THE FORGOTTEN EARTHQUAKE VICTIMS

NEGLECT OUTSIDE OF METROPOLITAN PORT-AU-PRINCE

JUNE 2010

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INTRODUCTION

On January 12, 2010 Haiti was struck by a magnitude 7.0 earthquake. Thousands of people died and millions were displaced from their homes. The international community, led by the United States, prepared a massive response to this disaster. So far, millions of dollars have been received and millions more were pledged by donors. Each and every day, more aid is reaching Haiti. However, looking at the living conditions in the Internally Displaced Persons (IDP) camps, organizations fighting for human rights in Haiti conclude that there is a gap between the aid promised, the aid given and the aid received by the Haitian people. Five months after the earthquake, more than 2 million people still live in camps; that number is not too different from the number of people weeks after the earthquake. With the government's inability to relocate most people living in those settlement sites, the rainy season threatens to stress a fragile humanitarian situation with outbreaks of diseases, mud slides and more unhygienic living conditions[7]. Experts agree that most of the damages were caused by a heavy concentration of people in metropolitan Port-au-Prince. For many years, people left the other cities and rural areas to attend school or to look for jobs that did not exist in a city that was already crowded; one third of the entire population of Haiti lives in Port-au-Prince. With about 73,434 people per square miles, Port-au-Prince is actually a very dense city, slightly denser than Manhattan, New York. Any serious reconstruction project will have to focus on decentralizing the country, however even the distribution of aid doesn't seem to set an example for a true decentralization process. This report aims to provide evidence that the aid is not reaching those who really need it, especially people living in the affected areas outside of metropolitan Port-au-Prince.

We will use Econometric analysis to build a model that could estimate and compare the likelihood of needs of people living in the affected areas of metropolitan Port-au-Prince and outside of metropolitan Port-au-Prince. The data processed to generate this report may have some limitations. First of all, the surveys were taken a month after the earthquake, during the week of February 15; we admit that, today, economic conditions may have changed as most schools, businesses and institutions have reopened their doors. However, given the facts that a great percentage of households are still not relocated to safer places, and the fact that the materials distributed such as tarps, clothes, food and water are not durable, we are confident that this report can be useful to refer to the current living conditions in the camps. Secondly, there are not that many data available regarding the economic situation after the earthquake or even before the earthquake; neither do we have many economic studies on the post-earthquake situation in Haiti. Also, there might be some issues with the sampling of the data. In our survey, four highly populated cities in metropolitan Port-au-Prince were oversampled; however, our results are not weighted assuming that the unweighted results may be insignificantly different.

THE SURVEY

Two organizations defending human rights in Haiti, the "Bureau des Avocats Internationaux" (BAI) and "Lamp for Haiti", collected data on the living conditions of earthquake survivors in the camps. The two surveys used different methodologies. LAMP conducted intensive interviews with 90 families in six different camps while BAI conducted more streamlined interviews with families in six different communes (cities)[1]. The data used to generate this report are those from the "Bureau des Avocats Internationaux" (BAI).

The BAI surveys were conducted in six communes (cities): Port-au-Prince, Carrefour, Petion-Ville, Delmas, Croix-des-Bouquets and Petit-Goave. Haiti is divided into departments, each department is subdivided into arrondissements (districts), and each arrondissement (district) is further subdivided into communes (cities). Port-au-Prince, Petion-Ville, Delmas, and Carrefour are all part of the arrondissement (district) of Port-au-Prince. Croix-des-Bouquets is part of the arrondissement (district) of Croix-des-Bouquets and Petit-Goave is part of the arrondissement (district) of Leogane. For the purpose of this report, we will combine Port-au-Prince, Carrefour, Petion-Ville, and Delmas into one area that we will call Metropolitan Port-au-Prince; Croix-des-Bouquets and Petit-Goave into an area that we will refer to as outside of Metropolitan Port-au-Prince. Our sample size for the different areas may not be as large as we wanted it to be, especially for the area outside of metropolitan Port-au-Prince; but we can assume that this random sample, as small as it may be, can be useful to make valid predictions about the overall population living in the camps in those areas.

BAI surveyed 4,528 mature individuals who could speak on behalf of their households. They each gave verbal consent to be interviewed.

