

# CARE Shelter Needs Assessment

Haiti Earthquake

Version 2

20<sup>th</sup> April 2010

## Introduction

The devastating earthquake of January 12 caused 222,570 deaths, left 300,000 injured, and 1.3 million displaced people living in settlements, according to the Government of Haiti, OCHA and other UN agencies. Large numbers of the affected population continue to live in makeshift shelters, close to their original homes or in self-settled camps despite the onset of the rainy season.

## Key findings and Recommendations

The key findings from this assessment are:

- beneficiary selection (P10) should prioritise those that have lost their homes and then offer a range of shelter options to meet the needs of a) those with access to land (transitional shelter); b) those without access to land (referral to host families); c) those in host situations or willing to be referred to a host family or to become a host (a range of host family support packages, see also Shelter Cluster Host Family Response Guidelines); d) those who need a structural check on their damaged home (referral in coordination with partners) or retrofits (referral in coordination with partners); and e) contingency assistance to those who may still be in precarious self-built shelter when the hurricane season begins (reinforcement kits and site preparation technical advice);
- owner-occupiers and land tenants are more likely to have access to their original homes, plots and housing materials
- building tenants are in less resilient self-built shelters because they appear to be less likely to salvage building materials and are more likely to be in the local neighbourhood than back on the site of their original home
- supporting repairs and extensions will release additional covered space
- in zones where some houses remain intact and can be assessed for structural damage, communities should be supported to identify safe houses for overnight protection from hurricanes and heavy rain for families that remain in self-built shelter when the weather changes

## Next steps

Further work – particularly focus groups and semi-structured interviews with key informants – is needed:

- a) to identify household and community capacities and vulnerabilities (livelihood profiles, coping strategies for floods, hurricanes and disaster preparedness);
- b) to find people missed from the survey because they had left the zone to seek shelter in camps, with hosts elsewhere or in non-earthquake affected areas;
- c) to understand the factors sustaining or undermining existing hosting and the potential for IDP referrals in to hosting situations;
- d) to build on the technical and social capacity of the community and individual families to help each other repair damaged houses, extend homes, erect transitional shelters or reinforce self-built shelters and identify safe houses within the community for overnight hurricane protection;
- e) to compile findings into maps and geographical information that can be shared through the Shelter Cluster.

### Assessment and Registration

The aim of this assessment was to understand shelter needs in Leogane and Carrefour by surveying:

- pre-earthquake shelter conditions: type of house, tenure, household size;
- conditions since the earthquake: type of self-built shelter, damage to original dwelling, location relative to original home;
- householder's intentions
- obstacles to realising intentions apart from materials or money: access to land, labour, technical knowledge for reconstruction

Within these broad headings, the data has been disaggregated:

- by pre-earthquake tenure status (and this again by gender)
- to inform verification and beneficiary selection

The methodology behind this document combined both assessment and registration. This followed a pilot exercise which showed a complex range of pre- and post-earthquake living conditions across geographical zones.

CARE targeted a number of zones in Leogane and Carrefour because they had high levels of visible damage. The sampling was based on full coverage in selected sites so that families could be registered in house to house and shelter to shelter surveying, street by street. Aiming for 100% coverage was also in anticipation of IOM's registration exercise, which was finalised during the CARE assessment and informed CARE's verification format.

In total, 674 house to house (shelter to shelter) interviews were conducted between 12th and 19th March in 5 areas of Carrefour (Mon Repos, Titus Prolongee Aztek, Paloma Impasse Thomas, Marotiere 75, Borchette 99). While 841 household questionnaires were completed between 4th and 13th March in 9 neighbourhoods (louis borno, rue la paix, rue la source, georges kernizan, rue st jean, bas grand rue, bas rue la croix, pandou, modsol santo2). Assessment-registration is ongoing with analysis carried out on a selected sample.

This document presents the assessment findings. Icons and symbols are based on sector guidelines<sup>1</sup> and a host family programme in Goma<sup>2</sup> but adapted to the Haitian context.

### Verification and Beneficiary Selection

This document also expands on CARE's beneficiary selection methodology and the verification exercise which involves returning with engineers to visit families that reported homes completely destroyed or irreparable. Through this exercise CARE is confirming the numbers of people with access to land for a transitional shelter and identifying families intending to move to other land owned by family members – an informal, family-based hosting situation.

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<sup>1</sup> UN, "Transitional settlement and reconstruction after natural disasters" (United Nations, 2008), <http://www.sheltercentre.org/library/Transitional+settlement+and+reconstruction+after+natural+disasters>.

<sup>2</sup> Antonella Vitale, "Ushirika Pamoja: Solidarity Families - Pilot programme for shelter assistance to host and displaced families in Goma" (CARE DRC and Shelter Centre, 2009).

### 1. Population characteristics, housing types, damage, movement and shelter

The tables and graphs on the following pages summarise the survey results.

Table 1 shows that in both Carrefour and Leogane, adult male and female householders represented roughly 30% of the population but with a small bias towards women in Leogane. However, one secondary source suggests<sup>3</sup> that in the past there has been an imbalanced sex ratio in Port-au-Prince and in bidonvilles (shanty zones) because of higher levels of male emigration and a migration of women to cities because of the difficulties they have faced in accessing agricultural land. CARE was unable to get pre-earthquake figures and it is possible that the results suggest equal proportions of men and women because women have left more readily.

The proportions of pregnant women, children under 5 and children between 6 and 18 were broadly similar in both locations.

		Carrefour			Leogane			
		Totals	Average	Range	Totals	Average	Range	
Population characteristics	Foyers	674			841			
	Hommes	1,161	29%	28% 31%	1,272	29%	26% 35%	
	Femmes	1,172	29%	27% 36%	1,471	34%	32% 37%	
	Femmes Enceintes	53	1%	1% 2%	79	2%	0% 3%	
	Enfants moins de 5ans	616	15%	11% 18%	571	13%	10% 18%	
	Enfants entre 6 et 18ans	1,037	26%	19% 31%	943	22%	17% 30%	
	Totale	4,007			4,314			
Number of people per household			6	5 6		5	4 6	

#### Tenure

- In Carrefour, on average 40% of households reported being owner occupiers, although this ranged from as little as 26% in Paloma Impasse, a spontaneous settlement, to 56% at Mon Repos, an urban site close to the sea.
- In Leogane, 55% of households reported being owner occupiers. These proportions varied significantly by location with half of the streets surveyed showing a ratio of landlords to tenants of 2:1 and one showing a 3:1 ratio. Without pre-earthquake benchmarks it is not possible to understand whether these proportions suggest an outflow of tenants but this should be explored in focus groups.
- Fermage is a type of land lease or land tenancy combined with full title for house sometimes with option to buy land at expiry of lease in future<sup>4</sup>. Lease periods seem to range from short term, 5 years, to longer term, 25 years (anecdotal evidence from case studies in Léogâne)
- It was clear during interviews that householders reported being owners when the respondent was a member of the owner's family

#### Housing Type

- Owner-occupiers were more likely to have RC frame houses with masonry infill

<sup>3</sup> Bernadette Blan, "Women vendors' work histories in Port-au-Prince: what lessons can be learned for research and action?," *Environment and Urbanization* 10, no. 1 (1998): 187-200.

<sup>4</sup> UN-HABITAT, "Strategic citywide spatial planning: A situational analysis of metropolitan Port-au-Prince, Haiti" (United Nations Human Settlements Programme, 2009), <http://www.glt.net/en/home/land-use-planning/strategic-citywide-spatial-planning/details.html>.

