



Foreign &
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30 January 2008

Mr Richard Moyes
rmoyes@landmineaction.org

Dear Mr Moyes

FREEDOM OF INFORMATION REQUEST 0873-07

I am writing to confirm that the Foreign and Commonwealth Office has now completed its search for the information you requested on 1 November 2007.

You requested information under FOI on “requesting information since 2001, on “projects the FCO has funded, undertaken or analysed in a) Afghanistan b) Iraq that work, *inter alia*, to assess the numbers and specific causes of civilian casualties resulting from armed violence perpetrated by UK forces and our relevant international partners” and “analyses or assessments made by FCO staff or scientific advisors regarding methodologies for assessing the civilian cost of armed violence”

I can confirm that the FCO holds some information relevant to your request and a copy of the information which can be disclosed is attached. The names of officials have been omitted, as they are not relevant to your request. I would also like to highlight that the email of 14 January 2005 entitled “Collier and Hoeffler on peacekeeping”; the email of 11 September 2006 entitled “Greed and Grievance: a critique of Collier” and the paper entitled “Conflict: an introduction to current thinking” are the personal views of an FCO officer and in no way reflect the views of the FCO.

The FCO has not funded any projects to assess the number or specific causes of civilian casualties in Afghanistan. UK troops operate in Afghanistan on the invitation of the Afghan government and as part of the UN-mandated, NATO-led International Security Assistance Force (ISAF). Any investigation into the numbers and specific causes of civilian casualties will be carried out by the Afghanistan Government or NATO in the first instance and by UK forces if they are involved. The FCO does not undertake this type of project in Afghanistan.



Afghanistan Group also does not hold any information on the second part of the request. The FCO publishes a civilian casualties fact sheet that can be found on the FCO web page, and a list of reports can be found below. The FCO has not commented on these reports.

<http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1188507267996>

UN High Commissioner for Human Rights

(<http://www.unhcr.ch/hurricane/hurricane.nsf/view01/8FA97A1314FB08B5C1257399005990A3?opendocument>)

Oxfam

(http://www.oxfam.org.uk/resources/policy/conflict_disasters/downloads/uksubmission_afghanistan.pdf)

Human Rights Watch report "The Human Cost: The Consequences of Insurgent Attacks in Afghanistan", which partly covered civilian casualties caused through ISAF operations (http://www.hrw.org/reports/2007/afghanistan0407/6.htm#_ftn192).

HRW press release in March 2007

(<http://hrw.org/english/docs/2007/03/06/afghan15446.htm>)

HRW 2004 report, "Enduring Freedom: Abuses by U.S. Forces in Afghanistan"

(<http://hrw.org/reports/2004/afghanistan0304/>)

2002 a report "Fatally Flawed: Cluster Bombs and Their Use by the United States in Afghanistan" (<http://hrw.org/reports/2002/us-afghanistan/>).

There is also other information relevant to your request. However, for the reasons given below we cannot release this information to you.

Some of the information is exempt under sections 27(1)(a) and (b) international relations, and the rest under 35(1)(a&b) formulation or development of government policy and ministerial communications. These exemptions are explained below.

Some of the information you requested is exempt under section 27(1)(a) and (b) of the Act, as disclosure would be likely to prejudice relations between the United Kingdom and other states and international organisations, in this case the United States and Iraq. This information relates to confidential discussions held between the United States and the United Kingdom, and in the Iraq Policy Unit on civilian casualties Iraq. This exemption requires the application of a public interest test. The effective conduct of international relations on Iraq policy depends upon maintaining trust and confidence between other Governments and international organisations. This relationship of trust allows for the free and frank exchange



of information on Iraq policy on the understanding that it will be treated in confidence. If the United Kingdom does not maintain this trust and confidence, its ability to protect and promote UK interests through productive international relations will be hampered. As the subject of civilian casualties in Iraq is still a sensitive subject with the Iraqi and US governments, we judge that releasing this information may hamper the chances of further information being passed to us. For these reasons we consider that the public interest in maintaining this exemption outweighs the public interest in disclosure.

Some of the information you requested is exempt under section 35(1)(a and b) – formulation or development of government policy and ministerial communications. This information relates to confidential policy discussions. Some of the information also shows the policy discussion for writing the Foreign Secretary's statement on the Lancet Casualty report. Releasing this material may prejudice future policy discussion when writing a Foreign Secretary's statement. This exemption requires the application of a public interest test. We recognise that there is a public interest in the greater transparency in the decision making process to ensure accountability within public authorities. However, officials need to be able to conduct rigorous and candid risk assessments of their policies and programmes including considerations of the pros and cons without there being premature disclosure which might close off better options and inhibit the free and frank discussion of all policy options. For these reasons we consider that the public interest in maintaining this exemption outweighs the public interest in disclosure. The public interest also lies in ensuring the collective responsibility of government is not undermined by the disclosure of interdepartmental consideration and in not undermining the collective responsibility of government ministers as shown by their ministerial correspondence.

Section 35 is statutory recognition of the public interest in allowing government to have a clear space, immune from exposure to public view, in which it can debate matters internally with candour and free from the pressures of public political debate. Government officials need to be able to engage in free and frank discussion of all the policy options, to expose their merits and demerits and their possible implications as appropriate. Their candour in doing so will be affected by their assessment of whether the content of such discussion will be disclosed in the near future. For these reasons, the public interest in withholding this information outweighs the public interest in release.

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<http://www.opsi.gov.uk/advice/crown-copyright/copyright-guidance/index.htm>



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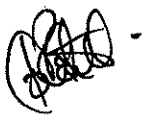
In keeping with the spirit and effect of the Freedom of Information Act, all information is assumed to be releasable to the public unless exempt. The information supplied to you may now be published on our website together with any related information that will provide a key to its wider context.

If you have any queries about this letter, please contact me. Please remember to quote the reference number above in any future communications.

If you are unhappy with the service you have received in relation to your request and wish to make a complaint or request an review of our decision, you should write to: IPU OGLO, Room K270, Foreign and Commonwealth Office, SW1A 2AH.

If you are not content with the outcome of your complaint, you may apply directly to the Information Commissioner for a decision. Generally, the Information Commissioner's Office cannot make a decision unless you have exhausted the complaints procedure provided by Foreign and Commonwealth Office. The Information Commissioner can be contacted at: The Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire SK9 5AF.

Yours sincerely,

PP- 

Roz Griffiths
Iraq Group



(2)

FREEDOM OF INFORMATION REQUEST 0873-07 FROM RICHARD MOYES: DIGEST OF INFORMATION

Email from Dfid Statistician to FCO Official of 12 October 2006

██████. In essence, the method is indeed tried and tested. For example, a somewhat similar study was published earlier this year, also in *the Lancet*, on mortality in the Democratic Republic of the Congo. (Coghlan et al. *The Lancet* 2006; 367:44-51). There are two major differences:

- the Iraq study was based on a much smaller number of locations visited: just 47 rather than 750 in the DRC study. The impact of this is that it greatly increases the width of the "confidence interval", so the Iraq study is only able to place casualties somewhere in the range of between 0.4 and 0.9 million. This has been appropriately accounted for in the analysis of the Iraq study. The choice of a small number of clusters obviously responds to the extreme danger of doing a survey in Iraq.
- the Iraq study has a longer recall period than is customary. People usually forget about deaths that happen some time ago, so the method *should* lead to an underestimation of deaths in the pre-war and early post-invasion periods. However, there is no sign that this happened in this case, as the results are exactly comparable to the same authors' earlier study in which the recall period was much shorter. Infant deaths show no change over time, and deaths in the elderly show only a relatively small increase.

You may also be interested to know that the DRC study found mortality rates *over three times higher* than those reported in yesterday's Iraq study. The World Bank has a toolkit on adult mortality measurement which includes a section on this method (a single cross-sectional survey with deaths identified by recall). I am quoting their assessment of the method below, but in summary, it concludes that there is a risk of **underestimation** of mortality. The Iraq survey was particular in that death certificates were sought. Interviewees were surprised in their homes and yet were able to produce death certificates. It is hard to imagine how they could have pulled this off if they were falsifying information. Unless, of course, the local research simply invented the results rather than actually doing interviews. This possibility exists with all field research.

There is considerable experience of this approach to measuring adult mortality. The results suggest that it is common for a substantial proportion of recent deaths to be omitted. Often only about a third to one half of the expected number of adult deaths are reported and sometimes far fewer. There seem to be several reasons for this. One major problem is that deaths only occur in a small minority of households and interviewers simply give up asking the question and leave that section of the schedule blank. In addition, reference-period errors may be important and also omissions, perhaps because of an unwillingness on the part of respondents to talk about the dead. In several WFS surveys the number of deaths reported each month declined rapidly as the interval between their occurrence and the survey increased (Timaus, 1987). Coverage errors are also a problem. Not everyone is clearly attached to a single household and some people live alone. Such individuals may be among those most likely to die but are unlikely to have their deaths reported. Moreover, the death of an adult can often precipitate

household fission so that the households in which deaths occur may disintegrate before the survey is conducted.

If only a proportion of adult deaths are reported it may still be possible to adjust them using the growth balance method and related techniques. Unfortunately the combined effects of migration, age misreporting and sampling errors often mean that few firm conclusions can be drawn from such analyses. Typically one can only conclude either that the data may be complete, though not whether they are, or that the data are definitely incomplete, though not how incomplete (eg. Timaus, 1987). In some countries, concentrating on the data for women, who may be less likely to migrate, or re-tabulating the data using unconventional age groups, to alleviate the problem of heaping of reported ages on those ending in the digits 0 and 5, may facilitate assessment of the completeness of reporting.

It is important to add, however, that sometimes questions about recent deaths in single-round surveys work well. In nearly half the WFS surveys considered by Timaus (1987) such questions yielded estimates of adult mortality that were comparable with those from other sources. Thus the approach is unreliable, rather than useless. Unfortunately its performance can seldom be assessed on the basis of internal evidence. In addition, sampling errors and errors in the reporting of ages at death mean that it is seldom possible to accept the age-specific mortality rates as they stand. Usually the data have to be smoothed by fitting a model life table. Thus they are of little use for studying age patterns of mortality in detail. Finally, information on recent deaths are of limited use for the study of mortality differentials. Even if sample size constraints do not prohibit disaggregation, it is difficult to collect information retrospectively on the characteristics of the deceased. In addition, techniques for assessing and adjusting data on recent deaths cannot be applied to sub-populations that are affected by migration. Even when these methods work well at a national scale, it is unreasonable to suppose that the level of reporting is invariant across regions or social groups.

██████████
Statistics Adviser
Europe, Middle East and Americas Division
Department for International Development (DFID)
██████████

Email chain of 20 October 2006 between FCO officials regarding Royal Holloway study

Thanks ██████████, I still think we FCO should not be rubbishing the Lancet, but can acknowledge there are other scientists with other views.
Copied to other HMG with an interest.

██████████
-----Original Message-----

From: ██████████
Sent: Friday, October 20, 2006 12:25 PM

To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Lancet Paper - Channel 4

I thought you would be interested in this paper adding more doubt over the Lancet study.

[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Friday, October 20, 2006 11:51 AM
To: [REDACTED]
Subject: FW: Lancet Paper - Channel 4

[REDACTED], this is the study that channel 4 were referring to from the nice man at The Royal Holloway College.

[REDACTED]

-----Original Message-----

From: [REDACTED]@rhul.ac.uk]
Sent: Friday, October 20, 2006 11:34 AM
To: [REDACTED]@fco.gov.uk
Subject: Lancet Paper - Channel 4

<<ScienceLancet.pdf>> <<lancet study flawed1.pdf>>

Dear [REDACTED],

Have a look then please call me.

[REDACTED]

Department of Economics
Royal Holloway College
University of London
Egham
Surrey
TW20 0EX
United Kingdom
[REDACTED]

Email from MOD to FCO Official re advice from Chief Scientific Adviser of 13 October 2006

[REDACTED]

Please see comments on The Lancet article from CSA.

What is the next course of action? Would we be able to see a copy of any written documents relating to the briefing that is being prepared?

From the Rolling Brief I think the lines remain that *"There are no entirely accurate or comprehensive figures for civilian deaths in Iraq. Estimates vary according the method of collection."*

The numbers seem incredibly high, when compared to www.iraqbodycount.net for example.

Let me know if we can help any more...

[REDACTED]

From: [REDACTED]
Sent: 13 October 2006 12:00
To: [REDACTED]
Cc: [REDACTED]
Subject: CSA Review of the LANCET Article on casualties in Iraq
James,
Psa comments from CSA after review of the Lancet article.

[REDACTED]

APS/CSA
MB 81451

**Chief Scientific Adviser's advice, summarised by Assistant Private Secretary of
13 October 2006**

IRAQ – MORTALITY AFTER THE 2003 INVASION OF IRAQ: A CROSS-SECTIONAL CLUSTER SAMPLE SURVEY – LANCET OCTOBER 2006

1. Further to our discussions yesterday, CSA has reviewed the recent article by Burnham and colleagues published in the *Lancet* (Online – 11 October 2006) and received comments from an independent expert in statistical epidemiology and demography ([REDACTED], Imperial College). He has the following comments to make:
 - a) The study design is robust and employs methods that are regarded as close to 'best practice' in this area, given the difficulties of data collection and verification in the present circumstances in Iraq. The methods section of the paper is sufficiently detailed to gain a good impression of the techniques adopted, problems encountered in implementation and the statistical methods employed in analysis. The methods are an improvement on those used in the 2004 Lancet article by the same senior author (G Burnham). Sample sizes have been increased, given critical comment on the earlier study with respect to small sample size (and the concomitant large confidence intervals surrounding estimates of excess mortality) and previous lack of verification of reported death against death certificates. The senior author is a competent researcher in public health and demography and the study received appropriate scrutiny from the sponsoring institutions in the USA and Iraq.
 - b) The most significant improvement in methodology between the 2004 and 2006 studies lie in death certificate verification of reported mortality, larger sample sizes and better design in the cross-sectional (by age and gender) cluster-based survey methods.

- c) The reported analyses and statistical methods employed seem robust, although moderate confidence bounds remain on the estimate of 601,027 post-invasion deaths due to violence (95% confidence bound of 426,369 to 793,663). This is in part a consequence of heterogeneity between clusters and extrapolation from samples to the total population. In the difficult circumstances surrounding data collection this is hardly surprising. The average estimate in the 2006 study is close to that reported in the 2004 study.
- d) Deaths were much more prevalent among adolescent to middle aged men and bias may remain with respect to average levels of non-combatant mortality in the overall population, given that some of the recorded deaths were amongst combatants against both the coalition forces and opposing sectarian groups.
- e) The discussion section of the 2006 paper is more balanced than that in the 2004 study, with reasonable discussion of problems in data collection plus study implementation, and the interpretation of the reported estimates.

2.

[REDACTED]

[REDACTED]

- 3. Given the reasonably robust study design and appropriate analysis methods, CSA recommends caution in publicly criticising the study.

Email from Iraq Policy Unit to Parliamentary Relations Team containing Prime Minister's Questions brief of 13 October 2006

[REDACTED]

Please see attached a brief for the PM on the Lancet survey. This can be used for PMQ's plus other briefings. Let me know if there is any follow up.



061013 PM brief on casualties ...



FS Lancet Response - Nov 2004....



Lancet Response - supps.doc

Email from Iraq Policy Unit to Parliamentary Relations Team, Foreign and Commonwealth Office, of 16 October 2006 clarifying query from no.10

Quick point to make on the email below - we do not (not) accept that the figures quoted in the Lancet survey are accurate. We believe that they are much higher than what we would assume to be reasonable figures of deaths in Iraq. The high figures in the report come from the extrapolation of a very small sample size, and the figure of 601,000 is taken as the mid point in an extrapolated range between 426,369 - 793,663. The figures are extraordinarily high and significantly larger than the figures quoted by the Iraq Body Count or Iraqi Government - however the survey methodology used here cannot be rubbished, it is a tried and tested way of measuring mortality in conflict zones. The overriding message is that there are no accurate or reliable figures of deaths in Iraq.

Please come back to me if there are further questions - happy to discuss with No10 if needed.

-----Original Message-----

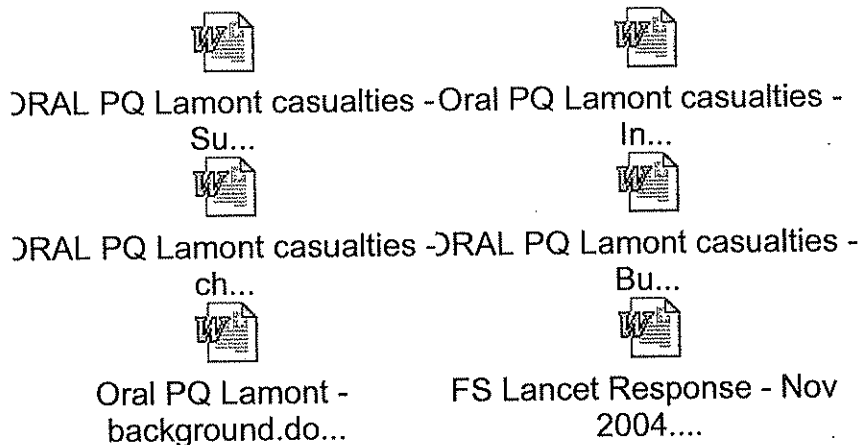
From: [REDACTED]
Sent: 16 October 2006 17:19
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: PMQs deaths of Iraqis

Its fine, but are we really sure that the report is likely to be right? That is certainly what the brief implies. The section I heard on the news said that if this report was correct, there wd have been 500 deaths per day since 2003, which in itself seems higher than anything I'd seen previously.

For latest news and information from Downing Street visit: <http://www.pm.gov.uk>
Help save paper - Do you need to print this email

Oral PQ attachments from Iraq Policy Unit to Lord Triesman of 18 October 2006

Please see attached electronic copies of briefing for Oral PQ from Lord Lamont on deaths in Iraq. Hard copies have been handed over. Full Iraq Supps to follow shortly.



Steering Minute for Lord Triesman from Iraq Policy Unit of 18/10/06 re House of Lords Oral Answer on Civilian Casualties in Iraq from Lord Lamont of Lerwick

1. I submit a draft answer to the House of Lords Oral question on total number of deaths in Iraq since 2003.
2. Lord Lamont of Lerwick is seeking clarification on the accuracy of the figures published by The Lancet on 12 October in an article entitled 'Iraq: Mortality after the 2003 invasion of Iraq: a cross sectional cluster sample survey.' The survey concluded that 655,000 Iraqis have died since 2003 over and above the normal mortality rate.
3. The figures quoted in the survey are a substantial leap from other estimates. We have consistently stated that no comprehensive figure exists for the number of deaths post-2003. However, the Lancet figures are substantially higher than those released by the Iraq Government or Iraq Body Count, an NGO count based on media reports. There is no reason to assume the Lancet figures are any more accurate than previous figures. However, according to the MOD's Chief Scientific Advisor, caution should be exercised in criticising the study's methodology. We continue to maintain the view that the Iraq Government is best placed to monitor the deaths of its own citizens.
4. The Foreign Secretary Margaret Beckett made a statement in response to the Lancet report on 11 October (see chronology)
5. Lord Lamont of Lerwick has asked parliamentary questions on Iraq in 2004 and 2005 on a variety of subjects, including civilian casualties. He submitted a similar oral question in June 2005, prompted by the Lancet's first report on Iraqi civilian casualties published in 2004. The question was subsequently withdrawn.
6. Full Iraq supplementaries will be submitted separately.