Table 1 - Number of respondents per commune (city)	
1. **Port-au-Prince**	2,667
2. **Carrefour**	931
3. **Petion-Ville**	618
4. **Delmas**	78
Metropolitan Port-au-Prince	*4,294*
5. **Croix-des-Bouquets**	104
6. **Petit-Goave**	130
Outside of Metropolitan Port-au-Prince	*234*
Total	**4,528**

For each household, BAI collected information on:

- The total number of people in the household.
- The total number of people who are dead.
- The total number of people who are injured.

- The total number of people who disappeared.
- The total number of females.
- The total number of males.
- The total number of children.
- The condition of their houses; if it was destroyed, damaged, or undamaged.
- The household's needs for water, food, medicine, clothing, tents.

The responses were coded and entered in PASW for analysis

Table 2 - PASW Variables

Variable Name	Type	Description
People	Scale (Total number)	Total number of people in the household.
Dead	Scale (Total number)	Total number of people who died in the earthquake.
Injured	Scale (Total number)	Total number of people who were injured during the earthquake.
Disappeared	Scale (Total number)	Total number of people who disappeared during the earthquake.
Females	Scale (Total number)	Total number of females in the household.
Males	Scale (Total number)	Total number of males in the household.
Children	Scale (Total number)	Total number of children in the household.
Metropolitan	Binary (0 = no, 1 = yes)	Is respondent in Port-au-Prince, Carrefour, Petion-ville, or Delmas ?
Nonmetropolitan	Binary (0 = no, 1 = yes)	Is respondent in Petit-Goave or Croix-des-Bouquets ?
Destroyed	Binary (0 = no, 1 = yes)	Is house destroyed?
Damaged	Binary (0 = no, 1 = yes)	Is house damaged?
Undamaged	Binary (0 = no, 1 = yes)	Is house undamaged?
Needs	Binary (0 = no, 1 = yes)	Does household needs water, food, medicine, clothing, or tents?

THE MODEL

We used logistic regression analysis with maximum likelihood techniques to estimate a model that could predict the probability that an individual household will have needs for water, foods, medicine, clothing or tents. The variables *nonmetropolitan* and *undamaged* are used as reference variables to avoid the dummy variable trap.

$$Logit\ (P) = \alpha + \sigma injured + \beta people + \gamma damaged + \delta destroyed + \theta metropolitan$$

REGRESSION RESULTS

Table 3 - Regression Results

	B	S.E.	Wald	Df	Sig.	Exp(B)
injured	0.15	0.072	4.314	1	0.038**	1.162
people	0.06	0.015	16.296	1	0.000*	1.062
damaged	0.678	0.184	13.667	1	0.000*	1.971
destroyed	0.673	0.190	12.495	1	0.000*	1.960
metropolitan	-4.773	0.710	45.172	1	0.000*	0.008
constant	5.044	0.726	48.246	1	0.000*	155.053

* significant at 1% level   ** significant at 5% level

A test of our full model compared with an intercept-only model is statistically significant at the 1% level. According to our classification table, our predictions were correct 83% of the times; and almost 14% of the variation in our model is explained by our variables. We notice that all the variables are statistically significant at the 1% level except for the variable *injured* which is significant at the 5% level. From the model we get these significant results:

Having one more injured person in the household will increase the odds of being in need by a multiplicative factor of 1.16. Although statistically significant, this is not really a big effect since it is so close to 1 which we would interpret as a "no effect". However, we still can conclude through this result that households with the most injured are more likely to be in need. The size of the household does not have a significant effect on the odds of being in need either. With one more person in the household, the odds of being in need increase only by a multiplicative factor of 1.06, which could be interpreted as having almost no effect. Still, from the model, households with the greater number of children would be more likely to be in need if we keep everything else constant.

The condition of the household's home is a significant factor that, according to our model, will predict the probability that the household will be in need. Having a house that is damaged has a considerable effect on the probability of being in need according to our data, it increases the odds by a multiplicative factor of about 1.97; that means the chances of being in need, if the household's house is damaged, are approximately two times higher than if the house is not damaged. Someone with a damaged house will be two times more likely to be in need than someone with an undamaged house, all else constant. Having a destroyed house has about the same effect. The odds of being in need increase by a multiplicative factor of 1.96; also approximately two times higher than if the house is not damaged. This is to say, households with completely destroyed homes will also be 2 times more likely to be in needs than households with undamaged homes.

