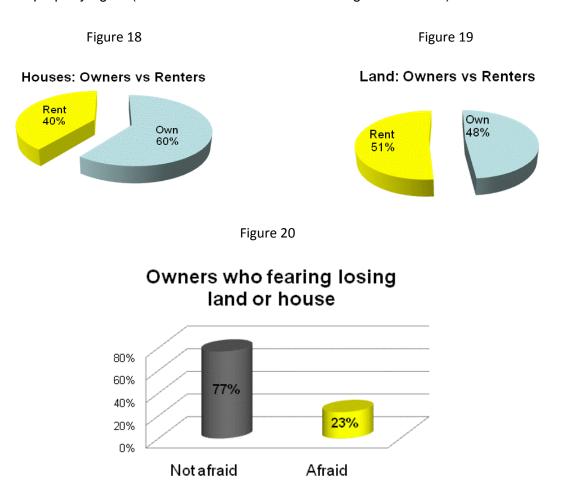
People in Ravine Pentad make investments in permanent cement housing and they seek to own the homes: 99% have cement floors (Figure 13), 97% have concrete walls (Figure 15), and 57% have concrete roofs (Figure 17). The typical building is one story (Figure 14) has two to four rooms (Figure 16).





2.5 Land Ownership

Reflecting the system of informal ownership that prevails throughout both urban and rural Haiti, 60% of homes are owned by a resident, and 51% of residents also own the land. BARR surveyors did not ask for verification and a safe assumption is that most have no formal title. These figures reflect what BARR findings elsewhere in Port-au-Prince (70% of respondents claimed to own the house, 60% claimed to own the land). Only 23% of owners felt insecure about their property rights (elsewhere in Port-au-Prince the figure was 28%).



Text Box C: East vs West

East

East is older, with important family names (traditionally and politically)





Figure 21: East Side of Ravine Pentad



Figure 22: West Side of Ravine Pentad

WEST

West is a younger, dating from the fall of the Duvalier régime

Part of the west is seen as a 'ghetto,' Cité Choune

After the Earthquake

Many of the wealthiest residents left after the earthquake. But of the middle class and impoverished majority, local residents lost capital. Many could not borrow money and the poorest could no longer afford to participate in informal credit associations (sol). Available credit through informal systems known as *sabotaj* (sabotage) and *kout ponyet* (a blow of the fist) in which loan sharks charge 20% per month, in the case of the prior, and as much as 5% per day in the case of the latter.



Figure 23: Some areas of Ravine Pentad were devastated. This picture was taken in October 2010. Many of the houses where condemned and demolished after the quake.

3.0 Earthquake Impact

3.1 Homes Destroyed

BARR found that MTPTC had color coded green only 13% of building structures in Ravine Pentad; 21% were yellow, 37% red. But 29% of the total number of buildings had no color coding at all. Examining the death per color coded household (see Figure 26, on following page), we can infer that, for Ravine Pentad, some unmarked house were razed and others fall into the red category.

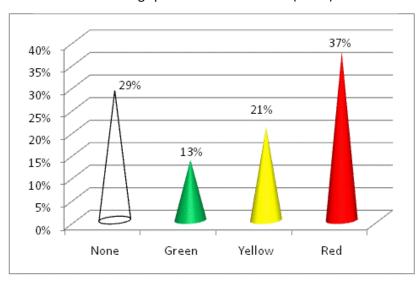
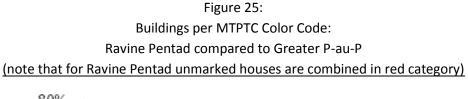
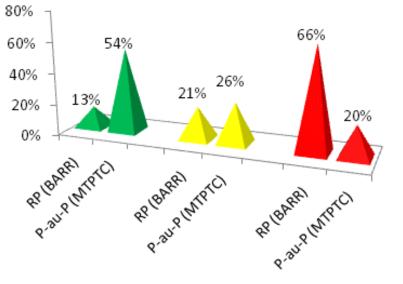


