

# **COMPROMISING WITH EVIL**

AN ARCHIVAL HISTORY OF GREATER SUDAN, 2007 – 2012

## **Annex III: Darfur Mortality August 2010**

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## Preface

Along with the question of how to characterize the ethnically-targeted violence in Darfur, debate about accurate human mortality totals has proved unusually contentious. As one who took part in this debate from the beginning (January 2004 marked the first of my mortality analyses), I have watched in dismay as claims and counter-claims, computations and re-computations have increased vagueness surrounding this issue. Most news sources, for example, still cite an April 2008 off-the-cuff approximation by then UN Undersecretary for Humanitarian Affairs John Holmes: 300,000 dead. As Holmes himself acknowledges, this figure was essentially a crude extrapolation from previous UN figures, which were themselves only partial in their representation.

Certainly this in itself is a terrifyingly high number, but as I argue in this lengthy mortality study, it understates total mortality as of August 2010 by approximately 200,000 human beings—people who have simply been statistically elided from the genocidal realities of Darfur.

Serious scholars, including epidemiologists and those with statistical training, have made various attempts to arrive at a more accurate estimate, although the last assessment occurred in 2010. The Khartoum regime has often obstructed the release of data for both malnutrition and mortality in the region. New data became extremely scarce after the March 2009 expulsion of international humanitarian organizations, and remaining groups feared subsequent expulsions if they conveyed statistical realities. “Darfuri Voices” is the exception: they found that 72 percent of Darfuri refugees in a population of approximately 250,000 had one or more (up to ten) “immediate family members (parents, siblings, spouses, children) [who] were killed in attacks related to the current conflict.”<sup>1</sup> These and other data permitted reasonable extrapolation for the number of violent deaths in Darfur itself—the most contentious figure in the debate over total mortality. Total mortality for the Darfur conflict is the number of people in Darfur and eastern Chad who have died from war-related causes such as violence and the consequent displacement leading to dehydration, malnutrition, and disease since February 2003.

Unfortunately, much commentary on mortality is highly politicized. Mahmood Mamdani’s *Saviors and Survivors* is one example, as is Khartoum’s untrue claim that “only 10,000 have died” during the course of the violence. The most recent serious mortality study prior to the one included in this Annex is one authored in January 2010 by the Center for Research on the Epidemiology of Disaster (CRED)

in Belgium. Although I accept many of the authors' findings, and make use of their extraordinary data bank, I find their key assumption about early violent mortality (2003–04) untenable in light of substantial contextual information about the scale and nature of violence during this period. This information is omitted from CRED's account, leading to a serious understatement of the total for violent mortality. I queried one of the authors of the study at conference on Darfur, but received no satisfactory answer to the questions and objections I raise here.

That no significant mortality study appeared after August 2010 speaks volumes about Khartoum's success in sealing Darfur off from the eyes of the international community. Deaths nonetheless continue at well above the normal Crude Mortality Rate for the region: high levels of malnutrition, reports from Radio Dabanga of violent attacks, and accounts from independent experts and relief workers on the ground make clear that violence and disease continue to claim large numbers of lives.

## **Darfur Mortality**

In the late summer of 2004, during the most violently destructive phase of the Darfur genocide, the US State Department commissioned the Coalition for International Justice (CIJ) to oversee a systematic interviewing of Darfuri refugees who had fled to eastern Chad. It was on the basis of the report that emerged from these interviews ("[Documenting Atrocities in Darfur](#)") that Secretary of State Colin Powell made his September 2004 determination that genocide was being committed in Darfur. The personnel conducting the research included human rights experts, law enforcement officials, genocide scholars, forensic experts, and those with significant experience in the tribunals for the former Yugoslavia and Rwanda. They were provided with ample resources, including a full complement of translators.

On the basis of 1,136 carefully randomized interviews, conducted among the Darfuri refugee population in Chad at 19 camp locations along the border, the CIJ found that "sixty-one percent [of those interviewed] reported witnessing the killing of a family member." Only a few among those who purported to speak about levels of mortality in Darfur registered the implications of this extraordinary figure. My own efforts to extrapolate this data ([first in fall 2004](#)) were followed by those of Professors John Hagan and Patricia Parker (April 2005, commissioned by the Coalition for International Justice) and by Dr. Jan Coebergh, an independent researcher. All three of these researchers yielded comparable results using different statistical methodologies.

Because “Documenting Atrocities in Darfur” was not specifically designed as a mortality study, its consequential findings were dismissed by professional epidemiologists, who in nearly all cases lacked contextual understanding of the Darfur conflict. The US Government Accounting Office similarly dismissed the data and reports utilizing it. My own finding was that by the beginning of 2005, 215,000 people had been killed (this based primarily on CIJ data) and that another 200,000 had died as a result of disease and malnutrition directly consequent upon ethnically-targeted violence.<sup>2</sup> Total mortality, I argued, was over 400,000—this being the figure that Hagan and Parker arrived at several months later, though making assumptions that I believe worked to understate violent mortality and overstate mortality from disease and malnutrition.

There have been no subsequent mortality studies using the CIJ mortality data. In July 2010, however, a report entitled “[Darfurian Voices](#)” corroborated and amplified the CIJ data. The report indicates that 72% of Darfuri refugees in a population of approximately 250,000 had one or more (up to ten) “immediate family members (parents, siblings, spouses, children) [who] were killed in attacks related to the current conflict.”<sup>3</sup>

What are the statistical implications of these figures?<sup>4</sup> Let us assume, for clarity in treating percentage data, 100 respondents (the actual number of respondents was approximately 1,250 (see [Appendix 1a for details on collecting this population data](#)). Let us assume as well a rather large average immediate family size of 10 (see [Appendix 2](#)), so that the 100 respondents represent a total statistical cohort of 100 families or 1,000 refugees. Finally, let us assume no duplication in family representation in the survey, an assumption warranted by the statistical methodology of the survey.

*[Specific percentage values here are from the bar graph on page 14 of “Darfurian Voices,” rounded to nearest percentage integer]:*

**Percentage of 100 families who experienced “x deaths” per immediate family:**

- 0 deaths 28% = ( 0 deaths within the statistical cohort of 1000)
- 1 death 20% = (20 deaths within the statistical cohort) (1 x 20)
- 2 deaths 16% = (32 deaths within the statistical cohort) (2 x 16)
- 3 deaths 12% = (36 deaths within the statistical cohort) (3 x 12)
- 4 deaths 8% = (32 deaths within the statistical cohort) (4 x 8)
- 5 deaths 5% = (25 deaths within the statistical cohort) (5 x 5)
- 6 deaths 3% = (18 deaths within the statistical cohort) (6 x 3)

7 deaths 3% = (21 deaths within the statistical cohort) (7 x 3)  
8 deaths 2% = (16 deaths within the statistical cohort) (8 x 2)  
9 deaths 1% = (9 deaths within the statistical cohort) (9 x 1)  
10 deaths 2% = (20 deaths within the statistical cohort) (10 x 2)  
100% of 229 total deaths within the statistical cohort 100 families (1,000 refugees)

The statistics represented here in simplified form are derived from approximately 1,250 interviews of persons 18 years of age and older residing in eight of the twelve official Darfur refugee camps (see [Appendix 1c](#)). The report uses a “stratified random sampling approach,” and the survey fielded a full complement of translators speaking Arabic as well as Fur, Massalit, Zaghawa, and other African languages.<sup>5</sup> Additionally, the report assumes a total Darfuri refugee population of approximately 250,000 (249,744), based on a May 2009 calculation by the UN High Commission for Refugees.<sup>6</sup>

Assuming no family duplication in representation—again, such duplication is highly unlikely given the sampling method—and an average immediate family size of 10: for 100 respondents—each representing 10 family members, for a total represented population of 1,000 refugees—there is confirmation of 229 “immediate family members (parents, siblings, spouses, children) [who] were killed in attacks related to the current conflict.” In other words, 22.9% of the 1,000 represented refugee population.