Perhaps our most important finding has to do with the location of the household. Being in metropolitan Port-au-Prince actually decreases the odds of being in needs when compared to being outside of metropolitan Port-au-Prince. In fact, being in the metropolitan Port-au-Prince area cuts the odds of being in need by a multiplicative factor of 0.008. By inverting the odds ratio, the model tells us that the odds for someone outside of metropolitan Port-au-Prince to be in need are 125 times higher than for someone living in metropolitan Port-au-Prince. In other words, it is 125 times more likely for someone outside of metropolitan Port-au-Prince to be in need for water, food, medicine, clothing or tents than someone in metropolitan Port-au-Prince.

IMPLICATION OF RESULTS

If we consider a typical household of four living in metropolitan Port-au-Prince, having a destroyed house with no one injured, our model would estimate the odds of being in need for this family to be 3.79 versus 448.99 for this same family living outside of metropolitan Port-au-Prince. If we convert odds to probabilities, we predict that 79% of such families will be in need in Metropolitan Port-au-Prince, whereas 99% of such families will be in need outside of metropolitan Port-au-Prince.

The deadly earthquake had its epicenter outside of metropolitan Port-au-Prince, 25 km (16 miles) of the capital, near the city of Leogane. In Leogane particularly, 90% of the buildings were destroyed with a quarter of the city's population dead or missing[8]. While many international