Lords Oral PQ answer of 17 October 2006

HOUSE OF LORDS STARRED QUESTION

Head of: IRAQ POLICY UNIT

Type: House of Lords - Lords Oral Answer

Date Tabled: 17 October 2006

Please submit draft answer and background to Lord Triesman's Office copied to PRDT at pq@fco.gov.uk

Before:

For Answer On: 19 OCTOBER 2006

For Biographical Information, visit: [/www.politicallinks.co.uk](http://www.politicallinks.co.uk)

Login/Password: FCO/elibrary

Click the link for guidance on Parliament and Devolution:

<http://www.fconet.fco.gov.uk/Doing+my+Job/Good+Practice/Parliamentary/default.htm>

Question From: The Lord Lamont of Lerwick

To ask the Secretary of State for Foreign and Commonwealth Affairs,

What assessment they have made of the estimate that the total number of deaths in Iraq following the invasion in 2003 could have been 655,000.

Minister responsible:

Approval By:

Minister answering: LORD TRIESMAN

Approval By:

Draft

All civilian deaths are a tragedy and of concern in Iraq, however we continue to believe that there are no comprehensive or reliable figures for deaths since 2003. Estimates vary according to the method of collection. The figure of 655,000 given in the recent Lancet survey is significantly higher than other estimates, including those given by the Iraqi Government. We believe the Iraqi Government is best placed to monitor the deaths of its own civilians.

Email re supps line from Iraq Policy Unit to Lord Triesman of 18 October 2006

Please see attached the latest Iraq supps - background for Lords oral PQ from Lord Lamont on Iraqi civilian deaths.

What about all the civilian casualties?

We condemn them unreservedly. Recent attacks have deliberately targeted civilians and public places.

This is why we must do all we can, along with the rest of the international community, to support the Iraqi Government and Security Forces in their efforts to improve their capacity and effectiveness in tackling the security situation. The Iraqi government is committed to tackling the terrorists, militias, and criminals responsible for the violence. Violence is in no-one's interest. It offers the Iraqi people only fear and instability.

Paper from Africa Directorate on African conflict statistics of 26/09/07:

CONFLICT: AN INTRODUCTION TO CURRENT THINKING


Introduction

This paper aims to inform policymakers new to conflict-related policy of the major trends in conflict research and thinking. The paper looks at what conflict is, why conflict is relevant to the UK, how and why to understand conflict, what causes conflict, and how to relate policy towards a conflict to the stage the conflict has reached. It also suggests ways in which the FCO can and does add value in addressing conflict. Finally, the paper suggests where to look for further information.

What is conflict?

'Conflict' refers here – and throughout the Conflict Toolbox - to armed violence within states. This is often referred to as 'intra-state conflict'. It includes cases where neighbouring states, or more distant ones, are involved in such a conflict ('internationalized intra-state conflict'). But this paper does not address conflict directly between states ('inter-state conflict').

'Conflict' is often used, as here, as shorthand for armed conflict. But the two are not identical. Conflict itself is a normal feature of politics. When two parties hold goals which are mutually incompatible, they are in conflict. The vast majority of political conflict worldwide is peaceful: the question is what makes people turn to violence to further their goals? Action to address conflict can have two facets: to promote a political order in which the parties can continue their conflict but using peaceful means; and to resolve the underlying incompatibilities between the parties' goals. Some commentators refer to the result of the first as 'negative peace', and to that of the second as 'positive peace'. [REDACTED]



Academic statistical studies of conflict set their own thresholds for what constitutes an 'armed conflict'. They vary, and all are necessarily arbitrary. The threshold of 1,000 battle deaths for a 'war' or 'major armed conflict' is widely used, but researchers disagree for example on whether this is an annual or a cumulative total, and if annual whether the threshold needs to be met in each individual year of a 'war'. The Uppsala Conflict Data Program (www.ucdp.uu.se) uses three categories for conflicts:

- Minor armed conflicts: at least 25 battle-related deaths per year and fewer than 1,000 battle-related deaths during the course of the conflict.
- Intermediate armed conflicts: at least 25 battle-related deaths per year and an accumulated total of at least 1,000 deaths, but fewer than 1,000 in any given year.
- War: at least 1,000 battle-related death per year.

Why is conflict relevant to UK?

The human cost of conflict is immense. Quite apart from those killed in battle, health and other social services often fall apart during internal conflict. Many of the world's worst genocides (e.g. Holocaust, Rwanda) and famines (e.g. Ethiopia) have occurred during or shortly after wars. The human cost of conflict is also extremely difficult to quantify. However, recent research, much of it summarised in the 2005 *Human Security Report* (www.humansecurityreport.info) shows that:


- The number of conflicts, and of those killed in them, has declined since 1992.
- The most rigorous and up-to-date global figure for those killed in political violence is 27,314 (for 2003).
- Rival statistical indices of conflict deaths often do not compare like with like. Combatant deaths (i.e. those amongst soldiers), battle deaths (i.e. those killed directly in violence) and war deaths (i.e. those in excess of 'normal' mortality rates in the country concerned, usually because of disease) are very different concepts.
- The oft-quoted figure that 90% of those killed in war are civilians is a myth.

The economic cost of conflict is also huge. Paul Collier (Oxford University, formerly World Bank) has calculated the average economic cost of civil war in a low-income country to the country itself and its neighbours to be at least \$54 billion. Not only is this a lower-bound estimate, it also does not include the costs civil war imposes on the international community in terms of increases in drug trafficking, disease and terrorism.

Intra-state conflict has consistently been the most prevalent type of armed conflict since 1945. But since the end of the Cold War, conflict within states has represented

an even higher proportion of all global conflict. According to data published in the *Journal of Peace Research*, of 118 conflicts between 1989 and 2004, 90 were intra-state conflicts, 21 were internationalized intra-state conflicts, and only 7 were 'traditional' inter-state conflicts. Inter-state conflict is not dead, of course: border disputes remain, such as that between Belize and Guatemala, and can become militarised (as between Ethiopia and Eritrea). Inter-state conflict may also continue in the form of Great Power intervention – as in Iraq and Afghanistan – to counter direct threats or respond to massive human rights violations.

Conflict is relevant to the UK, as it is to *all* countries with aspirations to global influence. States have for long enhanced their international profile through their involvement in mediation (e.g. Norway, South Africa) and peace-keeping (e.g. India, Jordan, Canada). As a permanent member of the UN Security Council, the UK shares in the Council's 'primary responsibility for the maintenance of international peace and security' (UN Charter, Article 24.1). The UK is also assessed as the fourth largest contributor to the UK peacekeeping budget, paying over £200 million in 2005/6.



Within Whitehall, conflict in far-off countries hinders departments' ability to achieve their objectives, for example whether they be on security (MOD and others), poverty reduction (DFID), or immigration and drugs (Home Office). The relationship between terrorism and conflict is well-publicised. The causal links in all these cases are highly complex, as is the relevance of conflict to these issues compared to other factors. But it is undoubtedly true that less conflict would be to HMG's advantage in each instance.

Two further specific developments have enhanced conflict's relevance for the UK and others:

- The so-called 'globalisation of conflict'. Civil wars have always had international dimensions. But improvements in communications and the deregulation of financial flows has increased belligerents' ability to obtain funds and weapons from abroad. The UK will likely be relevant to those engaged in a conflict, irrespective of HMG's particular approach to it.
- Increased international attention to conflict prevention and resolution. Many argue that improved international cooperation is the reason for the decline in conflict since 1992. Addressing conflict is a core task of organisations such as the UN and the EU (e.g. through ESDP). As such, the UK has no choice but to be engaged.

A caveat. Conflict is important to the UK, but so too is prioritisation. This means prioritising between countries, and prioritising action within them. Political violence is endemic in many societies worldwide, perhaps most. A key task for policymakers is to assess when such low-level violence is likely to erupt into more intense clashes requiring increased UK involvement.

How and why to understand conflict

No two conflicts are exactly alike. And no individual conflict has only one single cause or explanation. But there are a number of important schools of thought on conflict that highlight different facets of how and why groups within a state engage in political violence. Some of these focus on specific aspects of conflict (e.g. disarmament and demobilisation, mediation, grassroots peacebuilding) and are addressed in separate papers in the Conflict Toolbox. Other schools of thought attempt to provide an explanatory framework for conflict as a whole. Rather than go by neatly-labelled names, these frameworks mostly focus on what causes conflict to break out: major ones are listed in the next section below.

No single theory explains any one conflict. Claims that “the war in *x* is all about” economic exploitation, religion, deprivation or any other such factor are almost always wrong. Within any party to a conflict, leaders, fighters and civilian supporters often have different motives. Individuals themselves often act for multiple reasons, and these change over time. Rather, generic approaches offer different lenses through which to view belligerents and their behaviour. Their relative usefulness will vary from conflict to conflict, but it is worthwhile considering them all to challenge preconceptions and derive possible policy options.

Explicitly considering the relevance of the range of generic approaches to any particular conflict is important, because *all* attempts to understand conflict draw on wider assumptions about conflict. Many such analyses use generic approaches implicitly not explicitly, and are the weaker for it. For example, it is now generally accepted that ‘History’ does not cause conflict, in particular the ‘ancient hatreds’ generated by it. Identity and the past do influence conflict, but research in the Balkans and elsewhere has shown that more important than what happened in the past is how the (mis-)remembrance of the past is mobilised by political elites.

Researchers have rigorously examined many other general assumptions about conflict. Examples include ‘an ounce of prevention is worth a pound of cure’, ‘civil wars finish when the combatants are exhausted’, ‘conflict can only be resolved if its root causes are addressed’, and ‘greed is more important than grievance as a source of conflict’. Policymakers should be wary of attempts to impose such assumptions on countries where they are working. They are often used by belligerents to influence outsiders’ policy to the conflict, or by outsiders looking to promote a particular policy response. Conflict Issues Group and/or Research Analysts (ISGIRG) can provide detail on the generic questions involved.

Conflict evolves. And so do individual conflicts. The end of the Cold War, globalisation, and 9/11 and the response to it all influenced a number of conflicts worldwide. Within conflicts, movements that begin with popular legitimacy can descend into almost purely criminal or terrorist enterprises (e.g. the RUF in Sierra Leone). And vice versa. Early analysis of a conflict is important, but policymakers need to keep their minds open to changes within it.

The ‘conflict cycle’ is a phrase often used. It is helpful but can mislead, since conflict rarely follows a simple linear progress. Conflict prevention, management, settlement, resolution, peace-building and reconstruction must be closely linked. And many peace settlements fail: on average, one of the two armed conflicts that break out each year is a resumption of a conflict ‘settled’ in the recent past. In some situations, conflict

prevention and post-conflict reconstruction are processes which have to go hand in hand with one another. In reality, though, the phases of conflict are rarely so clear cut. Usually, the conflict itself (i.e. the incompatibility between the competing parties) is present long before violence breaks out and lasts long after it finishes. What changes is merely the intensity of the conflict, and the means by which it is conducted.

What causes conflict?

Understanding a conflict's causes is important for devising policy. Addressing only the conflict's consequences (e.g. through humanitarian aid) may be necessary but will probably not stop the conflict itself. But causation in conflict is complex. No conflict has only one cause. The causes of a conflict's onset, duration and intensity may well each be distinct. Regarding conflict onset, some commentators usefully distinguish between background or structural causes (e.g. social and economic cleavages) and proximate causes or triggers (e.g. specific decisions by political leaders to use or risk violence).

Policymakers and NGOs often refer to 'drivers' of conflict. The term is problematic, because it elides a number of the more specific types of causal relationship mentioned above. But the same factors can also make it useful, particularly when the causal relationships are not yet clear. Similarly, correlations can yield insights, for example that high male youth unemployment goes hand-in-hand with high levels of conflict. But correlations do not themselves reveal which causes which. It is important not to stop at 'drivers' or correlations. Effective policy towards conflict requires in-depth understanding of its various causes.

A number of broad schools of thought shed light on the causes of conflict within states. The thumbnail sketches below introduce them. For further detail on any, contact CIG or ISGIRG/RA.

- **Human needs** – conflict may arise when the state fails to meet the needs of groups of its population for security, recognition, access to political institutions and economic participation. A key concept here is 'relative deprivation', where a group feels a mismatch between what access to power and prosperity it has and what it deserves. The 'human needs' approach emphasises the deep structural and socio-economic roots of conflict.
- **Underdevelopment** – though 'poverty' itself is rarely a primary cause of conflict, some theorists argue that economic decline or uneven distribution of the benefits of economic growth can boost the pool of recruits for armed factions. Conflict does occur more frequently in poor countries, though their poverty may be as much a consequence of conflict than a cause of it.
- **Identity** – 'ethnic conflict' was a fashionable concept in the early/mid-1990s. Many have since questioned its utility, pointing especially at the 'imagined' or 'socially constructed' character of social identities. Radicalised identity is often a product of political/religious leaders' strategies. But whatever their origins, identity politics are very strong. Once mobilised they can exert a powerful influence on the course of conflict, particularly when identity groups within a state possess markedly uneven economic opportunities.

- **Conflict finance** – the presence of commodities/the availability of finance for conflict actors can make a country more prone to violence. Whatever grievances motivate rebel groups, to organise effectively they usually also need money. High value natural resources – gems, oil, drugs, timber – provide a major source of such revenue. So can large diaspora communities, and well-disposed outside powers.
- **Criminal intent** – for some, financial gain may be an end of conflict in itself, rather than merely the means by which belligerent groups support themselves. Many individuals and groups do well out of war, and seemingly opposing factions may share an interest in prolonging it. During conflict, the dynamics of violence may crowd out ideology in favour of predation. However, ‘greed’ should be distinguished from the petty criminality to which populations often resort to cope with conflict.
- **Power politics** – leaders make political and moral choices to use violence. They do so because of disagreements over the form of political organisation of the state, or over the distribution of power within it. They mobilise sections of society behind them. But the interests they pursue in conflict and those of their supporters may diverge, and become more apparent in the course of conflict. A power politics approach need not deny the existence of deep-rooted social conflict, but tends to downplay its role versus that of political elites.
- **Crisis of governance** – a state’s inability to provide services or exert meaningful power beyond its capital does not automatically lead to conflict. But such a situation could exacerbate the other factors listed above and below. Low state capacity often occurs when governments receive the lion’s share of their revenue from natural resources. Over-dependence on (e.g.) oil reduces the incentive for states to tax their citizens directly, and to offer the services that citizen’s demand in return for paying their taxes. What appears to outsiders as a rebellion against central government may be rather the exercise of power by local leaders filling a vacuum vacated by the formal legal authorities.
- **Neighbouring countries/regional tensions** – cross-border flows of weapons, refugees, ideas, armies, mercenaries and smuggled commodities can reinforce destabilising tendencies within a state. While ‘bad neighbourhoods’ can promote conflict (e.g. the Great Lakes and Mano River regions in Africa), simplistic and automatic notions of ‘contagion’ should be avoided. Active decisions by belligerents in a conflict, and by regional leaders, play a key role in how regional factors influence a conflict.
- **Global dynamics** – the activities of Great Powers and international organisations can both exacerbate and ameliorate conflict. Funding for belligerents or peace groups, markets for ‘conflict commodities’, unilateral or multilateral interventions, and the policies pursued by the international financial institutions can all influence the onset, intensity and duration of violent conflict. HMG is unlikely to agree, but many blame developed countries’ current (e.g. financial) and past (e.g. colonial) practices for contemporary conflict in the developing world

The shape of conflict and opportunities for prevention

Conflict prevention, conflict resolution, conflict management, peacemaking and peacebuilding have all been used to describe outsiders' attempts to promote peace. Sometimes these terms are used interchangeably. Others make distinctions between them. But there is no general agreement on what those distinctions are. Broadly, where these terms are given specific meanings:

- **Conflict prevention** is often used for activity undertaken before violence breaks out. Many practitioner experts disagree. They see *all* efforts to deal with conflict as 'conflict prevention', at whatever point they come. This paper follows that line.
- **Conflict resolution** often refers to addressing the underlying social, economic and/or political causes of conflict. It is not just concerned with ending a war.
- **Conflict management** sometimes refers to surface efforts by outsiders to deal with only particular aspects of a conflict, especially those affecting themselves.
- **Peacemaking** refers to efforts by mediators to get belligerents to reach a peace agreement. It is sometimes confused with '**peace enforcement**', which involves the use of force to achieve peace.
- **Peacebuilding** is sometimes used to refer specifically to post-conflict efforts to promote peace. (See Toolbox paper on Peacebuilding.)

Neither the general nor the specific uses of the terms above are necessarily right or wrong. But they illustrate the room for misunderstanding. Semantics aside, preventive activity can and should be taken at all stages of conflict. UK policy is to move towards long-term structural prevention wherever possible.

The type of preventive activity appropriate depends on the stage of the conflict. The evolution of the conflict process may be likened to an hour-glass:

- Before conflict commences, and while 'normal politics' continues, the political space open to outside actors is wide. Conflict prevention here consists not so much in addressing specific 'causes' of conflict, so much as reducing the proneness of the state to conflict. Measures may include reducing dependence on primary commodities, improving respect for human rights, alleviating inequalities between identity groups, and so on.
- As the parties to a conflict form, militarise and mobilise, the space for intervention narrows. Conflict prevention focuses on analysing and manipulating the incentives of the various conflict actors.
- When violence becomes widespread, the hour-glass is at its narrowest. Outside actors attempt to mediate a settlement, to provide humanitarian aid, even perhaps to intervene to enforce a settlement. Their focus is largely on stopping the violence rather than on resolving the underlying conflict.
- When a settlement is reached, political space begins to widen again. The primary tasks for outsiders are to help the country stabilise politically, to provide reconstruction assistance and, often, to provide peace-keeping forces. Particular challenges here include: to address key ambiguities and issues left open in the peace settlement; to prevent the 'freezing' of the conflict; and to involve civil society actors, whom violence may have excluded from the political process.

- As the situation stabilises, opportunities for prevention expand further. Preventive action follows similar lines to that at the 'pre-conflict' stage. But if the difficulty at that early stage is for outsiders to gain entry to the country's internal political system, at this 'post-conflict' stage it is to work round the traumatic effects produced by violence on the country's polity and society. Critical markers in the recovery from conflict include: the holding of a second post-conflict election; a peaceful (and peacetime) handover of power; and the passing of the first decade from settlement without a resumption of violence.

How the FCO can add value in addressing conflict

Working with the whole of government – successful conflict prevention requires a wide range of tools, including aid, diplomacy and sometimes military. The cross-government Conflict Prevention Pools reflect that. But running conflict prevention projects needs to be tied in to wider policy towards a conflict. And conflict prevention policy must at least not conflict with other UK policy towards the country in question.