Figure 24 Buildings per MTPTC Color Code (BARR)





3.2 Death Count

BARR found that the total number of people killed in Ravine Pentad as a consequence of the earthquake was 142 (3.2% of the population). This is compared to 2.16% for greater Port-au-Prince (the BARR estimate for total fatalities is ~65,000). Note in Figure 26 that compared to BARR data from elsewhere in Port-au-Prince the green house fatality rate for Ravine Pentad extraordinarily high (.14 to .06 persons per residence). People who live in the neighborhood explained that because the density of the settlement, some people were killed after they fled their homes, caught between houses or by falling walls. In contrast the red house death rate is low compared to elsewhere in Port-au-Prince. As mentioned earlier, we believe this is because in Ravine Pentad MTPTC did not color code many houses that were razed or totally destroyed, in other words, that would have been marked red. When we put these unmarked houses in the red category, as in Figure 27, the proportion of people killed as compared to red buildings elsewhere in Port-au-Prince is much closer.

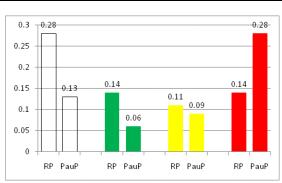
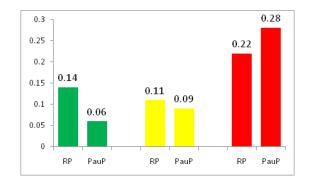
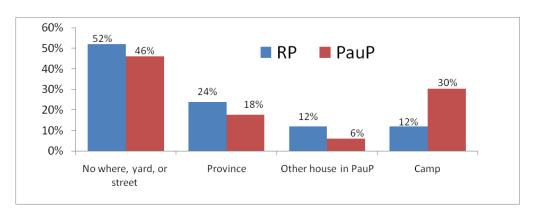


Figure 26: P-au-P versus Ravine Pentad Earthquake Fatalities by Color Coded Residences Figure 27: Earthquake Fatalities by Color Coded Residences Lumping Unmarked Buildings in Red Category



3.3 Where People Fled To

When what Haitians call Gudup Gudup struck, much of the people of Ravine Pentad, as elsewhere in Port-au-Prince, evacuated their cement homes. Spontaneous tent cities appeared throughout the metropolitan areas. Many of those who did not move to camps slept in the street, yards, or left the city altogether, returning to rural homesteads of origin.





3.4 Current Occupancy Rates

BARR found that despite the destruction most people had returned to their homes. Figure 29 shows the total population of Ravine Pentad before versus after the Earthquake, 4,421 versus 3,666; Figure 30 shows the same population comparison for the BARR Port-au-Prince sample. Figure 31 shows what these changes indicate: at 16% and 17% the January 2010 to January 2011 population reduction for Ravine Pentad is nearly identical to that of Port-au-Prince. When the population killed is subtracted from the total proportion of absentees, as in Figures 32, the figures for Ravine Pentad versus greater Port-au-Prince are even closer, 13.4% versus 13.9%. In the final chart below, Figure 33, it can be seen that the absentees per household color code are nearly identical in every case but Red houses. One possible explanation for the difference is that CHF has conducted demolition activities in Ravine Pentad.

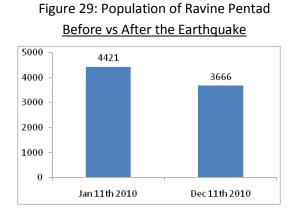
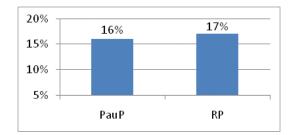
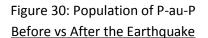


Figure 31: Proportion of Residents Absent Ravine Pentad vs PauP





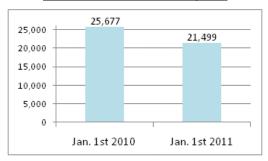
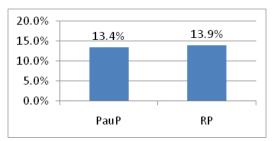


