



Australian Government
Asia Pacific Civil-Military
Centre of Excellence

CIVIL-MILITARY WORKING PAPERS

01/2011



**IMPROVING THE CIVIL-MILITARY DIMENSION OF
DISASTER-RELATED HUMANITARIAN LOGISTICS**
Peter Tatham

www.civmilcoe.gov.au

Disclaimer:

The views expressed in this Civil-Military Working Paper are those of the author and do not necessarily reflect the position of APCMCOE or of any government agency. Authors enjoy the academic freedom to offer new and sometimes controversial perspectives in the interest of furthering debate on key issues.

The content is published under a Creative Commons by Attribution 3.0 Australia (<http://creativecommons.org/licenses/by/3.0/au/>) licence. All parts of this publication may be reproduced, stored in retrieval systems, and transmitted by any means without the written permission of the publisher.

ISBN: 978-1-921933-12-7

Published 2011.

ABSTRACT

The 21st Century has seen a significant rise in all forms of disasters and this has resulted in military and humanitarian personnel becoming more frequently engaged in the provision of support to those affected. Achieving an efficient and effective logistic preparation and response is one of the key elements in mitigating the impact of events, but the establishment of mechanisms to deliver an appropriately integrated civil/military approach remains elusive. Whilst the challenges inherent in the interface between military and humanitarian organisations and personnel are fully acknowledged, it is argued that the development of an improved way of working is of major importance. Failure to do so, will lead to a continuation of unnecessary loss of life and/or suffering for those affected. Not least because of the high percentage of assistance budgets spent on logistics, this area represents fertile ground for developing improved processes and understanding, especially when faced with the challenges of assessing the beneficiaries' needs and of inter-agency coordination. In practice, the demands placed on both civilian and military logisticians are broadly similar, as is the solution space. By speaking a common language and using common concepts, it is argued, therefore, that the logistic profession should be in the vanguard of attempts to develop an improved civil/military interface.

Key Words: humanitarian logistics; civil/military; disaster response; natural disasters

Peter Tatham:

Department of International Business and Asian Studies
Griffith Business School,
Gold Coast Campus, Parklands Drive, QLD 4222, Australia
E: p.tatham@griffith.edu.au P: +61 (0)7 555 28782 F: +61 (0)7 555 29206

ACKNOWLEDGEMENTS

Whilst the views and opinions within this paper are those of the author alone, he would like to record his appreciation to colleagues who have offered their most helpful observations on earlier drafts of this paper. These include: Wg Cdr Richard Alberts CSC RAAF (Strategic Logistics Branch, ADF), Dr Aruna Apte (US Naval Post-Graduate School), Maj Gen (Ret'd) Tim Cross CBE (Cranfield University), Graham Heaslip (National University of Ireland), Dr Gyöngi Kovács (the HUMLOG Institute), Captain Steve O'Keefe RAN (Commander, ADF Peace Operations Training Centre), Dr Bas Rietjens (Netherlands Defence Academy), Dr Jim Rolfe (Asia-Pacific Civil-Military Centre of Excellence), Jersey Seipel (Massey University), and Mike Whiting (Cranfield University and DFID), together with the anonymous reviewers from the APCMCOE.

IMPROVING THE CIVIL-MILITARY DIMENSION OF DISASTER-RELATED HUMANITARIAN LOGISTICS

Coordination between civilian and military actors is essential during an emergency response. The increasing number and scale of humanitarian emergencies, in both natural disaster and conflict settings, has led to more situations where military forces and civilian relief agencies are operating in the same environment.

