**Institution:** University of Exeter

**Unit of Assessment:** 23 – Sociology

**Title of case study:** Enhancing International Disarmament

## 1. Summary of the impact

Reducing the humanitarian suffering associated with conflict is a vital but demanding task, not least because continuing developments in science and technology enable ever more destructive capabilities. Brian Rappert's research has benefited international efforts to limit the consequences of the use of force. It has done this by **challenging conventional wisdom**, identifying **poorly recognized issues**; **evaluating emerging policy initiatives** by governments, international agencies, science academies and non-government agencies; **establishing new practitioner networks**; **facilitating international debate**; **shaping international diplomatic agendas**; **influencing professional standards and training** through the development of resources; and **successfully advocating a strategy for negotiating a major disarmament treaty**.

## 2. Underpinning research

Over the last 15 years, Rappert has conducted research on how to reduce and reframe the humanitarian harms of conflict, specifically focusing on encouraging novel disarmament initiatives and new legal instruments which can cope with developments in science and technology.

Particularly since the attacks of 11th September 2001, many countries have become more conscious of the threat of science being used to facilitate the development of biological weapons. Rappert's research has highlighted the growing need for effective control measures in the overarching form of a global network for the life sciences – a network that brings together the mutually reinforcing elements necessary to create and strengthen a so-called 'web of prevention' (Section 3, References 3 and 4). A crucial requirement and outcome of this work has been the encouraging of interaction between scientists, policy-makers, NGOs and others.

A central feature of his work has been to conduct workshops for bioscientists regarding the possible 'dual use' implications of their research and the appropriateness of suggested policy responses. Since 2004, over 130 workshops with 3000+ practicing scientists have been conducted in some 16 countries. This work (undertaken with Prof. Malcolm Dando, Bradford) has been supported by a number of government agencies, science academies, NGOs, think-tanks and universities (1, 3). This work indicated little engagement among life science practitioners with concerns about the dual use potential of their research-generated knowledge and techniques. In response, the workshops: informed the development of educational training, which then functioned as a basis for further engagement with scientific practitioners and public officials; served as a foundation for assessing and advocating international policy proposals; and resulted in the emergence of a novel focus group methodology.

Another aspect of Rappert's work has concerned the controls governing the appropriateness of force in armed conflict. In combination with a range of academic and civil society organizations, he has developed an appreciation of the limitations of government regarding the humanitarian consequences of their use of force (5). In response, Rappert has sought the redefinition of how the effects of weapons on civilian populations can inform the international humanitarian rules on armed conflict. Much of this activity has focused on the use and acceptability of so-called 'cluster bombs'. Beginning in 2005, with an analysis of the UK government's efforts to understand the use of such weapons in the context of international humanitarian law, this research has expanded to include historical critiques and comparative analyses of the impact of cluster bombs, the rules of international humanitarian law, and the potential for international norms in limiting armed conflict. Because much of this research has been undertaken in security and diplomatic communities where questions of disclosure and concealment loom large, Rappert has turned to reflect on the methodological and epistemological issues associated with investigating and writing about secrecy and ignorance (2). This has enabled novel forms of writing, sometimes undertaken in collaboration with those in civil society (2, 5). Professor Rappert joined the University of Exeter in 2003.

## 3. References to the research

1) *Education and the Life Sciences*, Canberra: Australian National University e-Press, 2010 (ed.) http://epress.anu.edu.au/education_ethics.html

2) *Experimental Secrets*, Lanham, MD: University Press of America, 2009 [submitted output]

3) *Biosecurity: Origins, Transformations & Practices,* London: Palgrave, 2009 (co-ed.) [supplied on request]

4) *A Web of Prevention*: *Biological Weapons, Life Sciences and the Future Governance of Research*, London: Earthscan, 2007 (co-ed.) [supplied on request]

5) *How to Look Good in a War*, London: Pluto Press, 2012 [submitted output]

**Research quality:** All of the above outputs derived from peer-reviewed grant funding (listed below), save for 5, which underwent a rigorous peer-review process before publication.

**Key Grants:**

a. *Accountability and the Governance of Expertise*: ESRC, 2002-3 – £39k (PI)

b. *Coding Ethics: Biological Weapons, Security and the Silencing of Science*: ESRC 2004-6 – £103k (PI) [End of Award Grade: Good]

c. *The Life Sciences, Biosecurity and Dual-use Research*: Alfred P Sloan Foundation, 2006-7 – £112k

d. *Raising Awareness of Dual-use Research in the International Life Science Community*: Alfred P. Sloan Foundation, 2007-8 – £145k (PI)

e. *Sustaining a Global Network for Biosecurity: The Life Sciences and Dual-Use Research*: Alfred P. Sloan Foundation, 2008-9 – £140k (PI)

f. *Building a Sustainable Capacity in Dual-use Bioethics*: Wellcome Trust Enhancement Award, 2009-14 – £129k (the figure is Rappert's co-applicant component)

g. *The Formation and Non-formation of Security Concerns*: ESRC/Dstl/AHRC, 2013-14 – £215k

## 4. Details of the impact

Rappert has helped **identify poorly recognized issues** and **facilitated international debate** through a dedicated programme of outreach activities and educational work on the responsible stewardship of the life sciences (undertaken with Prof. Malcolm Dando – Bradford). Since 2008, over 1,800 bioscientists in industry, academia and government have taken part in more than 75 workshops that have redressed practitioners' lack of familiarity with security related policy initiatives and encouraged them to give serious consideration – in many cases for the first time – to the issue of how to avoid the hostile use of their findings, methods, and techniques. Collaborating institutions that have taken part include the US National Academy of Sciences, the Japanese National Institute of Infectious Diseases, and the Argentine National Intelligence School. In 15 of the 16 countries visited, Rappert partnered with government agencies and professional science organisations.