Providing detailed political analysis – generic understanding of conflict can help, but devising policies towards conflict-affected countries requires in-depth analysis of those countries' politics. The FCO needs to provide this even when the UK's primary involvement in the country is development-related or military. And it needs to provide it both in structured formal assessments (see separate Toolbox paper on Conflict [REDACTED] and in its regular reporting.

Using its diplomatic tools – whether negotiating UN Security Council resolutions or talking to local leaders in remote regions, the FCO has numerous conflict prevention tools of its own. A common feature of conflict is belligerents' overoptimistic views of the reaction outsiders will give them if they escalate the conflict. Good diplomacy can reduce the risk of this.

Talking to all levels of society – especially to those *below* the political leadership level. Political leaders have influence, and the UK has to deal with them. But they may also have incentives to distort the views of the communities they claim to represent, and to overstate their own personal role within them.

Devising creative policy – this paper focuses on analysing and understanding conflict. And good analysis of a conflict is a prerequisite for effective policy design. But analysis itself rarely makes it readily apparent exactly which conflict prevention measures to apply and how. A healthy policy-making process allows time and space for both analysis and response.

Avoiding duplication – before deciding what conflict prevention measures to employ, a thorough assessment should be made of what international organisations, NGOs and other states are already doing in the field. At best, the various actors' conflict prevention activities complement each other. But they can also undercut each other, for example by encouraging 'mediator-shopping' amongst belligerents.

‘Doing no harm’ – once international actors involve themselves in a conflict, even with preventive intentions, they effectively become parties to the conflict. Great care should be taken at all stages that belligerent parties do not exploit outsiders’ well-intentioned efforts to exacerbate rather than resolve conflict.

Taking a long-term view – conflict prevention is a long-term activity. And its results are not easily measured. Qualitative critical assessment of how effective UK policies have been cannot ‘prove’ their effectiveness in the way that statistics or facts can (or claim to). But clear assessments by people who know the country and UK policy well can improve that policy further.

Where to find out more about conflict

Within the FCO:

- Conflict Issues Group (CIG) is the policy lead on the functional/thematic aspects of conflict. For example, CIG leads on peacekeeping, peacebuilding, civilian policing and secondments, justice and the rule of law, and conflict prevention. CIG produces the Conflict Toolbox.
- Research Analysts can provide expertise on thematic issues in conflict, and on individual conflicts. For thematic issues (and multilateral organisations), contact the International Security and Global Issues Research Group (ISGIRG/RA). For specific conflicts, you can also contact ISGIRG, or the relevant geographical analyst directly. RA has a virtual Conflict Team, bringing together thematic and geographical expertise when needed.

Publications – a large literature exists on conflict generally, on specific aspects of it, and on individual conflicts. A few introductory books are listed below, along with some of the major relevant academic journals. ISGIRG/RA keeps track of this literature, and can advise which works will be most suitable and helpful for your purposes.

- Oliver Ramsbotham, Tom Woodhouse and Hugh Miall, *Contemporary Conflict Resolution*. Blackwell, 2nd edition, 2005.
- Mats Berdal & David Malone (eds), *Greed and Grievance: Economic Agendas in Civil Wars*. Lynne Rienner, 2000.
- Paul Collier, *Breaking the Conflict Trap*. World Bank, 2003. Available online.
- John Darby and Roger MacGinty (eds.) *Contemporary peacemaking: conflict, violence and peace processes*. Palgrave, 2003.
- Peter Wallensteen, *Understanding conflict resolution: war, peace and the global system*. Sage, 2002.
- *Berghof Handbook for Conflict Transformation*, constantly updated, available from www.berghof-handbook.net.
- University of British Columbia, *Human Security Report 2005*, available from www.humansecurityreport.info.
- *SIPRI Handbook*, an
- *Journal of Peace Research*

- *Journal of Conflict Resolution*
- *International Peacekeeping*
- *Studies in Conflict and Terrorism*
- *Civil Wars*

Websites – serious material on conflict is generally published in books, research papers and refereed academic journals. Some of these may be available for download (e.g. through ISGIRG/RA), but they are usually not published as web-pages. A notable exception is the site www.beyondintractability.org, which provides a wealth of essays and articles on various aspects of conflict.

Much statistical material on conflict – casualties, numbers of conflicts etc. – is also published on the web. Some of the best can be found from:

- Uppsala Conflict Database (www.pcr.uu.se/database/index.php).
- Correlates of War project from the University of Michigan (www.correlatesofwar.org). Comment: the classic dataset on armed conflict, but very difficult to use.
- University of Maryland's annual survey of Peace and Conflict ([www.cidcm.umd.edu/peace and conflict.asp](http://www.cidcm.umd.edu/peace_and_conflict.asp)).
- Heidelberg Conflict Barometer (www.hiik.de/en/main.htm).
- Arbeitsgemeinschaft Kriegsursachenforschung (AKUF), in German only (www.akuf.de)

*Doc 14
NEC224/001/04*



28 October 2004

[Redacted]
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IRAQ: CIVILIAN CASUALTIES

1. Your note of 25 October asked Government Departments to attempt to quantify the number of Iraqi civilian casualties for a 4-week period starting on 1 November. The MOD is looking at statistics available through the military net; the FCO is tasked with compiling statistics from open sources.
 2. Open source material means eyewitness reports, mostly as quoted in the media, and the figures quoted by hospitals, compiled by the Iraqi Ministry of Health. We have a good idea of the kind of figures given by eyewitnesses to date. They have been compiled by various NGOs with varying results, some of which were outlined in Kara Owen's letter of 14 October. Given that we would be using similar sources to the NGOs we can expect similar results - or possibly higher, on a monthly basis, as November may produce unusually high civilian casualty figures due to possible large-scale action by the Multi-National Force against the insurgency. Among NGO figures, which we do not endorse, Iraq Bodycount's figures for the last 30 days suggest a third more casualties have been caused by military action as compared to those casualties caused by terrorism.
 3. [Large redacted area]
- ([Redacted])
- [Redacted]
- [Redacted]
- [Redacted]

4. As [REDACTED] discussed with you by phone, we therefore propose to give these statistics as they stand, without any endorsement or amendment and solely for the purpose of comparison. The focus of our work will instead be on the figures produced by the Ministry of Health (MOH). As we have set out in [REDACTED] letter of 14 October, these too have their limitations. However, we will work with the MOH during the next few weeks to see if these statistics can be improved. Our officials in Baghdad are due to meet with the Iraqi Director General responsible for collating the figures in the next few days.

[REDACTED]
ISSU

Doc 13

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Fals.
At 19/10



From: [redacted] Hd Iraq Inquiries Team,
MINISTRY OF DEFENCE
Floor 4 Zone 1, Main Building, Whitehall,
LONDON SW1A 2HB

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28 OCT 2004		
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(Telephone Switchboard) [redacted]
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[redacted]
Deputy Head Iraq Policy Unit
Foreign & Commonwealth Office
King Charles Street
London
SW1A

Reference:
Our Reference: IIT/1/1

13 October 2004

Dear [redacted]

1 We spoke about David Quarrey's request for "our best estimate of civilian casualties since military action was launched last year". I can confirm what I told you by telephone. The MOD does not estimate civilian casualties because we believe there is no reliable method for doing so. This is not merely our "public line" but our genuine judgement. So the answer to the Prime Minister is exactly the same as the answer we have given to Parliament!

2 In any case, as you are aware, the UK area of operations is limited to southern Iraq, so even if we were to have accurate information, this would not meet Mr Quarrey's request.

7 [Large redacted block]

[Redacted block]

IIT

[REDACTED]

5 Against this background, I am afraid the position remains as I told your colleagues earlier in the day. Namely, the MOD does not produce an estimate of civilian casualties, either within our own area of operations or across Iraq. We have no methodology which would enable us to do this; nor do we believe it possible to define a methodology that would produce figures meaningful enough to help alleviate No10's concerns about public presentation.

you see

[REDACTED]

Doc 11

[Redacted]

From: [Redacted]
IPU

Date: 04 November 2004

cc: [Click here to see copy addressee\(s\) and originator's contact details](#)

To:	Private Secretary	

CIVILIAN CASUALTIES IN IRAQ: [Redacted]

[Redacted]

1. [Redacted]

[Redacted]

2. [Redacted]

[Redacted]

3. [Redacted]

4. [Redacted]

5. In particular, we have undertaken (Foreign Secretary's interview this morning – transcript at B) to present to Parliament an assessment of the Lancet report claiming 100,000 extra civilian deaths since the invasion of Iraq. One option for this is that we rely on assessments from the Iraqi Ministry of Health; another is that we draw on the help of MOD experts. We have already had the views of the MOD chief scientific adviser, at C.

[Redacted]

It is not a promising start. We are awaiting a report from the Iraqi Ministry of Health setting out their assessment of civilian casualties: we believe this will be a better line of response. We will submit further on Monday. In the meantime however we should seek further assessments from MOD experts. No10 is separately seeking advice from the Department of Health.

6. In the meantime we propose Ministers should use the following lines:

- It is genuinely difficult to estimate civilian casualties in Iraq. We know who our own casualties are because we recover them. We do not have the same level of knowledge regarding Iraqis.
- While we do all we can to avoid civilian casualties, they can be caught in airstrikes or in crossfire. Terrorists display no such concern for loss of civilian life. In many cases we are not on the scene; when we are, we cannot be certain of the numbers involved nor whether they are civilians or insurgents.
- Instead we rely on the Iraqi government to have this information. The Iraqi Minister of Health made the following statement on 1 November:

"The Ministry of Health has been collecting information on civilian casualties based on hospital admissions for the last six months. Every hospital reports daily the number of civilians (which may include insurgents) who have been killed or injured in terrorist incidents or as a result of military action. All casualties are likely to be taken to hospital in these circumstances except for some insurgents (who may fear arrest) and those with minor injuries.

The figures show that between 5 April and 5 October 2004, 3853 civilians were killed and 15,517 were injured. I am satisfied that this information is the most reliable available.

"This contradicts the claim that more than 100,000 civilians have been killed by military and terrorist action since the war. The claim was based on article published in the Lancet on 29 October."

7. On the Lancet article, besides the comment of the Iraqi Minister of Health, we can add:

- This was an estimate of total deaths in Iraq, not deaths of civilians. The authors acknowledge "many of the Iraqis reportedly killed by US forces [in their survey] could have been combatants". The greatest increase they report in deaths was among

[REDACTED]

15-59 year old men, while for instance among the elderly in their survey there was a much more limited increase in deaths.

- The scientists responsible have themselves said that the data they based their projections on was of "limited precision". They were based on extrapolating from an increase of 61 deaths in the households surveyed, across the whole of Iraq. These included deaths from heart attack and road accidents.
 - However there is an immense discrepancy between the 'Lancet' article statistics and the figures produced by Iraqi hospitals and compiled by the Iraqi government. Likewise the Lancet figures differ greatly from those produced by NGOs (Iraq Bodycount - hardly a pro-war organisation - estimates between fourteen thousand two hundred to sixteen thousand three hundred and fifty two Iraqi civilian casualties caused by the war, including victims of terrorist action).
 - We will set out our view on the article in detail and lay it before Parliament.
8. We should be careful about the Iraq Bodycount estimate - this is of civilian casualties of violence, whereas the Lancet figure is for all casualties (so the discrepancy, though still large, is not as great as it first seems).

[REDACTED]

[REDACTED]

IPU E105

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Cc: PS/Ministers
PS/PUS

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Doc 3

[Redacted]

From: [Redacted]

Date: 8 November 2004

Copies to: [Redacted]

PS

COUNTING IRAQI CASUALTIES

Following the Secretary of State's meeting this morning, I have looked through the Lancet article. My initial thoughts are as follows:

I agree that the statistical methodology appears sound. The authors accept that there is considerable uncertainty over their central estimate of excess deaths, and provide a careful assessment of various possible statistical biases. Their conclusion is that, despite these, the results are sufficiently strong to raise concern and at the very least justify further study.

The method involves taking 33 random samples from the Iraqi population, each comprising 30 households living in the same neighbourhood. Interviews were used to establish how many deaths occurred in each cluster of households in the 17.8 month period after the invasion compared with the 14.6 month period preceding it. Provided the samples are genuinely random, statistically valid inferences can be drawn for the Iraqi population as a whole. Survey techniques of this kind are widely used (e.g. in measuring unemployment in the UK). There are five main types of question worth asking in judging the validity of this particular study:

- Was the sampling genuinely random? The authors have tried hard to achieve this despite sometimes severe constraints on where their survey staff could go. One reason for dropping the Falluja sampling point from the calculations behind the headline estimate was that the authors could not be sure the cluster of households in the Falluja district was selected in a genuinely random way. Equally, while they sought to reduce the travel and risk faced by interviewers by dropping certain Governorates from the sample, they did so in such a way as to ensure the overall sample was not biased.
- Was the information provided by interviewees accurate? The paper discusses the possibility of "recall" bias - i.e. that deaths before the invasion were not remembered as accurately as those after. However, they argue - pretty convincingly - that deaths are unlikely to be forgotten. Another possibility is that families might exaggerate the number of deaths since the invasion because of hostility to the coalition/interim government. Death certificates were only sought in 78 out of 988 households. In these cases there was a high rate of confirmation (63 out of 78, with plausible explanations in all cases where

██████████

certificates could not be produced). However, it is possible that this gives a biased picture of accuracy if interviewers tended to ask for certificates mainly when the information they had received was most plausible and hence the risk of causing offence minimised.

- How accurate were the inferences made about the broader population? One possibility is that the size of households was under-estimated (because respondents wished to protect members who were insurgents) in which case the scaling up would have over-estimated the total number of deaths. However, the authors argue that the bias may just as likely go the other way as families might seek to justify higher ration distributions by overestimating household size. Another possibility is that the sampling strategy might have missed various categories of people – homeless, soldiers etc. This seems likely to have been more of an issue. But the bias introduced – particularly vis-à-vis soldiers – could be to underestimate the figure for excess deaths.
- Even if the estimates of excess deaths are sound, can the same be said of the breakdown between different causes of death, and in particular the extent to which additional deaths were caused by air attacks from coalition forces? The scaled up estimates of deaths from particular causes will be more uncertain than the estimates of excess deaths in total, simply because the samples are smaller still. It is also possible that interviewees might exaggerate the proportion of deaths caused by coalition action vis-à-vis other causes not directly linked to the activities of coalition forces.
- If the methodology is sound, how can one reconcile the 98,000 death estimate with other data. In particular (a) the much lower casualty estimates based on press reports; and (b) the lack of anecdotal evidence of much larger numbers of injured attending Iraqi hospitals. The divergence with estimates based on press reports might be explained through the passive nature of press reporting and the partial territorial coverage of journalists. However, it would seem much harder to explain the mismatch between the estimated number of deaths and the anecdotal evidence on injuries. Assuming a ratio of four injured for every death (as reflected in the Iraqi MOH figures from hospital admissions) would suggest 400,00 injuries (although given the variability in death/injury ratios with different conflict circumstances some caution needs to be exercised here too).

Conclusions

Overall, it is perhaps not surprising that the methodology appears sound, since the Lancet's pre-publication reviewing process should have revealed significant methodological weaknesses.

The authors describe a series of possible biases in both directions, but none of these (or others noted above) seems at first sight so striking as to invalidate the overall findings. The hardest discrepancy to explain is the lack of anecdotal evidence of injured people in proportion to a 98,000 central estimate for deaths.

In commenting on the study we should certainly continue to emphasise the considerable uncertainty around the central estimate (reflecting the small sample

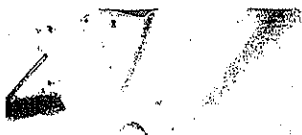
[REDACTED]

size),¹ as well as the lack of corroborating evidence - particularly evidence of injured in the numbers one might expect. We could also highlight some of the factors which might bias the study towards an over-estimate of deaths. However, there are as many reasons why the study might be biased in the other direction (so probably safer not to go down this road).

There are various ways to try and check the validity of the estimates using data from other sources (hospital reports, casualty figures reported by soldiers and police, reports of funerals etc) and trying to refine it to remove biases. It might also be possible, as Gerard Russell has suggested, to try and validate the study's pre-invasion estimate of mortality by checking it against unpublished MOH health figures. But there is (a) no certainty at this stage that this kind of work would invalidate the Lancet findings, or (b) any guarantee that if it does produce a different answer, that the rejection of the Lancet findings would be conclusive. In the absence of a detailed census (impossible in the current security environment), the best way of narrowing down the uncertainty in the Lancet article is likely to be to conduct a similar survey with a significantly larger sample.

[REDACTED]
Chief Economist

¹ While at the same time avoiding belittling the efforts of the interviewers who faced considerable obstacles and risk.



14 October 2004

Doc 17

AJ+pa



Foreign & Commonwealth Office

London SW1A 2AH

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Iraq: Civilian Casualty Figures

You asked us to look again at the question of civilian casualty figures in Iraq, following a request from the Prime Minister. [REDACTED]

We recommend that we do not take any ownership of figures of civilian casualties in Iraq. Overall, none of the estimates available is reliable, and we would have great difficulty defending the methodology behind them to the media or to Parliament.

We would likewise have difficulty compiling our own statistics. We very rarely have our own people on the ground following terrorist attacks, often relying on press statistics. But their figures result in widely differing estimates, as the journalists themselves are not there to produce a precise body count. We regard hospital and mortuary admissions as the most reliable figures available. These are collated by the Iraqi Ministry of Health, and we use them in our correspondence with the public (although they too are deficient in some ways). They differ greatly from the statistics used by the US, which are often very loose estimates. The Foreign Secretary did once draw in Parliament on a figure of 10,000 civilian deaths provided by the NGO Iraq Bodycount, but did not imply that the government was confirming the statistic.

The Iraqi Ministry of Health (MOH) estimates that 3,617 Iraqi civilians were killed and 14,554 injured during the period 5 April 2004 to 25 September 2004. This estimate, which is public, does not distinguish between military and terrorist action. [REDACTED]

[REDACTED]

[REDACTED]

We should be wary of being caught in a public debate over which of these figures are accurate. We should also be wary of being drawn into giving an estimate of the numbers killed by the MNF and Iraqi forces as against those killed by the insurgents. If we are able to give the one, pressure will build to release the other.

6 [REDACTED]

7 The Embassy in Baghdad report that the MOH information is generally reliable but has some deficiencies. Figures from recent monthly reports do not tally with the six-month figures of 3,617 killed and 14,554 injured. Civilians taken to hospital injured but who subsequently die are not currently added to the killed total, thus underestimating the number of civilians killed. Additionally, hospital staff have come under pressure to inflate the casualty figures when they release these locally to the media. (The MOH have tried to ensure that the same data is also given locally to the media, and say that that happens much more often now). The MOH are currently in discussions on how to rectify these issues. We may be able to pass you more reliable figures in due course.

8 The Iraqi Ministry of Interior collects its own information about casualties from police forces etc on the ground - but it is regarded as much less reliable.