Figure 32: Absentees Less those Killed Ravine Pentad vs PauP



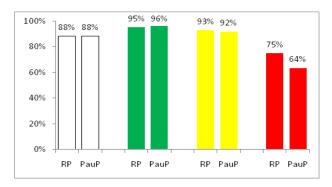


Figure 33: Occupants per Color Coded House Category

3.5 Location of Absentees

BARR found that most absentees were in other houses (35%), rural areas (32%), or still camped out in the street or yard (22%). Only 10% report or are reported as still in camps. The figures are similar—but not near as similar as the variables above--to greater Port-au-Prince, as seen in Figure 35.

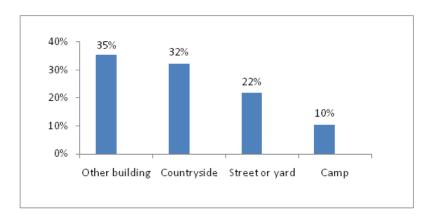
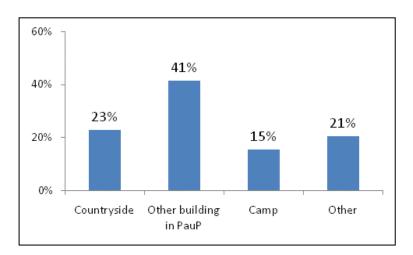


Figure 34: Absentees per Color Coded House Category

Figure 35: Absentees per Color Coded House Category for P-au-P



Text Box D: Development and Demography

CHF's KATYE Proposal (August 2010) describes "905 buildings" and "905 households;" that's 7 persons per household (2 more than BARR) for a total population estimate of 6,637 (2,216 more than BARR). The study also reports that MTPTC structural evaluations placed the number of destroyed houses at 684 (217 more than BARR). It is not clear how CHF researchers arrived at their conclusions. In some cases define estimates as "approximately" and they say, "assessments tell us" but there is no reference to where these figures came from.

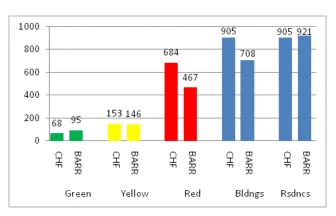


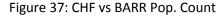
Figure 36: Comparison of CFI and BARR

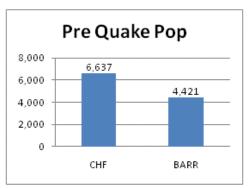
When discussing the differences, directors at CHF and PCI suggest that the BARR report included the entire Ravine Pentad area and CFH and PCI are only working with part of the area. But the population figures that CHF and PCI uses in their KATYE proposal are greater, not less, than BARR. So maybe it is BARR that used a smaller area?

Whatever the case may be, some clarification can be garnered from the 1998

Gommont/ARVECC study. Although 14 years old, the 1998 study written-up by Vincent Grammont and conducted by volunteer surveyors from the Ravine Pentad grassroots organization ARVECC (Association des Residnets Vaillant pout les Enfants de la Cite Choune), lends some support to the BARR data. Grammont and ARVECC found 4,602 people living in 978 "Logement." There is no specification whether the "logement" refers is to "residence unit" or "building," but we can conclude that Grammont meant "resident unit" for he reported an average number of people per Logement of 4.7, exactly what BARR found for total residences, including those unoccupied residences, divided by the population. As for the 14 year time lapse, Grammont says that Ravine Pentad landscape was saturated, suggesting that it was already completely settled at the time of the Grammont/ARVECC survey and hence has not grown since his study.