- A significant proportion of land tenants in Carrefour reported mixed housing (defined as containing some traditional or rural housing elements).

### **Damage**

- The proportion of households reporting repairable and intact houses was roughly equal to those reporting destroyed and irreparable houses, 50% in each double category.
- Responses did not vary much by tenure status.

### **Location and Displacements**

- Very few people in Leogane were in their original homes: 2% of landlords against 1% of tenants
- In Carrefour 10% of owner-occupiers, 11% of tenants and 8% of land tenants were in their original homes
- A greater proportion of landlords were on their own plots, with nearly 40% of land tenants in Carrefour remaining on their plot (with their housing asset)
- A higher proportion of tenants and land tenants than owner-occupiers were in the same neighbourhood rather on their own plot
- Of those coming from elsewhere, slightly more reported being tenants or land tenants than owner-occupiers
- 13% of landlords were on their original plot compared to only 5% of tenants
- More tenants reported being displaced but not out of the neighbourhood
- About 20% of tenants and landlords in the survey zones reported coming from elsewhere

### **Self-built shelter**

- The majority in each category are still living under plastic or cotton sheets
- Owner-occupiers and land tenants (who own their house) are more likely than tenants to be living in a Corrugated Iron Sheet shelter – this suggests their ability to recover materials may be better.

### **Conclusions**

**Tenants are more likely to be away from their original homes and plots.**

**Access to land and the consequent speed of return and recovery, is easier for those with tenure security before the earthquake.**

**Owner-occupiers and other landlords were the suppliers of rental accommodation before the crises.**

Table 2		Carrefour			Leogane		
		Landlord	Building tenant	Land tenant	Landlords	Building tenant	Land tenant
Owner occupiers							
Building tenants							
Land tenants							
Intact							
Reparable							
Not reparable							
Destroyed							
Same house as before							
Same plot as before							
Same neighbourhood							
Another village or neighbourhood							
Tarps							
Tent							
CGI							
		<p>0% 20% 40% 60% 80% 100%</p> <p>House Type</p> <p>maisons parpaings et beton arme</p> <p>maisons traditionnelle bois</p> <p>mixte</p> <p>maisons intactes</p> <p>maisons reparables</p> <p>maisons non-reparables</p> <p>maisons detruites</p> <p>Where?</p> <p>Meme maison</p> <p>Meme parcelle</p> <p>Meme quartier</p> <p>Autre quartier</p> <p>Type of shelter?</p> <p>Bache</p> <p>Tente</p> <p>Tole</p>			<p>0% 20% 40% 60% 80% 100%</p> <p>House Type</p> <p>maisons parpaings et beton arme</p> <p>maisons traditionnelle bois</p> <p>mixte</p> <p>maisons intactes</p> <p>maisons reparables</p> <p>maisons non-reparables</p> <p>maisons detruites</p> <p>Where?</p> <p>Meme maison</p> <p>Meme parcelle</p> <p>Meme quartier</p> <p>Autre quartier</p> <p>Type of shelter?</p> <p>Bache</p> <p>Tente</p> <p>Tole</p>		

## 2. Intentions and Obstacles

Table 3	Carrefour	Leogane
<ul style="list-style-type: none"> <li>Nearly all owner-occupiers and land tenants (building owners) reported the intention of rebuilding or repairing (unlike tenants (less than 20% reporting this intention)</li> <li>50% of tenants in Carrefour mentioned moving to stay with a host family (20% of overall population)</li> <li>Nearly 80% of tenants in Leogane mentioned going to a camp or finding another place to go</li> </ul>	<p>Legend: Landlords (black), Building tenant (grey), Land tenant (white)</p> <p>Scale: 0% to 100%</p> <p><b>Intentions:</b></p> <ul style="list-style-type: none"> <li>reparer: Landlords ~45%, Building tenant ~10%, Land tenant ~40%</li> <li>reconstruire: Landlords ~55%, Building tenant ~10%, Land tenant ~50%</li> <li>partir vers un camp: Landlords ~0%, Building tenant ~10%, Land tenant ~0%</li> <li>chercher un nouveau terrain: Landlords ~0%, Building tenant ~20%, Land tenant ~0%</li> <li>habiter dans une famille d'accueil: Landlords ~0%, Building tenant ~45%, Land tenant ~0%</li> <li>aucun projet: Landlords ~0%, Building tenant ~0%, Land tenant ~0%</li> <li>autre: Landlords ~0%, Building tenant ~5%, Land tenant ~0%</li> </ul> <p><b>Obstacles:</b></p> <ul style="list-style-type: none"> <li>aucun obstacle: Landlords ~5%, Building tenant ~5%, Land tenant ~10%</li> <li>manque de terrain: Landlords ~0%, Building tenant ~15%, Land tenant ~0%</li> <li>manque de connaissance en construction: Landlords ~45%, Building tenant ~35%, Land tenant ~35%</li> <li>manque main d'oeuvre: Landlords ~55%, Building tenant ~45%, Land tenant ~50%</li> <li>incertitude sur la satbilite maison: Landlords ~0%, Building tenant ~0%, Land tenant ~0%</li> <li>accessibilite du site: Landlords ~0%, Building tenant ~0%, Land tenant ~0%</li> <li>autres: Landlords ~0%, Building tenant ~5%, Land tenant ~0%</li> </ul>	<p>Legend: Landlords (black), Building tenant (grey), Land tenant (white)</p> <p>Scale: 0% to 100%</p> <p><b>Intentions:</b></p> <ul style="list-style-type: none"> <li>reparer: Landlords ~45%, Building tenant ~10%, Land tenant ~0%</li> <li>reconstruire: Landlords ~55%, Building tenant ~10%, Land tenant ~0%</li> <li>partir vers un camp: Landlords ~0%, Building tenant ~20%, Land tenant ~0%</li> <li>chercher un nouveau terrain: Landlords ~0%, Building tenant ~60%, Land tenant ~0%</li> <li>habiter dans une famille d'accueil: Landlords ~0%, Building tenant ~10%, Land tenant ~0%</li> <li>aucun projet: Landlords ~0%, Building tenant ~5%, Land tenant ~0%</li> <li>autre: Landlords ~0%, Building tenant ~0%, Land tenant ~0%</li> </ul> <p><b>Obstacles:</b></p> <ul style="list-style-type: none"> <li>aucun obstacle: Landlords ~10%, Building tenant ~5%, Land tenant ~0%</li> <li>manque de terrain: Landlords ~0%, Building tenant ~10%, Land tenant ~0%</li> <li>manque de connaissance en construction: Landlords ~35%, Building tenant ~20%, Land tenant ~0%</li> <li>manque main d'oeuvre: Landlords ~45%, Building tenant ~20%, Land tenant ~0%</li> <li>incertitude sur la satbilite maison: Landlords ~5%, Building tenant ~0%, Land tenant ~0%</li> <li>accessibilite du site: Landlords ~0%, Building tenant ~0%, Land tenant ~0%</li> <li>autres: Landlords ~0%, Building tenant ~0%, Land tenant ~0%</li> </ul>
<p>Respondents were given the opportunity to report more than one obstacle <b>apart from materials and money</b> to achieving their intentions.</p> <ul style="list-style-type: none"> <li>Owner-occupiers were slightly more likely to report lack of labour than lack of construction knowledge although both reasons dominated their obstacles</li> <li>Building tenants also reported lack of labour and knowledge with lack of land the third most important obstacle</li> </ul>		