9 You asked for statistics produced by NGOs. These are very varied and their methodology is crude. Iraq Bodycount report a figure between 13,182 and 15,248 for the whole period since military action began in March 2003. MEDACT's figures, covering the period from March 2003 to October 2003, vary between 22,000 and 55,000.

10 Washington have conducted an open source search of what US institutions are saying about civilian casualties in Iraq. Again there is a huge variation in the figures. The Brookings Institute gives a figure from 11,400 to 22,200 killed as a result of violence from war and crime for the period from 30 April 2003 - 30 July 2004. On 25 September the Washington Bureau quoted the previously mentioned MOH figures of 3,617 Iraqis killed and 14,554 injured.



[REDACTED]

(1) The US have, like ourselves, stuck to the line that there are no comprehensive figures for civilian casualties and do not comment on suggested figures. The Embassy in Washington has asked for the US's official estimate of civilian casualties in Iraq. We still await the responses from the State Department and Department of Defense.

(2) In sum, if we produce a figure that differs from the Iraqi government figures, we will have to defend it - and the way it was arrived at - before Parliament and the media. [REDACTED] We recommend that for the moment we continue to put our public emphasis on specific atrocities against civilians, such as the mass killing of Iraqi children in Baghdad on 30 September, and their attempts to thwart our efforts to stand up independent Iraqi security forces.

(3) [REDACTED]

Your mvs

[REDACTED]

[REDACTED]
Private Secretary

[REDACTED]
10 Downing Street

[REDACTED]



Doc 12)

CHIEF SCIENTIFIC ADVISER

D/CSA/11/6 (388/04)

29 October 2004

D News

Copy to:

APS/Secretary of State
PS/PUS
PSO/CDS
DG Op Pol

IRAQI CIVILIAN DEATHS: LANCET ARTICLE

1. Further to your discussion with CSA this morning, Professor Anderson has quickly reviewed the recent Lancet article on Iraqi civilian deaths.
2. CSA has concluded that the design of the study is robust, the methodology section is (unusually for the Lancet) long and detailed and that good quality statistical advice has been sought and applied in the presented analysis. He therefore believes that the paper is a sensible one, except perhaps for some of the language in the final paragraph, and that the results are probably as robust as one could have achieved in the very difficult circumstances. He therefore recommends that we should proceed with caution in publicly criticising the paper.
3. He would, however, add three caveats. First, the extrapolation from a very small sample size to the whole of Iraq is a weakness, especially given the rather small sample size (a total of 58 excess deaths) on which part of the extrapolation is based. Second, there are weaknesses in the way that deaths have been recorded. Attempts to get families to provide death certificates as evidence of death often met with a hostile response, so sub-sampling was adopted, further reducing the net sample of "confirmed" deaths. This means that in many cases the only evidence of a death having occurred, and of the cause of death, was the verbal information provided from (not necessarily disinterested) family members. And finally, as the penultimate paragraph of the paper notes, there were excess of deaths amongst males, possibly indicating that some of those who died were combatants rather than civilians.

[original signed]


PS/CSA
Level 5 Zone G Main Building 86588WH

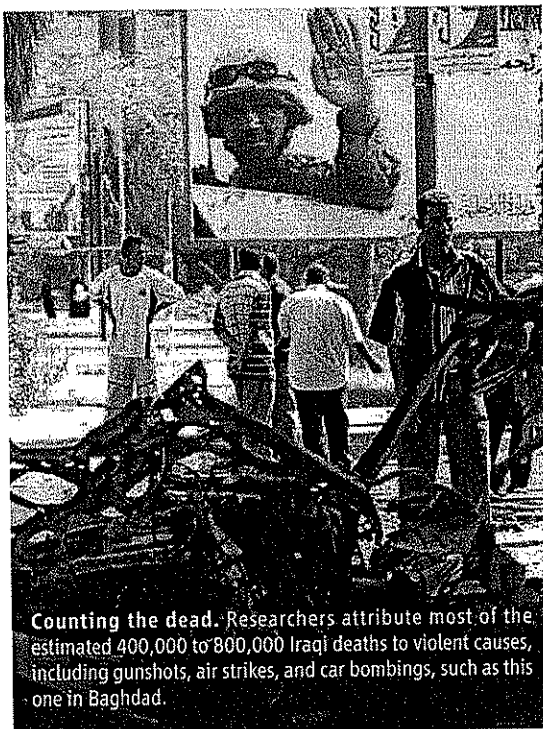

EPIDEMIOLOGY

Iraqi Death Estimates Called Too High; Methods Faulted

A new estimate of the number of Iraqis who have died as a consequence of the U.S.-led invasion in March 2003 has ignited a firestorm of its own. At 400,000 to 800,000 deaths, the new number is at least 10 times higher than estimates cited by the Iraqi government and U.S.-led coalition. U.S. President George W. Bush immediately dismissed the study, characterizing its methodology as "pretty well discredited." Other Administration officials charged that the study, released with significant publicity 4 weeks before U.S. midterm elections, was politically motivated. Researchers who spoke with *Science* disagree that the authors' motives are suspect but raise several questions about the methodology of the study, which was published 11 October in *The Lancet*.

Experts on both sides of the debate concede that it is notoriously difficult to get an accurate count of casualties in Iraq. The Iraqi Ministry of Health has estimated up to 40,000 violent deaths so far, based on death certificates reported by hospitals and morgues. That figure falls within the range published by Iraqi Body Count, an independent London-based group opposed to the war that compiles casualty numbers from media reports. There is little doubt that the real number of deaths is higher than this, because only a fraction of deaths are officially recorded or reported by journalists. But just how small is that fraction?

The *Lancet* study, designed by researchers at Johns Hopkins University in Baltimore, Maryland, is based on a survey conducted between May and July by a team of 10 Iraqi health workers. (The Johns Hopkins researchers met with the Iraqi team twice across the border in Jordan to advise on the survey techniques.) The team visited



Counting the dead. Researchers attribute most of the estimated 400,000 to 800,000 Iraqi deaths to violent causes, including gunshots, air strikes, and car bombings, such as this one in Baghdad.

47 neighborhoods in 18 different regions across the country, going door-to-door and asking families about recent deaths. They collected data from a total of 1849 households containing 12,801 residents. For the 14 months before the invasion, the Iraqi families reported 82 deaths, an annual death rate of 5.5 per 1000 people. Within the same households, 547 people died between the start of the invasion and July of this year—an annual increase of 7.8 deaths per 1000. By applying this rate to the entire population of 27 million, the researchers conclude that 655,000 more Iraqis have died than would have if the invasion had never happened. About 8% of these extra deaths are attributed to deteriorating public health, but an estimated 601,000 are violent—56% from gunshots and about 13% each from air strikes, car bombs, and other explosions. The researchers calculate a 95% probability that

the true number of violent deaths lies between 426,369 and 793,663.

Many academics spoke up in defense of the study. "I too find the survey's estimates shockingly high, ... [but] the choice of method is anything but controversial," wrote Francesco Checchi, an epidemiologist at the London School of Hygiene and Tropical Medicine on 12 October on a humanitarian Web site. The statistical technique used, called cluster surveying, divides the population into different regions, neighborhoods, and households, in contrast to a random sampling of people on the streets.

The method may be sound, but several critics question the way it was carried out in this study. Madelyn Hicks, a psychiatrist and public health researcher at King's College London in the U.K., says she "simply cannot believe" the paper's claim that 40 consecutive houses were surveyed in a single day. "There is simply not enough time in the day," she says, "so I have to conclude that something else is going on for at least some of these interviews." Households may have been "prepared by someone, made ready for rapid reporting," she says, which "raises the issue of bias being introduced."

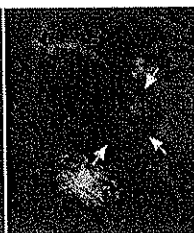
Lead author Gilbert Burnham, an epidemiologist at Johns Hopkins, counters that "40 adjacent households is entirely achievable in a day's work if well organized." Les Roberts, also at Hopkins, adds that 80% of the 547 deaths were corroborated with death certificates. The fact that hundreds of thousands of death certificates seem to have gone unregistered by the Ministry of Health is no surprise, says Roberts, because "those have always been grossly underreported."

Neil Johnson and Sean Gourley, physicists at Oxford University in the U.K. who have been analyzing Iraqi casualty data for a separate study, also question whether the sample is representative. The paper indicates that the survey team avoided small back alleys for safety reasons. But this could bias the data because deaths from car bombs, street-market explosions, and shootings from vehicles should be more likely on larger streets, says Johnson. Burnham counters that such streets were included and that the methods section of the published paper is oversimplified. He also told *Science* that he does not know exactly how the Iraqi team conducted its survey; the details about ▶

CREDIT: ALI JASIM (IRAQ)/REUTERS

Macular degeneration gene

405



FOCUS



A landscape rearranged

406



Math meets granite

412

neighborhoods surveyed were destroyed "in case they fell into the wrong hands and could increase the risks to residents." These explanations have infuriated the study's critics. Michael Spagat, an economist at Royal Holloway, University of London, who specializes in civil conflicts, says the scientific community should call for an in-depth investigation into the researchers' procedures. "It is almost a crime to let it go unchallenged," adds Johnson.

Co-author Roberts is no stranger to such

controversy. He led a smaller study of Iraqi casualties, published in *The Lancet* in 2004, that estimated 100,000 deaths. That work was criticized for relying on too few samples. This time, he says, "we took enough samples, and if anyone wants to verify our results, it's easy." The study suggests that close to four times the number of deaths occurred in the first half of 2006 than in the first half of 2002, he says, "and anyone could simply pick four to six spots in Iraq and go to the local graveyards. The increase ... should be obvious."

For now, Spagat says he is sticking with casualty numbers published by the United Nations Development Programme (UNDP). A UNDP survey of 21,668 Iraqi households put the number of postinvasion violent deaths between 18,000 and 29,000 up to mid-2004. "When a survey suggests so much higher numbers than all other sources of information," he says, "the purveyors of this outlier must make a good-faith effort to explain why all the other information is so badly wrong."
—JOHN BOHANNON

ECOLOGY

Report Warns of Looming Pollination Crisis in North America

California almonds are a huge food crop in the United States, and land devoted to almond trees is expected to increase another 50% by 2012. But that growth depends in large part on availability of the almonds' pollinator, the honeybee.

And honeybees are in trouble, according to a report on North American pollinators* unveiled this week by the National Research Council (NRC) of the National Academies.

Although there is "no strong evidence for a current pollination crisis," there may be one looming, reports an NRC committee led by entomologist May Berenbaum of the University of Illinois, Urbana-Champaign.

The committee calls for better long-term monitoring of all pollinators, noting that few records exist for species other than honeybees.

A study earlier this year documented decreasing pollinator diversity

in Europe, and there are similar fears about what's happening in North America (*Science*, 21 July, p. 286). Last year, for the first time since 1922, California almond growers imported bees from Australia to service their trees because U.S. bee colonies are being decimated by a

mite, *Varroa destructor*, which sucks the life out of larvae. According to the report, the mite, which first showed up in 1987, is even overshadowing the Africanized honeybee, which—adaptable, angry, pushy, and proliferative—has been steadily encroaching in the southern United States and muscling aside the gentler European honeybee population.

Roughly one-third of the North American diet comes from food—fruits, vegetables,

The NRC report notes that just as modern agriculture relies too much on monocultures, there is too much reliance on honeybees, which beekeepers truck around from one crop to another, like migrant workers. Almonds are particularly vulnerable, says Kevin Hackett of the Agricultural Research Service, because their trees flower early in the year when honeybee colonies are weakened from winter mite infestations. He says mites have caused the price of bee rental for almond growers to go from about \$30 to as much as \$150 per hive.

NRC calls for more research on the mite problem, noting that *Varroa* have become resistant to antibiotics and pesticides. It's been difficult to breed mite resistance into the bees, in part because of the queens' loose mating habits. Hence the need, says the committee, to develop "non-*Apis*" pollinators such as the alfalfa leaf-cutter bee, which doesn't have a mite problem.

The committee also advises that the U.S. government establish discovery surveys for wild pollinators of U.S. crops and of rare or endangered plants. The NRC report adds that beyond increased research and data-gathering, simple steps, such as growing wildflowers in golf-course roughs, can help keep a diverse array of pollinators in business.

Adding to the buzz surrounding the report, the 3-year-old North American Pollination Protection Campaign (www.pollinator.org) sponsored a symposium this week at USDA to discuss better management of pollinator resources worldwide.

—CONSTANCE HOLDEN



Stamps of approval. Next spring, the U.S. Post Office will issue these and other stamps depicting pollinators.

seeds, and nuts—that rely on animal pollinators, which include beetles, butterflies, flies, bats, hummingbirds, and bumblebees. But the king of pollinators is *Apis mellifera*, the European honeybee. Much preferred over its African cousin, it's a "generalist" that pollinates a huge variety of crops. It is also highly social and thus easy to muster:

CREDIT: UNITED STATES POSTAL SERVICE

* *Status of Pollinators in North America*, www.nap.edu/catalog/11761.html

Lancet study fundamentally flawed: death toll too high

October 19, 2006 – 1 page – For immediate release:

Researchers at Oxford University and Royal Holloway, University of London have found serious flaws in the survey of Iraqi deaths published last week in the *Lancet*.

Sean Gourley and Professor Neil Johnson of the physics department at Oxford University and Professor Michael Spagat of the economics department of Royal Holloway, University of London contend that the study's methodology is fundamentally flawed and will result in an *over-estimation of the death toll in Iraq*.

- The study suffers from "**main street bias**" by only surveying houses that are located on cross streets next to main roads or on the main road itself. However many Iraqi households do not satisfy this strict criterion and had no chance of being surveyed.
- Main street bias **inflates casualty estimates** since conflict events such as car bombs, drive-by shootings artillery strikes on insurgent positions, and market place explosions gravitate toward the same neighborhood types that the researchers surveyed.
- This obvious selection bias would not matter if you were conducting a simple survey on immunisation rates for which the methodology was designed.
- In short, the closer you are to a main road, the more likely you are to die in violent activity. So if researchers only count people living close to a main road then it comes as no surprise they will over count the dead.

During email discussions between the Oxford-Royal Holloway team and the Johns Hopkins team conducted through a reporter for *Science*, for an article to be published October 20, it became clear that the authors of the study had not implemented a clear, well-defined and justifiable methodology. The Oxford-Royal Holloway team therefore believes that the scientific community should now re-analyze this study in depth.

The team can be reached for comment at;

Gourley: s.gourley1@physics.ox.ac.uk
Johnson: n.johnson@physics.ox.ac.uk
Spagat: M.Spagat@rhul.ac.uk





The Challenge of Reducing the Global Incidence of Civil War

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Center for the Study of African Economics,
Department of Economics,
Oxford University

Revised, March 20th, 2004

1. Introduction and Overview

Definition of the Challenge:

Large-scale violent conflict takes several forms. However, over time international conflict has tended to become less common, whereas civil war has tended to become more common. The two phenomena are radically different and cannot sensibly be analyzed within the same analytical framework. We will do so exclusively upon the challenge of reducing the incidence of civil war (see Collier and Hoeffler (2003)). We should add that the main models we use to calculate the costs and benefits are our own. It would clearly strengthen the robustness of the analysis were a range of models to be used, but unfortunately the quantitative analysis of civil war risk is still at an early stage and so there is not yet a substantial literature.

Benefits

The benefits of a reduction in the global incidence of civil war are common to all successful deployments of instruments for conflict reduction. Section 2 attempts to establish credible lower-bound estimates of these benefits. They accrue at three levels: national, regional and global. The benefits at the national level are partly economic and partly political. The economic benefits are somewhat difficult, but some estimates in terms of DALYs has been attempted. The regional benefits of avoiding war have also been estimated, at least in terms of economic growth. The social benefits, though large, are more difficult to quantify. The global benefits of conflict reduction are the most difficult to estimate. There is big global savings – AIDS, drugs, and the like – but these come in separate sections to civil war interventions. We have also considered the benefits from a separate operations benefits.

Opportunities

Within the challenge of reducing the global incidence of civil war, we focus on three opportunities. There are the prevention of civil war as currently perceived, the reduction of the incidence of civil war in post-conflict situations, and the reduction of the incidence of civil war in post-conflict situations. The opportunities are very different, both in terms of instruments and pay-offs. Probably the highest pay-off is from improved interventions in post-conflict situations. Post-conflict response has received violence account for around half of all global civil wars, and so they provide an opportunity for highly focused interventions. By contrast, prevention is a highly diffuse approach.

18/01/2008

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I do not agree that any of the above can be assumed as the norm in UN peace-keeping. Not that this necessarily means that peace-keeping can no longer be considered value for money, but that the 83:1 ratio looks rather suspect.

- that the deployment of a robust peace-keeping force eliminates the risk of conflict while the force is deployed;
- the while the peace-keeping force is deployed, the local government reduces its domestic military expenditure to normal peacetime levels;
- that peace-keeping is carried out by forces such as those of the UK, not those of the TCCs who actually contribute the greatest numbers to UN PSOs.

here rests on three particular assumptions:

The calculations on peace-keeping are presented on pages 20-21. Extrapolating from the UK involvement in Sierra Leone, he estimates that the economic benefits of peace-keeping outweigh the costs by a factor of at least 83 to one. I have to say that, like much of Collier's work, the arguments are beguiling but not fully convincing. I am inclined to agree that peace-keeping represents value for money, and that it is very often necessary (though not sufficient) condition for the achievement of peace. But the argument as presented rests on three particular assumptions:

I said I would dig out for you the paper by Paul Collier and Anke Hoefler mentioned by David Harland (DPKO) at today's Peacekeeping Quadrilaterals. Collier and Hoefler have written a (very) great number of papers on the wider subject of economics and conflict, and in quite a few the subject of post-conflict external military intervention comes up. I think, though, that the attached is the paper Harland was referring to. It was prepared for the 'Copenhagen Consensus' last year, an attempt by a group of leading economists to quantify the costs and potential benefits of addressing some of the greatest challenges facing the world today.

From: [redacted]
Sent: Friday, January 14, 2005 5:34 PM
To: [redacted]
Cc: [redacted]; [redacted]; [redacted]
Subject: Collier and Hoefler on peacekeeping

Roz Griffiths

2. The Benefits of Reducing the Incidence of Civil War

The most straightforward benefits to estimate are the economic costs of civil war at the national level. Collier (1999) estimated the costs of civil war in terms of the reduction in the rate of economic growth. For this he adapted two standard approaches of empirical growth econometrics, starting as he explains the variables the growth rate during a decade and interacting these variables with a dummy variable for the decade in which the war occurred. The estimates from this regression is that each year of civil war the growth rate is on average 2.2% lower. The counterfactual takes into account the country's initial level of income but does not allow for the fact that countries prone to civil war might in any case tend to have worse economic policies even in the absence of war. Other estimates have been made from aggregate studies using data from the 1960s to the 1990s. Other estimates have been made from aggregate studies using data from the 1960s to the 1990s. Other estimates have been made from aggregate studies using data from the 1960s to the 1990s.