If we assume that this figure is fully statistically representative for Darfuri refugees in the camps of eastern Chad, the total figure for violent mortality experienced by this population is approximately 57,250 (229 x 250 [250 = 250,000 / 1,000 persons]) as of July 2009. Alternatively, we may calculate 22.9% of 250,000—again 57,250. If we assume a smaller average size for families in the camp, the total number of deaths increases proportionately. Such an assumption does not increase the number of family members killed in the sense of numbers per family, but rather increases our estimate of the number of families represented in the camp, and thus the total number of deaths (see [Appendix 2](#)).

## **Further Possible Extrapolations from these Data**

Since the total displaced population in eastern Chad and Darfur has grown over more than seven years, we require an average figure on which to base any extrapolation to the internally displaced populations inside Darfur. Using UN figures, such averaging moves from a starting number of 0 (zero) for early 2003 to approximately

1.66 million in December 2004 to approximately 2 million in October 2006 to the present figure of 2.7 million, first reported by the UN in October 2008 and relevant through the gathering of “Darfurian Voices” data in April July 2009. Finding a precise average number of displaced persons, including refugees, with proper weighting of particular time-frames, is not feasible. More troublingly, from a statistical perspective, displacement is less and less directly related to violent attacks—and thus violent mortality—after 2004. However, displacement is still typically related to concerns about insecurity, and significant violent mortality continues. But if precision is impossible, reasonable estimates can be made from available figures for displacement.

If we assume an average internally displaced population of 830,000 ( $830,000 = (0 + 1.66 \text{ million}) / 2$ ) for the period of February 2003 to December 2004, and if we assume that the Chadian refugee mortality figure is fully representative of this population, then we may estimate that the total number of family members killed is  $229 \times 830$  ( $830 = 825,000 / 1,000$  persons) or almost 190,000 (190,070) “immediate family members (parents, siblings, spouses, children) [who] were killed in attacks related to the current conflict.” Alternatively, we may calculate 22.9% of 825,000—again 190,000 (190,070).

The average total of Internally Displaced Persons (IDPs) for January 2005 to October 2006 may be estimated as 1.83 million ( $1.83 \text{ million} = (1.65 \text{ million} + 2 \text{ million}) / 2$ ). Thus the average increase in the internal displacement population for the period of January 2005 to October 2006 is 1.01 million (that is, this figure represents the increase from the average population of internally displaced persons for February 2003 through December 2004: 1.83 million minus 825,000). If we assume that by this point in the conflict the Chadian refugee violent mortality rate overstates by a factor of 5 violent mortality among internally displaced Darfuris, then we may estimate that the total number of family members killed is  $(229.5) \times 1,010$  ( $1,010 = 1.01 \text{ million} / 1,000$  persons) or approximately 46,000 (46,258) “immediate family members (parents, siblings, spouses, children) [who] were killed in attacks related to the current conflict.” Alternatively, we may calculate  $(22.9\% \text{ of } 1.01 \text{ million}) / 5$ —again 46,000 (46,258).

The average total of IDPs for November 2006 to July 2009 may be estimated as 2.35 million ( $2.35 = (2 \text{ million} + 2.7 \text{ million}) / 2$ ). Thus the average increase in the internal displacement population for the period of November 2006 to July 2009 is 520,000 (that is, this figure represents the increase from the average population of internally displaced persons for January 2005 to October 2006: 2.35 million minus 1.83 million). If we assume that by this point in the conflict the Chadian refugee violent mortality rate overstates by a factor of 10 violent mortality among internally displaced Darfuris, then we may estimate that the total number of family

members killed is  $(229 \div 10) \times 520$  ( $520 = 520,000 / 1,000$  persons) or approximately 12,000 (11,900) “immediate family members (parents, siblings, spouses, children) [who] were killed in attacks related to the current conflict.” Alternatively, we may calculate  $(22.9\% \div 10) \times 520,000$ —again 12,000 (11,900).

**Violent mortality through July 2009 is thus estimated to be:**

57,250: violent mortality among Darfuri refugees in Chad

190,000: violent mortality among Darfuri IDPs, February 2003 to December 2004

46,000: violent mortality among Darfuri IDPs, January 2005 to October 2006

12,000: violent mortality among Darfuri IDPs, November 2006 to July 2009

305,250: total violent mortality among displaced Darfuris through July 2009

Obviously these calculations all depend upon how we answer a basic question: how representative are Darfuri refugees in eastern Chad of the displaced population within Darfur itself? And how does the answer to this question change over the course of the conflict? “Darfurian Voices” attempts no extrapolation of the sort offered here, confining the relevance of all its data to eastern Chad alone. But the question of larger relevance is imperative, given the paucity of data on violent mortality in Darfur, especially in the first year of the conflict. Moreover, we are not completely without suggestive, if more localized, data.

One important consideration in answering this central question is the reason for civilian flight. Nearly all the refugees in eastern Chad fled from violence. For an analysis of the relationship between violence and human displacement within Darfur itself, especially valuable data come from an early study published in *The Lancet*. This study suggests an extremely high correlation between violent displacement and displacement per se, precisely what we find among refugees in eastern Chad. In fact, this study presents data indicating that violence within Darfur during the first two years of conflict is associated even more closely with displacement than among the Darfuri refugees as reported in “Darfurian Voices.” Thus it supports in particular the calculations here for violent mortality for the period of February 2003 to December 2004.

Certainly we may safely assume that the 1,250 interviews conducted by “Darfurian Voices” are highly statistically relevant, especially given the ethnic and geographical range of those interviewed (virtually all were from non-Arab or African tribal groups, with 82% from the Massalit, Zaghawa, and Fur tribes; eight geographically distributed camps were represented). At the same time, there is no purely statistical justification for these deflator factors of 5 and 10; they are es-

timates based on close textual analysis of many hundreds of reports of violence during the periods in question.

## **Caveats**

Although the “Darfurian Voices” study is deeply impressive in its research, it must also be noted that, as was the case with the CIJ study, there are several limiting factors in any statistical assessment of the responses that were recorded, factors that might well drive total violent mortality within displaced Darfuri populations either higher or lower (see [Appendix 2](#)):

[1] Neither the CIJ study nor the “Darfurian Voices” study can take into account families in which all members were killed, and who thus had no reporting presence in the camps where interviews took place. There is circumstantial evidence that this number may be significant (e.g., the survival of only one member of a large family would suggest that this family came perilously close to being unrepresented).