Sir John Holmes, Emergency Relief Coordinator and United Nations Under-Secretary General for Humanitarian Affairs, Jan 2007—Aug 2010¹

INTRODUCTION

Since the turn of the millennium, authoritative sources such as the Centre for Research into the Epidemiology of Disasters (CRED) have reported an annual occurrence of some 330–430 disasters affecting 150–200 million people and resulting in economic damages estimated to be in excess of AU\$ 20 billion (Vos *et al.* 2010). However, the CRED data only reflects so-called ‘natural disasters’ (such as earthquakes, volcanoes and floods). To these numbers must, therefore, be added those related to explosions, gas leaks, chemical spills, and similar events (usually referred to as ‘technological disasters’) which, although relatively small in number (< 20/year), have increased exponentially since the beginning of the 20th Century (Coleman 2006).

A simple description of such uncertain future events, the timing and location of which are often difficult to foresee, might include damage and/or destruction of the physical and communications infrastructure; multiple deaths, injuries (physical and psychological), and homeless people; disruption to the normal functions of the state; and the presence of the world’s media and associated interest from politicians and the public at large. Such a description could equally reflect the circumstances in which a country’s armed forces find themselves engaged in military operations and for which they train and prepare in peace time.

It is argued, therefore, that the armed forces of many countries are not only well prepared to conduct operations in the field of combat, but also in the generically similar circumstances that reflect aftermath of a disaster (Kovács and Tatham 2009). In particular many military forces are, as a result of their ability to move quickly with appropriate equipment and trained manpower, ideally suited to offer assistance in the post-disaster logistic arena. Unfortunately, there is a considerable reluctance by some in the humanitarian community to make use of such assets which, given their potential to save life and/or improve the conditions of those affected, could well be seen as unfortunate when viewed from the perspective of those affected.

AIM

The aim of this paper is to outline a number of key challenges as they relate to the logistic aspects of disaster preparation and response, and to discuss the areas in which the development of closer civil-military cooperation could be of particular benefit.

To achieve this, the first section will reflect on the role of logistics and of the logistician in disaster scenarios, after which two examples will be offered as illustrations of the challenges inherent in the achievement of successful civil-military cooperation. With these in mind, the subsequent sections will discuss the achievement of improved civil-military engagement in relation to disasters before offering a summary of the current challenges, some potential solutions.

Although the discussion in this paper has been framed generically, a number of the examples and the recommendations for further research are focussed on the Asia Pacific region. This reflects the author's geographic location as well as contributing towards a broadening of the debate in this field that has, to date, reflected a Northern Hemisphere bias.

THE CHALLENGES OF HUMANITARIAN LOGISTICS

Not only do a significant number of natural disasters devastate the world each year, but there is also broad agreement that the situation is worsening. Thus, a recent report by the United Nations (UN) Secretary General observed that:

The global demand for humanitarian assistance ... continues to rise. This is triggered and sustained by the increased severity of natural hazards, escalating conflict, and a dramatic increase in vulnerabilities caused by the global financial crisis, continuing high food prices, the scarcity of energy and water, population growth and urbanization
(UN 2009, p. 2).

However, it is also important to note that the average death toll per event has reduced significantly over the 20th Century and now stands at some 800 for each event—major disasters such as the 2010 Haiti earthquake notwithstanding (EM-DAT 2011). Thus, given the rising number of disasters, the reducing death toll clearly implies that there will also be an increasing number of survivors whose welfare becomes the focus of national and international attention. Of course, dealing appropriately with those who have died is unquestionably complex as demonstrated by Phillips *et al.* (2008) in their account of the management of mass fatalities in the aftermath of the 2004 SE Asia tsunami. However, the real *logistic* challenge lies in delivering appropriate sustenance to the living.

But what is meant by the term 'logistic' in this context? Within the humanitarian community, the following is a frequently quoted definition:

The process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials as well as related information, from the point of origin to the point of consumption for the purpose of meeting the end beneficiary's requirements
(Thomas and Mizushima 2005, p. 60).

Importantly, by viewing 'logistics' in this way, the humanitarian approach is closely aligned with a generic military understanding of the same concept (see, for example, NATO 1997, Para 103). Thus, whilst some may describe this as supply network (or chain) management, the term 'humanitarian logistics' is that commonly found within the field and will, therefore, be adopted within this paper.

