

## Impact case study (REF3b)

<p><b>Institution:</b></p> <p>Royal Holloway, University of London</p>
<p><b>Unit of Assessment:</b></p> <p>C 18 Economics and Econometrics</p>
<p><b>Title of case study:</b></p> <p>Reducing Civilian Casualties in Afghanistan</p>
<p><b>1. Summary of the impact</b></p> <p>Professor Spagat's ground-breaking research on civilian conflict casualties has had a demonstrable impact on the practices of NATO, the British military and humanitarian organisations operating in Afghanistan. The output from the research has been used to reduce the civilian casualties arising from military actions in Afghanistan.</p> <p>This research has directly impacted the <i>development of resources to enhance professional practice</i> and had <i>an influence on professional standards guidelines or training</i> in these organisations. There are numerous examples of <i>citations in a public discussion, consultation document or judgement</i> and also of <i>citation by journalists, broadcasters or social media</i>. In Section 5 we provide <i>documented evidence of influence on guidelines, legislation, regulation, policy or standards</i> on NATO, the British military and humanitarian agencies in the form of an authorised statement and a podcast made by Lieutenant Colonel Ewan Cameron, a senior medic in the British Army.</p> <p>In the present document we highlight one particular underpinning study (reference 1 of Section 3) that introduced the Dirty War Index (DWI). Joint follow-up work with Cameron (reference 2) applied the DWI concept to create the Civilian Battle Damage Assessment Ratio (CBDAR). Cameron then brought this construct to the field where NATO forces and humanitarian organizations used it to minimize the civilian impact of military and humanitarian operations in Afghanistan (sections 4 and 5). The DWI research agenda, including further applications (references 3, 4 and 5), has generated substantial public discussion by journalists and broadcasters (Section 4).</p>
<p><b>2. Underpinning research</b></p> <p>Professor Spagat has been at Royal Holloway since 1997. His overall impact is underpinned by a large body of published work on conflict economics – 20 publications in the Scopus Database since 2004. He has published his research in outlets such as <i>Science, Nature, PLOS Medicine, The New England Journal of Medicine</i> and an award-winning article in the <i>Journal of Peace Research</i>.</p> <p>The DWI concept is an original idea of Professor Spagat and Dr Madelyn Hicks, who at the time was at King's College. The initial research was published in 2008 as a lead paper with two accompanying editorials in <i>PLOS Medicine</i>, a peer-reviewed journal with an impact factor of 15.2 (publication 1).</p>

The DWI builds upon evidence-based methods in economics for classifying degrees of compliance. It is a method to document, analyse and potentially prevent the harmful effects of armed conflicts on populations, such as civilian deaths. International humanitarian laws define what a “dirty” outcome is (e.g., the disproportionate killing of civilians relative to military objectives). The DWI explicitly links such “dirty” outcomes to expose rates of combat outcomes from different weapons or combatant groups. The DWI is a ratio and is calculated as: (number of “dirty” cases/total number of cases) x 100. Hicks and Spagat give several examples of DWIs calculated for actual armed conflicts, such as a DWI measuring the proportion of civilian deaths in the Colombian civil conflict from 1988-2005. Hicks and Spagat also have comparable indices from other conflicts including Northern Ireland, Chechnya and the Israeli-Palestinian conflict, and discuss the Vietnam War and World War II in DWI terms. The findings suggest that certain combatant groups are inclined towards dirtier outcomes.

In early 2009 Lieutenant Colonel Cameron attended a DWI presentation at the London School of Tropical Medicine and approached Dr. Hicks, proposing joint work that could be applicable to minimizing civilian casualties in future military and humanitarian operations. This connection led immediately to the CBDAR paper (publication 2), which progressed collaborative data collection with the UN and humanitarian organisations. Cameron then applied the CBDAR ideas in Afghanistan between October 2009 and March 2010 to reduce civilian casualties. He describes this success story in a 2010 podcast and in an officially approved public statement (Section 5).