### 3. Space and Risks

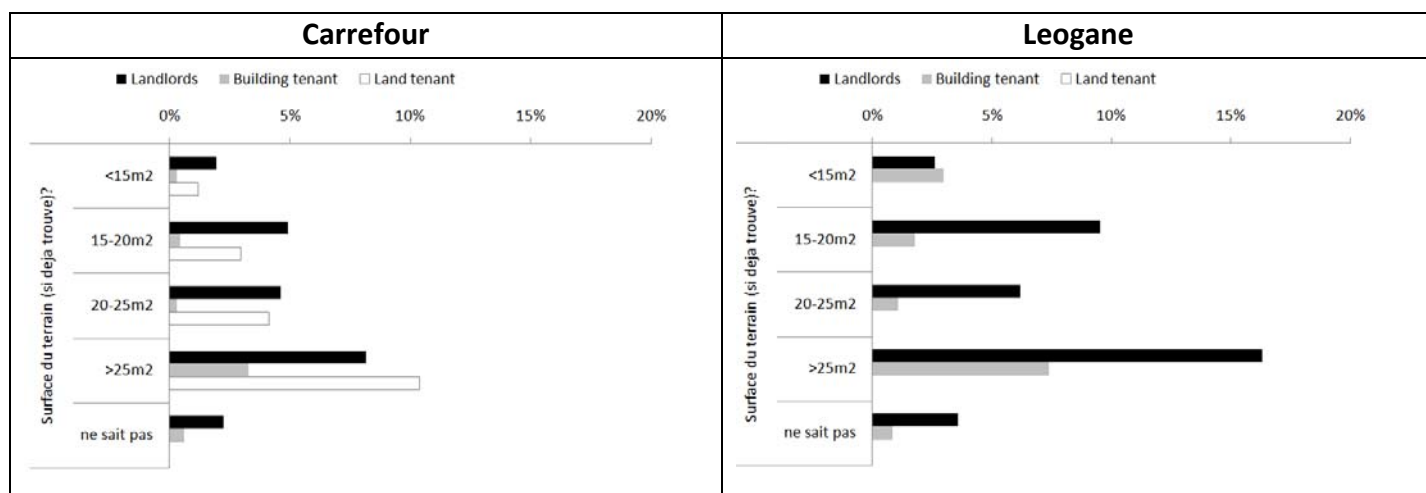
For those who did not identify lack of land as a problem, an estimate of the land they had available and its vulnerability to risks was requested.

- Landlords generally reported having access to larger spaces
- Overall, of those in Carrefour that had already identified a site, 1% reported a flooding risk, 5% the risk of falling buildings, 4% risk of landslips and 15% other risks
- Of those in Leogane that had already identified a site, 21% reported a flooding risk, 1% the risk of falling buildings, 5% risk of landslips and 5% other risks

#### Flood protection may be necessary for shelter solutions in Leogane but more needs to be known about proposed sites and their known risks

- Analysing those reporting access to land, an estimate of land area and household size, 11 households did not know the size of the area but **VERY ROUGH** estimates of site area per person ranged between 4m<sup>2</sup> and 6m<sup>2</sup>/person.

Table 4






#### 4. Hosting

##### Carrefour (39% owner occupiers, 24% building tenants, 34% land tenants)

- About 10% of households reported hosting family members, a further 5% were hosting non-family members
- About 10% of building tenants reported the intention to move to a host family
- A slightly higher proportion of building and land tenants reported hosting than owner-occupiers but the ratio of hosts to hosted was higher (1 host per hosted person) for tenants than for owner occupiers (1 host per 2 hosted persons – more pressure on owner-occupiers)




Table 5

Carrefour		% of households	% hosting family members	% households hosting non-family	Ratio of hosts to hosted	% reporting the intention to move to a host family
	Owner-occupiers	39%	13%	5%	0.5	0%
	Building tenants	24%	10%	6%	0.5	9%
	Land tenants	34%	14%	4%	0.6	0%

##### Leogane (55% owner occupiers, 35% tenants, 10% other categories)

- Around 5% of households reported hosting family members, a further 6-12% were hosting non-family members
- Only 1% reported the intention to move to a host family
- The ratio of hosts to hosted was higher (less pressure on hosts) in Leogane than in Carrefour (1 host for every hosted person amongst owner occupiers and tenants)

Table 6

Leogane		% of households	% hosting family members	% households hosting non-family	Ratio of hosts to hosted	% reporting the intention to move to a host family
	Owner-occupiers	55%	6%	12%	1.0	0%
	Building tenants	36%	4%	6%	0.7	1%
	Land tenants					

- In Carrefour, more hosting households were hosting family members while in Leogane more hosts were hosting non-family members.

**Downtown, urban Leogane may require a different response to stabilize host situations, since the relationship may not be relying on family ties.**

## 5. Gender, tenure and geography

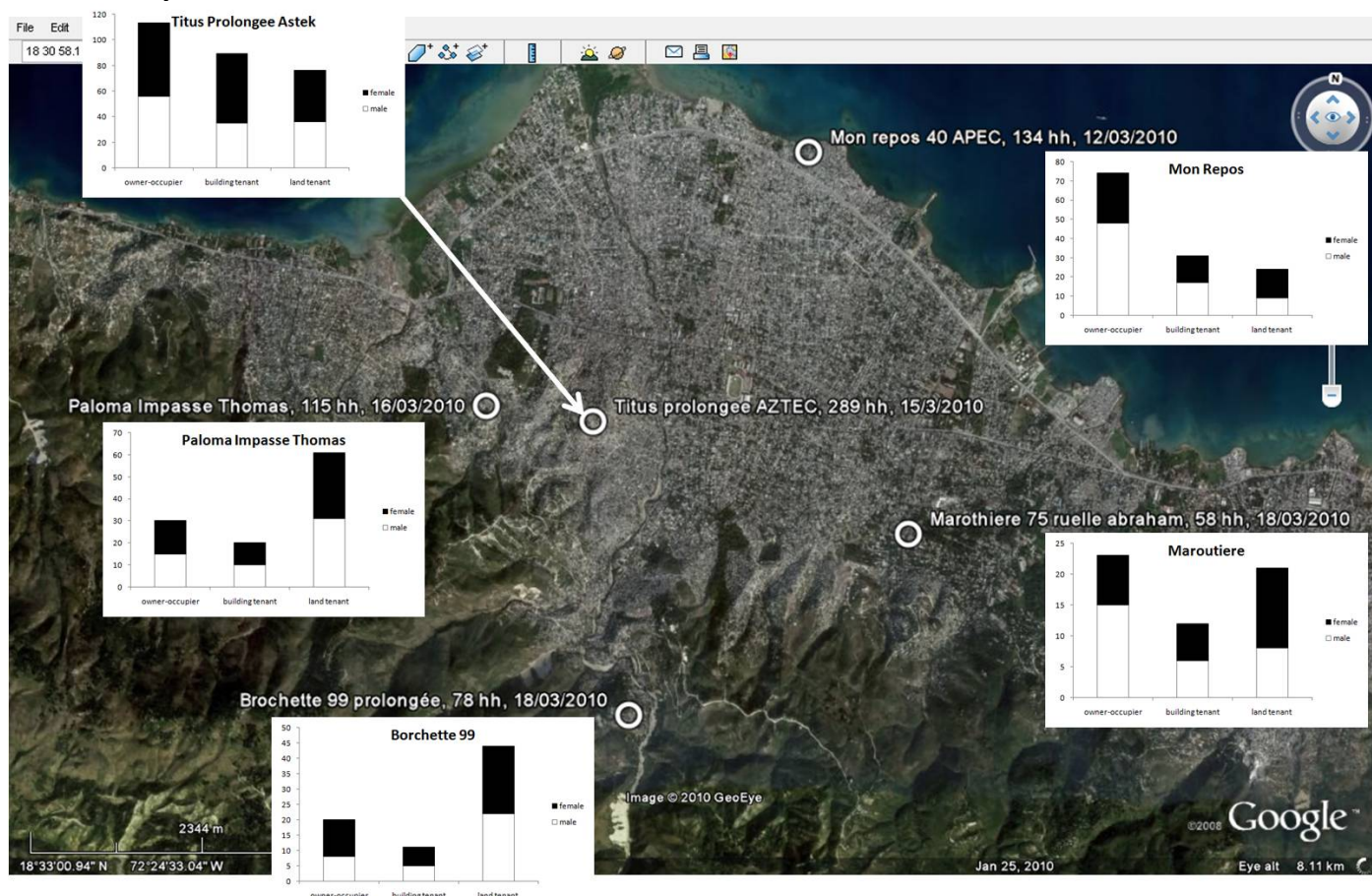
The satellite image and graphs show tenure status broken down by location and by gender (owner-occupiers on the left and land tenants on right hand side of graphs).