In line with this broad definition, van Wassenhove (2006) has estimated that some 80% of the expenditure of non-government organisations (NGOs)² is related to logistics. It follows that, whilst they may be reluctant to admit this, the majority of NGOs are, in practice, logistic organisations. Furthermore, given that the annual expenditure of the NGO community exceeds \$AU 20 billion (Tatham and Pettit 2010), one can safely assume that the logistic component is no less than \$AU 15 billion—and this leads to the critical questions of how this vast sum can be expended more efficiently and effectively.

It is, however, fully accepted that logistics is but one element of the totality of the preparation and response effort. Indeed, this recognition mirrors Australia's approach to the development and maintenance of a military capability that has adopted a framework that reflects the Resource Based View (RBV) of a firm (Barney 1991). This model describes eight components³ of such a military capability (including 'supplies') and, in doing so, emphasises the need to ensure the inter- and intra-organisational coherence that is fundamental to the commercial concept of supply network management (Richey *et al.* 2010).

THE CIVIL-MILITARY HUMANITARIAN LOGISTIC INTERFACE—TWO VIGNETTES

The engagement of military forces in response to disasters (as distinct from complex emergencies) presents less of a problem at the political level and the last decade has seen many examples of the parallel engagement of both military and NGO personnel and equipment—although the extent to which these might be described as ‘integrated’ remains open to question.

Nevertheless, an example of the highly effective use of military logistics occurred in the aftermath of the 2005 Pakistan earthquake. This led to one of the biggest ever peacetime NATO operations which included provision of support in the shape of 170 flights transporting 3,500 tons of relief goods (tents, blankets, medical supplies, and similar commodities). In addition, 17 NATO countries deployed over 1,200 personnel who conducted a broad range of logistic missions including bridge/road building and repair, provision of water supplies, as well as the operation of a field hospital and mobile medical facilities (NATO 2006).

A more recent case was the agreement by the Haitian government to transfer operational control of its airspace to the United States Air Force 24 hours after the 2010 earthquake demonstrates (Reuters 2010). The military support to this disaster also included the well publicised deployment of military personnel to maintain law and order and the physical movement of supplies. As an example of the latter, a UK naval vessel was able to deliver the first significant relief supplies to the community of Anse-à-Veau that had been isolated with no road access for over two months. Faced with a population swollen by refugees from the capital, the landing ship was able to offload some 300,000 ‘meals ready to eat’ as well as several tons of rice, beans and corn. Importantly, this whole operation was conducted in close concert with the World Food Programme (WFP) which supplied the food and, indeed, a local WFP project manager accompanied the ship on its delivery voyage (MOD 2010).

OPERATIONALISING THE CIVIL-MILITARY LOGISTIC ENGAGEMENT

The discussion within this paper has introduced a number of generic groupings, and before proceeding it is important to emphasise the disparate nature of these organisations. For example, 192 countries are members of the United Nations and most maintain some form of armed or defence force. Clearly the capabilities of each of these forces will differ and, as pointed out by Cross (2011), some are more professional and more effective than others—hence, as Cross argues, there is no such thing as ‘The Military’. By the same token, estimates of the number of NGOs existing in the world vary from 30,000 (Roberts 2001) to several million (Berger 2003). Even if one focuses on those with an international presence, it has been suggested that there may be 3–4,000 in ‘the West’ (HPG 2003). Thus, it is equally misleading to attempt to ascribe a single perspective to the NGO community as a whole.

Unsurprisingly there is a broad spectrum of approaches that spans the space between those organisations that have been characterised by Stoddard (2003) as ‘Dunantist’ (after Henri Dunant, the founder of the Red Cross movement), and the more pragmatic ‘Wilsonian’ NGOs (which reflect the perspective of the US President of that name). Thus, although this paper must, inevitably, discuss the issues relating to civil-military humanitarian logistics in generalities, it will be important to appreciate that this disguises the reality of the many different perspectives and relationships that exist. Furthermore, such relationships will change over time and in respect of the specific countries in which the disaster has taken place.