organizations have focused their attentions on the Port-au-Prince metropolitan area, the BAI survey among other surveys has clearly shown that the population living outside of metropolitan Port-au-Prince suffered greater damages and are more desperate for the help that has been promised. According to a situation report by the United Nations' Office for the Coordination of Humanitarian Affairs, of the 115 pre-primary, basic and secondary schools operational before the earthquake, 102 are now damaged or destroyed (almost 90%)[5]. Similarly to the situation in Leogane, in Petit-Goave and Grand-Goave emergency shelter coverage in urban and semi urban areas is estimated at above 50% but extremely low in mountainous areas. According to official figures, 80% of the population in Petit-Goave lives in mountainous areas. Only a small percentage of them has been reached[6].

Outside of metropolitan Port-au-Prince, we recorded more people injured per household than inside of metropolitan Port-au-Prince, 0.4 compared to 0.27. The greater number of people per household and greater percentage of destroyed houses reported in the Port-au-Prince metropolitan area can be explained by the heavy density of the region. Outside of metropolitan Port-au-Prince, a greater percentage of people reported a damaged house, 70.9% compared to 53.3% in metropolitan Port-au-Prince. And, only 0.9% reported an undamaged house compared to 4.7% in metropolitan Port-au-Prince.
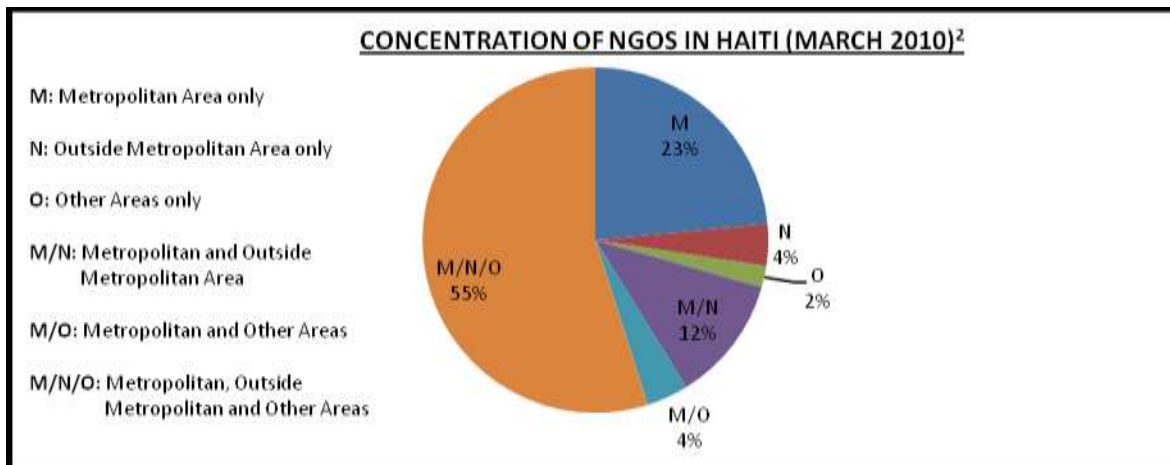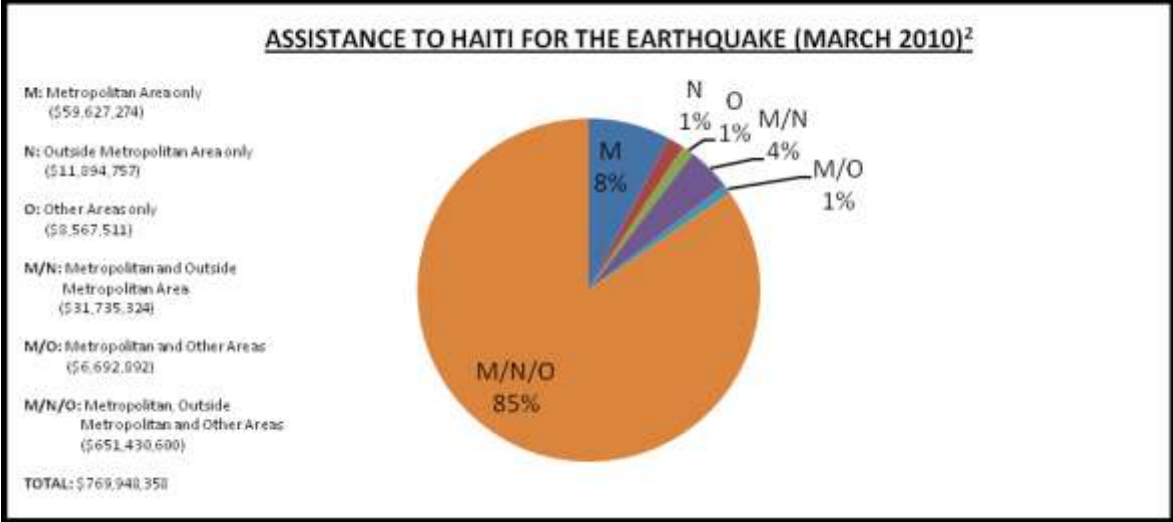
Table 4 – Comparison