In Carrefour, the geographic variation and tenure of women showed some patterns although more general conclusions are difficult to draw from these samples:

- two of the downtown, urban areas - roughly characterised as flatter zones with better road access to main routes between Leogane and Port-au-Prince - showed that a slightly higher proportion of owner-occupier heads of household were men (Mon Repos, Maroithiere) and a slightly higher proportion of land tenant heads of household were women;
- peri-urban and rural sites (Paloma and Borchette) had much higher rates of land tenancy (compared to owner occupancy or building tenants);
- otherwise, the proportion of female and male heads of households in each tenure category were broadly similar

**Tenure security changes in different parts of the city and in urban, peri-urban and rural areas. Where people have access to space, they may not have long term security of tenure. Where people are owners, there may not be space!**

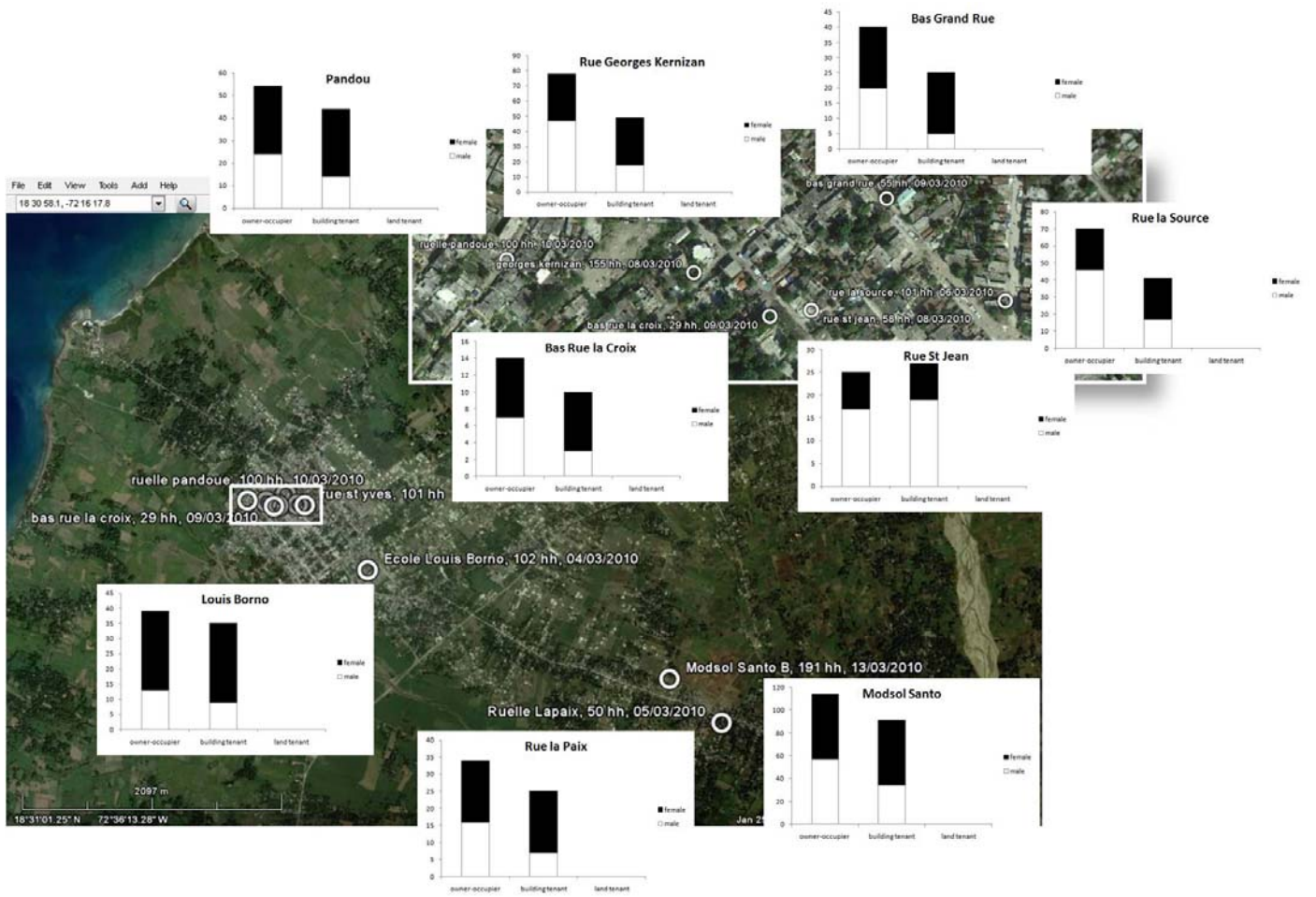
**Women may have more insecure tenure in urban areas.**



In Leogane, the initial surveys did not ask detailed enough questions on tenure security to give accurate breakdowns. From the data available:














- the proportion of female heads of household in each tenure category were roughly equivalent in each location;

- a first glance at this disaggregation suggests that there is a slight tendency towards female headed households in downtown Leogane;
- in Rue Saint Jean the overall results suggest many more male than female heads of household than female in comparison to the rest of the zone – the reasons for this are not clear but would be worth investigating
- perhaps more significantly, in Ecole Louis Borno – a camp for people displaced from their original location – a much higher proportion of heads of household were female. The reasons for this are not clear but should be investigated since they could mean that female headed households are more likely to have been displaced from their original locations.