The next issue is to determine how long this pattern. Collier and Hoeffler (2000) study the growth pattern during the first post-conflict decade. We find that the typical pattern is that by the end of the decade the economy has more or less recovered its pre-conflict growth rate. The growth rate during the decade is 1.13 percentage points above normal, not that is statistically significant. The typical pattern is that by the end of the decade the economy has more or less recovered its pre-conflict growth rate. The growth rate during the decade is 1.13 percentage points above normal, not that is statistically significant. The typical pattern is that by the end of the decade the economy has more or less recovered its pre-conflict growth rate. The growth rate during the decade is 1.13 percentage points above normal, not that is statistically significant.

We are able to get some sense of the robustness of this figure from the 99% confidence intervals which were calculated for the figure on which it is based. The confidence intervals indicate the bounds within which there is a 99% chance of finding the 'true' growth rate. We will estimate the lower bound for the cost of a civil war as that generated by the lower bound on the loss of growth during the conflict and the upper bound on the additional growth after the conflict. Conversely, we report the cost of a civil war as that generated by the upper bound on the loss of growth during the conflict and the lower bound on the additional growth after the conflict. Our estimate of the cost of a civil war is 4.1% to 3.0% of initial GDP. Interestingly, while our cost estimate of 10.6% is based on the central estimate of the growth rate, it is close to the bottom of the implied range of costs. Hence, there is reason to think that our cost estimate is conservative. When it is feasible to do so, we will include qualitative estimates of confidence intervals in our empirical calculations.

The income lost from civil war is compounded by a change in the composition of expenditure. Specifically, the share of GDP spent on the military decreases and this can reasonably be seen as a 'win' – not in the sense that it necessarily entails a further lowering of welfare, but in the sense that expenditure on the military is a 'deadweight loss' in the sense that it does not contribute to the conversion of GDP into welfare. Our estimate of the cost of a civil war is 4.1% to 3.0% of initial GDP. Interestingly, while our cost estimate of 10.6% is based on the central estimate of the growth rate, it is close to the bottom of the implied range of costs. Hence, there is reason to think that our cost estimate is conservative. When it is feasible to do so, we will include qualitative estimates of confidence intervals in our empirical calculations.

These economic benefits are not major effects that may well be more important. After all, civil war is not only a source of economic destruction, but it is also a source of economic reconstruction. Civil war creates a severe deterioration in health status. Most of that does not arise from the direct casualties of conflict, but from forced population movements and the collapse of basic preventive health services. There have been some estimates of that in terms of DALYs and others in terms of mortality rates, especially among infants. Ghoshal, Hoeffler and Rautava (2003) use data on 23 major countries and their regions and find that the loss of life expectancy at birth is 0.17 years for each year of civil war. The loss of life expectancy at birth is 0.17 years for each year of civil war. The loss of life expectancy at birth is 0.17 years for each year of civil war.

There are other important costs of civil war that accrue to the nation directly affected. For example, forced migration is a bad in itself, over and above its adverse consequences for health and income. However, nations that aggregate a large number of refugees do not suffer in quantity. We will include these two effects of civil war – 'massa' and 'refugees' – in our empirical calculations. We will include these two effects of civil war – 'massa' and 'refugees' – in our empirical calculations. We will include these two effects of civil war – 'massa' and 'refugees' – in our empirical calculations.

We now turn to the second layer of costs of civil war, namely those that accrue to neighbouring countries. There is no clear quantitative evidence that conflict in one country directly spills over into an increased risk of conflict in neighbouring countries. However, there is some evidence that the first conflict in one country is followed by a second conflict in the same country. The first conflict in one country is followed by a second conflict in the same country. The first conflict in one country is followed by a second conflict in the same country.

1. Conflict prevention

In Section 3 we investigate the costs and benefits of conflict prevention. While all hegemonic violent conflicts have elements of external peacekeeping – they help to stabilize growth, and dependence upon natural resource exports. By contrast, social and political characteristics – such as ethnic and religious composition, and a lack of political rights, do not seem to have much if any predictive power as to conflict risk. This suggests that interventions that improve the economic characteristics can reduce the risk of conflict even if they do not directly address the political issues that are the ostensible trigger of violence. We also find that the benefits of conflict prevention are not limited to the prevention of violence. We claim that the benefits of conflict prevention are also the improved transparency of natural resource payments to governments. Of these, it is much easier to place the former into the context of costs and benefits.

1.A: Aid as an instrument of conflict prevention

The costs of aid are straightforward, and the benefits depend upon the effect upon economic development, and then upon the effects of economic development upon conflict risk. There is a massive literature on the effect of aid on development. We use the methodology of Collier and Dollar (2002), partly because this is the most straightforward to link to the conflict reduction benefits. It is also currently probably the common model in policy circles. The model can be used to forecast how international aid would affect growth, security, or stability.

For assessing the risks of conflict, and the contribution of growth to conflict reduction, we use the model of conflict risk of Collier and Hoeffler (2004b). In combination these two models generate estimates of the benefits of aid for conflict prevention in a way that can be compared with their costs.

1.B: Transparency in Natural Resources as an instrument of conflict prevention

There is a useful literature (e.g. Sunde and Warner, 2000; Poon 2000 and 2002; Kiser 2001; Hanson and Collier, 2003), on the adverse effects of natural resource dependence on development. There are also practical proposals – discussed at the Ecom meeting of the CDS in 2003 – for greater transparency in the management of natural resource rents. Greater transparency is an important and cheap practical intervention.

2. Shortening conflicts

In Section 4 we investigate the opportunity of shortening conflicts and focus on one particular instrument. To date there do not seem to have been systematic efforts of either consent or military intervention to shorten conflicts. The main reason for this is to improve the handling of natural resources, and that is the intervention on which we will focus.

Tracking the natural resource trade

Many conflicts are resolved because rebel forces get exhausted. Finance from plundering natural resources is the main reason why rebel forces are able to sustain themselves. From development we can identify the origins of natural resources so as to curtail this trade. The best example is the Kimberly process in diamonds, but there is also a new initiative for timber. Using a new model of the dynamics of conflict (Collier, Hoeffler and Siodden, 2004) we show, at least tentatively, that reductions in the price of natural resource exports shorten the chances that a conflict will end. In effect, natural resource exports are being used to finance the continuation of conflict. The model we use is a dynamic model of conflict risk, and the price of natural resources is an important variable in the model as it influences the benefits of shortening conflicts can be handled within the same framework as the benefits of conflict prevention.

3. Post-Conflict Politics

¹ See, for example, Bergson (2003).

In Section 5 we investigate the opportunity of reducing the risk of a reversion to conflict in post-conflict situations. Improving post-conflict politics provides the biggest opportunities for reducing the global incidence of civil war. We focus on two interventions, but all military expenditures.

3.A: Aid in post-conflict situations

Aid in post-conflict situations has distinctive effects – different from aid in the more normal situations that will be discussed under 1A. Here we rely upon our application of the Collier-Dollar model for the post-conflict situation. The model is a dynamic model of conflict risk, and the price of natural resources is an important variable in the model as it influences the risk of repeat conflict.

3.B: Military intervention post-conflict

We compare and contrast the effect on conflict risk of military spending by the post-conflict domestic government with a post-conflict external military presence – e.g. the British military presence in Sierra Leone. According to a new model of the effect of military interventions on risk (Collier and Hoeffler, 2002, 2003), military spending by post-conflict governments is highly dysfunctional. This intervention is all costs and no benefits. By contrast, external military peace-keeping interventions appear to be highly cost-effective.

Conclusion

To summarize, we look at the challenges of reducing the global incidence of civil war. We take three opportunities, one of which is much bigger than the others, namely reducing the risk that conflicts re-occur once they have ended. We take three interventions:

1.A – aid as conflict prevention

1.B – transparency in natural resource rents as conflict prevention

2 – natural resource trading as conflict shortening

3A – aid post-conflict to reduce the risk of repeat conflict

3B – military spending post-conflict to reduce the risk of repeat conflict

In Section 6 we pull the analysis together and attempt to make the cost-effectiveness of these five interventions.

First would make the transparency of revenue. At present in many countries the main from natural resources are not reported in the budget and so expenditure cannot be scrutinized effectively. A major challenge is currently being met, headed by a major of NIGRA, O.R. government and the International Financial Institutions Transparency Initiative. It aims to establish guidelines for both corporate and government. While this is a first step for the second would require stability funds for future generations, along the lines of Norway and Kuwait, there is a much stronger case for medium-term revenue smoothing. Few management of resource boards has been an important cause of slow growth in many resource-rich countries. International guidelines could encourage the adoption of better budgeting or saving rules to cope with such risks. For both transparency and smoothing mechanisms to be effective, for example, the President of Nigeria has publicly announced his intention of adopting the EITI transparency guidelines. Similarly, a government newly facing a resource discovery has a ready-made policy to adopt or reject. Again, the EITI has already proved potent in the context of such a discovery in Sao Tomé and Príncipe. Finally, it makes it more costly for a government to permit such policies to be implemented. A stable government can do so only if it is able to absorb the global financial markets. An analogy would be the widespread adoption of Basel guidelines in banking. An effective promoter to the EITI was the Chad-Cameroon pipeline initiative, which has substantially increased the ability of citizens of Chad to scrutinize how revenues are being used.

The case of publishing such guidelines is not financial. Rather, it is the opportunity cost of publishing and the global financial system in some other space. Such action is difficult, and only a very few initiatives can be achieved. If, for example, a country can reasonably diversify only three times, the cost of the EITI is the gain from withdrawal from the market.

To estimate the gains from a successful initiative we proceed as follows. We first establish that there is indeed a gain from increasing the transparency of revenue. We then estimate the impact of such a policy on the country's ability to raise new capital. Finally, we estimate the impact of such a policy on the country's ability to attract foreign investment. We repeat the entire analysis for the entire world. We repeat the entire analysis for the entire world.

CTFA = 0.46 + 0.320 ISDP - 0.313 SKE,

(1.46) (7.16)*** (2.53)***

n=45, R²=0.12

The effect of natural resource rents as proxied by SKE is indeed both highly significant and adverse, controlling for the level of income, the more dependent upon natural resources is a country, the worse is its policy, governance and institutions.

We have no way of telling how effective global guidelines on natural resource management would be. A major impact on the CTFA. We suppose that such an improvement would be beyond the bounds of the feasible, but imagine that by giving the more sufficient prominence and preventing several guidelines the adverse effects of natural resource rents could be halved. In terms of the above regression this would imply that the negative coefficient on SKE of -0.513 would be reduced to -0.257. This we take to be the feasible expression of an improvement over some of the guidelines. This is the impact of the feasible expression of an improvement that might be possible with their effect.

Our next task is to estimate the benefits for conflict prevention of such an improvement. We find that the CTFA has no direct effect on conflict risk (Collier and Hoeffler, 2002a). However, following Collier and Dollar (2002), an improvement in the CTFA would raise growth. At this means characteristics of the
OLS regression results, variables in parentheses, robust standard errors used, time domains not reported. To reduce the problem of endogeneity GDP and SKE are lagged five years. To reduce the problem of auto-correlation we use one-step, two-year residuals (1975, 1980,... 1995).

low-income countries at present that we are considering in this section, halving the adverse effect of natural resources on policy would thus improve rates by 80 percent. This is a large improvement, given that guidelines become effective their benefits would only be temporary. The goal is to produce a one-off permanent change in practice. The NPV of the gain in reduced risk from this permanent reform over the 112.1bn.

Recall that we find that in addition to the adverse effect on growth, there is a substantial direct effect of natural resources on the risk of civil war. This effect is controlling for the growth and level of income. Case study evidence suggests that one of the important events by which this happens is that authoritarianism gains strength by being able credibly to suggest that resource rents generated in their regions are being wasted or embezzled. Hence, transparency and scrutiny of revenue use can be expected to weaken this link generated by a gap between need and resource rents. More generally, more transparency would be expected to reduce the likelihood and this means for them to expect to be successful in doing so. We have no way of knowing how large such an effect might be. For illustrative purposes, we assume that the EITI could reduce the direct contribution of natural resources to conflict risk by one tenth of the overall risk that they generate. According to our model, natural resources are a major source of risk. If this risk is reduced, the overall risk for the typical low-income country from 13.5% to 12.7%. From this, we estimate the gain in reduced risk from this permanent reform in risk, and multiply it by the annual cost of conflict generated by poor countries killing also conflict. The annual gain is around \$3.9bn. Since this is a permanent gain, the NPV would be around \$77bn.

Thus, the overall security gains from an effective implementation of the EITI would be the \$12.1bn from permitting faster growth and \$77bn from a reduction in the direct risk of conflict. This is a total gain of \$89.1bn. These are, of course, highly speculative numbers. However, they are not necessarily over-optimistic. They assume that effective international action would have the damage currently being done by natural resources to growth, and reduce by one tenth the direct contribution to conflict risk. While the benefits of these improvements are considerable, the improvements themselves are not widely assessed.

4. Opportunities for Shortening Conflicts

Conflicts have for longer than international wars. The typical civil war has lasted around seven years and is typically international war has lasted around the months. The difference was dramatically illustrated in the case of the Eritrean-Georgian conflict. When this was a civil war it lasted for around eleven years and was only ended by a military victory on the part of the rebels. When it returned after Eritrean independence, and hence as an international war, it lasted for a mere six months. Eritreans, at least, would be able to absorb more to promote the end of an international war, but it is not clear that this would be the case in the period 1980-1999 was around double that in the period 1960-79. Average duration in the 1990s was fantastically a little shorter than in the 1980s, but this probably reflected the one-off effect of the end of the Cold War, with a number of conflicts that had been funded by one or other of the superpowers coming to an end.

The long duration of civil wars reflects the much greater ability of the international community to put pressure on states to end international wars, to act cross-borderly between the parties, and to guarantee the terms of a settlement. With a civil war the terms of a settlement often lack credibility; rebel forces

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there were no major trends in the risk of civil war, so it is a reasonable estimate to apply to present circumstances.

Placing the growth rate of food an economy that has two beneficial effects on the risk of conflict - a reduction in the growth rate of the economy and a reduction in the growth rate of the population - is a natural point of reference. We suggest to take as an experiment an increase in the growth rate of one percentage point sustained for a period of ten years. According to the CIA model, which analyzes risk in five-year periods, this would have an impact effect during the first five-year period, through its effect on the growth rate. Specifically, the risk would decline from 13.8% to 12.7%. In the second five-year period there would be a growth effect and a income level effect since growth would be normal, but income would be higher. The risk would rise to 13.8% in the second five-year period and subsequent five-year periods the growth rate would be the previous level and the only effect is due to the permanently higher level of income. This permanent effect is for the risk to be 12.7% rather than the 13.8% that it would have been.

The benefits of the reduced risk of conflict can then be valued using our previous estimates of the cost of the risk of conflict. The risk of conflict in the typical year in low-income countries (excluding point-conflict situations). The "largest" effect of faster growth, that is during the first five-year period, is to reduce the rate of conflict initiation by 8%.¹⁹ Hence, for each year of that five-year period, there is a gain of \$3.6bn. "Additionally, in the second five-year period the rate of conflict initiation falls by 12%, and so the annual gain rises to \$4.3bn. At the same time, the rate of conflict initiation falls by 4%, it annual \$39.2bn. The benefit of income, over that this is simply the gain due to conflict reduction in these societies. The main benefit of growth in these societies is likely to be poverty-reduction. We are only focusing on the value of the additional benefits of enhanced security, which are normally omitted from the analysis of the effects of growth. That particular estimate has a wide confidence interval, the 90% bound being \$29bn and \$127bn.

Having got some valuation of the effect of enhanced growth in low-income countries with a history of peace, we now consider instruments for achieving faster growth. The first such instrument that we will consider is an increase in aid.

3.1 The Instrument of Aid

The effect of aid on growth is controversial although most scholars find it to be significantly positive. The main controversy is the extent to which the effect of aid is contingent upon the policy, governance and institutional context. We will use the estimates of Collier and Dollar (2002), and compare them with the Collier-Hoeffler model of conflict. This was the approach taken in Collier and Hoeffler (2003b).

Collier and Dollar find that aid raises the growth rate but that it is subject to diminishing returns. Hence, at some point a country can become saturated with aid and so additional growth is achieved by further aid. They find that the capacity to absorb aid (as a percentage of GDP) is dependent upon the policy context. The capacity to absorb aid is measured by the World Bank staff for each country, the "Country Policy and Institutional Assessment". So, measured, they find that the CPIA itself positively influences the growth rate, and that it also influences the capacity to absorb aid.

Overall data for conflict prevention we are focusing on low-income countries that are not in post-conflict situations. We are focusing on the period 1980-2000. We estimate the effect of aid on growth using the formula of finding growth rates. We deviate from James of aid reduction by adding additional aid worth two percentage points of GDP.

(What is purchasing power parity priced) to all rich countries. We simplify by considering the effect on the representative rich country, with characteristics at the mean of the group. The extra two percentage points of aid raise the growth rate by 0.2 percentage points. This is a relatively modest gain.

¹⁹ That is, $1 - (12.7/13.8) = 0.08$.

²⁰ That is, $(12.7/13.8) = 0.92$.

²¹ The bounds come from the confidence interval on the growth coefficient in our logit of conflict risk.

- much wealthier than the impact of existing aid flows - because of the problems of diminishing returns. We should also note that it abstracts from losses of improved aid delivery. With better delivery mechanisms and more selective allocation, the combination of aid to delivery will be considerably higher. However, our figure is a simple benchmark.

The benefits of such growth in terms of conflict prevention are approximately one fifth of the benefits of those achieved by a one percent faster growth rate, which we have just calculated. Hence, the benefits are approximately \$16bn.

The rate are fairly the additional aid flows. There are 32 countries in the category of low-income, at present, and in their first decade post-conflict (including China and India). Their combined GDP is \$1,200bn (again valued at purchasing power parity prices but expressed in constant dollars), so that the extra aid programme would cost \$2bn annually.²² Over the decade this would amount to an NPV of \$195bn.

Evidently, the conclusion of this estimate is that conflict prevention achieved simply by manipulation aid programmes to low-income countries is not very cost-effective. The benefits amount to less than ten percent of the costs. The unaccounted global costs of conflict would therefore have to be over ten times the included costs for this strategy to justify itself purely on security grounds. Recall that this is decidedly not a comment on the efficacy of additional aid, since the main purpose of such aid is poverty reduction rather than security. However, it does suggest that the main security considerations may not be central to the argument over additional aid for low-income countries.

3.2 The Instrument of Improved Governance of Natural Resource Revenues

Natural resource rents are usually not necessarily converted into growth. Indeed, they appear often to be converted into consumption. This is the case with oil revenues from primary commodities in a risk factor in civil war. While this specific economic result has been challenged, at least for natural resource rents, the result is supported by a considerable body of case study evidence. Such evidence is particularly useful because it can suggest the likely mechanisms by which natural resource rents increase the risk of conflict, and hence what policies might be appropriate.