Whilst such an important set of *caveats* might be seen as making discussion of the subject somewhat pointless, it has a positive side. This reflects the fact that the absence of a clear and enduring bi-polar relationship means that there is room for debate and for developing improved understandings of what is/is not acceptable in a particular set of circumstances. For example, in evidence to a UK parliamentary enquiry relating to events in the Balkans, the then Chief Executive of the NGO ‘Save the Children’ observed:

I think what we all feel is that we have to distinguish between logistical support to a humanitarian operation which is fine, and military co-ordination of a humanitarian military operation, which is not fine
(UK Parliament 1999).

On this basis, the question then becomes not one of debating ‘if’, but rather ‘how’ the civil and military people, processes and technology can be brought together to best effect to achieve that all important final clause of the Thomas and Mizushima (2005) definition—namely that of meeting the end beneficiaries’ requirements.

OPERATIONALISING THE CIVIL-MILITARY LOGISTIC ENGAGEMENT IN RESPONSE TO NATURAL AND TECHNOLOGICAL DISASTERS

Unsurprisingly, given the relatively little objection to the engagement of military personnel and equipment in the aftermath of natural or technological disasters (Wiharta *et al.* 2008), major events such as the SE Asia tsunami (2004), Pakistan earthquake (2005), Haiti earthquake (2010) and Pakistan flooding (2010) have all seen significant involvement of military personnel from countries other than those directly affected.

However, even though military forces have a huge potential to make a difference in the logistic arena through their ready availability of funding, trained manpower and appropriate equipment, sensitivities remain (Thompson 2010). For example, it is understood that, in the aftermath of the 2005 Pakistan earthquake, and notwithstanding the presence of over 100 mainly military helicopters, the International Federation of Red Cross/Crescent Societies (IFRC) felt it appropriate to hire their own aircraft in order to adhere to their fundamental principles⁴ which they felt would have been compromised by the use of military assets.

In light of the increased use of military forces in the aftermath of a disaster, their operation has been codified by the United Nations within the 'Oslo Guidelines' (UN 2007). These emphasise the 'last resort' principle:

Military and civil defence assets should be seen as a tool complementing existing relief mechanisms in order to provide specific support to specific requirements, in response to the acknowledged “humanitarian gap” between the disaster needs that the relief community is being asked to satisfy and the resources available to meet them. Therefore, foreign military and civil defence assets should be requested only where there is no comparable civilian alternative and only the use of military or civil defence assets can meet a critical humanitarian need. The military or civil defence asset must therefore be unique in capability and availability
(UN 2007, p. 4).

Whilst, in theory, these guidelines should provide clarity, they contain a key contradiction in that one of the huge advantages inherent in the use of military forces is their ability to deploy swiftly and with the appropriate equipment and trained personnel. Such a fast response is potentially life-saving in the case of many rapid onset disasters, and yet if such forces can only be invited into a country once an assessment of the impact and the indigenous capability has been completed, the window of opportunity may be lost—as too many lives.

As a result, it is clear that governments (both those affected by the disaster, and also those wishing to provide assistance) take differing views over the interpretation of the last resort concept. For example, as part of research by Wiharta *et al.* (2008, p. 20), their UK advisor suggested that:

Last resort does not necessarily mean last. We can and will use military assets first if it is considered the best way to save lives [and/or] alleviate suffering.

and a similar perspective was reported from the USA where:

... a military commander has the authority to act independently to render immediate aid within the first 72 hours
(Wiharta *et al.* 2008, p. 21).

In particular, whilst the meaning and implications of the final sentences of the Oslo Guidelines quotation above would appear to be entirely clear, the reality is that some governments take the view that a military asset can be used either if it has a unique capability or a unique availability (as distinct from a literal requirement for both elements) (Wiharta *et al.* 2008).