[2] Further, families with small numbers of survivors are under-represented in the statistical sampling vis-à-vis families that survived largely intact. To the extent that these small families of survivors have been diminished by killings, their under-representation works to understate total violent mortality.

[3] The CIJ study reports that 28% of those interviewed “directly witnessed” persons dying from the consequences of displacement before reaching Chad. These deaths must be considered the direct consequence of violence, if not violent deaths per se, and would significantly increase violent mortality totals suggested by the CIJ data. There is no comparable set of disaggregated figures in the “Darfurian Voices” report; such deaths, the direct consequence of antecedent violence, may or may not be included in the phrase “were killed in attacks related to the current conflict.” If they are not included, then the total violent mortality figure would rise significantly.

[4] The possibility for double-counting of families in using the “Darfurian Voices” survey data cannot be overlooked. If there are approximately 25,000 refugee families in eastern Chad, we cannot be sure to what degree they are separated geographically. Thus, if statistical method ensures that there was no overlap between the families within the “Darfurian Voices” sample, the same cannot be said of families represented in the sample but that are also part of the population total not included in the sample (by virtue of separation and geographic dispersal). Here there may be overlap and in effect “double counting.”

The only situation that would eliminate the problem is one in which each refugee family, in its entirety, lived in the same location. The UN High Commission for

Refugees has done a great deal of work over the past six years in re-uniting refugee families within the twelve camps in eastern Chad, but to the degree they have not been fully successful, a kind of double-counting through overlap may have occurred in my statistical extrapolation. The degree of such overlap is unclear, but I believe it is relatively small.

One other possible source of double-counting is the “double role” some individuals may play in different “immediate families,” i.e., someone might be both a father in one family and brother to a father in another family. If both brothers were selected for their responses in the survey, their reports would double one another. Again, given the randomizing strategy of the survey, this seems quite unlikely to produce a significant reduction in estimated total mortality.

[5] The UN High Commission for Refugees reports that more than 500,000 have been newly displaced since January 1, 2008 (the point at which UNAMID formally took over protection activities in Darfur). Within this population are people who have been displaced two, three, even four times (although these multiple displacements do not add to the total figure for internal displacement: approximately 2.7 million). Violent mortality is certainly associated with these additional displacement experiences, often the direct result of renewed violence against civilians within Darfur; however, we have no data by which to quantify this mortality. It may well be significant, as suggested by the large displacement among previously displaced populations in the Muhajeria area of South Darfur in January/February 2009.<sup>7</sup>

[6] Given the relative security of the Chadian refugee camps vis-à-vis the much larger displaced populations inside Darfur, violent mortality may actually have been higher within Darfur at times during the years after 2004, when the refugee exodus was largely over (90% of the Darfuri refugee population had moved into eastern Chad by the end of 2004). Nonetheless, the assumptions here in calculating violent mortality among internally displaced Darfuris are that the violent mortality rate for the Chadian refugee population overstates by a factor of five for the period January 2005 to October 2006 and by a factor of ten for the period November 2006 to July 2009.<sup>8</sup>

[7] There was significant ethnically-targeted violent mortality in Darfur in the years immediately prior to the outbreak of war in February 2003. We have no data that permits quantification of a total, but there are a number of important reports indicating the scale of the violence. For example, Julie Flint and Alex de Waal in *Darfur: A Short History of a Long War* (2005) note that in “October 2002, government-supported Janjawiid from the camps in South Darfur launched a major offensive, the first of its kind against Fur civilians.”<sup>9</sup> Many civilians were killed and

“hundreds of villages burned.” They note also that in 1998 Janjaweed forces had attacked Dar Massalit, the Massalit homeland in West Darfur, killing more than a thousand people and burning some 30 villages in a three-month period.<sup>10</sup> There are many other examples.

## **Mortality from the Consequences of Ethnically-Targeted Violence: Malnutrition and Disease**

Almost all studies of mortality issues find that the majority of “excess deaths” in Darfur after the initial phase of the counterinsurgency (2003–04) are a function not of direct violent acts but the health consequences of violence and the displacement it has produced. This has been the consistent conclusion of my own work after 2004. If in fact 304,250 Darfuris have died violently, and more than 240,000 have died from causes other than violent killing (see mortality study from *The Lancet*, January 2010, below), then total mortality in Darfur and eastern Chad now exceeds 500,000.

Here it is critical that we keep in mind the fact that mortality from malnutrition and disease (primarily diarrhea) is a function of antecedent violence that destroyed the livelihoods and security of millions of Darfuris. In other words, these “excess deaths” would not have occurred except for the genocidal violence that exploded in spring 2003. People fled to camps—many dying along the way, often unwitnessed—because their villages had been systematically and comprehensively destroyed on an ethnic basis. High mortality rates even within the camps were reported early in the conflict. The previously cited study in *The Lancet* (“Violence and mortality in West Darfur, 2003–2004”) reports that in West Darfur, once displaced persons arrived in camps their Crude Mortality Rates (CMR—deaths per day per 10,000 of population) dropped back from catastrophically high levels (5.9 to 9.5), “but remained above the emergency benchmark (a CMR of 1.0), with a peak in 5.6 in el-Geneina.”<sup>11</sup> The same study reports:

Before arrival [of displaced persons] at displacement sites, mortality rates (expressed as deaths per 10,000 per day), were 5.9 (95% CI 2.2–14.9) in Zalingei, 9.5 (6.4–14.0) in Murnei, and 7.3 (3.2–15.7) in Nier-titi. Violence caused 68–93% of these deaths.

These are staggering mortality rates for large populations of civilians in or near major towns of West Darfur—and violence “caused 68–93% of these deaths” (see sample extrapolation from these data below). Moreover, shortly after *The Lancet*

study, Doctors Without Borders/Médecins Sans Frontières (MSF) reported similar results in North Darfur:

Mortality studies carried out by MSF show that during the early phases of the Darfur conflict the pattern of repeated violence and consequent displacement was the cause of very high mortality.”<sup>12</sup>

Mortality rates have stabilized in most of the camps, at least for the present; but there are extremely ominous humanitarian indicators that suggest CMRs may again rise sharply, and that the fate of humanitarian operations in Darfur hangs in the balance.<sup>13</sup>

### **Previous Studies of Mortality from Malnutrition and Disease**

The earliest study to bring serious attention to the scale of mortality in Darfur from disease and malnutrition was released by the UN World Health Organization (WHO) in August 2004, for the period [15 June and 15 August 2004](#). It focused on establishing excess Crude Mortality Rates in Darfur (excess deaths per day per 10,000 people). On the basis of this study, WHO announced in September that 50,000 people in camps for the displaced had died from disease and malnutrition in the five-month period from April 2004 to August 2004.<sup>14</sup> The figure of 50,000 deaths was erroneously reported by many news organizations as a new figure for total mortality in Darfur, gravely distorting the scale of the Darfur catastrophe. The error was explicitly corrected in an email to me from Dr. David Nabarro, head of WHO emergency response efforts in Darfur:

I fear that remarks I made at a Press Briefing on September 13th 2004 were misquoted. I said that we estimate that at least 50,000 Internally Displaced Persons have died from disease (in some cases exacerbated by malnutrition) since April 2004.<sup>15</sup>

It is important here to consider what was left out, as shocking as the figure of “at least 50,00” deaths is in itself. It excluded all mortality—from violence, disease, and malnutrition—prior to April 2004. As we have seen, this total was already well in excess of 100,000. The total excluded all mortality in Chad. It excluded most violent mortality, which occurred largely away from the camps surveyed. It excluded mortality from disease and malnutrition among populations beyond the reach of camp humanitarian workers (this population was estimated to be 500,000

by the UN Humanitarian Coordinator for Sudan in September 2004). If this inaccessible population—described in the UN report as “conflict affected and in need of assistance”—experienced mortality rates comparable to those in the camps, then an additional 17,000 people died of malnutrition and disease. In short, it was a highly circumscribed study, and yet still yielded a terrifyingly large number of “excess deaths.”<sup>16</sup>

Further, the report was the basis for extrapolating a future monthly mortality rate of 6,000 to 10,000 from the same causes within the same population WHO had surveyed (this is reflected in the October 2004 WHO estimate). Dr. Nabarro again clarified this monthly figure, telling me explicitly that the WHO figure for monthly mortality should be closer to 10,000 in the “6,000 to 10,000 deaths per month” range indicated in the report.

Predictably, the WHO report so angered the Khartoum regime that they made the one subsequent global mortality study virtually impossible to complete, and ensured through threats against WHO workers that there would be no further such studies in Darfur; insecurity continued to escalate and has made mortality assessments increasingly difficult. As a consequence, we have only localized and piecemeal mortality reports on “excess deaths” from disease and malnutrition from 2005 to the present (as opposed to truly global mortality surveys, with well-established Crude Mortality Rates for all areas of Darfur). At present we also lack global data and analysis of morbidity and malnutrition, largely because of Khartoum’s intimidation of UN agencies and international humanitarian organizations that in the past have generated and promulgated such data.

### **The View from the Center for Research on the Epidemiology of Disasters (Leuven, Belgium)**

Very usefully, many of these smaller-scale mortality reports have been extracted, collected, and analyzed by Olivier Degomme and Debarati Guha-Sapir in “Patterns of mortality rates in Darfur conflict.”<sup>17</sup> Their account draws in particular on the “[Complex Emergency Database](#)” of the Center for Research on the Epidemiology of Disasters (CRED). While excluding from its estimates of violent mortality any consideration of the CIJ data (“Darfurian Voices” data being of course unavailable), their study offers important conclusions about deaths from disease and malnutrition that are likely to be approximately right, though excluding mortality in eastern Chad as well as mortality from the period February 2003 to “early 2004” (see below for discussion of this critical lacuna).

This highly technical paper, statistically of enormous potential richness, offers

some very clear conclusions: the authors “estimate the excess number of deaths in Darfur to be 298,271 (95% Confidence Interval, 178,258–461,520)” in the time period “from early 2004 to the end of 2008.”<sup>18</sup> Of these approximately 300,000 excess deaths, they argue that “more than 80% of the excess deaths were not as a result of the violence” but from “diseases such as diarrhoea,” at least on the basis of the numerous studies archived at CRED’s “Complex Emergency Database.” This yields a figure of roughly 240,000 deaths from disease (which presumably includes the effects of malnutrition, which has in various times and places in Darfur been extremely high), and a corresponding figure of roughly 60,000 deaths from violence in the period “from early 2004 to the end of 2008.”

Unfortunately, Degomme and Guha-Sapir seem incapable of recognizing the direct connection between deaths from disease and malnutrition and the antecedent violence that was responsible for these deaths—this is so even as they speak abstractly of “excess deaths.” But of course these deaths are “excessive” because of the genocidal violence that created the conditions in which people died of malnutrition and disease. And there is nothing abstract about this brutal violence. For the moment, however, we may ignore this peculiar myopia.

In the course of their study, the authors explain their limitations. They have not included mortality suffered by the refugee population that fled to Chad (again, 57,250 people killed according to data from “Darfurian Voices,” in addition to victims of disease and malnutrition). They have not included mortality from December 2008 to the present. But even more tellingly they confess that, “Another constraint was that we could not identify any survey that included the first few months of the conflict before the deterioration in September, 2003.”

In fact, there are no mortality studies at all for Darfur for the year 2003 in CRED’s “Complex Emergency Database”: entering this year and any of the three Darfur states into the site’s search engine yields only the message, “No entries found, please try to broaden your search parameters.” This is why Degomme and Guha-Sapir’s narrative indicates that the period actually represented by their conclusions is January or February 2004 to December 2008: “298,271 (95% Confidence Interval, 178,258–461,520)” excess deaths in the time period “from early 2004 to the end of 2008.” Tellingly, the authors do not specify precisely what is meant by “early 2004.”

This delimitation of time period is highly significant. In excluding the period from February 2003 to “early 2004”—an approximately yearlong period of extraordinary violent mortality, as well as highly significant mortality from other causes—the authors leave out an essential part of the global mortality picture with almost no acknowledgement. Of the half-year period from February 2003 to August 2003

(“phase 1” in their Panel 1) they say only: “not included in any retrospective survey, and mortality data should therefore be estimated by other techniques.”

The truth is that they have not identified any Darfur mortality study for any months in 2003. Even so, Degomme and Guha-Sapir push on to offer what is a transparently untenable figure from the US State Department for this critically omitted period of time (“February [2003] to August 2003”): “between 1,000–4,500 deaths” (from all causes).

In fact, this figure is an erroneous citation by the authors: the State Department “fact sheet” (“Sudan: Death Toll in Darfur,” March 25, 2005)—as originally promulgated on the State Department website—found that “4,100–8,800 excess deaths are estimated to have occurred primarily in North and West Darfur [during the period March–September 2003].” Notably, though unsurprisingly, Degomme and Guha-Sapir do not cite the URL for this State Department estimate; rather they cite the US Government Accounting Office report on mortality studies that cites this four-page “fact sheet.” The inability to cite the URL for the document in question derives from the State Department’s removal of this statistical travesty from its website.<sup>19</sup> But at the time of its initial distribution I [analyzed in detail](#) the “fact sheet’s” numerous methodological problems, its highly consequential factual errors, the lack of citation or statistical analysis, and a consistent disingenuousness.<sup>20</sup>

Critically for present purposes, Degomme and Guha-Sapir leave ambiguous whether there are relevant mortality studies or considerations for the period between September 2003 and January 2004, this despite their subsequent parceling out of various “phases of the Darfur conflict,” including “September 2003 to March 2004.”<sup>21</sup> In their statistical analysis for this period they indicate “excess deaths” of “45,137 (95% Confidence Interval, 27,320–73,380).” But it remains unclear what data were used for September 2003 through the end of December 2003: again, there is nothing in CRED’s “Complex Emergency Database.” Nor is it clear what data was used to calculate violent mortality for the period January 2004 to their “March 2004” endpoint for “phase 2.”