# Recommendations for Beneficiary Selection

Table 7

<p><b>1. Evaluation</b> <b>2. Registration</b></p>																																						
<p><b>3. Verification</b></p>	<p>Selecting those with destroyed or irreparable homes and with land available: revisit family, structural check, documents check, GPS and photograph of proposed new site and documents.</p>																																					
<p><b>4. Beneficiary Selection</b></p>	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  or  Houses destroyed         </div> <div style="text-align: right;">  House may be reparable         </div> <div style="text-align: center;">  House is intact         </div> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Assessment (to end April)</th> <th>Rainy season</th> <th>Hurricanes</th> </tr> </thead> <tbody> <tr> <td style="width: 15%;">Is lack of land an obstacle?</td> <td style="width: 15%;">No</td> <td style="width: 35%;">           CARE: Transitional shelter materials kit with technical assistance            Rural: 3.5m<sup>2</sup>/person            Family &lt; 3 people → 12m<sup>2</sup>            Family &gt; 3 people → 24m<sup>2</sup>            Urban: up to 3.5m<sup>2</sup>/person            Family &lt; 3 people → 12m<sup>2</sup> (where space allows)            Family &gt; 3 people → 24m<sup>2</sup> (where space allows)         </td> <td></td> </tr> <tr> <td></td> <td>Yes</td> <td>           1 Referral to host family            2 Referral to new site (Red Cross in Leogane, partners in Carrefour)         </td> <td>           CARE: Reinforcement kit for self-built shelter and technical assistance for site preparation: U-shaped nails, 2-inch nails, 4-inch nails, rubber washers for nails, metal anchors (12-mm re-bar), 8 mm nylon rope, hurricane strapping, 2'X4' wooden planks, and a 60cm metal safe box or equivalent, pending final feedback of cluster partners.         </td> </tr> <tr> <td></td> <td></td> <td>3 Identification of overnight safe houses (CARE + community mobilization) or hurricane shelters (IFRC)</td> <td>CARE: community mobilization to agree hurricane safe houses</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 20%;">Urban areas (eg RC frame, cement block in fill, local slab construction)</td> <td style="width: 20%;">Refer for Structural Damage Assessment</td> <td style="width: 20%;">  See above   Refer for repair or retrofit (Habitat for Humanity in Leogane?)   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CGI sheet BG 32 piece, 3 no. cement 50kg sack, sand 1.09 m<sup>3</sup>, rough sand 0.55m<sup>3</sup>, 1kg roofing nails, 5kgx10cm nails, 6kg 8cm and 6cm nails, 0.5kg 4cm nails, 1no. door with accessories 80/180cm, 2no. window with accessories 60/40 cm, 6no. 2" x 4" plank, 1no. plastic sheet, 5litre wood preservative oil</td> </tr> <tr> <td>25m<sup>2</sup> to 50m<sup>2</sup> land available to host</td> <td>12m<sup>2</sup> Transitional shelter materials kit with technical assistance</td> </tr> <tr> <td>50m<sup>2</sup>+</td> <td>24m<sup>2</sup> Transitional shelter materials kit with technical assistance</td> </tr> </tbody> </table>	Assessment (to end April)		Rainy season	Hurricanes	Is lack of land an obstacle?	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	Yes	1 Referral to host family 2 Referral to new site (Red Cross in Leogane, partners in Carrefour)	CARE: Reinforcement kit for self-built shelter and technical assistance for site preparation: U-shaped nails, 2-inch nails, 4-inch nails, rubber washers for nails, metal anchors (12-mm re-bar), 8 mm nylon rope, hurricane strapping, 2'X4' wooden planks, and a 60cm metal safe box or equivalent, pending final feedback of cluster partners.																																			
		3 Identification of overnight safe houses (CARE + community mobilization) or hurricane shelters (IFRC)	CARE: community mobilization to agree hurricane safe houses																																			
Urban areas (eg RC frame, cement block in fill, local slab construction)	Refer for Structural Damage Assessment	 See above  Refer for repair or retrofit (Habitat for Humanity in Leogane?)  Potential host family or safe house? See below	Potential host family or safe house? See below																																			
Rural areas (eg single storey, traditional or mixed construction)	CARE: repair kit U-shaped nails, 2-inch nails, 4-inch nails, rubber washers for nails, 12 mm re-bar metal anchors, 8 mm nylon rope, hurricane strapping, 2'X4' wooden planks, 1no. 60cm metal safe box, 4m X5m of plastic sheeting and 1no. 50kg sack of cement, or equivalent		Potential host family or safe house? See below																																			
Already hosting		CARE: host family basic support package (Household NFIs or vouchers)																																				
Willing to host → referral of local IDP	Room to host	CARE: host family basic support package (Household NFIs or vouchers)																																				
	<25m <sup>2</sup> land available to host	CARE: extension kit 42no. plank, 32no. 2" x 2" x 4' wood beam, 8no. CGI sheet BG 32 piece, 3 no. cement 50kg sack, sand 1.09 m <sup>3</sup> , rough sand 0.55m <sup>3</sup> , 1kg roofing nails, 5kgx10cm nails, 6kg 8cm and 6cm nails, 0.5kg 4cm nails, 1no. door with accessories 80/180cm, 2no. window with accessories 60/40 cm, 6no. 2" x 4" plank, 1no. plastic sheet, 5litre wood preservative oil																																				
	25m <sup>2</sup> to 50m <sup>2</sup> land available to host	12m <sup>2</sup> Transitional shelter materials kit with technical assistance																																				
	50m <sup>2</sup> +	24m <sup>2</sup> Transitional shelter materials kit with technical assistance																																				

Referral to Host Family

## Limitations

The questionnaire, revised after the pilot phase, is shown in Appendix 3.

There are several categories of person that we cannot identify from this survey:

- Those displaced into camps or hosting situations OUTSIDE the survey neighbourhoods have not been identified
- Host families, the number and relationship of those hosted have been identified but the original location or intentions of the hosted has not been identified
- Likewise, the other villages or neighbourhoods from which people have come have not been specifically identified in terms of location name and distance away.












Questions are based on shelter to shelter street surveys with the state of houses based on damage reported by heads of household during interviews and **not** visual inspection.


A detailed breakdown by standard vulnerable groups was not conducted because the assumption was made that across whole zones the proportions of vulnerable groups would be roughly the same. Vulnerable households and individuals will be identified in verification and beneficiary selection activities.

This was a shelter needs assessment and as such did not focus on broader questions of livelihoods, vulnerabilities and capacities.


The data would be improved by triangulating and interpreting the quantitative results using the findings of other assessments, focus groups, IOM registration data and as much secondary and pre- and post-earthquake benchmark/reference data as possible.

Appendix 1: case studies

		 
 <p>Space and hosting space available on original owned plot in same neighbourhood</p>	  <p><b>Pre-earthquake:</b></p> <ul style="list-style-type: none"> <li>- 5 people on ground floor (landlord's family)</li> <li>- 6 people on first floor (tenants)</li> <li>- second small house for tenants</li> <li>- garden space, some wall damage</li> <li>- latrine</li> </ul> <p><b>Post-earthquake:</b></p> <ul style="list-style-type: none"> <li>- main house destroyed</li> <li>- second house at risk from first collapsed house falling further</li> <li>- garden space potentially at risk from falling building</li> <li>- latrine in use</li> <li>- landlord and tenants living on same street in improvised shelters</li> </ul>	  <p><b>Pre-earthquake:</b></p> <ul style="list-style-type: none"> <li>- 1 room house <i>en fermage</i>: head of household has 25 year lease agreement with landowner (living in Canada), lease was due to expire 2011</li> <li>- female headed household,</li> <li>- landlord's brother also living away from Haiti but visiting more regularly and checking site (seen as problematic by</li> </ul> <p><b>Post-earthquake:</b></p> <ul style="list-style-type: none"> <li>- house not repairable</li> <li>- one year left on lease</li> <li>- tension with Haiti-based relative of absentee landowner</li> <li>- occupant living close to relatives on neighbouring street in an improvised shelter</li> <li>- possessions recoverable</li> <li>- some clear space available for transitional shelter on original plot</li> </ul>
 <p>Space and hosting space available on a rented plot in same neighbourhood</p>	 <p><b>Post-earthquake:</b></p> <ul style="list-style-type: none"> <li>- space identified on father's land</li> <li>- space currently planted with banana trees which will be</li> </ul>	
 <p>Space available elsewhere with host owner occupiers elsewhere</p>	<p>?</p>	<p>?</p>

 <p>Space available elsewhere with host tenants elsewhere</p>	?	?
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### Latrine location

	<p>Pre-existing space between latrines and houses seems to be very limited.</p> <ul style="list-style-type: none"> <li>• Guidelines on spaces of 15m or 30m from dwellings will not be realistic in many cases</li> <li>• Guidelines are required on WASH support in hosting situations where the numbers of people occupying a plot or house and using a latrine may increase significantly.</li> </ul>
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## Appendix 2: Self-built shelters: Astek and Paloma

These images show a variety of shelters in the peri-urban areas above Carrefour.

