



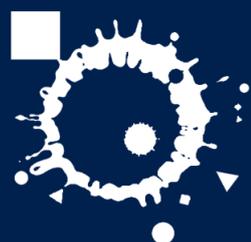
Policy Brief

# Mortality in Darfur: Lessons for Humanitarian Policy

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Complex Emergency Database



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A food aid convoy in Darfur  
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**What is a reliable figure for conflict-related deaths in Darfur?**

**What were the main causes of death?**

**How did a shortfall in humanitarian assistance affect mortality rates?**

## Mortality in Darfur: Lessons for Humanitarian Policy

**Summary:** In recent years there has been considerable debate over how best to formulate reliable estimates of conflict mortality rates. However, in formulating humanitarian policy to respond to violent conflicts it is important to go beyond crude mortality rates to look at the causes and timings of deaths. This Policy Briefing presents the results of a MICROCON study on Darfur which disaggregates causes of death, and discusses the implications for humanitarian policy. The results of the study demonstrate the importance of improving sanitation and health services in displacement camps. It also provides some evidence of the human impact of shortfalls in humanitarian funding, and highlights the vital importance of consistent and adequate financial support for relief efforts.

### 1. Introduction

Mortality in complex emergencies has been an important subject of research and debate during the past decade. Recent conflicts – such as those in the Democratic Republic of Congo, Iraq, and Darfur – have generated substantive discussions about numbers and rates of death as a result of wars. Such figures are important to the media, and are used to raise awareness of crises around the world. The influence that the media has on public opinion it also has over policymakers and politicians, and hence humanitarian aid has often been sidetracked because mortality data have been used for

political purposes, and because of the resulting legal implications. An example of this is the expulsion of humanitarian non-governmental organisations from Darfur after the issue of a warrant of arrest by the International Criminal Court against Omar Bashir, the president of Sudan.

Estimates of death tolls in any one particular conflict often vary very considerably. Table 1 shows the widely varying estimates of mortality rates in Darfur during 2003–08. Similarly, in Iraq mortality estimates referring to the same period ranged from 65,000 to 650,000; and

in the Democratic Republic of Congo estimates ranged from 200,000 to 5,000,000.

A further problem is that many analyses in conflict-affected countries focus mainly on the total number of deaths, and less on the causes or patterns. In several studies in Darfur, a constant death rate was extrapolated to the entire duration of the conflict and affected population. This approach means that conflict-related mortality was assumed to be constant with time, and across geographical space, which was not the case. Furthermore, the conflict affected different parts of the popu-

lation.

Going beyond the estimation of crude numbers of deaths is vital in informing attempts to limit the number of deaths caused in future conflicts. Analysing the number of cause-specific deaths improves our understanding of conflict and its dynamics, and MICROCON has been undertaking such research on Darfur. This Policy Briefing discusses the most important findings of this study and its policy implications.

It finds that the majority of deaths occurred not due to violence, but due to overcrowding and unsanitary conditions in displacement camps. In addition, the mortality rate rose still further when the number of aid workers employed in the area declined relative to the population, underlining the importance of adequate investment in emergency relief.

## 2. History of the Conflict

The Darfur region has seen low-level fighting between communities for decades. This has generally centred around a history of tensions between those claiming Arab descent, who assume superiority over other groups, and those who are considered black Africans – although ‘Arabs’ are often physically indistinguishable from ‘Africans’.

sometimes provided air support as these militias burned and looted villages in the region, killing men, raping women and forcing large parts of the population to flee their homes. A large proportion of the population have fled their homes and live in Internally Displaced Persons’ (IDP) camps in the region. A further 200,000 have sought refuge over the border in neighbouring Chad.

## 3. Methods

The MICROCON study consisted of a ‘survey of surveys’. Data for mortality rates in Darfur were obtained from Centre for Research on the Epidemiology of Diseases’ on-line complex emergency database. Statistical data for health and nutrition were extracted from 63 population-based surveys done in conflict-affected areas since 2000 and stored on this database. The main indicators for mortality included overall and child (under 5 years) mortality rates. The quality of this survey data was checked, and the sampling methods, calculation of rates and limitations were assessed.