There seem to be five routes by which natural resource rents increase the risk of conflict. The first is that natural resources are mined in price booms and have and these episodes tend to destabilize the economy, producing both overall slower growth and phases of rapid economic decline. Both of these economic consequences would raise the risk of conflict. The second route is that because the government gets income from natural resources, it can use that income to fund the purchase of arms. In effect, the population is less concerned to hold the government to account and so spending becomes corrupt. This is compounded by a third effect, namely that natural resource need tend to be associated with increased levels of "graft", corruption. Large contracts have to be negotiated, and there are enormous incentives for companies and politicians to enter into deals that are beneficial for each party. Natural resources tend to be mined in the periphery of a country, where there will usually already be some resource ethnic separatist movement even prior to the resource discovery. Hence, once valuable resources have been discovered this resource nationalism can build on the robust cause of economic self-interest. If national level politicians can plausibly be depicted as corrupt, looting the resource rents then the second-order party will of course go on. Finally, natural resource rent price booms often lead to a part of fiscal revenues and then finance and then spend on military modernization, which may not be entirely cost-effective.

Where in this is there an opportunity for the international community? We suggest that there is an opportunity for collective action around the principles of lower natural resource rents are managed. Specifically, international action could improve the domestic governance of primary commodities by establishing a "compact" for their proper use. Such a compact could be driven into some principles. The

²² Thinking of the average country using purchasing power parity, the amount of aid would be the average of GDP divided by 50, which would be \$24bn. The bounds would be an additional reduction in the value of GDP itself.

of the illicit price. For example, in the case of diamonds, it is reported within the industry that as of 2002 the discount on the price of illicit diamonds was around 10%. Since diamonds are a very difficult product to monitor and since at the time of this document the Kimberly Process lacked any monitoring procedure and so was not yet operating as a percentage of Gulf States, this case of diamond probably represents the minimum that could reasonably be expected from a verification process.

As with the EITI, the costs are primarily in terms of the opportunity cost of international collective action in some other sphere.

We now attempt to quantify the benefits. Suppose, for illustrative purposes, that verification processes in one recent commodities sector (the price of oil) were as effective as the verification process that already achieved for diamonds. What might this achieve by way of benefits of reduced conflict?

The closest we have to a reasonable quantitative estimate, at present, is the contribution of a lower world price of exported commodities on the duration of conflict. Recall that a 10% reduction in the price of exported commodities would, in the absence of other changes, reduce the NPV of conflict (the overall benefit) in the world price. In other words, the NPV of conflict would fall by 10%. Assuming, however, that conflicts were on average hardened by 15%, what would this imply for the incidence of conflict? Recall from Section 2 that an average hardening of conflict by 20% of GDP is a reasonable estimate of the impact of conflict on the world economy with primary commodity exports at 20% of GDP. A 10% reduction in the NPV of conflict would, therefore, be expected to reduce the incidence of conflict by 10% of GDP. Specifically, when we allow for the properties of oil, we estimate that the NPV of a successful price redistribution strategy would be around \$5.9bn.

5. Reducing the Risks Post-Conflict

During the first decade post-conflict there are very high risks of repeat conflict. According to the Collier-Hoeffler model, approximately half of these risks are inherited from the characteristics that already made a country prone to conflict and have not improved during it. The other half of the risk arises from changes brought about by the conflict. On the basis of these estimates, the benefits of intervention are more of non-re-occurrence of conflict than of a reduction in the incidence of repeat conflict. The NPV of a financial interest and capitalization, and the legacy of armed and status.

Because of the high risk of conflict repeat, around half of all civil wars are due to a breakdown of peace during the first post-conflict decade. Yet at any one time there are only about 12 million people in 12 states of conflict at any one time, and so it is possible to focus resources with relatively little waste.²⁴ Compared with conflict prevention in countries with a long record of peace, discussed in Section 3, interventions are much more precisely targeted. Obviously, compared to strategies for addressing conflicts by direct intervention in the country first, resources are less well targeted than even without intervention since post-conflict intervention is much more precisely targeted. However, as we have seen, the risk of repeat conflict is much higher than the risk of first conflict. By comparison, the considerable scope for the international community to do a better job at reducing post-conflict risks.

Here we will focus on two instruments already widely used: aid and military spending. We will require that aid is particularly effective in post-conflict situations. We will require that military spending is particularly effective in post-conflict situations. We will require that aid is particularly effective in post-conflict situations. We will require that military spending is particularly effective in post-conflict situations. We will require that aid is particularly effective in post-conflict situations. We will require that military spending is particularly effective in post-conflict situations.

However, we will suggest that a modification for such interventions should be for the reduction in domestic military spending.

5.1 The Instrument of Post-Conflict Aid

As discussed in Section 3, aid reduces the risk of conflict by reducing the growth rate. A higher growth rate reduces the incentives for conflict by reducing the level of income. Further, higher growth rates also reduce the incentives for conflict by reducing the level of income. Further, higher growth rates also reduce the incentives for conflict by reducing the level of income. Further, higher growth rates also reduce the incentives for conflict by reducing the level of income.

During the first post-conflict decade growth is typically faster than normal. That is, there is some economic recovery. This is not surprising given the loss of growth during conflict. Recall that by the end of a typical seven-year civil war GDP is around 15% lower than it would have been. By the end of the first decade this is more or less fully recovered.

However, the growth recovery is neither evenly spread through the decade, nor attributable in terms of the growth rate. The growth recovery is concentrated in the middle years of the decade – approximately the fourth through the seventh post-conflict years. In analyzing the growth we apply the model of Collier and Dollar (2000), which posits two growth rates: an exogenous component, γ , composed of the quality of institutions, infrastructure and government, and a component determined by the institutions and resources (quality of institutions, infrastructure and government). The growth rate is the sum of these two components. Quality of institutions and resources (quality of institutions, infrastructure and government) are exogenous to the growth process. The growth rate is the sum of these two components. Quality of institutions and resources (quality of institutions, infrastructure and government) are exogenous to the growth process. The growth rate is the sum of these two components.

As a donor already making this opportunity? At the end of the Second World War the USA launched a major aid program that was, in effect, targeted to the recovery of Europe in the middle of their first post-conflict decade. But more recently, donor allocation of aid has not followed this pattern. Over the entire course of the first post-conflict decade aid is no higher than before the war. However, aid typically peaks while during the first decade of post-conflict years and then declines.

What would be the payoff to investing aid in post-conflict societies in the middle of the post-conflict decade? We take the average characteristics of post-conflict societies during the 1990s, and assume that aid would have been the same as in the first decade of the 1990s. The aid would have been the same as in the first decade of the 1990s. The aid would have been the same as in the first decade of the 1990s.

are unable to guarantee that rival rebel groups will not emerge to continue the war, and government have no way of holding themselves to their offer.

Collier, Herdier and Soderstrom (2000) explore the duration of civil wars economically. Using a data set of 100 civil wars, they find that the duration of civil wars is longer if there are large natural resource exports, the world price of their exports has a significant effect upon the duration of war, and there is a significant effect upon the duration of war from the presence of a large natural resource sector. They also find that the duration of war is longer if there are large natural resource exports, the world price of their exports has a significant effect upon the duration of war, and there is a significant effect upon the duration of war from the presence of a large natural resource sector. They also find that the duration of war is longer if there are large natural resource exports, the world price of their exports has a significant effect upon the duration of war, and there is a significant effect upon the duration of war from the presence of a large natural resource sector.

The fact that civil wars have been getting longer may give us some guidance as to how to shorten them. One of the important developments in civil war has been the emergence of commercial markets both for natural resources that can be extracted by rebel organizations, and for military equipment. Whereas in the 1960s a viable rebel movement generally needed some supportive government for funding and armaments, by the 1990s rebel movements could be entirely viable as private enterprises. This suggests that the greater control of these two international markets, with a view to controlling the flow of funds to rebel movements, could be a viable strategy for shortening the duration of civil wars. This is also true in natural resources, which are often the main source of income for rebel movements. It also works around ethnic divisions.

The Instrument of Challenging Rebel Access to Commodity Markets

Concern over rebel access to international commodity markets is likely some among NGOs – some notably by Global Witness – and has been taken up by the international community. The idea of challenging rebel access to international commodity markets is likely some among NGOs – some notably by Global Witness – and has been taken up by the international community. The idea of challenging rebel access to international commodity markets is likely some among NGOs – some notably by Global Witness – and has been taken up by the international community. The idea of challenging rebel access to international commodity markets is likely some among NGOs – some notably by Global Witness – and has been taken up by the international community.

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The idea of challenging rebel access to international commodity markets is likely some among NGOs – some notably by Global Witness – and has been taken up by the international community. The idea of challenging rebel access to international commodity markets is likely some among NGOs – some notably by Global Witness – and has been taken up by the international community. The idea of challenging rebel access to international commodity markets is likely some among NGOs – some notably by Global Witness – and has been taken up by the international community.

Other than the example of diamonds and the ending of the civil wars in Sierra Leone and Angola, there are very few examples that creating a price discount for rebel-supplied natural resources would shorten

conflict? Collier, Herdier and Soderstrom (2000) investigate whether the prevailing world price of a country's export commodities can act as a mechanism for shortening civil wars. They find that the duration of civil wars is longer if there are large natural resource exports, the world price of their exports has a significant effect upon the duration of war, and there is a significant effect upon the duration of war from the presence of a large natural resource sector. They also find that the duration of war is longer if there are large natural resource exports, the world price of their exports has a significant effect upon the duration of war, and there is a significant effect upon the duration of war from the presence of a large natural resource sector.

Perhaps the most that can reasonably be said is that the case study evidence and the econometric evidence do not contradict each other, and both give some reason to hope that creating a price discount would tend to shorten some civil wars. Given that other initiatives for shortening wars appear not to have been particularly effective, and that the duration of wars is already long and appears to be increasing, this new initiative may be worthwhile.

All certification procedures can be created at a cost. The purpose of certification is not merely to shut rebel supplies out of the market, but rather to create a deep discount in the price that rebels receive. This is only possible if the government is willing to pay a price for the certified goods that is lower than the world price. This is only possible if the government is willing to pay a price for the certified goods that is lower than the world price.

We have already discussed the case for such a program to shorten civil wars. There is one further reason why such a program might be worthwhile. In the case of diamonds, there are in fact important institutional factors in Colombia's cocaine trade that make it difficult to certify. For example, all the main roads from the cocaine producing areas to the coast are controlled by the government. This means that the government can control the flow of cocaine from the producing areas to the coast. This means that the government can control the flow of cocaine from the producing areas to the coast.

While specifically challenging rebel revenues from land drugs may appear to be a very different problem from curtailing rebel revenues from diamonds, there are in fact important similarities. The certification approach needs to create a two-tier market between a legitimate source and an illegitimate source. In the case of diamonds, this is done by creating a two-tier market between a legitimate source and an illegitimate source. In the case of diamonds, this is done by creating a two-tier market between a legitimate source and an illegitimate source. In the case of diamonds, this is done by creating a two-tier market between a legitimate source and an illegitimate source.

Finally, the proposed instrument of international certification of the supply chain is meant to create this effect wherever rebel groups are getting significant finance from legitimate markets on commodity exports. The intention is always to create a two-tier market, with legitimate source of supply and illegitimate source of supply. The direct effect of the instrument is to be monitored by increasing the cost of the price discount. Over time, the price of the illegal product is not quite as desirable as that of the legal product. However, international industry practitioners are aware

The costs of an external military presence evidently depend upon its peak. An advantage of taking the concrete situation of Sierra Leone is that here the external military presence can be precisely defined, and it was of a scale that proved to be effective not only in maintaining peace, but in establishing it in the first place. Further, Sierra Leone is a pretty typical civil war situation - a low-intensity war with a large rebel movement well-insured by natural resource income. This is a situation that would be a large part of the external military presence in the 1990s. The purpose to be maintained for a decade at this rate of expenditure, the NPV of the cost would therefore be \$197m.

The pay-off to such external military intervention is clearly positive relative to its cost. An outlay of just over half a billion dollars secures external military presence for the withdrawal of external forces, and the cost is very persuasive compared to the risks that the withdrawal of external forces.

Typically, there are around 12 post-conflict situations and hence 12 opportunities for this sort of pay-off. Historically, these opportunities have not been taken - Sierra Leone was the benefit of a new, and at the time highly experimental strategy. Were the strategy applied to all 12 post-conflict situations, the approximate costs and benefits would be 24 billion dollars, yielding a net gain of \$20.7 billion. Again, this benefit comes all the greater part from reduced conflict.

6. Candidates and Comparisons of Instruments

All the estimates in this study are great approximations. At best they provide guidance as to orders of magnitude, rather than precision. But one is useful. Our estimates suggest that some instruments are radically unimpressive, whereas others offer remarkably large returns. This ranking of instruments is probably more robust than the assessments of individual instruments.

We started by calculating the costs of civil war. We have taken broad-based estimates, and these figures are very conservative. The costs of civil war are probably much higher than we have estimated. The fact that the costs are so high is not surprising, given the scale of the damage that is done. The fact that the costs are so high is not surprising, given the scale of the damage that is done. The fact that the costs are so high is not surprising, given the scale of the damage that is done.

The most disappointing instrument is, in a sense, the most obvious and the easiest readily available. This is aid for conflict prevention. We should at once make it clear that our estimates have been quite ungenerous to such a strategy. We have simply increased aid to all low-income countries (excluding India and China). No attempt has been made to target aid to countries at particularly high risk. The aid appears to be well within the right ballpark, so that it would not be penny food before aid could be justified simply in terms of conflict prevention. Of course, additional aid can be justified on other grounds, notably poverty reduction. But our analysis suggests that the addition of security considerations is marginal rather than central to the benefits of aid in normal, peacetime situations. Even if our estimates are grossly and systematically wrong - possibly by mistakenly understating the cost of conflict - this would not significantly affect our ranking of instruments.

Aid does become an effective instrument in post-conflict situations. This is mainly because it is more effective in the growth process, but also because it is more positively targeted on high risk countries. The pure security gain is now sufficient by itself to warrant additional aid even in the lower bounds of the 90% confidence interval. Further, we have completely omitted the gain from stability efforts, and the gain from the production benefits of aid. These considerations make higher aid for post-conflict situations look to be a good use of international public resources as long as it is properly timed.

0.016*(1.237)^0.74543m. This set is from the eleven year after conflict. The NPV of this income stream is \$3.2bn.

Our third instrument was to extend the initiative which began with diamonds and is now known as the Kimberly process. The objective is to partition the market for gemstone commodities that might profit the resource for rebel forces into a legitimate market and a market for illegal trade, which secures a feasible and realistic objective, namely yield global benefits of around \$5bn. The costs of this initiative were almost entirely the opportunity cost of international collective action. There is only a capacity for a few international initiatives at any one time, and so only those initiatives should be undertaken which offer high pay-off. An advantage of the proposed instrument is that being virtually costless, the gain to the pay-off is robust. International action from 1990 to 2000, by the counter-productive, and there is a reason the best for responding to high-though not immediate, events.

Our fourth instrument was to extend the current Extractive Industries Transparency Initiative. By improving the governance of natural resource trade, which is not quantifying the problems associated with them, there are reasonable grounds to expect two security benefits: a direct one that reduces the risk of conflict initiation, and an indirect one that reduces the risk of conflict continuation. The cost of this instrument is the opportunity cost of international collective action, the direct costs being trivial. An advantage of this instrument is that because its benefits come through two distinct routes the prospect of some substantial returns are reasonably robust. The actual numbers we have suggested are generous, but not biased. They are based on the idea that effective international action could reduce by half, but not entirely, the average effect on growth that emerged from the 1990s. The analysis is based on the idea that effective international action could reduce by half, but not entirely, the average effect on growth that emerged from the 1990s. The analysis is based on the idea that effective international action could reduce by half, but not entirely, the average effect on growth that emerged from the 1990s.

Our fifth, and most effective instrument is also the most problematic politically. This is external military intervention under the leadership of the United States. The costs of this instrument are high, but the benefits are also high. The pay-off to this instrument was estimated using the example of Sierra Leone. This choice was not, however, a matter of picking a rare success, but rather a matter of investigating a new strategy. This was the first substantial Chapter VII intervention by a major power (the United States) since the end of the Cold War, and it was the first since the end of the Vietnam War. The costs of this instrument are high, but the benefits are also high. The pay-off to this instrument was estimated using the example of Sierra Leone. This choice was not, however, a matter of picking a rare success, but rather a matter of investigating a new strategy. This was the first substantial Chapter VII intervention by a major power (the United States) since the end of the Cold War, and it was the first since the end of the Vietnam War.

Following the same procedure as previously, we estimate that the gain in the growth rate during these years would be 1.1 percentage points - that is, around five times the effect of instruments set in normal low-income situations.²⁴

We now estimate the effect of faster growth on risk in post-conflict situations. For comparability with our previous estimates we first consider the effect of a sustained one percentage point addition to the growth rate. We evaluate the risk for the typical low-income country. Although the absolute level of risk is much higher for post-conflict countries, the proportional effect of faster growth is very similar to that for other low-income countries. The only important difference in the calculation of the benefits is that for conflict prevention in low-income countries we use a five year period, the benefits of a year's additional growth in post-conflict countries are halved. The benefits of an extra percentage point of growth in post-conflict countries are around \$3bn per year during the decade.²⁵ In the third and subsequent periods countries that have not reverted to conflict cease to be 'post-conflict' and so become part of the group of low-income countries at peace. The gains here are therefore those of that category of country, proportional to the number of countries being tracked. That is, whereas our previous estimates of the benefits of 1% faster growth from the seventh year on, the gain from an extra 1% of the gains from the conflict prevention aid programme.²⁶ The NPV of these gains is \$56.9bn.²⁷

The gain from post-conflict aid targeted to the middle of the decade would be less than the wide from our previous estimates. We first consider the effect of a sustained one percentage point addition to the growth rate. The benefits are around \$31.9bn. The benefits of the 90% confidence interval around that figure are \$20bn and \$46bn.²⁸

At our central estimate of the benefits, the return on post-conflict aid are more than double their cost. Further, even at the lower bound of our estimates of the security benefits, they are more than double their cost. The gains from post-conflict aid are therefore very large and very robust. The gains are also very sensitive to the assumptions made from quantification, and that we have included all the usual benefits of risk averse poverty reduction. The security considerations are now large enough to be dominant in the case for aid, whereas in the case of more generalised conflict prevention they appeared to be only a marginal consideration.

4.3 The Instrument of Military Expenditure

In early post-conflict situations the risk of reversion to conflict is typically very high although it probably declines if peace is maintained. Economic conditions eventually work to lower risk, but helpfully they take time. However, people in post-conflict situations are not patient. There is some evidence that in cases where democracy has been introduced into post-conflict situations, the second election is usually a time of reduced risk. This is not to say that democracy is inappropriate in post-conflict settings, but

²⁴ We use the growth regression reported in Table A3, column 2, and the means for post-conflict countries.

²⁵ Specifically, the rates of conflict decline as a result of faster growth from 18.6% to 16.3% in the first five-year period, and from 31.9% to 27.8% in the second five-year period (from both growth and accumulated income effects are working). We also report the benefits of post-conflict countries in column 1 of Table A3. Since the majority of post-conflict countries regressions around one still were per year, costing \$54.2bn, the gain from such a proportionate reduction in risk would be 0.078*554.2bn=\$43.6bn.