The authors conspicuously refuse to confront the implications of the CIJ study (which looked retrospectively at Darfur mortality data from February 2003 to August 2004) in speaking about “phase 1”; but even more tellingly, they ignore evidence and reports from the ground that make clear that tens of thousands of people were dying from a range of causes during the period “February [2003] to August 2003”—causes that included violence, flight from violence, and life in makeshift camps that were systematically denied humanitarian assistance, often woefully inadequate in any event. The same may be said of their “Phase 2” (“September 2003 to March 2004”), which plays such an ambiguous role in their analysis.

Let us be clear about the significance of the figure “1,000–4,500” deaths—from all causes—in the period February 2003 through August 2003.<sup>22</sup> Degomme and Guha-Sapir conclude that total excess mortality in Darfur is 298,271 “from early 2004 to the end of 2008.” But by a statistical sleight-of-hand, this time-frame is expanded by almost a year to become “about 300,00...between March 2003 and December 2008.” A year that includes some of the greatest violent mortality in the Darfur genocide (February 2003 to “early 2004”) is brought within their final estimate and time-frame on the basis of a completely vitiated State Department “fact sheet,” which purportedly supports an estimate of “between 1,000–4,500 deaths” in this time period.

This is simply untenable, and here in the form of an historical compendium is some of what cannot be accommodated to Degomme and Guha-Sapir’s account:

### **Context:**

[1] The UN High Commission for Refugees (UNHCR) found in late summer 2003:

that about 75,000 people are currently scattered on the edge of the Darfur conflict zone, on the Chadian side of the border. Most of them, spread out over 600 km, are women and children. With temperatures of up to 40 degrees Celsius during the day and minus 15 at night, as well as sand storms and rain, respiratory infections among the refugees are on the rise. They have little shelter, relying on torn rags and bits of plastic sheeting.<sup>23</sup>

Doctors Without Borders/Médecins Sans Frontières (MSF) found that within this refugee population,

there is no clean drinking water, forcing people to dig in sandy riverbeds with their bare hands to find ‘a dirty brown liquid.’ With scarce food supplies, malnutrition is also on the increase...On top of the hardship faced in Chad, the refugees have already had to flee their homes to escape aerial bombardments and militia attacks in Darfur, MSF pointed out. ‘Without exception, the refugees are traumatised by the violence they have been subjected to. Many no longer have the emotional strength to do anything except lie in the sand day and night, letting events unfold around them.’ [ ] ‘The military response by the government, which escalated throughout the summer forcing more and more people to become displaced or to flee to Chad, is being backed up by systematic

attacks by Arab militias who seek to crush the rebellion and terrorise villagers,' MSF said."<sup>24</sup>

Emphasis should be placed heavily here on MSF's declaration that, "The military response by the government, which escalated throughout the summer forcing more and more people to become displaced or to flee to Chad, is being backed up by systematic attacks by Arab militias who seek to crush the rebellion and terrorise villagers." There are many similar contemporaneous accounts of civilians who fled large-scale, organized violence but remained within Darfur.

This is summer 2003—precisely the period Degomme and Guha-Sapir have statistically minimized ("1,000–4,500 deaths" from all causes).

[2] As previously indicated, an early study of violent mortality in West Darfur appeared in *The Lancet*;<sup>25</sup> it reported that in West Darfur, once displaced persons arrived in camps their Crude Mortality Rates (CMR—deaths per day per 10,000 of population) dropped back from catastrophically high levels (5.9 to 9.5), "but remained above the emergency benchmark (a CMR of 1.0), with a peak in 5.6 in el-Geneina [capital town of West Darfur]." The same study reports:

Before arrival [of displaced persons] at displacement sites, mortality rates (expressed as deaths per 10,000 per day) were 5.9 (95% CI 2.2–14.9) in Zalingei, 9.5 (6.4–14.0) in Murnei, and 7.3 (3.2–15.7) in Niertiti. Violence caused 68–93% of these deaths. [Zalingei, Murnei, and Niertiti are all major towns in West Darfur]

Again, these are staggeringly high mortality rates among very sizeable populations in or near major towns in West Darfur. For example, the number of violent deaths over the course of 60 days for a population of 200,000 would have been approximately 9,000, depending on the distribution of populations between the three general locations, with their differing CMR's.

Shortly afterwards, MSF would issue its own assessment:

Mortality studies carried out by MSF show that during the early phases of the Darfur conflict the pattern of repeated violence and consequent displacement was the cause of very high mortality...During the early phases of the Darfur conflict the pattern of repeated violence and consequent displacement was the cause of very high mortality.<sup>26</sup>

MSF was the first major international humanitarian organization with a substantial presence in Darfur. My own communications with humanitarian organizations operating in Darfur in 2003 confirm MSF's conclusions about violent mortality.

[3] The scale of the catastrophe in the period excluded by Degomme and Guha-Sapir is also captured in a November 10, 2003 statement by the UN Humanitarian Coordinator for Sudan—very shortly after the period excluded in the State Department estimate (but preceding Degomme and Guha-Sapir’s “early 2004” starting point for their calculation of total mortality):

The number of displaced people continues to increase thanks to the escalation of armed conflict in the region since February 2003. The estimated 500,000 to 600,000 newly displaced people live in North, South and West Darfur. 70,000 people have sought refuge in Chad, and one million others have been affected by the war.<sup>27</sup>

Degomme and Guha-Sapir estimate that at the end of August 2003 the total civilian population displaced or conflict-affected was 200,000.<sup>28</sup> This is in shocking contrast with the assessment of the UN Humanitarian Coordinator for Sudan at the time, who estimated that approximately 1.6 million civilians were displaced or conflict-affected. This enormous disparity is all too revealing.

[4] The Khartoum regime was in summer 2003 already hampering humanitarian relief efforts, certainly costing many lives. The issue came to a head publicly in October/November 2003:

New regulations [from Khartoum] on travel permits that entered into force on 1 October 2003 have not been followed consistently. As a result, travel procedures remain slow and cumbersome and, in some cases, permission to visit affected areas is withheld.<sup>29</sup>

Sudan’s government is hampering an adequate response to an escalating humanitarian crisis in the war-ravaged Darfur region by renegeing on a pledge to process aid workers’ travel permits speedily, the UN accused on Monday. ‘Some aid operations haven’t been able to start. Aid workers who are ready to go (to Darfur) are getting stuck,’ because their permit applications have not been turned around within a promised 24-hour period, Ben Parker, the Nairobi-based spokesperson for the UN’s Humanitarian Coordinator in Sudan, Mukesh Kapila said.<sup>30</sup>

[5] In December 2003, Ambassador Tom Vraalsen, special UN envoy to Sudan for humanitarian affairs, gave a clear retrospective, noting that while the Khartoum regime characterized “the security situation [in Darfur] as steadily improving,” this

account “sharply contrasted with first-hand reports that I received from tribal leaders and humanitarian actors on the ground. They reported that [Khartoum-backed Arab] militias were launching systematic raids against civilian populations. These attacks included burning and looting of villages, large-scale killings, abductions, and other severe violations of human rights. Humanitarian workers have also been targeted, with staff being abducted and relief trucks looted.”<sup>31</sup>

“Systematic attacks against civilians populations,” “large-scale killings,” “targeting of humanitarian workers”—Vraalsen is speaking out in early December 2003, but his characterization is relevant for much of late summer 2003, during which time Degomme and Guha-Sapir would have us believe only “1,000–4,500” people died from all causes. And of course Vraalsen’s characterization is fully relevant for the entire period prior to Degomme and Guha-Sapir’s vague *terminus ad quem*, “early 2004.”