A UN OCHA series about Darfur served as a second source of statistical data for the number of affected people and other essential data about humanitarian issues such as displacement of people and human-

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## It is commonly found that less than ten per cent of deaths in conflict-affected areas are caused by violence

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The recent, more intense, conflict in Darfur began in 2003 with an attack on government posts by the Sudan Liberation Movement/Army (SLM/A) and the Justice and Equality Movement (JEM). The two movements were demanding greater political representation in Khartoum.

The government responded by increasing support for local militias – often mobile groups of ‘Arab’ Darfuri – and government forces

itarian aid staff, and food supply. Based on this data, the conflict was divided into six phases, from 2003 to 2008, and regression analysis carried out for overall, violence-related, diarrhoea and child mortality rates.

## 4. Violence versus illness as cause of death

From this analysis, the number of



Outside an IDP camp in Shangel Tubaya, Darfur. © Radio Nederland Wereldomroep

‘excess’ deaths – those over and above what might be expected in peacetime – was estimated to be approximately 300,000. The overall mortality rate consistently decreased with time, and the main reduction was in violence-related mortality.

The findings suggest however that more than 80% of excess deaths were not a result of the violence. These results are in agreement with studies of other conflicts in which initial mortality peaks were often related to a period of intense violence and subsequently high number of violence-related deaths, but the main causes of mortality during the stabilisation period were diseases such as diarrhoea. In fact, it is commonly found in many conflicts that less than ten per cent of deaths in conflict-affected areas are caused by violence.

The study further identifies significant differences between residents and displaced people. Overall, surveys of populations with large proportions of internally displaced people had higher mortality rates than those consisting of only non-displaced individuals.

However, the effect of displacement is different when mortality rates are split into violence-related and non-violence-related mortality rates. Mortality associated with violence is generally lower in samples with many displaced individuals, but that associated with non-violence is significantly higher.

This difference could suggest that settings in which there are internally displaced people are protected from attacks, but overcrowding and precarious situations in which the displaced people live increase the risk of death from communicable diseases. Conversely, it would suggest that those staying at home are more at risk from violence, but live in healthier conditions.

### 5. The role of humanitarian assistance

The results for July, 2006, to September, 2007, warrant some additional attention. The period was characterised by a rise in insecurity and robbery, leading to a new wave of displacement. Overall mortality rates for this period are similar to those of the previous period, but this continuity masks a divergent pattern in cause-specific mortality. On the one hand, deaths from violence continued to decrease, even though insecurity had increased. On the other hand, the diarrhoea-related mortality rate increased during that period, as did the mortality rate in children younger than 5 years.

A possible explanation for this increase is the 18% reduction in number of humanitarian aid workers during that period, while the number of affected people increased from 3.5 million to 4.2 million. As a result, the ratio of affected people to humanitarian aid workers increased by almost 50%, from 237 to 346 affected per staff member.

tion in the number of humanitarian personnel was increased insecurity resulting in only a few areas being accessible, thus directly reducing the need for staff.

The second reason is related to a reduction in humanitarian budget that was allocated to Darfur. In March, 2006, UNICEF's representative in Sudan warned that reduced funding could severely affect the humanitarian operations in Darfur. One month later, the World Food Programme reduced the food aid rations by 50% because of funding shortages. By November, 2006, 98% of funds needed for food aid had been pledged, but sectors such as health, water, and sanitation still had major gaps. By mid 2007, 85% of needed funds had been provided, including 78% for health and nutrition requirements, and 86% for water and sanitation. At about the same time, mortality rates decreased again, suggesting that although insecurity

might have contributed mostly to the mortality increase during that period, the decreased humanitarian aid as a consequence of funding shortages and resulting increase in number of disease-related deaths accounted for the rise in mortality rate between July, 2006, to September, 2007.