	Metropolitan Port-au-Prince	Outside of Metropolitan Port-au-Prince
Injured	0.27 per household	0.40 per household
People	6.24 per household	5.44 per household
Damaged	53.3%	70.9%
Destroyed	40.9%	28.2%
Undamaged	4.7%	0.9%

In a briefing paper, Oxfam international, an organization working in Haiti, admits that: There are too many NGOs in Haiti, doing the wrong things and focusing their inputs on cities instead of on rural areas[9]. Before the earthquake, Haiti already had the

most NGOs per capita than any other country in the world; added to that, a major increase in international relief and development agencies, together with private organizations, flooded into the country soon after the January 2010 earthquake[10]. For a very long time, the donor community has provided assistance through NGOs by trying to avoid corrupt governments. This has helped the proliferation of NGOs unwilling to work with local state institutions that actually know where the help is needed the most. Yves Lindor, the mayor of Petit-Goave, a city outside of metropolitan Port-au-Prince reports that the NGOs in his city refuse to collaborate with the local government. The city sent forms to the many NGOs and very few of those forms were returned. The local government has no control of the various activities of the NGOs in the commune (city) [4]. Assistance to NGOs in Haiti usually comes in the form of small poorly coordinated projects, concentrated in the metropolitan area of Port-au-Prince that often do not harmonize with the government's priorities for development. In fact, according to a report funded by Oxfam, about 31.3% of those polled think that development aid was inefficient or very inefficient compared to only 8.8% of Haitians who thought highly or very highly of the quality of that aid[11].
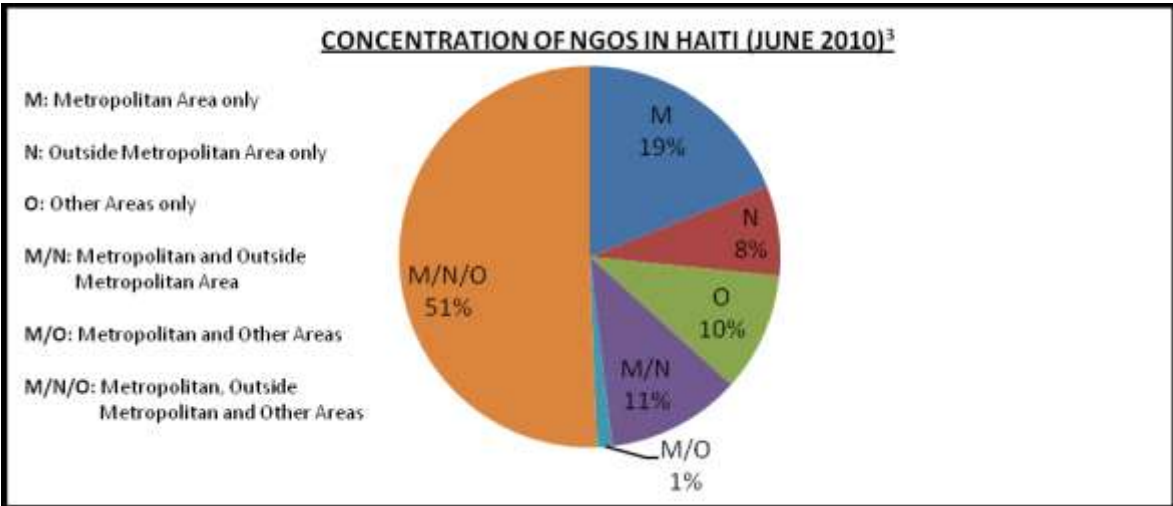
We will use the USAID earthquake fact sheets, which report on NGOs that are implementing partners of the US government to generalize about the population of NGOs in Haiti, considering that those NGOs represent a very large percentage of all NGOs operating in Haiti. A month after the earthquake 23% of the organizations were concentrated in the Port-au-Prince metropolitan area only, where only 4% of them had their focus outside of the metropolitan Port-au-Prince where the help was desperately needed too.

CONCENTRATION OF NGOS IN HAITI (MARCH 2010)[2]

M: Metropolitan Area only

N: Outside Metropolitan Area only

O: Other Areas only

M/N: Metropolitan and Outside Metropolitan Area

M/O: Metropolitan and Other Areas

M/N/O: Metropolitan, Outside Metropolitan and Other Areas

M 23%
N 4%
O 2%
M/N 12%
M/O 4%
M/N/O 55%

ASSISTANCE TO HAITI FOR THE EARTHQUAKE (MARCH 2010)[2]

M: Metropolitan Area only
($59,627,274)
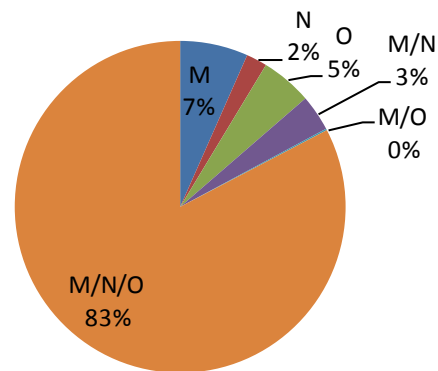
N: Outside Metropolitan Area only
($11,894,757)

O: Other Areas only
($8,567,511)

M/N: Metropolitan and Outside
Metropolitan Area
($31,735,324)

M/O: Metropolitan and Other Areas
($6,692,992)

M/N/O: Metropolitan, Outside
Metropolitan and Other Areas
($651,430,600)

TOTAL: $769,948,358

N 1% O 1% M/N 4% M/O 1% M 8% M/N/O 85%

When it comes to spending, 8% of all the money spent by those organizations funded projects in the Port-au-Prince metropolitan area only; just 1% was used to finance projects that had focus outside of metropolitan Port-au-Prince. When we look at the gravity of the situation in the Port-au-Prince metropolitan area, we cannot help thinking that the other affected areas must be worst. Still, the amount of money spent on projects in metropolitan Port-au-Prince was more than 5 times greater than the amount of money spent on projects outside of metropolitan Port-au-Prince.

Five months after the earthquake, we have seen some improvements, however a significant gap still exists and evidence of neglect outside of metropolitan Port-au-Prince remains present. We have had less NGOs concentrated in the Port-au-Prince metropolitan area, the percentage went from 23% in March to 19% focusing their works in that area only. Outside of the metropolitan Port-au-Prince, we went from 4 to 8% of the NGOs working in that area only.