[6] Humanitarian conditions were much worse by the end of summer 2003 than Degomme and Guha-Sapir seem aware of. Invoking the terrible famine in Bahr el-Ghazal province in 1998—in which perhaps 100,000 people died—Save the Children (UK) reported that “current overall malnutrition rates are reported to be alarmingly high, with Global Acute Malnutrition rates reaching 25% in some of the affected areas of Darfur, which are accessible to relief workers.”<sup>32</sup> Such an extraordinarily high GAM rate (the emergency threshold is 15%) was months in the making—again taking us well back into the February 2003–September 2003 period Degomme and Guha-Sapir essentially exclude.

Under-Secretary Jan Egeland, UN Emergency Humanitarian Coordinator at this time, declared: “The humanitarian situation in Darfur has quickly become one of the worst in the world. Access to people in need is blocked by the parties in conflict and now, as the need for aid grows, stocks of relief materials are dwindling.”<sup>33</sup> Again, though speaking in early December 2003, Egeland’s assessment reflects conditions extending well back into summer 2003.

[7] Evidence of sustained “ethnic cleansing” and genocide were clearly in evidence by October/November 2003, and the December 11, 2003 report from the International Crisis Group (“Sudan: Towards an Incomplete Peace”) was soon confirmed by many other human rights investigations:

[G]overnment-supported militias deliberately target civilians from the Fur, Zaghawa, and Massalit groups, who are viewed as ‘African’ in Darfur and that the latest attacks by these Khartoum-backed Arab militias occurred deep inside the Fur tribal domain, against unprotected villages with no apparent link to the rebels other than their ethnic profile.

The killings and resulting forced displacement prompted Mohamed Barka, member of parliament for the district of Kebkabiya, to warn in early November [2003] against “genocide” in Darfur. In a statement to Alwan newspaper [November 6, 2003], he indicated that in one month of raids, Janjaweed had burnt 150 villages and forcibly displaced 280,000 inhabitants in his district. Other hard hit areas include Kass, Zaleinge, and Jabal Marra districts, all within the Fur heartland.<sup>34</sup>

Doctors Without Borders/Médecins Sans Frontières (MSF)—again the first humanitarian organization with a large response presence in Darfur—characterized the initial months of the war as, “Mass violence against civilians in Darfur [that] began with a wave of attacks against villages in February 2003 and escalated in summer 2003.”<sup>35</sup>

By June 2003, Musa Hilal—the most brutal and notorious of the Janjaweed leaders—had returned to Darfur from Khartoum, and immediately set out to recruit both for the Janjaweed and the paramilitary Popular Defense Forces. He was enormously successful, and military equipment delivered from Khartoum continued to become more lethal, making the Janjaweed an ever more effective fighting force.<sup>36</sup> The shift to deliberate civilian destruction accelerated in September/October 2003, but we have ample evidence of deliberate civilian targeting throughout the summer of 2003 (i.e., through the end of September). Julie Flint and Alex de Waal report in *Darfur: A Short History of a Long War* (2005):

The [Sudanese Armed Forces] air force continued in its leading role. Large numbers of displaced had congregated in Habila by August 2003. It seems that their presence was the reason why the town was heavily bombed, killing thirty people on a single day that month. The UN Commission of Inquiry found “no evidence that there was any rebel activity or structures in the vicinity that could have been the target of this attack.”<sup>37</sup>

Darfuris insisted that this bombing was not a “mistake” by Khartoum’s forces, an explanation the credulous UN Commission appears to have accepted. They pointed out that, “‘Before the bombing of [Habila], Tunfunka, Tulus, Andranga, Hajjar and Bayda had all been burned and everyone had run to Habila.’”<sup>38</sup>

The signature cruelty and genocidal intent of the Darfur conflict was also in evidence early in 2003:

“These rapes [by the Janjaweed] are orchestrated to create a dynamic where the African tribal groups are destroyed,” an aid worker said. “It’s

hard to believe that they tell them [African women and girls] that they want to make Arab babies, but it's true. It's systematic." Nor was sexual violence limited to rape. Early in 2003, a young woman called Mariam Ahmad was stopped at a roadblock and forced to watch while Janjaweed cut the penis off her 21-day-old son, Ahmad. The child died soon after in her arms. In Bargai, a village near Zalingei, a young mother who had just given birth to twins was killed with her legs tied to her neck, exposing her genitals. Her babies were thrown into a container of boiling water that had been brought for the birth.<sup>39</sup>

Diplomats in Khartoum were speaking privately of a continuing campaign of "ethnic cleansing":

Diplomats have described the fighting in Darfur as 'ethnic cleansing' with Arab militias, possibly backed by the government, destroying entire villages inhabited by dark-skinned people who speak African languages."<sup>40</sup>

Of course direct support of the Janjaweed militia by the Khartoum regime was soon definitively established, most compellingly by Human Rights Watch in "Entrenching Impunity: Government Responsibility for International Crimes in Darfur."<sup>41</sup>

The grim assessment of genocidal ambition in Darfur was of course also coming directly from non-Arab/African Darfuris: "I believe this is an elimination of the black race," one tribal leader told IRIN.<sup>42</sup>

To suggest in this context that "1,000–4,500" people died as a result of the Darfur conflict from February 2003 to September 2003—or indeed from February 2003 to "early 2004"—is in fact more than myopia on the part of Degomme and Guha-Sapir. It is a deliberate effort to preserve the supposed integrity of their figure for total mortality. For by using this estimate, they can then give a more inclusive time range for the mortality total they profess to have determined statistically: "the overall number of excess deaths in Darfur between March, 2003 and December, 2008 was about 300,000." Again, this slippery figure of "about 300,000" is obviously the result of their adding their precise calculation of "298,271 (95% Confidence Interval, 178,258–461,520)" ("early 2004–December 2008") and the completely untenable US State Department estimate of "1,000–4,500" (February 2003 to September 2003)—and evidently ignoring the period from September 2003 to "early 2004" (again, there are no data in CRED's "Complex Emergency Database" for the year 2003 for any of the three Darfur states).

Given the high degree of politicization that has defined mortality estimates for the Darfur conflict, it is deeply dismaying to see such disingenuous exclusion on the part of experienced epidemiologists. They contribute to what has already been a terrible moral discounting of Darfuri lives.