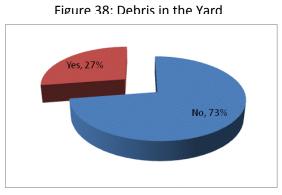
So what's it mean? Does it mean that BARR is right and CHF researchers are wrong? Maybe. But a more significant point is that it means that 14 months after the earthquake, 6 months after including the Ravine Pentad neighborhood as one of four USAID model upgrading communities, no one can say with any degree of certainty how many people we are dealing with. Are we talking about 7 people per building or per residence unit or 5? Are we talking about 6,637 or 4,421 people? In short, we haven't paid enough attention to the people we intend to help to even know how many of them there are? Bad sign.





4.0 Rubble Removal

BARR found that for many Ravine Pentad residents rubble was an obstacle to returning home. Figure 40 illustrates that half of respondents (we only interviewed people in Green and Yellow buildings) reported that they had rubble in the yard, but that it was removed; 27% of respondents still have at least some rubble in their yard (Figure 38). In Figure 39 and 41 it can be seen that for 40% of both categories the degree of rubble was classified as severe. Figure 42 illustrates that in 93% of cases the owners, renters, or a reciprocal work group removed the rubble; in 7% of cases an NGO removed it.



N = 204, Missing = 11

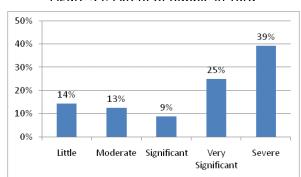
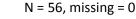
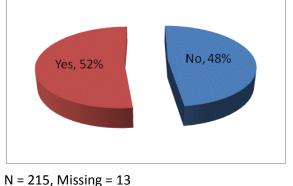
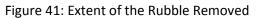


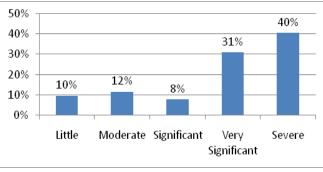
Figure 39: Extent of Rubble in Yard













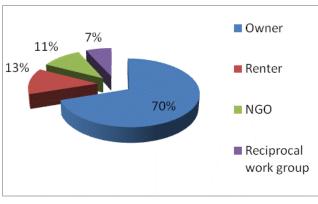
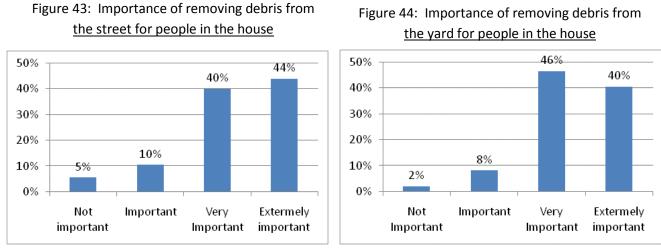


Figure 42: Who Removed the Rubble from the Yard

N = 103, missing = 0

To assess the impact of CLEARs rubble removal program we asked residents how important rubble removal is for people in the building where they lived. As illustrated in Figures 43 to 45, in every case more than 80% of respondents reported that rubble removal was "very" to "extremely" important.



N = 215, missing = 22

N = 103, missing = 4

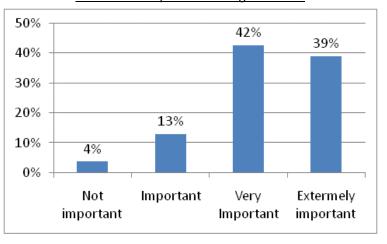
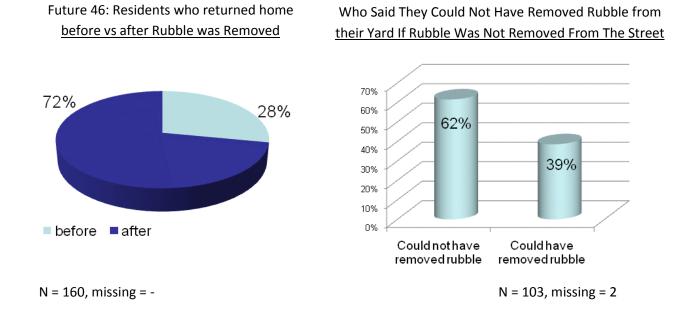