CONCENTRATION OF NGOS IN HAITI (JUNE 2010)[3]

M: Metropolitan Area only

N: Outside Metropolitan Area only

O: Other Areas only

M/N: Metropolitan and Outside
Metropolitan Area

M/O: Metropolitan and Other Areas

M/N/O: Metropolitan, Outside
Metropolitan and Other Areas

M 19% N 8% O 10% M/N 11% M/O 1% M/N/O 51%

From March to June, we had a 42% increase in the amount spent on projects; the amount actually exceeded 1 billion. Despite that significant increase, the percentage of funds that went for projects in metropolitan Port-au-Prince went from 8% in March to only 7% in June. Outside of the Port-au-Prince metropolitan area, that percentage went from 1% to only 2%. Although we have seen some improvements over those past few months, we also must realize that much more work needs to be done to make sure that organizations with missions to help are not concentrated in and focused on one area only, and that people living outside of metropolitan Port-au-Prince are also getting the help that they rightfully deserve.

SUMMARY

We used logistic regression to build a model that could estimate the probability that an individual household would be in need for water, food, medicine, clothing or tents. We used different significant variables such as: the total number of people in the household, the total number of injured people in the household, if the household's house was damaged or not, if the household's house was destroyed or not, and if the household lives in metropolitan Port-au-Prince or not. We found that having one more person, just like having one more injured person in the household, has almost a no effect on the odds of being in need. We also conclude that having a damaged or a destroyed house has almost the same effect on the odds of being in need; someone with a damaged or destroyed house is almost two times more likely to be in need than someone with an undamaged house. Finally, being outside of metropolitan Port-au-Prince had a great effect on the odds of being in need; our model predicts that someone outside of metropolitan Port-au-prince will be 125 times more likely to be in need than someone in metropolitan Port-au-Prince. We calculated the odds of being in need for a typical family of four living in metropolitan Port-au-Prince, having a destroyed house with no one injured person; our model estimated the odds of being in need to be 3.79 versus 448.99 for this same family living outside of metropolitan Port-au-Prince. Converting odds to probabilities, we predict that 79% of such families will be in need in metropolitan Port-au-Prince, whereas 99% of such families will be in need outside of metropolitan Port-au-Prince.

Being a very dense region, metropolitan Port-au-Prince had a greater ratio of people per household and a greater percentage of destroyed houses according to our survey. However, outside of the metropolitan Port-au-Prince, we had a greater ratio of injured people per household and a greater percentage of damaged houses, both are factors that can increase the odds of being in need according to our model. We used a sample of NGOs that are implementing partners of the US government in Haiti to generalize about the greater population of NGOs in the country. A month after the earthquake, 23% of the organizations were concentrated in the Port-au-Prince metropolitan area only, where only 4% of them had their focus outside of the metropolitan Port-au-Prince. When it comes to spending, 8% of all the money spent by those organizations funded projects in the Port-au-Prince metropolitan area only; just 1% was used to finance projects that had focus outside of metropolitan Port-au-Prince. Five months later, we have seen some improvements, however a significant gap still exists and evidence of neglect outside of metropolitan Port-au-Prince remains present. We have had less NGOs concentrated in the Port-au-Prince metropolitan area, the percentage went from 23% in March to 19% focusing their works in that area only. Outside of metropolitan Port-au-Prince, we went from 4 to 8% of the NGOs working in that area only. The percentage of funds that went for projects in metropolitan Port-au-Prince went from 8% in March to only 7% in June. Outside of the Port-au-Prince metropolitan area, that percentage went from 1 to only 2%. We admit that we have seen sign of progress over the past few months; however we also know that more work needs to be done in order to rebuild Haiti. The reconstruction of metropolitan Port-au-Prince must not come at the cost of neglect in the other affected areas. The NGOs working in Haiti must give more attention to the regions outside of metropolitan Port-au-Prince. They also must work with local authorities, support them to develop reconstruction plans and comply with all principles of transparency. The government of Haiti must lead the reconstruction; the international community should strengthen the government throughout the recovery and reconstruction stages. It is estimated that reconstruction could cost 13 billion and could take more than 10 years. Historically, some disasters have brought about deep and significant changes; this devastating earthquake could be Haiti's opportunity to rise up stronger. So, the goal of reconstruction should be a fairer and more equitable Haiti with poverty and inequalities reduced to a very low level.

