Back Ground on the Rape Epidemic

Shortly after the earthquake grassroots organizations such as KOFAVIV began reporting alarming levels of sexual violence against women (KOFAVI 2010; Amnesty International 2011). Six weeks after the earthquake, University of Michigan and Geneva Small Arms Survey conducted an 1,800 household survey and reported that an estimated 3% of all women in popular neighbors and camps had been raped--in six weeks (Kolbe et. al. 2010). As touched on in the Review of the Literature, there are grounds to be skeptical of the data--from both sources.

SOFA and Kay Fanm, two feminist organizations also working in the camps after the earthquake, report *not* being able to corroborate the KOFAVIV findings [i] The academic surveyors for University of Michigan and Geneva Small Arms Survey study asked respondents--strangers to them-- the intrusive question: "Has anyone in the house been sexually assaulted in the past month?" If the response was positive they asked details. [ii] The first problem with this approach is the assumption that respondents are going to indulge strangers with accurate details of sexual attacks on them or their family members. But from the standpoint of accurate data, an even more pressing problem--for both the survey and KOFAVIV data--comes from the fact that for the past 20 years there have been intermittent periods when being a rape victim qualified thousands of impoverished women in Port-au-Prince to be an aid recipient. Since 1994 a series of USAID, UN, and NGO funded 'viktim' programs subsidized women who report having been raped. At its height during the 1990s, 14,000 impoverished female rape victims were on USAID subsidies. The program's economic impact on the recipients was enough that, when the subsidies were suspended 6 years after they began, thousands of "viktim" marched through the Port-au-Prince streets, some holding placards that read "Long Live Subsidies for Victim" (see James 2010 for a full description of the politicization of "viktim" during the 1990s and the subsequent "viktim" movement). Following the earthquake the move to provide aid and assistance to victims of sexual assault again became widespread, including US University law professors who went into IDP camps and searched for rape victims, spreading the word that those who had been raped may qualify for humanitarian visas (see Fox News 2010). Whether the "viktim" programs were good or bad, appropriate or misguided, is beside the point; as researchers we cannot responsibly gainsay the impact on informant accuracy of giving subsidies to a subpopulation of the most impoverished mothers in the Western hemisphere.

Estimating the Number of People Raped

In an effort to avoid signaling to respondents they may have a chance to capture aid--and to avoid intruding on their personal lives--we employed a technique different than that used in the University of Michigan and Geneva Small Arms Survey study cited above. Instead of asking specifically about the respondent or people in the household, we asked, 'if, since the earthquake, the respondent knew anyone at all who had been raped.' We operationalized the definition "know" so that we could use it in a more elaborate statistical inference described shortly. Specifically, we explained to respondents that what "to know someone" meant was,

> 1) you recognize the person and the person recognizes you
> 2) you know their name and they know yours
> 3) you have talked to them at least once since the earthquake
> 4) you could contact them now if you needed to

What we found was that of 1,643 respondents, only 99 (6%) knew anyone who had been raped since the earthquake. In other words, we found that fewer men and women even knew a person who had been raped than the other studies mentioned above implied had been raped (see Table 1, below).

Table 1: People Who Know At Least One Person Raped Since Earthquake by Commune		
Commune	No	Yes
Carrefour	777	57
Leogane	767	43
Total	1544	99

The rape reports were so low and potentially so controversial that after the Leogane survey was completed, and before the Carrefour survey began, we discussed the issue with CARE staff. We then sat down with the surveyors and reviewed the question to make sure that there was no possible misunderstanding about what was meant by "rape" *vyol* (forced sexual intercourse that included penetration of mouth, anus or vagina). We also got assurances from the surveyors that they had and would continue to carefully explain to respondents exactly what was meant by "rape." And we called a subsample of Leogane respondents on the telephone and explored their understanding of what *vyol* meant so that we could be sure that we were capturing "sexual attacks." We still got similar results for both Carrefour and Leogane. [iii]

We suspected that maybe the under-reporting of rape had something to do with age categories and the low numbers of young people in the sample. But as seen in Table 2, the frequency of reported rapes was generally consistent across all age categories. We also recognized that despite training and despite the heavy emphasis we placed on the importance of the rape question, it is sometimes the case with politically or morally charged issues that some surveyors will explain and pursue a question adequately to make all respondents understand; others not enough; and others tend to cajole answers that would otherwise be negative. In Table 3, it can be seen that there was indeed variation among the number of positive responses per surveyor. But even if we were to take the most extreme case and generalize it to all the surveyors, the results are far less than expected based on reports cited above. Specifically, if we take the surveyor with the highest reported number of known rape victims (19) and assign the same result to all the surveyors, we would get only 16% of our respondents even knowing someone who had been raped in the 3.4 years since the earthquake--that in areas were as much as half the entire population was at one time in camps