Rappert advised in the organization of national and regional biosecurity meetings in Ukraine, Israel, Uganda, and the Netherlands held by their national science academies (Section 5, Reference 1). He has aided **established networks** of concerned practitioners in many of the fieldwork site countries (2, 10). Rappert's commitment to bringing together varied communities in setting future agendas is evidenced by his edited books, which are notable for the range of their non-academic contributors (Section 3, References 1, 3, 4).

Rappert has not only drawn attention to a central area of concern, but has helped provide the tools, impetus and intellectual agenda for affecting **professional standards**. In April 2011, the findings of Rappert's outreach efforts formed an integral component of a submission to the Preparatory Committee of the Seventh Review Conference of the United Nations Biological Weapons Convention (BWC) (Section 5, Reference 3). Put forward by Australia, Japan, Sweden and Switzerland, the submission cited the importance of Rappert's contribution to '*a stimulation of debate and reflection among researchers on life sciences, security and the potentially destructive application of their activities*', and described how many of those who took part in Rappert's seminars spoke of them as '*an eye-opener*'. The submission concluded that Rappert's research helped '*provide the base for possible ways forward, such as the inclusion of educational modules on biosecurity for biosafety officers in research facilities or the encouragement to introduce educational modules on biosecurity in academic courses for future life scientists*'. In December 2011, the 164 governments of the BWC agreed a 5-year plan of work. Rappert's contribution to **shaping agendas** is demonstrated through reference to it in an official Working Paper submitted by 12 nations that laid a basis for that 5-year plan (1, 2, 4).

A number of individual governments have acknowledged the importance of his **advice and evaluations**: thus a 2008 report by the Netherlands' Biosecurity Working Group, which successfully established a code of conduct for the country's bioscientists at the request of the Dutch Ministry of Education, Culture and Science, credited Rappert with helping raise awareness of the potential risks of 'dual use' research and with providing a framework for understanding codes (5). A 2012 report by the US Government's National Science Advisory Board on Biosecurity - an organisation which has produced a "toolkit" and an educational module for institutions and scientific associations - highlighted the significance of Rappert's work in assessing codes, as well as noting his '*extensive educational engagement efforts*' (6).

Rappert's work on cluster bombs has also had an impact in the wider field of international disarmament. In part through a series of reports for civil society organisations which were widely distributed in diplomatic forums, he helped reframe international attention to this technology (see Section 3, Reference 5 for an overview summary). This was done by **shifting agendas** away from the terms of international humanitarian law, and on to more precautionary principle arguments which re-distributed burdens of proof within the negotiations. Specifically, Rappert **formulated** and **advocated** an intellectual strategy for agreeing what should be defined as prohibited under the 2008 Convention on Cluster Munitions (Section 5, References 7, 8). This treaty was adopted in May 2008, and has so far been signed by over 110 nations. These states held in excess of 140 million explosive submunitions. These are now prohibited from use, with more than 64 million already destroyed. The lead negotiator for a grouping of over 300 NGOs stated that the *'change of approach that Rappert initiated was central to the dynamic of the subsequent campaign and provided a framing for the negotiation of definitions that allowed the Convention on Cluster Munitions to achieve a significantly greater level of humanitarian protection than would have otherwise been possible*' (9).

**5. Sources to corroborate the impact**

1) Policy Advisor, Swiss Federal Department of Defence

2) Australia, Canada, Japan, New Zealand, Republic of S. Korea and Switzerland (on behalf of the "JACKSNNZ"), and Kenya, Pakistan, Sweden, Ukraine, the United Kingdom, and the USA, *Possible Approaches to Education and Awareness-Raising Among Life Scientists,* BWC/CONF.VII/WP.20, 2011 http://www.unog.ch/__80256ee600585943.nsf/(httpPages)/f1cd974a1fde4794c125731a0037d96d?OpenDocument&ExpandSection=1

3) Australia, Japan, Sweden and Switzerland, 'Education and Awareness Raising', paper submitted for the Preparatory Committee of the United Nations Biological Weapons Convention Seventh Review Conference BWC/CONF.VII/PC/INF. 4-15 April, 2011 http://www.opbw.org/rev_cons/prep_com/BWC_CONF.VII_PC_INF4_E.pdf

4) Policy Affairs Officer, UN Biological and Toxin Weapons Implementation Support Unit

5) Biosecurity Working Group, *A Code of Conduct for Biosecurity*, Amsterdam: Royal Netherlands Academy of Arts and Sciences, 2008 http://www.fas.org/biosecurity/resource/documents/IAP%20-

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| %20Biosecurity%20code%20of%20conduct.pdf |
| 6) National Science Advisory Board on Biosecurity, *Enhancing Responsible Science*, Washington, DC: Office of Biotechnology Activities, 2012 http://oba.od.nih.gov/biosecurity/biosecurity_documents.html |
| 7) Nash, T., 'Civil Society and Cluster Munitions: Building Blocks of a Global Campaign', in *Global Civil Society Yearbook 2011*, London: Sage, 2011 |
| 8) *Unacceptable Harm: A History of How the Treaty to Ban Cluster Munitions Was Won*, Geneva: UN Institute for Disarmament Research, 2009 (pp. 56/61-3/263/316/328) [supplied on request] |
| 9) Former Co-Chair of Cluster Munitions Convention, now Coordinator – letter to Rappert |
| 10) *Education and the Life Sciences*, Canberra: Australian National University e-Press, 2010, Rappert, B. (ed.). See chapters in Section 3 http://epress.anu.edu.au/education_ethics.html |