## **Why Mortality Figures Matter**

Why does any of this matter? Here it is useful to recall that in February 2004—one year into the most violent and destructive phase of the Darfur genocide—the official UN estimate for total human mortality was 3,000. In retrospect this is of course an absurdly low number, although there was no apparent UN effort to deceive. But this figure gave a deeply misleading picture of the scale of the conflict, and that misapprehension continues, particularly among those intent on denying that the human destruction in Darfur is genocidal. We catch a glimpse of this political disposition in the refusal of Degomme and Guha-Sapir to connect explicitly the ethnically-targeted violence in Darfur with what they themselves describe as “excess deaths” from disease and malnutrition.

In the end the challenge to this early distorting UN figure came not from professional epidemiologists like Degomme and Guha-Sapir, but from activists; from Asma Jahangir, UN Special Rapporteur on extrajudicial, summary or arbitrary executions, who reported in late June 2004 that the “number of black Africans killed by Arab militias in the Darfur region of Sudan is bound to be staggering;”<sup>43</sup> from Sudan Focal Point/South Africa, which gathered critical mortality data from eastern Chad in early 2004; from the large team of forensic specialists, genocide scholars, legal experts, and law enforcement officials of the Coalition for International Justice (who, I was told by a member of the team in September 2004, unanimously regarded what they had uncovered as evidence of genocide); from the UN World Health Organization under David Nabarro; and from independent researchers such as Dr. Jan Coebergh. Most recently, “Darfurian Voices” takes an essential place in this history of efforts to convey the real scale of human destruction in Darfur. One can only hope that it will be read with honesty and moral integrity.

*[I am very grateful to those with training in statistics, epidemiology, medicine, as well as significant experience in Sudan and Darfur, for their critical reviews of this assessment.]*

## Appendix 1

In section III of the “Results” section of the report from “Darfurian Voices,” there are several important statistical results and two important qualifications that should be borne in mind. The footnote to this section is reproduced here in its entirety, as is the explanation by the authors of “Darfurian Voices” of the selection process for refugee leaders.

### **[a] “Darfurian Voices,” Section III: Exposure to Violence**

“Nearly all respondents were exposed to serious violence while in Darfur. 74% of interviewees [81% of men; 67% of women] left Darfur because of immediate violence that they personally experienced and 21% [15% of men; 26% of women] left because of fear of future violence. 91% had all of their property and possessions stolen or destroyed. 32% [37% of men; 28% of women] had personally suffered physical violence in an attack related to the conflict. 72% of all respondents reported that at least one member of their immediate family was killed in the conflict; the median number of family members killed was 4.2. 90% personally witnessed attacks on family members.”

### **[b] “Darfurian Voices,” Footnote 2 (page 15):**

“While collecting data from the fourth [of 12] camps, we discovered an ambiguity in the Arabic wording of the question regarding the number of family members killed in the conflict. In English, the question read: ‘How many of your immediate family members (parents, siblings, spouses, children) were killed in attacks related to the current conflict?’ In Arabic, the parenthetical statement was accidentally omitted. To correct for this, we inserted the parenthetical statement and re-trained all interviewers. An ad hoc comparison showed that the mean number of family members killed did appear to differ significantly between the first four and last eight camps [ $p < 2 * 10^{-6}$ ]. Therefore, all figures presented in this report regarding the number of family members killed in conflict does not include data from the first four camps: Gaga, Farchana, Bredjing, and Treguine.”

### **[c] “Darfurian Voices,” Selection of sample population:**

“The civilian sample consisted of persons aged eighteen or over who were randomly selected in each of the 12 refugee camps in eastern Chad, using stratified random sampling approach. As such, it was representative of the adult refugee population in the camps. The civilian sample size was 1,872. Unless otherwise indicated, statistics attributed to respondents, interviewees, or participants refer to the civilian sample. The leader sample consisted of tribal, civil society, and rebel leaders, who were given a more in-depth survey than the one administered to civilians. The leader survey included additional open-ended questions as well as all the same

questions as the civilian survey. Participants in the leader survey were not randomly selected. Leaders were drawn from a combination of a sample of convenience and from an effort to interview the sheikh of every block in each refugee camp. Consequently, the leader sample cannot be said to be representative of the leadership population as a whole. The leader sample size was 280, including 250 refugee leaders who were interviewed in the camps as well as 30 rebels and rebel leaders who were interviewed outside the camps. The data collected from the 30 leaders and rebels interviewed outside the camps were used for qualitative purposes, but are excluded from the leader statistics computed and presented in this report. Statistics drawn from the leader sample will always be explicitly attributed to leaders.”

## **Appendix 2**

A number of the variables in this analysis are not purely statistically derived, nor could they be. What I have done whenever introducing a statistical variable that is not itself statistical derived is to be at once reasonable and conservative. Reasonable in the sense of asking, “does this make sense, given all we know about circumstances, context, and qualitatively relevant reports bearing on Darfuri refugee and displaced populations, as well as numbers of reported attacks, satellite imagery of destroyed villages, ecological study of Darfur’s terrain during the period of conflict, and eyewitness accounts as reported directly and by human rights and humanitarian organizations?” “Conservative” in the sense that I deliberately sought figures that were reasonable, but which if anything were more likely to understate than overstate mortality. This was the basis for the choice of deflators in calculating violent mortality rates among displaced populations at different stages in the genocide.

The difference such assumed variables can make is perhaps best illustrated by looking at family size, where the assumption in this assessment is of an “immediate family” whose members include “parents, siblings, spouses, children.” I have used a figure of 10, which I believe to be quite conservative; for the smaller the family size in extrapolating from “Darfurian Voices” data, the larger the total for violent mortality. An average family size of 9, for example, increases the mortality total among Darfuri refugees in eastern Chad from approximately 57,250 to approximately 63,500.

But there are certainly problems in arriving at any firm figure for family size. The fourth of my “caveats” indicates one way in which family size might be uncertain in a situation where someone is both a father in one family and brother to the father in another family. The most fundamental problem, however, is simply the range of estimates for the “average” Darfur family size.

CHF International based their work in Darfur's IDP camps on the assumption of "5.5 family members per household." (There is an obvious potential ambiguity in the language here.)

USAID reports in May 2004 that at in Dubai, South Darfur, it provided "temporary shelter for 6,400 families," and then went on to note that, "the average family size in Darfur is 5."

But a month later, USAID would report that, "Based on data collected during Médecins Sans Frontières' (MSF) recent nutritional survey, the average family size among the conflict affected population in Darfur is 7 persons."

CARE, in an April 2004 emergency report on Darfur, found the average family size to be 5.5.

In June 2009 a UNAMID assessment at Masri village (North Darfur) reported: "Residents revealed that about 2,300 households with an average family size of 8 individuals had returned to the area."

In an August 2005 article in the journal *Criminology*, John Hagan, Wenona Rymond-Richmond, and Patricia Parker note:

The patriarchal and polygamous practices of these [Darfuri] African tribes is reflected in the larger average family size reported by males (7.1, compared to females, 6.2), who may have more than one wife.