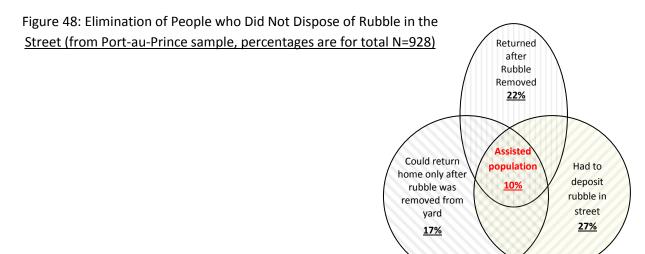
Figure 45: Importance of Removing Debris For Other People in the Neighborhood

N = 215, missing = 12

BARR found that for many residents reported that rubble was indeed an obstacle to returning home. Seventy-two percent of respondents said that they returned home only after the rubble was removed (Figure 46). And 62% of respondents who had removed rubble from their yard said that it would not have been possible if rubble was not being removed from the street, meaning that someone or some organization was not carting the rubble off and disposing of it (Figure 47). This does not, however, mean that in all the cited cases Rubble Removal was an indispensable ingredient for house return. In the Port-au-Prince cluster sample survey BARR found that controlling for when people returned home, versus whether or not they said Rubble had to be Removed before they could return, and whether or not they could have removed Rubble from the yard if it was not being removed from the street, 10% of respondents could be defined as those who Rubble Removal programs helped return home (Figure 48).

Figure 47: Respondents Who Said They Could Vs Those



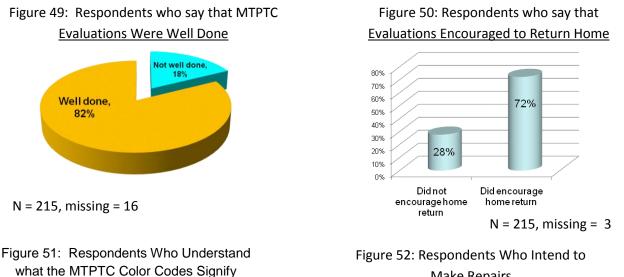


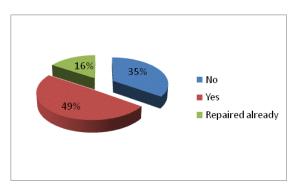
Text Box E: The State vs. NGO Struggle

- After the earthquake there emerged in Ravine Pentad a type of struggle between NGO sector (PCI & CHF) and the State (CNE & Ayiti *Pap Peri*).
- In the west, the State (Ayiti Pap Peri) gave cash-for-work in pursuit of political loyalty while covertly pressuring people not to accept aid from NGOs.
- In the east, political pressure encountered local resistance and loyalty to NGOs (CFW & PCI) that have promised houses are doing CFW, and RR.
- Ravine Pentad has at least 14 <u>local</u> organizations; Before the earthquake the neighborhood had 4.
- Two of them stand out:
 - East side: 'Men nan Men' dated before the earthquake
 - West side: "Association des Jeunes de la Ruelle Vaillant" dated after earthquake
- NGO staff see the relationship between local organizations and the State and foreign NGOs as a division in the method each uses to carry out tasks, but the local organizations were active agents. They used different strategies to get help from outsiders. And their efforts articulated with what can be seen as the NGO vs State Struggle,
- Men nan men' focused more on getting services from NGOs, such as PCI, CHF; supported mechanical RR program and used dialogue to get services.
- AJSVA was more in favor of cash-for-work because, as some of the poorest people said, 'rubble is gold,' and they got help from the state program 'Ayiti pap Peri' (after they blocked the Nazon road). In exchange, 'Ayiti pap Peri' got political loyalty for the government.
- The West benefited RR from CNE (a State organization) and the state program 'Ayiti pap peri' (they also worked for ACF); the East through CHF and PCI (foreign NGOs).
- The East got used 'Men nan men' to negotiate PCI to give shelters and CHF to perform RR and work out deals of home re-occupancy. AJSVA obtained shelters through AIDER mostly for people in Ruelle Vaillant and Cite Choune on the West side