This variable approach is nowhere more apparent than in the draft guidelines developed by the Asia-Pacific conference on military assistance in disaster relief operations (APC-MADRO) which, although voluntary in nature and not binding on member states, indicates that:

Requests for Assistance for foreign military support should be made when needs exceed the Affected State's capabilities and no other civilian capacity is available
(OCHA 2010, para 13).

Thus, although the APC-MADRO guidelines are meant to complement the Oslo Guidelines, the form of wording is significantly weaker than the last resort principle found in the latter. By the same token, the IFRC has produced a set of guidelines as recommendations to governments on how to prepare their disaster laws and plans to avoid common regulatory problems. These also offer a significantly less prescriptive formula than the Oslo Guidelines, suggesting that:

Military assets should be deployed for disaster relief or initial recovery assistance only ... after comparable civilian alternatives have been considered
(IFRC 2008, para 11).

A further challenge to the last resort principle comes when the military assistance from a foreign country will be, in effect, at no cost. The temptation to accept such a contribution by a country faced not only with an immediate disaster, but an enormous long term economic recovery burden is very considerable. Indeed, arguably, were the military assistance to be provided at market rates it would actually be unaffordable and, in that sense, the interface problem would go away.

Nevertheless, given that there is a high likelihood that logistic personnel from the affected country, disaster relief agencies and international military forces will meet on the ground in the aftermath of a significant disaster, what are the key issues that they will face, and what steps might be taken to improve the potential outcomes?

Unsurprisingly there are a myriad of areas of weakness in the current practice of humanitarian logistics, and these have explored through the work of commentators such as Thomas and Kopczac (2005), and Kovács and Spens (2007, 2009, 2011). However, within the broad range of concerns, two areas can be seen as being particularly challenging for the humanitarian logistician. These are: the development of a robust and swift needs assessment, and achieving good coordination (and its associated communications links). This is not to discount other issues, but these two have been singled out because they represent areas where an improved focus on the civil-military logistic interface has the potential to deliver real benefits.

Needs Assessment

From the perspective of the logistician, achieving a timely assessment of the needs of the affected population is key to building an efficient and effective supply network. Inevitably, in the first instance much of the logistic response will be on a 'push' basis that reflects the experience of the organisation concerned and, where possible, is informed by their local staff (van Wassenhove *et al.* 2010). However, such educated guesses will almost certainly be, at least in part, wrong. As a result, either too much materiel will be provided—which is clearly inefficient; or too little and/or the wrong materiel will be supplied leading to unnecessary loss of life or prolonged suffering.

Recognising that this is a complex area—for example a report by Darcy and Hofmann (2003) made 29 recommendations for improving the needs assessment process—efforts have been made to develop more standardised approaches to support inter-agency collaboration and coordination. Unfortunately, there is little evidence of engagement with military forces of countries that may potentially support the affected nation (Wiharta *et al.* 2008).

However, it is argued that there is significant merit in incorporating suitable military logisticians in the needs assessment process, not least because they will thereby be better placed to understand what support they might sensibly offer. A prime example of such integrated action came when an unmanned aerial vehicle (UAV) was launched from the USS STOCKHAM in the aftermath of the April 2007 Solomon Islands tsunami. The UAV was able to assess the damage in and around a nation of 900 islands and 5000 km of coast line and, in doing so, enabled the ship's helicopters to be deployed on more appropriate tasks such as casualty evacuation and the provision of relief goods (Tatham 2009).

To achieve the proposed improved interface between the civilian military logistic communities, further work needs to be undertaken to ensure that the key requirements of the logisticians of whatever organisational background are understood and integrated into the data capture process. A first stage would be to document the processes used by major disaster relief agencies in, for example, the Asia-Pacific region. These can, through dialogue, be developed to assist potential military participants (such as the Australian Defence Forces (ADF)) understand what information is likely to be available and how they might contribute to its improvement.