These findings are particularly important, because they demonstrate the central importance of sustainable funding for IDP camps and affected populations more broadly. As funding levels drop, conditions in the camps become unsuitable due to shortages in staff and medical equipment, overcrowding and deteriorating sanitary conditions.

### 6. Conclusion – Humanitarian response and statistics

The MICROCON study in Darfur clearly shows that efforts to limit the human impacts of the violent conflict need to be consistent and

	Period	Estimate
WHO	Mar to Sep 2004 (7 months)	45,000 – 80,000 total deaths; 35,000-70,000 excess deaths
UN	Sep 2003, to Feb, 2005 (18 months)	180,000 from hunger and disease
Hagan et al	Feb 2003 to Mar 2005 (26 months)	396,563 total deaths
Reeves	Feb 2003 to Mar 2005 (26 months)	380,000 excess deaths
Reeves	Feb 2003 to Apr 2006 (39 months)	480,000-530,000 total deaths; 220,000-270,000 violent deaths
Coebergh	Apr 2003 to Dec 2004 (21 months)	Estimates of excess deaths: 218,449, 253,573 and 306,130
US Department of State	Mar 2003 to Jan 2005 (23 months)	98,000-181,000 total deaths; 63,000-146,000 excess deaths
CRED	Sep 2003 to Jan 2005 (17 months)	134,000 total deaths; 181,142 excess deaths
CRED	Feb to June, 2005 (5 months)	36,237 total deaths; 23,658 excess deaths
Hagan and Palloni	Feb 2003 to Aug 2005 (31 months)	170,000 to 255,000 total deaths
Petersen and Tullin	Apr 2003 to Sep 2005 (30 months)	57,000 to 128,000 killed in village attacks
UN	Feb 2003 to Apr 2008 (63 months)	300,000 excess deaths
CRED=Centre for Research on the Epidemiology of Disasters		
<b>Table 1: Overview of previous analyses of mortality rates in Darfur.</b> Source: Degomme & Guha-Sapir 2010		

The first explanation for the reduc-

well-funded, and that such efforts clearly save many lives – particularly through improving conditions in IDP camps.

There is also an important conclusion to be drawn about the use of statistics in making decisions about humanitarian assistance: In order to appropriately target assistance and determine its impact, it is vital to break down information on mortality by geographical area and cause.

In addition, a broader set of indicators need to be used in decisions than even disaggregated mortality. Policymakers have often tried to make evidence-based decisions regarding humanitarian emergencies based on overall mortality rates. In deciding whether an event is classified as a humanitarian emergency the threshold for an emergency situation is one death per 10,000 population per day. Unfortunately, if this number has already been reached then valuable time will already have been wasted before interventions are prepared, so it is important to move beyond mortality rates to ‘leading’ indicators. These could include nutrition and vaccination rates, which are earlier indicators of trends. This is not a comprehensive early warning system, but these indicators give a much more timely indication of problems. Whilst mortality indicators still have a use, the focus needs to be broader to include other kinds of indicators.

## Credits

This Policy Briefing was written by Olivier Degomme, Centre for Research on the Epidemiology of Disasters. It is largely based on the findings of a study published in the *Lancet* (see below). The views expressed in this briefing are the author’s alone.

## Further reading

Degomme, O. and Guha-Sapir, 2010. Patterns of mortality rates in Darfur conflict. *The Lancet* 375:294-300.

<http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2809%2961967-X/abstract>



MICROCON, or ‘A Micro Level Analysis of Violent Conflict’ is a five-year research programme funded by the European Commission, which takes an innovative micro level, multidisciplinary approach to the study of the conflict cycle.

Almost one third of the world’s population lives in conflict-affected low-income countries. At a fundamental level, conflict originates from people’s behaviour and how they interact with society and their environment - from its ‘micro’ foundations. Yet most conflict research and policy focuses on ‘macro’ perspectives. MICROCON seeks to redress this balance.

For more information on MICROCON, please visit our website:

<http://www.microconflict.eu>

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