Table 2: Respondents who Know at Least One Person Raped Since Earthquake by Age of Respondents (missing = 14)						
Number of Female Respondents			Number of Male Respondents			
Age Categories		No	Yes	Age Categories		No	Yes
18 to 25	(n=203)	190	13	18 to 25	(n=201)	189	12
26 to 35	(n=205)	187	18	26 to 35	(n=204)	190	14
36 to 50	(n=200)	190	10	36 to 50	(n=209)	201	8
50 +	(n=203)	190	13	50 +	(n=204)	197	7
All Female	(n=811)	764	56	All Male	(n=818)	780	43

Table 3: Respondents Who Know At Least One Person Raped Since Earthquake by Enumerator Who Asked the Question						
Female Enumerators			**Male Enumerators**			
Enumerators		**No**	**Yes**	**Enumerator**	**No**	**Yes**
Female 1	(n=133)	123	10	Male 1 (n=88)	84	4
Female 2	(n=93)	90	4	Male 2 (n=133)	130	3
Female 3	(n=134)	115	19	Male 3 (n=71)	64	7
Female 4	(n=122)	121	1	Male 4 (n=136)	130	6
Female 5	(n=132)	126	6	Male 5 (n=122)	122	0
Female 6	(n=95)	89	6	Male 6 (n=137)	122	15
Female 7	(n=122)	112	10	Male 7 (n=125)	116	8

Estimating the Actual Numbers of People Raped: "Scaling-Up"

The next thing we did was use the intuitively simplistic technique of "scaling up" to estimate the incidence of rape for the population as a whole. Scaling up was developed by methodologists at the University of Florida and widely used in estimating unknown populations elsewhere, such as number of victims of the 1985 Mexican earthquake, illegal immigrant population in California, population of HIV positive people in New York City and, as with the present study, rape victims in developing countries (see Killworth et al. 2006). The technique is intuitively simplistic. What we want to estimate is what proportion of the population has been raped:

> 1) Our sample statistic for people raped is: "Total number of people that respondents know who have been raped" (Table 4):

> 2) Our sample population is, "The total number of people that all respondents 'know' (which remains to be solved). Thus, the formula is,

$$\frac{\text{Number of people respondents } \textit{know} \text{ who have been raped"}}{\text{Total number of people that all respondents } \textit{know}} = \text{The proportion of the population that has been raped}$$

Network Size

The remaining problem is that we must know the average total number of people each respondent "knows," or what Bernard and McCarty (2009) call network size. To estimate network size we drew the four most popular names from the survey population list of names. Because male rape is unreported in this and other surveys in Haiti we restricted our estimations to the female population. The most popular female names found in our surveys were Darlene, Nadege, Gerda, and Guerline. From the survey we knew the proportion of people with those names and so were able to use those proportions to generate secondary estimates of the number of people a person knows (see Table 4). For example, with 10 Darlenes in the total sample we calculated that 10/1,643 people have that name. Or because it is a female name, 10/820 women have that name. That means that we estimate 1.22% of the female population is named Darlene. We can generalize from that and expect that if the average person knows 100 women, then the mean number of Darlene's respondents know will

be 1.22. If the average person knows 200 people they will know an average of 2.44 Darlenes. Thus, we can invert the logic and ask people how many Darlenes they know and then estimate their female network size. To make the estimate more robust we used four names: Darlene, Guerline, Gerda and Nadege.

With the preceding in mind, we then conducted a random survey of 400 people in the Gender Survey target areas (200 in Leogane and 200 in Carrefour) and using results from all four names we calculated the average female network size of at 190.8 people (see Table 5)

(sample size) x (the female network size) = (total female population known to respondents)

$$(1{,}643 \times 190.8) = 313{,}649$$

$$134/313{,}649 = .00043$$

This is the estimated proportion of the population that has been raped since the earthquake.

To make that estimate comparable to the US rape indices of people raped per 100,000 per year, we did the following.

- Since the estimation covers the 3.4 years since the earthquake the figure is divided by 3.4 to achieve an annual rate (.000126).
- Putting this figure into the rates per 100,000 population used in the US to gauge rape indices, we get a figure of, 12.64 rapes per year (.000126 * 100,000).
- We then divided that figure by 2 because we only calculated females in our Haiti sample while the US rapes per 100,000 includes males in the total population figure (12.64/2 = 6.32).
- The result is 6.32 rapes per 100,000 people.