Notably, all of these figures are considerably under the assumed figure of 10 members for the "immediate family" of Darfuri refugees. And again, the smaller the family size—using the data from "Darfurian Voices"—the greater the total of violent mortality.

## Notes

- 1 <http://www.darfurianvoices.org/blog.php>
- 2 My primary sources for this latter figure were [UN World Health Organization mortality studies](#), particularly of August/September 2004.
- 3 “Darfurian Voices,” page 14.
- 4 “Darfurian Voices,” pages 14–15.
- 5 Though see [Appendix 1](#) concerning selection of leadership figures.
- 6 The “Darfurian Voices” data was collected between April and July 2009.
- 7 UN News Centre, “Darfur: UN calls for immediate access to civilians threatened by violent clashes.” <http://www.un.org/apps/news/story.asp?NewsID=29878&Cr=darfur&Cr1=muhajeria>
- 8 Deadly cross-border raids by Janjaweed militia and Khartoum’s regular Sudan Armed Forces beginning in 2005 may or may not be included in the “Darfurian Voices” report; if they are not, this would also suggest a higher violent mortality total for Darfuri refugees.
- 9 Flint and de Waal, page 64.
- 10 Flint and de Waal, pages 60–61.
- 11 *The Lancet*, October 9, 2004.
- 12 [MSF press release, Brussels/Khartoum, December 1, 2004.](#)
- 13 See my two-part analysis of current humanitarian conditions in Darfur and eastern Chad, at <http://www.sudanreeves.org/Article264.html>
- 14 In October, WHO estimated mortality for the six-month period from March 2004 to October 2004 at 70,000.
- 15 Email from Dr. David Nabarro to the author received September 16, 2004.
- 16 Again, in October WHO increased the mortality figure to 70,000 excess deaths between March 2004 and October 2004.
- 17 *The Lancet*, January 23, 2010. Pages 294–300, <http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2809%2961967-X/abstract>
- 18 The *terminus a quo* and the *terminus ad quem*.
- 19 [www.state.gov/s/inr/rls/fs/2005/45105.htm](http://www.state.gov/s/inr/rls/fs/2005/45105.htm) is now a dead link
- 20 Document accessed by the author from the State Department website on April 23, 2005 at the now defunct URL.
- 21 “Phase 2” of Panel 1—again, N.B. the *terminus ad quem* for this “phase.”
- 22 By which time Khartoum had substantially deployed its Janjaweed militias, as well as its regular military forces, in genocidal destruction.

- 23 UN Integrated Regional Information Services, October 8, 2003.
- 24 UN IRIN, October 8, 2003.
- 25 October 9, 2004 [9442].
- 26 MSF, Brussels/Khartoum, December 1, 2004.
- 27 Statement from UN Humanitarian Coordinator for Sudan, issued Nairobi/Khartoum, November 10, 2003.
- 28 Degomme and Guha-Sapir, Graph from Figure 1.
- 29 Statement from UN Humanitarian Coordinator for Sudan, issued Nairobi/Khartoum, November 10, 2003.
- 30 Agence France-Presse, November 10, 2003.
- 31 Tom Vraalsen, Note to the Emergency Relief Coordinator; “Sudan: Humanitarian Crisis in Darfur,” December 8, 2003.
- 32 “Sudan Emergency Statement,” December 10, 2003.
- 33 UN News Center, December 5, 2003.
- 34 International Crisis Group, 2003, “Sudan: Towards an Incomplete Peace,” Africa Report No. 73, page 19.
- 35 MSF “Field News,” November 1, 2004.
- 36 Military preparations had been ongoing throughout 2002.
- 37 Flint and de Waal, page 106.
- 38 Cited by Flint and de Waal, page 107.
- 39 Flint and de Waal, pages 108–109.
- 40 BBC, December 11, 2003.
- 41 HRW, “Entrenching Impunity,” December 9, 2005, <http://www.hrw.org/node/11496>
- 42 UN IRIN [el-Geneina] December 11, 2003.
- 43 UN News Centre, “Sudan: UN human rights expert expects large number of deaths in Darfur,” June 29, 2004, <http://www.un.org/apps/news/story.asp?NewsID=11191&Cr=sudan&Cr1=>

The Number of whom  
Kills and murder in Darfur

number of dead	place of Kill	Kind of Kill	Date
24	Gemaz - Kuttum	Gangawweet	18/7/07
14	Abra village	Arab melishes	24/6/07
children	Amo	shoot of Dinka	
45	Ria - east Kuttum	Gangawweet	7/1/12
5	Amo - east of Kuttum	Untinough	2/1/12
24	Abu Gielad - market	Gangawweet	3/6/20
5	bitaina east Abokima	Gangawweet	12/1/12

Photography credit: Enough Project

#### A CRUDE BUT AUTHORITATIVE MORTALITY ASSESSMENT: DECEMBER 26, 2007

With only rudimentary English and highly irregular orthography, Darfuris in eastern Chad attempted for several years to keep track of the violence and human destruction wrought by Antonov bombing attacks and *Janjaweed* scorched-earth clearances. *Janjaweed* is spelled “Gangawweet,” Antonov is “Untinough” and Arab Militia is rendered “Arab melishes.” But the Arabic numerals for the those who have been killed are unambiguous: 24 near Kutum; 14 near Abra village; children at Amo; 45 at Ria, east of Kutum; 5 more at Amo; 24 at Abu Gielad market.... One partial slip of paper is photographed here; there are countless such pages. The deaths ceased to be recorded when it became clear that no one really cared about Darfur mortality totals.



*Photography credit: Mia Farrow*

DESTRUCTION BY THE JANJAWEEED AND KHARTOUM'S REGULAR SUDAN ARMED FORCES particularly in the early years of the genocide, such destruction was typically comprehensive, destroying all the means of life: food and seed-stocks; water vessels; wells and irrigation systems; houses, schools, mosques; livestock were looted, along with all valuables. The 1948 *UN Convention on the Prevention and Punishment of the Crimes of Genocide* specifies as one form of genocidal act: "Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part." It would be difficult to conceive of a reason to doubt that the destruction of thousands of villages, targeted because they were African, does not constitute genocide. The same is true of the approximately 500,000 people, overwhelmingly from African tribal groups, who have perished in this vast holocaust.



*Photography credit: Enough Project*

### THE DEATH OF LIVESTOCK

These losses represent not simply the critical means of living in the harsh land of Darfur, but often represent (in effect) a family's life savings. From the beginning of mass displacement in 2003, African sedentary agriculturalists found it increasingly difficult to sustain their livestock, which for many represented also transport resources. Moreover, animal carcasses pose a health risk, especially in the rainy season.

Countless hundreds of millions of dollars of livestock—camels, cattle, goats, and others—have been killed, looted, or allowed to starve to death over the past eight years.



A man uncovers the skull of one of more than twenty friends and family, in a mass grave in Mukjar (West Darfur) (2007)

*Photography credit: USAID*



Graves in eastern Chad—where far too many Darfuris have ended their flight

*Photography credit: Enough Project*