- Shelters have been improvised in public space. Rubble, steep slopes and crowded construction before the earthquake means that the only free flat space is this public square.
- Materials include non-waterproof or poor quality plastic sheets and flimsy poles.
- Walk-throughs with community leaders showed many completely damaged structures and some with the potential for repair.



Paloma was an area surveyed because it showed an incongruous mixture of middle class housing interspersed with apparently very poor, spontaneous post-earthquake settlements. Distributions in this area later caused the vice-mayor to complain that people not previously resident in the zone had been encouraged to take over private land following distributions but CARE. On investigation, this turned out not to be true BUT the case study does illustrate the tension caused by the juxtaposition of wealthy/powerful urban dwellers (who demand goods and services and have access to housing and land) and the urban poor (potentially settling close to those to whom they can supply goods and services but without secure access to housing and land).



### Appendix 3: Damaged houses in Carrefour

- Single storey, single-pitch houses with either timber or reinforced concrete columns and masonry infill were typical
- Pre-earthquake housing in higher zones of Carrefour was often built on steep slopes
- These houses were often already being reoccupied (at least during the day) or protected by repairing collapsed walls with galvanized iron or plastic sheets.



**Appendix 3: questionnaire format**  
**FORMULAIRE D'EVALUATION**

Date de l'évaluation: \_\_\_/\_\_\_/2010 Nom de l'enquêteur: \_\_\_\_\_

Nom du Site \_\_\_\_\_ Carrefour Section Communale # \_\_\_\_\_

I. Prénom et nom du chef de famille..... # tel : .....

Hommes	Femmes	Femmes enceintes	Enfants <5 ans	Enfants 6- 18	Total

II. Numéro de pièce d'identité ? (ou permis de conduire ?) .....

III. Avant le séisme, vous (ou votre famille) étiez :

- 1) propriétaire 2) locataire 3) propriétaire de la maison mais pas du terrain

IV. Votre maison était elle 1) en parpaings et béton arme 2) traditionnelle (bois)

V. Etat actuel de la maison 1) Intacte 2) Endommagée mais réparable  
 3) Endommagée non réparable 4) Complètement détruite

VI. Si la reponse est 2), observer la maison et noter quels éléments ont besoin de réparations :

- 1) Poteaux en bois 2) Poteaux en beton 3) Poutres 4) Murs 5) Charpente

VII. Ou se trouve votre ancienne maison par rapport a l'endroit ou vous habitez maintenant ? 1) même maison

- 2) sur la même parcelle 3) dans le même village / quartier 4) dans un autre village / quartier

VIII. Dans quel type d'abri votre famille est elle logée actuellement ?

- 1) Sous une bâche 2) Dans une tente 3) Dans un abri en tôle 4) Autre (préciser) .....

IX. Hébergez vous des personnes déplacées ?

- 1) Oui 2) Non Si oui, combien ? ..... Font ils partie de votre famille ? 1) Oui 2) Non

X. Quelles sont vos intentions pour la suite en termes de logement ?

- 1) Réparer votre maison  
 2) Reconstruire votre maison  
 3) Partir vers un camp  
 4) Construire sur un lieu que j'ai identifié  
 5) Chercher un nouveau lieu pour construire  
 6) Habiter dans une famille d'accueil  
 7) Aucun projet  
 8) Autre (détailler) .....

XI. A part le manque de matériel, quels sont les éventuels obstacles pour vous reloger (plusieurs choix possibles) :

- 1) Aucun obstacle  
 2) Manque de terrain  
 3) Manque de connaissances en construction  
 4) Manque de main d'oeuvre  
 5) Incertitude sur la stabilité de la maison  
 6) Accessibilité / transport  
 7) Autres (détailler).....

Questions XII et XIII uniquement pour ceux qui ont identifié un terrain ou installer un abri :

XII. Superficie du terrain? 1) <15m2 2) 15 – 20m2 3) 20-25m2 4) >25m2 5) ne sait pas

XIII. La zone vers laquelle vous allez présente-t-elle certains des risques suivants :

- 1) Inondation 2) Glissements de terrain  
 3) Bâtiments voisins risquant de s'effondrer 4) Autres ? .....

## Appendix 4 All Data and Maps

		Carrefour				Leogane			
		Totals	Average	Range		Totals	Average	Range	
Population characteristics	Foyers	674				841			
	Hommes	1161	29%	28%	31%	1272	29%	26%	35%
	Femmes	1172	29%	27%	36%	1471	34%	32%	37%
	Femmes Enceintes	53	1%	1%	2%	79	2%	0%	3%
	Enfants moins de 5ans	616	15%	11%	18%	571	13%	10%	18%
	Enfants entre 6 et 18ans	1037	26%	19%	31%	943	22%	17%	30%
	<b>Totale</b>	<b>4,007</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>4314</b>	<b>5</b>	<b>4</b>	<b>6</b>
ID	Piece d'identite?								
Tenure	familles propriétaires	261	39%	26%	56%	463	55%	38%	73%
	famillesc locataires	163	24%	14%	31%	306	36%	20%	53%
	autres	226	34%	18%	56%	0	0%	0%	0%
House Type	maisons parpaings et beton arme	474	70%	55%	79%	506	60%	35%	82%
	maisons traditionnelle bois	19	3%	0%	13%	92	11%	1%	28%
	Mixte	123	18%	7%	27%	0	0%	0%	0%
Damage	maisons intactes	34	5%	1%	13%	13	2%	0%	5%
	maisons reparables	290	43%	39%	48%	333	40%	27%	63%
	maisons non-reparables	111	16%	13%	19%	87	10%	6%	31%
	maisons detruites	219	32%	17%	39%	358	43%	20%	65%
Elements to be repaired	poteaux en bois								
	poteaux en beton								
	poutres								
	murs								
	charpente								
Where?	Meme maison	61	9%	4%	13%	24	3%	0%	14%
	Meme parcelle	219	32%	20%	43%	58	7%	0%	20%
	Meme quartier	310	46%	22%	58%	508	60%	0%	85%
	Autre quartier	42	6%	3%	16%	96	11%	0%	43%
Type of shelter?	Bache	290	43%	28%	59%	458	54%	35%	84%
	Tente	66	10%	1%	19%	47	6%	0%	14%
	Tole	153	23%	10%	36%	210	25%	0%	61%
Hosting	Number of families hosting family members								
	Number of families hosting non-family members								
	Ratio of host to hosted								
Intentions	reparer	221	33%	27%	42%	186	22%	3%	42%
	reconstruire	261	39%	30%	43%	239	28%	0%	47%
	partir vers un camp	8	1%	0%	3%	60	7%	0%	18%
	chercher un nouveau terrain	26	4%	2%	10%	145	17%	0%	34%
	habiter dans une famille d'accueil	63	9%	1%	15%	16	2%	0%	12%
	aucun projet	0	0%	0%	0%	27	3%	0%	18%
	autre	12	2%	0%	5%	7	1%	0%	6%
Obstacles	aucun obstacle	52				80			
	manque de terrain	43				88			
	manque de connaissance en construction	43				88			
	manque main d'oeuvre	366				387			
	incertitude sur la satbilite maison	496				421			
	accessibilite du site	5				25			
	autres	8				1			
Surface du terrain (si deja trouve)?	<15m2	23	3%	0%	6%	16	2%	0%	7%
	15-20m2	56	8%	1%	15%	39	5%	0%	13%
	20-25m2	65	10%	2%	22%	44	5%	0%	20%
	>25m2	149	22%	13%	37%	169	20%	0%	50%
	ne sait pas	19	3%	0%	10%	10	1%	0%	7%
Risques ?	inondation	4	1%	0%	4%		0%	0%	0%
	glissements de terrain	16	2%	0%	18%		0%	0%	0%
	batiments	12	2%	1%	3%		0%	0%	0%
	autres	46	7%	1%	12%		0%	0%	0%
By gender	Male heads of household	334	50%	46%	57%				
	Female heads of household	340	50%	43%	54%				