The rape rate for the US in 2010 was 27.3 per 100,000: four times our estimate for Leogane and Carrefour.

We have not calculated variance for the estimate or the confidence interval for the error of the mean. Nor do we feel that it is appropriate at this point. This was only an exploratory exercise included as part of a broader gender study, but something we see as important given the extraordinarily high claims of incidence for sexual assaults at the time. The findings should give cause for considerations of just what is going on regarding the "rape epidemic." For a subsequent answer to that question, see Chapter 8 in the book, The Great Haiti Humanitarian Aid Swindle.

Table 4: Respondents "know" anyone who has been raped since Earthquake and Number Known*		
"Yes" Knows someone who has been raped	Number of people respondent knows who have been raped	Total estimated population of "known" people in sample who have been raped
76	1	76
16	2	32
4	3	12
3	5	15
99		135

"know" = 1) you know the person and the person knows you (you know their name and they know yours'), 2) you have talked to the person at least once since the earthquake, 3) you could contact the person if you needed to

Table 5: Deriving Average Female Network Size				
	Names			
Measures	**Darlene**	**Gerta/da**	**Nadege**	**Gerline**
Frequency of people with name in sample of 820 women	10	8	10	9
Proportion in pop with name	0.0122	0.0098	0.0122	0.0110
People with this name per 100	1.22	0.98	1.22	1.10
Observed values in network survey	2.28	1.85	2.41	2.07
Observed known per 100 people	1.87	1.90	1.98	1.89
Estimate female network size	187.2	189.6	197.7	188.7

We then made network estimates. We took the four most popular female names from the 1,643 sample survey (they very neatly fell equally in each are, about 4 to 6 occurrences of each of the names in each county). Then we conducted a 400 person survey (200 in each county) asking people how many women with each name they know ("know" being operationalized as explained in the main text). That survey was a street survey conducted in markets and cross roads by interviewing every third person who came by.

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[i] Personal interview with director Olga Benoit of SOFA and Marie Yolette Andree Jeanty of Kay Fanm 2/2/2012

[ii] Kolbe et. al.'s (2010) post earthquake survey is by far the most extreme estimate of sexual assault in post-earthquake Haiti. Because it was sponsored by the University of Michigan and Geneva Small Arms Survey it is also the one that lent the most credibility to the claims of a rape epidemic. A published academic article on the survey findings, authored by Kolbe and a collection of 6 University Professors and one Haitian Survey supervisor concluded that in the six weeks following the survey, "Approximately 3 per cent of the general population sample reported being a victim of sexual violence since the earthquake; all but one case involved female victims." (page 3). There are reasons to question validity of the results and the care with which the survey was conducted, if it was conducted at all.

The survey was based on follow-up visits to people interviewed two months prior to the January 12th 2010 earthquake when Kolbe supervised a survey of 1.800 Port-au-Prince households. Six weeks after the earthquake the researchers sent the same interviewers to visit the same respondents to evaluate post earthquake conditions and incidence of crime. This was a moment in time when 30% to 40% of the Port-au-Prince population was living in camps, another 25% had fled the capital for the countryside, and 10% had left for Miami and the Dominican Republic. Kolbe et al claim to have successfully located and interviewed 93% of the original respondents, a feat accomplished in the space of two weeks. It was from this survey that Kolbe et. al. concluded that 3% of the population had been sexually assaulted; considering that all were women and half the survey population was male this means that estimate is really 6% of the survey population sexually assaulted. Clearly something is amiss. There are other flags: the researchers also concluded from the data that 6x as many children had been killed in the earthquake; yet a University of Miami study found there were more adult than child causalities. They also found that children were 11 times more likely to have died of injuries after the quake; yet a CDC study of survival rates in improvised post-earthquake hospitals found more adults died and what we know medically is that that children are more likely than adults to survey traumatic orthopedic injuries and to recovery more rapidly.

See, Kolbe, Athena R., Royce A. Hutson , Harry Shannon , Eileen Trzcinski, Bart Miles, Naomi Levitz d , Marie Puccio , Leah James , Jean Roger Noel and Robert Muggah 2010 Mortality, crime and access to basic needs before and after the Haiti earthquake: a random survey of Port-au-Prince households In Medicine, Conflict and Survival

For Kolbe and Muggah's death rate for injured children 11x that of adults see Surveying see, Kolbe, Athena R. and Robert Muggah 2010 "Haiti's post-quake needs: a quantitative approach" Humanitarian Exchange Magazine ISSUE 48

[iii] The definition for many respondents is wide, capturing attacks that are and are not sexual, meaning that likely misunderstandings would include assaults of a non sexual nature.