A related stream of underpinning research (references 3, 4 and 5) applied DWI ideas to a database of 92,614 Iraqi civilian direct deaths from armed violence occurring from March 20, 2003 through March 19, 2008. This work illuminated the impact on civilians of a wide range of weapons as used by different perpetrators there. For example, a Woman and Child DWI suggested that the most indiscriminate effects on women and children were from unknown perpetrators using mortar fire (DWI=79), non-suicide vehicle bombs (DWI=54) and from Coalition air attacks (DWI=69). Coalition forces had higher Woman and Child DWIs than Anti-coalition forces. This DWI analysis for Iraq is similar to the analytical side of the CBDAR-based joint work that was implemented by NATO, the British military and humanitarian organizations in Afghanistan.

### 3. References to the research

1. “The Dirty War Index: A Public Health and Human Rights Tool for Examining and Monitoring Armed Conflict Outcomes,” Madelyn Hicks and Michael Spagat, *PLOS Medicine*, 5(12): e243, 2008.
2. “Tracking Civilian Casualties in Combat Zones using Civilian Battle Damage Assessment Ratios,” Ewan Cameron, Michael Spagat and Madelyn Hicks, *British Army Review*, Summer, 2009.
3. “The Weapons that Kill Civilians — Deaths of Children and Noncombatants in Iraq, 2003-2008,” Madelyn Hicks, Hamit Dardagan, Gabriela Guerrero Serdan, Peter Bagnall, John Sloboda and Michael Spagat, *New England Journal of Medicine*, 360, 1585-1588, 2009.
4. “Violent Deaths of Civilians in Iraq from 2003-2008: Analysis by Perpetrator, Weapon, Time and Location,” Madelyn Hicks, Hamit Dardagan, Gabriela Guerrero Serdan, Peter Bagnall, John Sloboda and Michael Spagat, 2010, *PLOS Medicine*, Volume 8, sigue 2, February 2011.
5. “Eight Years of Suicide Bombs in Iraq, 2003-2010: Casualties among Iraqi Civilians and U.S. Soldiers,” Madelyn Hicks, Hamit Dardagan, Peter Bagnall, Michael Spagat and John Sloboda, *Lancet*, Volume 378, Issue 9794, Pages 906 - 914, 3 September 2011.

#### 4. Details of the impact

This research had a direct impact on the *development of resources to enhance professional practice* and *an influence on professional standards guidelines or training* for NATO forces. It has enjoyed frequent *citation in a public discussion, consultation document or judgement* and also *citation by journalists, broadcasters or social media*. Below and in Section 5 we provide *documented evidence of influence on guidelines, legislation, regulation, policy or standards* in NATO forces and the British military working in cooperation with the human rights office of the United Nations Assistance Mission in Afghanistan (UNAMA) and the International Committee of the Red Cross (ICRC).

The contribution of the research to the development of resources to enhance professional practice of NATO forces, the British military, UNAMA human rights and the ICRC is the application of the DWI-based CBDAR in support of their efforts to reduce civilian casualties in Afghanistan. In 2010, the CBDAR field work operated through the Commander International Stabilisation Afghanistan Force's (COMISAF) Tactical Directive to minimise civilian casualties in Afghanistan. Procedural changes range from the nature of air strikes to check-point protocols. Precise details of improvements to rules of engagement cannot be made public but their positive effects persist to this day. The evidence comes primarily from an authorized public statement and podcast, both made by Lieutenant Colonel Cameron (Royal Army Medical Corps (GBR-A (OF-5) Stabilisation Division Health Advisor, HQ Regional Command South, Kandahar) in 2010:

*"Since October 2009 CBDAR methodology has and continues to be used by NATO forces in Southern Afghanistan to reduce injuries to Afghan civilians. The methodology has already led to changes in NATO procedure after a number of military activities that have caused civilian mortality have been identified. This has reduced the number of civilian incidents and thus protected the population from some of the effects of conflict."*

Lt Colonel Cameron also confirms that the application of CBDARs has provided a basis for closer co-operation between NATO forces and international humanitarian organisations:

*"It was agreed that we invite the UNAMA Human Rights Unit to be the first of our external companions. UNAMA HR agreed to a couple of initial meetings where we provided our CBDAR methodology and operating procedures. From these initial meetings we now have regular civilian casualty meetings that are also observed on by the International Committee of the Red Cross."*

The research has contributed significantly to public discussions by broadcasters. The original work developing the DWI (publication 1) was covered inter alia by *Nature* in 2008. The work on the Iraq Dirty War indices (publications 3, 4 and 5 in Section 3 above) was covered inter alia by *Reuters*, the *New York Times*, *Washington Post*, *Guardian*, *Christian Science Monitor*, *Daily Telegraph*, *Time*, *Reuters*, *CNN*, *National Public Radio*, *Miller-McCune* and *PHYSORG.com*. A few examples are provided in Section 5. This Iraq-based DWI research has also been cited in a 2011 campaign aimed at curtailing the use of explosive weapons in populated areas (source 3i and 3ii).