### Carrefour (tenure disaggregated by gender)

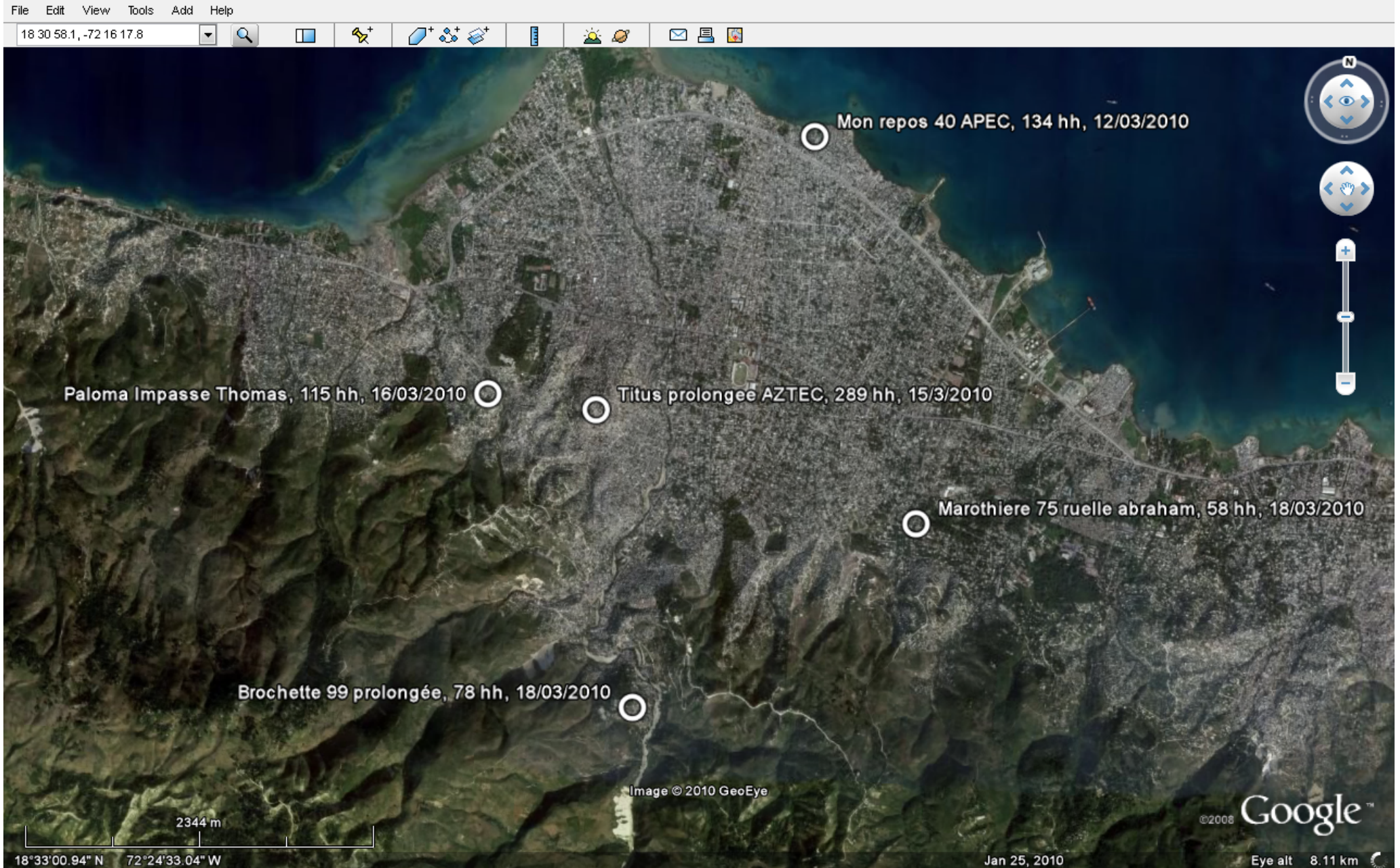
		1203 mon repos	1503 astek prolongee	1603 paloma impasse thomas	1803 marotiere75	1803 borchette99
% male head of households by tenure	owner occupier	63%	42%	25%	50%	22%
	tenant	22%	27%	17%	20%	14%
	land tenant	12%	27%	52%	27%	61%
% female head of household by tenure	owner occupier	45%	36%	27%	29%	29%
	tenant	24%	34%	18%	21%	14%
	land tenant	26%	25%	55%	46%	52%

		Carrefour			Leogane		
		owner occupier	tenant	land tenant	owner occupier	tenant	
Hosting	Number of families hosting family members	35	16	32	54	37	
	Number of families hosting non-family members	14	10	9	99	50	
	<b>Ratio of host to hosted</b>	0.5	0.5	0.6	1.0	0.7	