<u>APPENDIX A – NOTES</u>

1. "Neglect in the Encampments: Haiti's second wave humanitarian disaster" (2010), presented to the Inter-American commission on Human rights. The LAMP for Haiti Foundation, The Drexel Haiti Justice Project at The Earle Mack School of Law, Bureau des Avocats Internationaux, Institute for Justice and Democracy in Haiti, Lawyers' Earthquake response Network.

2. *USAID Haiti Earthquake Fact Sheet #44, Fiscal Year (FY) 2010*
    http://www.usaid.gov/helphaiti/documents/03.11.10-USAID-DCHAHaitiEarthquakeFactSheet44.pdf

3. *USAID Haiti Earthquake Fact Sheet #58, Fiscal Year (FY) 2010*
    http://www.usaid.gov/helphaiti/documents/06.11.10-USAID-DCHAHaitiEarthquakeFactSheet58.pdf

4. *'A quoi servent les ONG?", Editorial, Le Nouveliste en Haiti, 9 Juin 2010.*
    http://www.lenouvelliste.com/article.php?PubID=1&ArticleID=80311

5. *OCHA Haiti Earthquake Situation Report #31; March 31, 2010*
    http://oneresponse.info/Disasters/Haiti/Coordination/publicdocuments/OCHA_Situation_Report_No_32.pdf

6. OCHA Haiti Earthquake Situation Report #33; April 12, 2010
    http://www.cinu.org.mx/haiti/docs/OCHASituationReportNo33Haiti%20Earthquake12April2010.pdf

7. Pan American Health Organization Emergency Operations Center Situation Report #26; April 15, 2010
    http://www.reliefweb.int/rw/rwb.nsf/retrieveattachments?openagent&shortid=MUMA-
    84JW5E&file=Full_Report.pdf

8. "Leogane: Haiti's "neglected" quake hit town". Christian Fraser reports from Leogane,Haiti. BBC News
    http://www.news.bbc.co.uk/2/hi/Americas/8511762.stm

9. "Haiti: A once-in-a-Century chance for change". Oxfam Briefing Paper. March 2010

10. "Assessing Needs after the Quake: Preliminary Findings from a Randomized Survey of Port-au-Prince Households". University of Michigan/Small Arms Survey. April 2010

11. "Haitians talk about rebuilding the country after the January 12, 2010 earthquake". Dr. Raphael Yves Pierre March, 2010. Funded by Oxfam.

APPENDIX B – REGRESSION RESULTS

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	4113	90.8
	Missing Cases	415	9.2
	Total	4528	100.0
Unselected Cases		0	.0
Total		4528	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
no	0
yes	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			needs		Percentage
			no	yes	Correct
Step 0	needs	no	0	704	.0
		yes	0	3409	100.0
	Overall Percentage				82.9

a. Constant is included in the model.

b. The cut value is .500

Categorical Variables Codings

			Parameter coding
		Frequency	(1)
metropolitan	no	771	.000
	yes	3342	1.000
destroyed	no	2524	.000
	yes	1589	1.000
damaged	no	1804	.000
	yes	2309	1.000

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	1.577	.041	1451.852	1	.000	4.842

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	injured	3.168	1	.075
		people	9.659	1	.002
		damaged(1)	2.455	1	.117
		destroyed(1)	7.863	1	.005
		metropolitan(1)	190.059	1	.000
	Overall Statistics		228.393	5	.000

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	345.683	5	.000
	Block	345.683	5	.000
	Model	345.683	5	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	3419.588[a]	.081	.134

a. Estimation terminated at iteration number 9 because parameter estimates changed by less

than .001.

Classification Table[a]

Observed			Predicted		
			needs		
			no	yes	Percentage Correct
Step 1	needs	no	0	704	.0
		yes	0	3409	100.0
	Overall Percentage				82.9

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	injured	.150	.072	4.314	1	.038	1.162
	people	.060	.015	16.296	1	.000	1.062
	damaged(1)	.678	.184	13.667	1	.000	1.971
	destroyed(1)	.673	.190	12.495	1	.000	1.960
	metropolitan(1)	-4.773	.710	45.172	1	.000	.008
	Constant	5.044	.726	48.246	1	.000	155.053

a. Variable(s) entered on step 1: Blesses, people, Damaged, Destroyed, Metropolitan.

<u>APPENDIX C – AKNOWLEDGEMENTS</u>