²⁶ Because the extra post-conflict aid is concentrated during only half the post-conflict decade, only the such countries would be receiving aid at any one time. However, since the rates of aid on growth is double its normal effect, the extra five-year aid programme achieves the same as a ten-year programme. Recall that the annual gains for the conflict prevention category of country were \$3.8bn, so that the gain from the smaller group of post-conflict countries would be (1/2)*2*\$3.8bn=\$3.8bn, so that the total is \$5bn for a decade, and \$1.6bn subsequently.

²⁷ The confidence intervals are generated from the confidence on the post-conflict interaction term in Table A3, column 2.

rather than in the short term it should not be expected to itself to solve the problems of reduced conflict. It is also possible that the benefits of faster growth are not as large as we have estimated. It is possible that the benefits of faster growth are not as large as we have estimated. It is possible that the benefits of faster growth are not as large as we have estimated. It is possible that the benefits of faster growth are not as large as we have estimated.

Collier and Hoeffler (2002) analyze whether military spending in post-conflict situations is effective in reducing risk. Naturally, there is a potential endogeneity problem here since spending is likely to be highest where risks are highest. They therefore 'instrument' for military spending using the military spending of neighbours and the past history of international warfare. Both of which are good predictors of spending. So instrumenting in normal conditions (like what we do) is likely to be an unbiased estimator of spending. In post-conflict settings it is significantly counter-productive, increasing the risk of repeat rebellion. This result is broadly consistent with the case study literature which emphasizes the low credibility of power settlements. Rebels try to reap the fruits of government behaviour to form a judgment as to whether the government intends to maintain its agreement or renege upon it. High military spending might well be read by rebels as a signal of an intention to renege.

The combination of a high risk of repeat conflict in post-conflict settings, and an undeniably high, but counter-productive level of governmental military spending, creates an opportunity for international military intervention designed to keep the peace. A condition of such an external military presence could be that the government itself makes deep cuts in its military budget, and that the aid from the international donor is used to fund the military. This would be a condition of aid. (Based on that figure, the reduction of post-conflict military spending to peacetime levels, maintained for a decade, would raise GDP by the end of the period by 2%.

We will take as a concrete example the current British military presence in Sierra Leone. The intervention started in 2000 and is continuing. It is a statement of the country. It replaced a large but progressively ineffective UN military presence under Chapter VII rules of engagement, during which a large UN military force was held hostage by rebel forces. During the period of British military engagement peace has been secured throughout the country and elections held. The rebels risks once external force withdrew was only be contained. We will assume that the risk reverts to the normal level of a post-conflict country. The risk of reversion to conflict is now typically around 18.6%, and in the second five-year period it is typically around 31.9%. Recalling that the cost of a year's war is \$1.8bn, it follows that the gain from external military spending is \$1.8bn*31.9%=\$574.2bn. The cost of the intervention is \$1.8bn*18.6%=\$334.8bn. The net benefit is \$239.4bn. The NPV of this is \$3.2bn.²⁹ Hence, the overall gain is \$3.2bn.

The appeal of the temporary external military presence can then be estimated as the combination of risk during the period of external military presence, which we will take to be ten years, plus the reduction in risk thereafter as a result of faster economic growth during the decade. In the first five-year period of post-conflict, the risk of reversion to war is typically around 18.6%, and in the second five-year period it is typically around 31.9%. Recalling that the cost of a year's war is \$1.8bn, it follows that the gain from external military spending is \$1.8bn*31.9%=\$574.2bn. The cost of the intervention is \$1.8bn*18.6%=\$334.8bn. The net benefit is \$239.4bn. The NPV of this is \$3.2bn.³⁰ Hence, the overall gain is \$3.2bn.

²⁹ Thus, in the first five-year period there is a 18.6% risk of a \$64.2bn loss, which we assume occurs in year 3. In the second five-year period, conditional upon there being no war in the first period, there is a 31.9% risk, again of a \$64.2bn loss, which we again assume occurs in the middle of the period. The NPV of these losses is \$1.8bn*31.9%=\$574.2bn. The cost of the intervention is \$1.8bn*18.6%=\$334.8bn. The net benefit is \$239.4bn. The NPV of this is \$3.2bn. Recalling that there are 0.7, which was per year, generated from the post-conflict category of countries, and that there are only 12 countries in the post-conflict category, rather than the 32 in the post-aid-space category, the annual gain is therefore

Appendix A3: Aid and Growth, Post-Civilis

Table A3: Aid Policy and Economic Growth

	(1)	(2)
Higher capita income	0.223*	0.212*
Government	0.164	0.172
(CICGEL index 1-9)	(0.160)	(0.153)
Policy	0.871	1.221
(CPIA index 1-5)	(0.418)**	(0.392)***
ODA + Policy	0.112	0.122
(ODACDDP) ²	-0.023	-0.028
(0.016)	(0.012)**	(0.012)**
South Asia	0.224	2.652***
(dummy variable)	(0.113)**	(0.639)***
East Asia	0.033	0.041*
(dummy variable)	(0.016)	(0.022)**
Sub-Saharan Africa	0.638***	0.569***
(dummy variable)	(0.293)**	(0.366)**
Middle East/North Africa	4.535	1.669
Europe	(2.015)	(0.809)
(dummy variable)	(0.589)***	(0.289)***
Germany East	0.027	0.186
(dummy variable)	(0.558)***	(1.053)
Post-Confidence dummy*		0.186
(ODACDDP) * Policy		(0.046)***
Observations	344	344
P < confidence	34	13
R ²	0.37	0.38

Note: OLS regressions with robust standard errors. Dependent variable is average annual per capita GDP growth. All regressions include a constant. Standard errors in parentheses. * 10%, ** 5%, *** 1% significance at the 1% and 10 percent levels, respectively. Source: Author and Heston (2001).

Appendix A4: Estimating the risk of a civil war outbreak

The figures and probability of civil war estimates presented in this are based mostly on the logit regression analysis reported in table 7-4. The data used is the same as in Appendix A3, covering years 1950-1999. In our regressions we estimate the probability of a war breaking out during a five-year period, and the model can be written in the following general form:

$$Y_t = \alpha + \beta_1 X_t + \beta_2 M_{t-1} + \beta_3 Z_t + u_t \quad (A1.1)$$

where t and i are time and country indicators. The dependent variable is a dummy variable indicating whether a war broke out during the five-year period, so that Y_t is the log odds of war. The explanatory variables are either measured at the beginning of the period (for example, income per capita, primary commodity exports/gross domestic product (GDP), population), or during the previous five-year period (for instance, per capita income growth, or are done interacted or changed slowly over time (for example, social fractionalization).

The special probability $\hat{\beta}_i$ of a war breaking out can be calculated by using the standard coefficients obtained from equation (A1.1):

$$\hat{\beta}_i = \frac{e^{\beta_i}}{(1 + e^{\beta_i})} \quad (A1.2)$$

We calculate probabilities for hypothetical observations. For example, we find the average values for X_{t+5}, M_{t+5}, Z_t , for a subgroup of countries and use this to be a typical country within the subgroup. We then calculate $\hat{\beta}_i$ by applying equation (A1.2). For the policy simulations we used the probability for the average low income developing country as a baseline.

Appendix A1: The CIE model of conflict risk

Table A1: Determinants of the Outbreak of Civil War

	(1)
Primary commodity exports/GDP	[-2.109]***
Primary commodity exports/GDP ²	[2.180]
Ln GDP per capita	[0.0307]**
GDP growth-1	[0.143]***
Poland America (dummy)	[-0.092]
Geographic concentration (index 0-1)	[0.002]**
Ln population	[0.001]***
Social fractionalization (index 0-1000)	[-0.002]
Democracy (index 0-10)	[0.0002]***
N	[0.228] prob.14
Nv of year	52
Proble R ²	0.22
Log likelihood	-162.84

Standard errors in parentheses. ***, **, and * indicate significance at the 1%, 5% and 10 percent level, respectively. Source: Collier and Hoeffler (2004).

Appendix A2: The relationship between the international price of natural resources and the duration of conflict

Table A2: Durbin's Analysis of Civil War Exponential Estimates of Hazard Function

Parameters	(2)
Income inequality	[-0.123]
Mining inequality	[-2.811]
Per capita income	[0.1319]***
Ethnic fractionalization	[-0.0005]
Ethnic fractionalization ²	[0.0007]***
Ln Population	[-0.2820]
1970s	[0.128]
1980s	[-1.3830]
3 rd and 4 th years of war (A)	[-0.8787]
5 th and 6 th years of war (B)	[0.5601]
7 th year of war and beyond (A)	[0.1109]
Change in commodity price index (C)	[1.7669]
Primary commodity exports/GDP (r2)	[-1.0579]**
CH ² exp	[-1.1323]
Democracy	[5.2064]
Constant	[0.0327]*
Log likelihood	-78.18
Number of observations	55

Probit estimates are based on a bivariate standard error. Significance at the 10%, 5% and 1% level is indicated by *, **, and *** (respectively). Source: Collier, Hoeffler and Sovereign (2004).

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Table A4: Estimating the risk of a civil war outbreak

	(1)	(2)	(3)
Primary commodity exports/GDP	14.773	0.164	2.131
Total A1	-23.400	0.164	-4.540
Ln GDP per capita	-0.930	0.715	-4.541
(GDP growth) ²	-0.098	0.248	-0.024
Power standard deviation	-0.094	0.340	-1.132
Government consumption	-0.992	0.571	-0.565
(GDP t-1)	0.310	1.1100000	8.212
Ln population	-0.002	0.464	-0.593
Female education (index 0-10000)	0.480	0.481	0.250
Female literacy (45-90%) (dummy variable)			
Sum of coefficients			-1.830
Estimated probability			13.819

Note: Estimates with standard errors are in parentheses. Robust standard errors of the variance-covariance matrix are in brackets. All variables are in log level. The dependent variable is a binary variable equal to 1 if a civil war outbreak occurred in the year t.

Table A5: Confidence intervals

	lower confidence limit	estimates	upper confidence limit
loss of GDP due to reduced growth (%)	41	105	345
loss of GDP due to the war (%)	12	12	16
loss of GDP due to the war multiplier ²	8	19	27
loss of GDP due to higher effect (%)	8		

To: [REDACTED] PAPU
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SUBJECT: African Conflict Statistics

1. We are often asked to provide statistics on conflict in Africa. The attached paper illustrates and explains the difficulties of doing so. 'Conflict' is a misused term, with no accepted definition and no central international authority to collate figures. Statistics about trends and the impact of individual conflicts are used as ammunition in highly charged political debates, with little reference to their origins, methodology or accuracy. Figures can be – and often are - massaged, misrepresented or simply plucked from thin air, with no attempt to understand the original source.
2. It is difficult to obtain reliable information about conflict-zones anywhere in the world, and particularly so for Africa, where infrastructure is weak and communication difficult. It is also the case that traditional definitions have not been well suited to the multi-layered complex conflict that is perhaps more prevalent in African than elsewhere. It is striking that figures for inter-communal conflict – between two non-state groups – were not systematically collected before 2001. Long-term trends are almost impossible to trace.
3. There is therefore a striking disconnect between rhetoric and reliable data. The Ivory Coast is routinely described as a war though more are killed in Nigeria. The Save Darfur Coalition claimed that 400,000 had been killed by conflict until they were successfully challenged through the Advertising Standards Authority for stating opinion as fact. Conflict in the DRC is routinely claimed to have 'killed' more than 4 million, a figure taken from a broadly defined mortality study, while academic assessments for year-on-year conflict deaths are as much as a *hundred times* less. It is therefore important to exercise caution when attempting to illustrate trends in conflict, both in being clear in how we are defining conflict and in the origin of figures.
4. Even the most reliable of academic data-sets on conflict can be disputed. This paper cites one of the best researched and most reliable sources, compiled by the Uppsala Conflict Data Program (UCDP), which is to be recommended as presenting a comprehensive view that is well-tuned to the particularities of conflict in Africa. But if we drill-down into even these figures, we can see that their analytical basis is questionable. For instance, the UCDP lists 16 non-state conflicts in Africa in 2005 – defined as conflict between two organised groups, neither of which is a state - that led to more than 25 deaths. Of these, 6 were considered to be clan-based conflict in Somalia, at the same time as none were considered to be taking place in the DRC.
5. The UCDP data is nonetheless probably the most reliable available, and therefore represents a source of figures that are clearly explicable and based on sound research. It suggests that conflict in Africa peaked in the early 1990s, and has been

declining since. This conclusion is broadly mirrored by other respectable sources - statistical spikes due to the Rwandan genocide and the Ethiopia-Eritrea war notwithstanding - though there are suggestions that this steady reduction in African conflict may have slowed or even stopped over the past two years.

6. But it is worth being aware that even this data is partial and based on primary research that might not be systematic. An HMG assessment carried out through the network could perhaps offer the most reliable findings, but would be relatively resource-intensive and comparing to historical trends would still be difficult.

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Conflict in Africa – Definitions and Statistics

1. There are many claims made about conflict in Africa; it is central to assessing progress on the continent. The most common portrayal in the mainstream media often matches one author's description as '...the poorest, most backward and yet most violent' continent in the world. At the same time politicians are swift to claim the end of conflicts in Angola, Liberia, DRC, Sudan and Sierra Leone as marking significant success.
2. African conflict has become key to arguments over aid, development and military intervention. There is a voracious demand for quantifiable statistics (eg on numbers of conflicts or casualties), though it is frequently unclear where data originates. Statistics are often mutually contradictory and sometimes misleading. This brings obvious risks for politicians, NGOs and media seeking to take a position on conflict in Africa.

Defining Conflict

3. This confusion is due to a number of factors. The first is the lack of official conflict statistics. While UN agencies compile reliable data on poverty, development and health, there are no comparable UN figures for conflict. The lack of a single authoritative source allows radically different methodology and criteria to be used, giving very different results.
4. The second is a problem of definition. 'Conflict' is a subjective and contentious term; does a dispute have to be between states? Involve at least one state? Or can it involve no state-parties at all? There are more than 40 different sets of conflict data available, each using its own definition, and dividing conflict into different categories – from inter-state war to communal conflict. We must also ask what level of violence is sufficient to register as a formal 'conflict'. If 25 combatants have been killed, or 1000? Cumulatively or in a calendar year? Do civilians hit by stray bullets count? Or those that die because of knock-on effects on the economy or health-care?¹.
5. Political sensitivities also serve to distort perceptions. There has been very little open fighting in Ivory Coast since 2003, causing very few deaths, but it continues to be described as an ongoing war. By contrast, there are scores of deaths annually in Nigeria, in the Niger Delta and elsewhere, often in fighting between organised and well-armed groups, but it is nonetheless not typically seen as war. The arbitrary nature of this distinction blurs statistical categories. And the use of a conflict label, as in the Ivory Coast, brings a policy perspective – a peacekeeping mission rather than capacity building – that may occlude tackling the structural issues, be they corruption or access to political power, that caused the problem in the first place.

¹ For more information see *A Beginners Guide to Conflict Data*, Kristine Eck, UCDP Research Paper Series, 2005 - http://www.pcr.uu.se/publications/UCDP_pub/UCDP_paper1.pdf

6. Even if there were an accepted definition, the measurement of the impact of conflict is extremely difficult, particularly in terms of death rates. The World Health Organisation estimated 172,000 global war dead for 2002; an academic assessment² gave a figure of 19,368 – nearly *ten times* less. Information will inevitably be patchy, politicised and approximate.
7. It is therefore worth being wary when figures related to conflict in Africa are cited in speeches or articles. The methodological variability and conceptual flexibility of conflict data allows statistics to be matched to requirements. A speech by Gareth Evans, President of the International Crisis Group³, provides a good example. In this he begins by offering the good news of decreasing African conflict, backed by what he calls 'compelling' figures from the *Human Security Centre*. Later in the speech he highlights unresolved conflict in Africa by citing a figure of 200,000 deaths in Darfur. In contrast, the *Human Security Centre* offers a best estimate for all conflict-related deaths in Sudan from 2002 – 2005 of 13,402. Neither figure is incorrect – they are simply based on different assumptions – but it is worth noting how radically an unseen switch in sources can alter the vision of Africa projected. Methodology matters.

Conflict in Africa

8. The above-mentioned difficulties of definition and measurement are particularly acute for Africa. African conflict is typically chaotic and multi-faceted, involving hydra-headed rebel coalitions, civilian militia and national armed forces that are both ill-disciplined and frequently divided. Conflict is also predominantly internal, though this is complicated by the commonplace use of indirect cross-border proxies.
9. The global problems of obtaining accurate information from conflict-zones are exacerbated by poor transport and communications infrastructure across the continent. African conflict often happens far from the attention of the outside world, and media and governments frequently commit far fewer information-gathering resources to Africa than elsewhere. Information is therefore often exclusively supplied by local or international NGOs, pressure groups or political movements whose methodology and impartiality cannot be verified. It is easy for figures so produced to slip into common usage, and from there gain the status of self-evident truth.
10. Conflict in the Democratic Republic of the Congo provides an excellent example of these difficulties. The DRC conflict involved the armies of nine African countries, pitted government forces against rebels, and was fought between a dizzying array of militia and armed groups. Many of the interlocking sub-conflicts had local causes entirely distinct from national dynamics. Others were a product of regional geopolitics. It is not clear whether the DRC war should be considered one conflict or many; inter-state conflict, civil war or communal dispute. There is no single correct answer.

² *Monitoring Trends in Global Combat: A New Dataset of Battle Deaths*, Bethany Lacina and Nils Petter Gleditsch, *European Journal of Population*, June 2005

³ *Conflict and Mass Violence in Africa: Is There an End in Sight?*, Gareth Evans, conference address, (2007) - <http://www.crisisgroup.org/home/index.cfm?id=4820&l=1>

11. Establishing the death toll of conflict is equally problematic. The DRC is commonly cited in the media as having 'killed' more than 4 million people between 1998 and 2004, more than 500,000 a year. Another assessment⁴ lists just 4,061 deaths for 2002. Three different methods of interpreting and ordering data about Darfur⁵ from 2002 to 2005 gave rival mortality figures ranging from 72, to 7,173 or 250,000 deaths. The Save Darfur Coalition claimed a 400,000 death-toll before being successfully challenged at the Advertising Standards Authority for stating opinion as fact.
12. A further problem is that the paradigm reflected in conflict data through most of the post-war era may have overlooked much conflict in Africa. The pre-eminent research project of the Cold War years, the Correlates of War, was predicated on large-scale war – with more than 1000 battle-related deaths per calendar year necessary to register – that involved at least one state⁶. Later studies, notably the Uppsala Conflict Data Program (UCDP) extended the boundaries to include minor conflicts – with more than 25 battle-related deaths per year – and have backdated their analysis to the end of WWII⁷.
13. But there was little systematic data collection of 'non-state conflict' or 'communal conflict' – violence between two or more non-state groups - before 2001. Some studies indicate a significant increase in what was termed 'inter-communal conflict' in Africa in the 1990s, reaching a peak in the middle years of the decade. But as information was routinely suppressed during the Cold War era, and researchers were far more concerned with war directly involving states, we cannot be certain that this apparent 'spike' is not at least in part due to improved understanding and information rather than increased violence.
14. It is therefore extremely difficult to map long-term trends with any degree of confidence. Non-state conflict may have been a pervasive feature of Africa throughout the post-war period but would simply have not been captured in official statistics or histories.