Carrefour		Disaggregation by tenure			1203 mon repos	Disaggregation by tenure			1503 astek prolongee	Disaggregation by tenure			1603 paloma impasse thomas	Disaggregation by tenure			1803 marotiere75	Disaggregation by tenure			1803 borchette99	Totals	Average	Range	
Population characteristics		Owner-occupiers	Tenant	Land tenant		Owner-occupiers	Tenant	Land tenant		Owner-occupiers	Tenant	Land tenant		Owner-occupiers	Tenant	Land tenant		Owner-occupiers	Tenant	Land tenant					
	Foyers				134				289				115				58				78	674			
	Hommes			30%	238			28%	492			31%	211			29%	102			28%	118				
	Femmes			27%	211			28%	493			33%	227			36%	126			27%	115				
	Femmes Enceintes			2%	14			1%	22			1%	6			1%	3			2%	8				
	Enfants moins de 5ans			11%	88			18%	321			15%	104			14%	47			13%	56				
	Enfants entre 6 et 18ans			30%	241			26%	448			19%	133			24%	84			31%	131				
	Totale				794				1756				683				346				428	4007	6	5	6
ID	Piece d'identite?	59%	52%	46%	73	69%	39%	18%	198	50%	65%	61%	75	48%	58%	43%	24	60%	73%	43%	41				
Tenure	families proprietaires		27%	56%	75		14%	39%	113		17%	26%	30		9%	40%	20		30%	26%	20	261	39%	26%	56%
	families locataires		16%	23%	31		10%	31%	89		35%	17%	20		25%	21%	12		16%	14%	11	163	24%	14%	31%
	autres		13%	18%	24		12%	26%	76		33%	53%	61		5%	36%	21		16%	56%	44	226	34%	18%	56%
Houses Type	maisons parpaings et beton arme	80%	77%	56%	99	88%	73%	42%	201	97%	65%	75%	91	74%	67%	67%	40	40%	73%	57%	43	474	70%	55%	79%
	maisons traditionnelle bois	7%	0%	0%	5	0%	3%	0%	3	0%	0%	0%	0	0%	8%	0%	1	10%	9%	14%	10	19	3%	0%	
	maide	8%	19%	38%	23	2%	19%	49%	58	0%	15%	21%	17	0%	0%	19%	4	40%	9%	27%	21	123	18%	7%	
Damage	maisons intactes	9%	16%	17%	17	2%	4%	1%	8	0%	10%	2%	8	0%	10%	2%	3	0%	0%	2%	1	34	5%	1%	
	maisons reparables	52%	42%	42%	64	33%	44%	43%	114	43%	50%	54%	55	39%	33%	43%	23	65%	73%	27%	34	290	43%	39%	
	maisons non-reparables	19%	23%	17%	25	18%	13%	18%	48	7%	5%	23%	15	13%	8%	19%	8	15%	9%	23%	15	111	16%	13%	
Elements to be repaired	maisons detruites	17%	13%	21%	23	44%	38%	37%	112	47%	35%	46%	37	46%	42%	24%	21	20%	18%	43%	26	219	32%	17%	
	poeaux en bois			0%	0			0%	1			1%				2%	1			1%	1				
	poeaux en beton			15%	20			11%	33			13%	15			7%	4			15%	12				
Whene?	autres			5%	7			8%	23			10%	12			2%	1			9%	7				
	murs			43%	58			34%	98			45%	52			40%	23			51%	40				
	charpente			1%	1			2%	6			3%	3			3%	2			1%	1				
Type of shelter?	Meme maison	13%	23%	4%	18	12%	7%	1%	20	3%	15%	15%	13	0%	0%	29%	7	5%	9%	2%	3	61	9%	4%	
	Meme parcelle	52%	42%	21%	58	40%	20%	39%	97	23%	15%	20%	23	48%	8%	19%	17	40%	0%	34%	24	219	32%	20%	
	Meme quartier	15%	26%	42%	29	42%	66%	46%	145	57%	65%	52%	65	43%	67%	38%	26	50%	82%	55%	45	310	46%	22%	
Hosting	Autre quartier	16%	6%	29%	22	1%	6%	4%	10	7%	5%	3%	5	0%	8%	10%	3	5%	0%	2%	2	42	6%	3%	
	Bache	55%	52%	46%	70	28%	39%	18%	82	50%	65%	61%	68	52%	58%	43%	29	55%	73%	43%	41	290	43%	28%	
	Tente	3%	3%	0%	3	19%	22%	12%	54	3%	0%	2%	2	13%	8%	10%	6	5%	0%	0%	1	66	10%	1%	
Interiore	Toile	24%	10%	38%	31	27%	19%	34%	76	13%	5%	8%	11	22%	8%	5%	7	25%	18%	48%	28	153	23%	10%	
	Hosting?	14	4	2		11	4	6		5	5	16		2	2	1		3	1	7					
	numero de deplaces	6	1	1		5	5	3		0	2	4		0	1	0		3	1	1					
Obstacles	famille ?	0.5	1.0	1.1		0.8	0.5	0.4		0.0	0.5	0.5		0.2	0.3	0.3		1.0	0.2	0.9					
	reparer	49%	13%	54%	56	33%	7%	38%	117	40%	25%	46%	45	35%	0%	38%	17	60%	0%	32%	26	221	33%	27%	
	reconstruire	40%	3%	33%	40	62%	7%	51%	77	50%	15%	49%	50	52%	0%	48%	22	25%	0%	59%	32	261	39%	30%	
Surfaces du terrain (en m2)	partir vers un camp	0%	0%	0%	0	0%	9%	0%	8	0%	0%	0%	0	0%	0%	0%	0	0%	0%	0%	0	8	1%	0%	
	chercher un nouveau terrain	0%	10%	0%	3	0%	6%	0%	5	0%	25%	0%	5	4%	33%	0%	5	5%	55%	0%	8	26	4%	2%	
	habiter dans une famille d'accueil	0%	39%	0%	12	0%	48%	0%	44	0%	5%	0%	1	0%	33%	0%	4	0%	9%	2%	2	63	9%	1%	
Risques ?	aucun projet	0%	0%	0%	0	0%	0%	0%	0	0%	0%	0%	0	0%	0%	0%	0	0%	0%	0%	0	0	0%	0%	
	autre	4%	13%	0%	7	0%	4%	0%	4	0%	0%	0%	0	0%	0%	5%	1	0%	0%	0%	0	12	2%	0%	
	aucun obstacle	5%	6%	33%	16	4%	2%	14%	18	13%	5%	7%	11	13%	0%	5%	4	0%	0%	7%	3	52			
By gender	manque de terrain	0%	39%	0%	12	4%	22%	3%	26	0%	0%	0%	0	0%	17%	0%	2	0%	9%	5%	3	43			
	manque main d'oeuvre	61%	42%	21%	12	73%	42%	22%	26	63%	45%	84%	0	78%	50%	76%	2	80%	55%	70%	3	43			
	incertitude sur la sabilite maison	1%	3%	0%	64	90%	66%	83%	140	73%	55%	84%	67	78%	42%	66%	41	80%	55%	66%	54	366			
By gender	accessibilite du site	0%	0%	0%	89	0%	0%	0%	228	0%	0%	2%	84	0%	0%	5%	42	0%	0%	0%	52	496			
	autres	1%	3%	0%	0	0%	1%	0%	0	0%	10%	2%	2	0%	0%	5%	0	25%	0%	2%	0	5			
	<15m2	1%	0%	4%	2	10%	1%	1%	13	0%	0%	0%	0	4%	0%	10%	3	0%	9%	9%	5	23	3%	0%	
Risques ?	15-20m2	1%	0%	0%	1	24%	1%	5%	32	7%	10%	3%	6	4%	0%	19%	5	10%	0%	23%	12	56	8%	1%	
	20-25m2	1%	6%	4%	5	20%	0%	14%	36	7%	0%	7%	6	0%	0%	5%	1	25%	0%	25%	17	65	10%	2%	
	>25m2	15%	6%	21%	18	15%	7%	37%	52	43%	30%	38%	43	26%	17%	14%	11	40%	55%	25%	25	149	22%	13%	
Risques ?	ne sait pas	16%	3%	0%	13	0%	2%	0%	2	0%	0%	0%	0	13%	0%	0%	3	0%	9%	0%	1	19	3%	0%	
	inondation			1%	1			0%	0			0%	0			0%	0			4%	3	4	1%	0%	
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	Male heads of hous ehoid	48	17	9	76	56	35	36	132	15	10	31	60	15	6	8	30	8	5	22	36	334	50%	46%	
By gender	Female heads of household	26	14	15	58	57	54	40	157	15	10	30	55	8	6	13	28	12	6	22	42	340	50%	43%	
	% male head of hous ehoids bytenure	63%	22%	12%		42%	27%	27%		25%	17%	52%		50%	20%	27%		22%	14%	61%					
	% female head of hous ehoid bytenure	45%	24%	26%		36%	34%	25%		27%	18%	55%		29%	21%	46%		29%	14%	52%					



## Appendix 5: satellite images and site locations for Carrefour and Leogane



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