#### 5. Sources to corroborate the impact

1. Lieutenant Colonel of the Royal Army Medical Corps (GBR-A (OF-5) Stabilisation Division Health Advisor, HQ Regional Command South, Kandahar) via the public statement and podcast the Lieutenant Colonel will corroborate the role played by the DWI research (Spagat & Hicks) in informing the development of CBDARs, their integration into routine military battle damage assessments, their use in measuring civilian casualties and the fact that this analysis

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has led to changes in routine NATO tactics, practices and procedures in Afghanistan to minimise the risk of further civilian casualties. Corroboration that the CBDAR approach has stimulated cooperation between NATO forces and humanitarian agencies in reducing civilian casualties in Afghanistan may be found in this 2010 podcast:

<http://www.amsus.org/index.php/podcast-list>

Publication 2 also corroborates the influence of the work on the British Army. The journal is influential among British officers but normally only available to them. However, the Army agreed to make the CBDAR article publicly available:

<http://www.amsus.org/images/stories/podcast/2009BritishArmyReviewCBDAR.pdf>

2. A few examples of the media coverage of Spagat's DWI are as follows:
  - i. "Comparing the Horror of Wars," Philip Ball, *Nature*, December 15, 2008 (citing Publication 1) <http://www.nature.com/news/2008/081215/full/news.2008.1303.html>
  - ii. "Report Shows Torture is Widespread in Iraq," Mark Kukis, *Time*, April 17, 2009 (citing Publication 3) <http://www.time.com/time/world/article/0,8599,1892038,00.html>
  - iii. "Number of Women and Children Killed in Iraq Air Raids Disproportionately High," *Daily Telegraph*, April 16, 2009 (citing Publication 3) <http://www.telegraph.co.uk/news/worldnews/middleeast/iraq/5161326/Number-of-women-and-children-killed-in-iraq-air-raids-disproportionately-high.html>
  - iv. "Civilian Deaths Study Rates 'Dirty War' in Iraq," Kate Kelland, *Reuters*, February 15, 2011 (citing Publication 4) <http://www.trust.org/item/?map=civilian-death-study-rates-dirty-war-in-iraq/>
  - v. "Suicide Bombs in Iraq have Killed 12,000 Civilians Study Shows," Michael S. Schmidt, *New York Times*, September 2, 2011 (citing Publication 5) [http://www.nytimes.com/2011/09/03/world/middleeast/03iraq.html?\\_r=0](http://www.nytimes.com/2011/09/03/world/middleeast/03iraq.html?_r=0)
  - vi. "12,000 Iraqis Killed in Suicide Attacks since 2003, Lancet Says," Annie Gowen, *Washington Post*, September 3, 2011 (citing Publication 5) [http://www.washingtonpost.com/world/middle-east/lancet-report-says-12000-iraqi-civilians-died-in-suicide-attacks-since-2003/2011/09/03/qIQADn1YyJ\\_story.html](http://www.washingtonpost.com/world/middle-east/lancet-report-says-12000-iraqi-civilians-died-in-suicide-attacks-since-2003/2011/09/03/qIQADn1YyJ_story.html)
3. An example of the use of the DWI research in a campaign against explosive weapon use in populated areas:
  - i. "Violent Deaths of Iraqi Civilians – Cause to Rethink the use of Airpower in Populated Areas," Maya Brehm, *ExplosiveWeapons.info*, <http://explosiveweapons.info/category/explosive-violence/>
  - ii. "Enhancing Civilian Protection from use of Explosive Weapons in Populated Areas: Building a Policy and Research Agenda," John Borrie and Maya Brehm, *International Review of the Red Cross*, Volume 93, Issue 883, September 2011, Pages 809-836. <http://www.icrc.org/fre/assets/files/review/2011/irrc-883-brehm.pdf>