Trends in Conflict in Africa

15. Given these difficulties, what is it possible to state with confidence about conflict in Africa? Firstly, that the short-term trend seems to be downwards, although there is some evidence that this may have begun to level out (see annexe 3). Since 2002 there has been systematic, reliable collection of conflict data that reflects African realities, setting the threshold at 25 deaths in a calendar year and including inter-communal conflict and 'one-sided violence'⁸ as well as more conventional state-based war⁹.
16. These figures show that Sub-Saharan Africa was the only region in the world to experience a decline in conflict between 2002 –2005. Conflict involving at least one state was down by 60% to 2005, though it subsequently increased slightly in 2006¹⁰.

⁴ UCDP/Human Security Report Project Dataset - www.hsrgroup.org

⁵ Political Instability Task Force, Uppsala Conflict Data Program and the Memorial Institute for the Prevention of Terrorism.

⁶ See Annexe 1 for CoW data on major African conflict 1945 - 1997

⁷ See Annexe 2 for UCDP data on conflict (including minor conflict) in Africa 1945 – 2001

Instances of non-state conflict reduced by 42% between 2002 – 2005 and one-sided violence fell 43% in the same period. In old-fashioned terms, 2005 was also the first year that Africa did not experience a war¹¹, though two wars, in Sudan and Chad, were recorded for the following year.

17. Secondly, we can be relatively sure that long-term trends in conflict involving the armed forces of at least one state – known as state-based - are falling. Figures from the 2005 *Human Security Report* (see annexe 2) show that state-based conflict tended to increase after WWII, reaching a peak in the late 1990s, before dropping sharply to 2005. The most recent figures show a slight increase in 2006, with new conflicts emerging in the Central African Republic and Somalia, though this should be balanced against on-going peace negotiations in Uganda and Burundi. It is possible that incidents of state-based violence have reached an equilibrium following the shocks of the post-Cold War period.
18. Impact assessments back up both of these contentions. A 2006 UK-funded study used a methodology incorporating numbers of casualties, displaced populations and infrastructure damage, among others¹² to measure the impact of armed conflict in Africa. It confirmed that conflict in Africa had increased through the period of de-colonisation and the Cold War, leading to a peak in 1991. This is followed by a gradual downward trend to around half that level in 2004, despite two spikes in the statistics caused by the 1994 Rwandan genocide and the Ethiopia-Eritrea conflict of 1998–2000.
19. Figures for one-sided violence have also been collected in Africa, with a new UCDP/Human Security Centre dataset covering the 1989 – 2005 period. According to this data, Africa suffered some 143 incidents of one-sided violence between 1989 and 2005, with campaigns of one-sided violence hitting a peak around 1994 and staying at a relative constant level since. However, the death-toll in one-sided violence has typically been lower than in other forms of conflict, with the majority of the estimated 535,890 deaths for the period attributed to the Rwandan genocide.¹³
20. As discussed it is much more difficult to be categorical about long-term trends in non-state conflict, since the data was simply not collected during the post-war years, and retrospective studies have yet to be completed.

██████████ AFRG
September 2007

⁸ Defined as unilateral use of force against civilians.

⁹ See Annexe 3 for UCDP consolidated data on African conflict 2002 - 2005

¹⁰ *Armed Conflict 1989 - 2006*, Harbom and Wallensteen, *Journal of Peace Research*, September 2007

¹¹ Defined as 1000 or more battle-related deaths in a calendar year

¹² *Conflict Trends in Africa, 1946 - 2004: A Macro-Comparative Perspective*, Monty Marshall, ACPD 2006

¹³ The UCDP estimate is 500,000, lower than the most commonly-cited figure of 800,000 (which is the total of its high estimate)

Annexe 1

The Correlates of War (CoW) project was started in the mid-1960s and tracks armed conflicts that result in more than 1000 fatalities in a calendar year. Data is only available between 1945 and 1997.

Africa, 1945 – 1997

2 Inter-state Wars (state vs state)

Ethiopia – Somalia	1977
Uganda – Tanzania	1978

8 Extra-state Wars (between a state and a non-state group fought on the territory of a third state)

France – Madagascar	1947
UK – Mau Mau	1952
Cameroon	1955
Angola – Portugal	1961
Guinea – Portugal	1962
Mozambique	1964
Namibia	1975
Western Sahara	1975

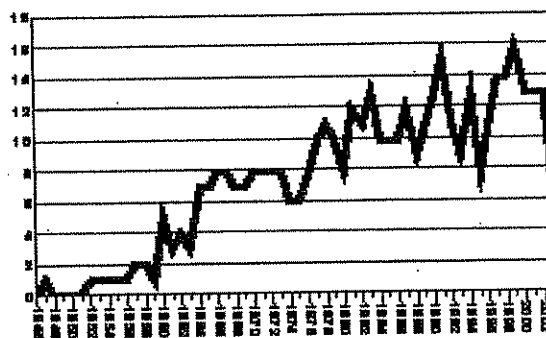
33 Intra-state Wars (state vs a domestic rebel group)

Zaire (Katanga)	1960
Sudan (Anyanya)	1963
Rwanda (Tutsi)	1963
Uganda (Buganda)	1966
Chad (FROLINAT)	1966
Nigeria (Biafra)	1967
Burundi (Hutu)	1972
Zimbabwe (ZAPF)	1972
Ethiopia (Eritrea)	1974
Angola (UNITA)	1975
Ethiopia (Somalia)	1976
Ethiopia (TLF)	1978
Mozambique (Renamo)	1979
Chad (FROLINAT)	1980
Nigeria (Muslims)	1980
Uganda (NRA)	1980
Somalia (clans)	1982
Sudan (SPLA)	1983
Nigeria (Muslims)	1984
Burundi (Hutu)	1988
Liberia (anti-Doe)	1989
Rwanda (Tutsi)	1990

Sierra Leone (RUF)	1991
Burundi (Tutsi)	1991
Liberia(NPFL)	1992
Angola (UNITA)	1992
Zaire (rebels)	1993
Burundi (Hutu)	1993
Rwanda (RPF)	1994
Uganda (LRA)	1996
Liberia (NPF)	1996
Zaire (AFDL)	1996
Congo-B (Sassou-Nguesso)	1997

Annexe 2

The graph below comes from the 2005 *Human Security Report*, based on UCDP data, and shows all armed conflict in Africa from 1945 – 2002, including inter-state, extra-state and intra-state conflicts with more than 25 battle-related deaths per calendar year. It does not include incidents of non-state or one-sided violence.



Annexe 3

Obviously there are many valid ways of conceptualising and ordering conflict statistics. Equally, we may disagree with the categorisation of some of the individual conflicts identified. But these limitations notwithstanding, the UCDP data gives a comprehensive and reliable contemporary picture of conflict in Africa.

African Conflict 2002 – 2005/6¹⁴

State-based conflict UCDP data points to a decrease in state-based conflict in Africa across this period, with a possible levelling-out in 2006; it is possible that conflict has

¹⁴ 2006 data is only available for state-based conflict; it has yet to be collated for non-state conflict and one-sided violence.

reached something of an equilibrium. In 2002 there were 13 ongoing conflicts; this was down to 6 in 2005, though it increased again to 8 in 2006. Battle deaths from state-based conflict were estimated at 1,851 in 2005.

Non-state conflict Non-state conflict has also decreased in recent years. There were 24 non-state conflicts in 2002; a figure that was down to 16 by 2005. Fatalities associated with non-state conflict have also reduced, from 4,465 in 2002 to 909 in 2005.

One-sided violence There were assessed to be 8 incidents of one-sided violence in 2005, killing an estimated 3,373 people. This again marks a reduction from the 2002 level of 14 examples and 4,924 deaths.

African Conflict in 2005/6

8 state-based conflicts (2006)

State	Conflict
Burundi	Govt. vs FNL
Somalia	Govt. vs ICU
CAR	Govt. vs UDFR
Ethiopia	Govt. vs OLF
Ethiopia	Govt. vs ONLF
Uganda	Govt. vs LRA
Sudan	Govt. vs NDA
Chad	Govt. vs RDL

16 non-state armed conflicts (2005)

State	Conflict
Ethiopia	2 tribal/political conflicts
Ivory Coast	2 political conflicts
Nigeria	3 political/tribal conflicts
Somalia	6 clan-based conflicts
Sudan	2 tribal/political conflicts

8 instances of one-sided violence (2005)

State	Conflict
DRC	2 instances (FNI and Mayi Mayi)
Nigeria	1 instance (Bakassi Boys)
Rwanda	1 instance (Rastas)
Sudan	3 instances (GoS, GoSS and Janjaweed)
Uganda	1 instance (LRA)

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From: [REDACTED]
Date: 02 December 2004 14:24

Subject: [REDACTED] ODI Seminar: Mortality in Iraq

On 30 November I attended a seminar at the Overseas Development Institute on the subject of mortality in Iraq. It was presented by Richard Garfield, one of the authors of the recent report published in the Lancet, which gained widespread media attention primarily due to its estimate that 98,000 excess deaths had been caused by the military invasion of Iraq in 2003.

[REDACTED]

The Research

7 Garfield gave a brief overview of the researches findings, giving little attention to the methodology or fieldwork of the survey. He expressed his surprise at how few Iraqis had died during the war-fighting stage of operations. When considering the amount of firepower used and the geographical and military goals of the coalition, this had been remarkable. However, following the insurgency, the use of overwhelming air power has caused massive problems. Coalition ground tactics remained very successful at limiting 'inappropriate deaths'.

9 Chronic illness, and in particular cardiovascular disease, had been the main cause of death before and after the war-fighting stage. However, after military operations had been announced as successfully completed in March 2003, air strikes by coalition forces (always described as 'American') were reported by interviewees to have been a major cause. Garfield compared figures for the recent post-conflict stage in Iraq to those from previous arenas. Following WW2 invasions in Germany and Japan there had been practically no excess deaths during the respective occupations.

5 Asked what improvements he would have made to the survey in hindsight, Garfield admitted that a larger sample would have been desirable. He pointed to research recently undertaken by the New England Journal of Medicine, which had asked homeward bound US service personnel, 'were you responsible for the deaths of civilians?' Projecting the results suggested 14 deaths per day. By projecting the findings of the Iraq Body Count Website (based on media reports) and the Lancet finds 21 and 107 deaths per day respectively.

[REDACTED]

02/12/2004

[REDACTED]

...cising the report as being based on 'extrapolation' had been a mistake. The research had
fact been conducted using a 'Representative Population Survey'.

Warning to this theme, Garfield said that the written statement had been inconsistent.
Admitting that the Lancet findings were not comprehensive he was puzzled at how HMG could
hold up the MOH figures, which were equally incomplete. Basing findings on hospital
admissions failed to take into account the fact that, in some cases, no bodies or body parts
were available to record.

By using humanitarianism as a political fig leaf for military action HMG had made a rod for its own back. It was
now trying to wash the blood off.

The Way Ahead

Reaffirming that the military had figures for civilian casualties, Garfield suggested that it was important the debate
moved on from simply picking numbers. Governments should find researchers to form a 'coalition' with the
military. This would require a massive change in military thinking but would be to everyone's advantage. Surely,
the military would want to improve its knowledge of the effectiveness of its equipment and tactics?

[REDACTED]
PoI Mil Section
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02/12/2004

From: [REDACTED]
Sent: 11 September 2006 18:21
To: [REDACTED]
Subject: 2006-09-11 Greed and Grievance: a critique of Collier
un/pk/cp
float

-----Original Message-----

From: [REDACTED]
Sent: 11 September 2006 09:11
To: [REDACTED]; [REDACTED] CIG - Team Leaders; RA - Conflict
Subject: Greed and Grievance: a critique of Collier

All,

1. I don't normally push round academic papers for the hell of it, but for anyone with an interest in Paul Collier's work on economic greed and natural resource dependence as causes of civil war, I strongly recommend the following:

<http://www.crisisstates.com/download/dp/dp11.pdf>

2. The conclusion is strong, but I think well supported by the substance of the paper:

"Collier and Hoeffler's findings are unreliable and their conclusions are unjustified. Many of their proxies are arbitrary and spurious, the meaning they assign to the proxies is too restrictive, and it is not clear what the proxies are actually capturing. This lack of certainty renders the results of the regression analysis ambiguous and capable of different interpretations. Collier and Hoeffler's interpretations and their conclusions about rebel behaviour are speculative, based on untested assumptions and inferences rather than on evidence of rebel conduct. As a result of measurement problems associated with geographical scale, endogeneity and inaccurate and missing data, their study is also vulnerable to measurement errors, biased samples and artificial findings. Limited to numerical data at the structural level, their analysis ignores politics, history, ideology, government decisions, the regional context and the constraining effect of repression, all of which are critical to the causes and incidence of civil war. Collier and Hoeffler are unable to develop an adequate understanding of the causes of civil war and the motives of rebels because they do not analyse civil wars and rebels."

3. As a schematic separation of the various levels of causation of civil war, I particularly like the sketch below. It adds a bit more complexity to the usual dichotomy of structural vs proximate causes, while remaining simple enough to be useful for (e.g.) policy papers:

- **Structural conditions.** Certain structural conditions might put a country at risk of civil war and, from a comparative perspective, make some countries more likely than others to experience civil war. The relevant structural issues include political, social and economic factors and often have regional and international dimensions.
- **Dynamic causes.** Civil wars do not arise suddenly out of thin air. They are preceded by a set of significant events that constitute a causal chain or constellation and culminate in large-scale violence between government and opponents.
- **Catalytic events.** In the causal chain or constellation of events leading to civil war, there is sometimes a dramatic event that sparks rebellion and is thus an important proximate cause of war.
- **Actors' decisions.** Civil war entails organised violence on the part of rebels and government. The decision by these actors to engage in or refrain from large-scale violence is therefore a key determinant in the incidence of war. In some cases the decisions of external actors are also among the significant causes of civil war.
- **Soldiers' motives.** Government and rebel soldiers have a range of reasons for joining an army. These reasons might be political, ideological, social, financial etc.

[REDACTED]

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[REDACTED]
10 December 2004

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IRAQ: CIVILIAN CASUALTIES

[REDACTED]
[REDACTED]
In response to your note of 25 October I attach statistics from 'open sources' on casualties in Iraq. As you will appreciate the UK Government has no ownership of these statistics.

As you can see, this survey sets Iraqi Ministry of Health (IMOH) figures aside those from media outlets and internet web-sites. These other sources are of no real value as an indicator of casualty rates. They do not attempt to give estimates of casualties caused by the Multi-National Force. They do, however, suggest that the IMOH figures are incomplete e.g. table covering 8-14 November. This could be due to e.g. delayed reporting of deaths at hospitals or bodies not being taken to hospitals.

The remit of this survey will not answer the questions repeatedly posed by MPs and others who are asking HMG to provide our estimate of Iraqi civilian casualties. They remain unconvinced that, as a member of a military coalition, our military do not, and cannot, know the number of people that that coalition has killed. The only way that a proper comparative analysis of the IMOH figures can be made is if they are set beside those produced by the US and UK military.

In breaking down their figures the IMOH 'military action' definition includes combat action by the Iraq Security Forces and the Multi-National Force against insurgents. It does not distinguish between dead terrorists/insurgents and civilians killed in the crossfire. If casualties are caused by car bombs, IEDs etc, they are classed as 'terrorist action'. If not, they are classed as 'military action'. Hospitals do not try to determine who shot whom in the latter circumstance because it is too difficult for them to do so.

The statistics are based on those brought into hospital. All hospitals are required to provide information every four hours detailing men, women and children killed or injured by (a)

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

military action, and (b) terrorist action. The information is reported by phone to an operations centre in each Governorate and collated information is then passed to the operations centre in the MOH. A single national return is compiled which is signed by the Minister of Health and issued daily at 0930 after consultation with the Ministry of the Interior (MOI). The latter step is necessary because the MOI collects its own information about casualties from police forces etc on the ground - but it is regarded as much less reliable. Consultation also ensures that the IIG as a whole uses common data.

Media outlets such as www.bbc.co.uk and www.sky.com report only those stories, which are newsworthy on the day of the event. This clearly leads to a great number of deaths going unreported.

Those figures produced by the Iraq Bodycount and Iraq Casualties websites are based on collating worldwide media reports. In addition to the problems related to the media outlets above, these websites update their figures sporadically. This means that those figures currently reported for November may rise if and when the site is updated at a later date.

Regards

[REDACTED]
Iraq Policy Unit

Doc 24

[REDACTED]
From: [REDACTED]
Sent: 10 November 2004 18:29
To: [REDACTED]
Subject: FW: Iraq Civilian casualties

Interesting and useful, a bit more forward from CSA than his letter I think.

-----Original Message-----
From: [REDACTED]
Sent: 10 November 2004 18:23
To: [REDACTED]
Subject: RE: Iraq Civilian casualties

[REDACTED]
Thanks - very helpful. I agree - the extrapolation is based on the increase in mortality generally, not on the 61 deaths reportedly caused by coalition forces (of which, as you say, one may have been a combatant, two were mistakes, and the remaining 58 were from aerial weaponry). So I'd propose to say:

The estimate of deaths is based on an extrapolation from an increase of 33 deaths (excluding the data from Fallujah, as the *Lancet* researchers did) among the over 7,000 people in the households surveyed across the whole of Iraq.

-----Original Message-----
From: [REDACTED]@mod.uk]
Sent: 10 November 2004 18:10
To: [REDACTED]@fco.gov.uk
Subject: Iraq Civilian casualties

[REDACTED]: We spoke with regard to the figure of 58 in my note to [REDACTED] of 29 October.

4 This figure (which is mentioned half way down the second column on page 7 of the report) refers to the number of killings of civilians directly attributed to coalition action by those from whom evidence was taken. Arguably, two of three cases attributed to servicemen on the ground might also be included in this number, giving a total of 60.

In fact, the extrapolation to determine the total number of excess deaths (the oft quoted 98,000 figure) is based on the following data:

Number of deaths identified post conflict - 142 per 138439 person-months

Number of deaths identified pre conflict - 46 per 110538 person-months, or 57.6 per 138439 person-months

Excluding Falluja (53 of the post-conflict deaths and expected to be 1.4 pre-conflict), this gives a total number of recorded excess deaths over the study period in the 33 cluster areas of $(142-53) \div (57.6 - 1.4) = 33$.

As the CSA made clear in his note, this extrapolation from a very small number of cluster samples to the whole country is the key weakness of the paper, resulting in the very wide error bars (8,000 to 194,000) around the oft quoted 98,000 figure. This uncertainty was to CSA's mind not adequately exposed in the *Lancet* article and has largely been omitted from subsequent press reporting.

08/02/2005

Please let me know if you need anything more.

[REDACTED]
PS/CSA
[REDACTED]

08/02/2005