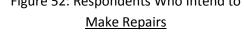
5.0 MTPTC Building Structural Evaluations

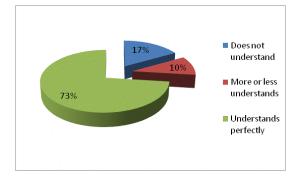
Structural evaluations were thought to have reassured people their homes were safe and encouraged them to return. BARR collected data to test this hypothesis. In Ravine Pentad it appeared that we found evidence to support it. Fully 82% of Ravine Pentad respondents said that the MTPTC evaluations were well done (Figure 49); 72% said that the evaluations encouraged them to return home (Figure 50). One word of caution, however, is that in the subsequent Port-au-Prince surveys we controlled for whether respondents returned before versus after their house was evaluated and we also asked them whether they would have returned at that time if the house had not been evaluated. What we found is that there was no relationship between what these people were saying and what they really did in terms of timing of return. Put another way, although people said that the evaluations encouraged them to return home and that they may otherwise not have returned home when they did, the fact was that just as many in these categories returned home before as after the evaluations. The only significant relationship found was that people who said that the evaluations had no influence over their decisions indeed behaved indifferently, most returning home before the evaluations. Perhaps more significantly than anything else is that despite the warning most red and yellow houses have been reoccupied (see Section 5.4).





N = 215, missing = 48

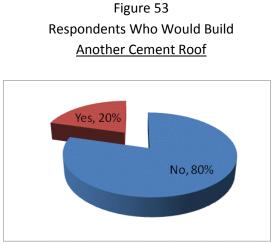




N = 215, missing = 31

60 Other Variables

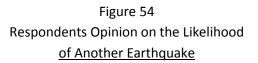
In concluding, we finish with one perhaps to-be-expected observation. People in Ravine Pentad, among the most severely impacted neighborhoods in Port-au-Prince, are considerably more convinced than most people in Port-au-Prince of the likelihood that a severe earthquake could strike again. We found that 69% of respondents believe an earthquake may happen again; 59% think that it is a near certainty; 80% have no intention of building another house with a cement roof. In comparison, 51% of respondents in the other Port-au-Prince neighborhoods believe an earthquake will happen again; and only 39% think that it is a near certainty; 66% have no intention of building another house with a cement roof.

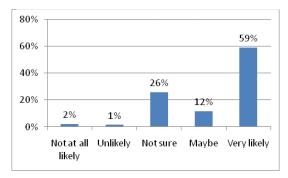


N = 215, missing = 44

N = 103, missing = 2

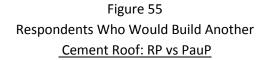
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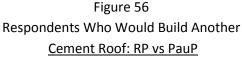


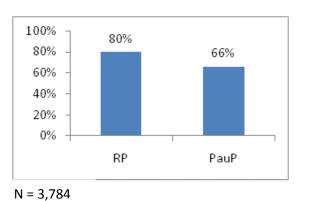


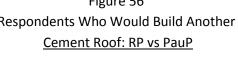
N = 215, missing = 10

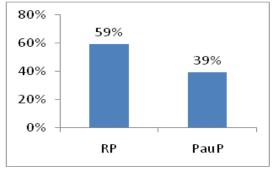
N = 103, missing = 2











N = 3,784

7.0 Works Cited

Grommont, Vincent

1998 Rapport D'Enquete Sur La Zone Marginal de ;a Rainve Pintade, Port-au-Prince-Haiti. Realize en Collaboration avec L'Associationc A.R.V.E.C.C

CHF International

2010 (August) Haiti Neighborhood Rebuilding Program (KATYE). Request for New Award. Submtted to USAID Washington D.C. Office of Disaster Assistance.