However, in this as in the next example, the identification of an agency or entity that can take the lead in promoting such integrated processes is key. When viewed from a distance, a common Needs Assessment template and associated methodology makes complete sense—however, as in many change management challenges, persuading individuals and organisations to adjust their existing approach can be an uphill struggle. Resolution of this conundrum will be further discussed in this paper's concluding remarks.

Coordination

The extent of the challenge implicit in achieving a coordinated response between NGOs is also well understood and reflects, at least in part, the desire of many such organisations to maintain a degree of independence from their colleagues. Given that, in effect, NGOs are in competition for donor funding, the desire to demonstrate their superior effectiveness and efficiency can be irresistible (The Lancet 2010; Heaslip 2010). Furthermore, the sheer numbers of agencies responding to major disasters may overwhelm even the most well intentioned participants. For example, it is reported by Völz (2005) that, in the aftermath of the 2004 SE Asia tsunami, Banda Aceh saw 72 coordination meetings/week!! By the same token, the web site of the UN Office for Coordination of Humanitarian Affairs (OCHA), records over 900 official NGOs operating in Haiti—a figure that implies the existence of similar number of supply networks.

Unfortunately, adding foreign military forces to this mix creates further difficulties and tensions. One the one hand, there is a clear concern amongst NGOs that the presence of military personnel might jeopardise their freedom to operate in line with their interpretation of the humanitarian principles (Wiharta *et al.* 2008). There is also, potentially, a significant clash of operating cultures between military organisations that, typically, adopt a hierarchical model, and disaster relief agencies that often embody a flatter, action centred, construct. From an academic perspective, the dissonance between such 'grid' and 'group' structures (Douglas, 1999) has been explored in a humanitarian context by Dowty and Wallace (2010) who firmly support the contention of Gattorna (2006 p. 69–71) in his discussion of the challenges of achieving an integrated supply network where he observes that:

...the potentially damaging impact of mis-aligned culture is a reality that has long been overlooked by the invisibility of culture, and is in stark contrast to the tangible world of hard assets, infrastructure, systems technology and observed behaviour that fills the conscious world. Most people tend to manage what they can see, while either ignoring or remaining oblivious to what they cannot see, touch, or feel.

The presence of such a difference in cultural approach is surprising given that both the supply networks of military and NGOs are required to be 'fully flexible' (Gattorna 2006). Furthermore, both sets of entities unquestionably have the ultimate beneficiary as the target of their actions. This suggests, therefore, that the lack of cultural appreciation between the organisations and parties is a key impediment to improved coordination. It is argued that dialogue and communication represent the key ingredients for improving this situation (Tatham and Kovács 2010), and nowhere is this more important than in the logistic space where failure to develop appropriate processes to integrate the technology and to ensure the 'connectedness' of the individuals involved will lead to, at best, overlap and duplication—but, at worst, a failure to provide appropriate support to those affected by the disaster.

As in the needs assessment case discussed above, it is suggested that it is far too late to attempt to meet these challenges after the onset of the disaster. Life is difficult enough in that frenetic period when there is an ever-present recognition that inappropriate actions (or, indeed, inaction) may result in unnecessary suffering. Attempting to create, *ab initio*, mutually trusting relationships is unlikely to be successful in such circumstances. It is argued, therefore, that a more appropriate course of action is to explore the motivations, capabilities and approaches of one's potential colleagues during the relative tranquillity of periods where no disasters are taking place. This is likely to be best achieved on a national and/or regional basis and is exemplified by the current arrangements whereby Irish NGOs present to students at the military staff college, and military personnel regularly meet with their Irish NGO colleagues (Tatham and Kovács 2010).

Furthermore, it is suggested that the international community of logisticians provides a ready avenue for such developments. Speaking a common professional language and grounded in commonality of concepts, and with a common appreciation of the risks and blockages to progress, there exists a strong basis on which a wider mutual trust can be developed between organisations that possess understandable differences in approach and outlook—but not in their ultimate motivation.

CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

The aim of this paper has been to outline the current challenges as they relate to the logistic aspects of disaster preparation and response, and to discuss the areas in which the development of closer civil-military cooperation could be of particular benefit.

It is concluded that there is an inexorable move towards a greater involvement of military forces in disasters, and that this is increasingly accepted by NGOs—although the extent to which this is true will vary across the spectrum of both military and relief organisations. The further implication is that there will be an increasing requirement to develop the necessary mutual understanding and, importantly, respect between the two communities. Such actions will, unquestionably, be best undertaken prior to, rather than in the heat of, a disaster. However, for a myriad of reasons, it seems unlikely that the desired engagement will take place without considerable effort over a relatively prolonged period of time. That said, it may well be that simple actions such as the military avoiding the use of the term “humanitarian assistance” and, instead, employing the Oslo Guidelines terminology of “International Disaster Relief Assistance” (IDRA) might do much to ensure a more harmonious civil/military relationship—not least as this would acknowledge that the post-disaster actions of military forces may not be accurately described as humanitarian within a strict definition of the term.

Furthermore, it is argued that, in light of the apparent reluctance of the two communities to engage in more than a relatively minor and unthreatening way, it may well be that a particular organisation should be identified that can take the lead in persuading, cajoling and incentivising appropriate behaviour. Within the region, this might well be seen as an appropriate role for the Asia Pacific Civil-Military Centre of Excellence which has already developed a significant track record in a number of areas and sponsored important reports such as that by Lipner and Henley (2010).

Specific activities of such a catalyst would include the development of improved mutual logistic understanding at the strategic, operational and tactical levels. It is suggested that one means of achieving this goal would be through a series of pan-government/NGO ‘scenario planning’ exercises based on reviewing the approaches that would be adopted and the actions taken in anticipation of a number of high likelihood/high impact events within a specific region.

It is further concluded that the logistic profession should be in the vanguard of such a *rapprochement* for four reasons:

- Logistics is core to any humanitarian mission. Indeed, it can be argued that, following a disaster, the purpose of any civil/military involvement is to bring about the conditions whereby logistics can be practised—be this through the medium of normal ‘peacetime’ commerce or as a result of support from NGOs.
- At the same time, logistics represents a relatively soft and unthreatening activity, and yet one in which the inherent capabilities of a well organised and equipped military force can be seen to have huge life-saving potential. This is particularly true in the early days of a disaster where use of the military provides ready access to significant number of highly trained and appropriately equipped personnel with skills across the breadth of the logistic activities defined earlier. This is not to imply that the military ‘knows best’, rather that military organisations possess important resources that are, as yet, not being utilised to their full capability.

- The costs of providing logistic support are considerable and every effort should, therefore, be made to achieve the maximum effectiveness and efficiency in the preparation for, and response to, a disaster. To avoid engaging with one of the key players would not achieve this goal and, indeed, potentially lead to unnecessary loss of life and/or prolonged suffering.
- Given the inevitable tensions between the civil and military agencies, it is argued that developing mutual understanding and trust can be greatly facilitated by development of a set of common underpinning processes and procedures. In this regard, the levers of a good logistic response do not differ between humanitarian, military or, indeed, businesses supply networks. Logisticians are, therefore, well placed to act as pathfinders in the development of improved and respectful relationships.

In short, given its pivotal role in the preparation for, and response to, a disaster, logistics (in the broadly defined sense of this paper) and the members of the logistic profession across all of the responding agencies and organisations have a highly influential role to play. Improved cooperation would not only pay significant dividends through the development and sharing of best practice and the appropriate integration of people, processes and technology, it would also help to break down the wider barriers of mutual suspicion that, unquestionably, exist.

A Final Thought

In an earlier career, the author of this paper served as a logistician in the (UK) Royal Navy—as such, he is acutely aware of those intangible bonds that bind seafarers of whatever nationality together. It is suggested that, in some equally mysterious way, a similar bond exists between logisticians that is waiting to be leveraged ... *for the purpose of meeting the end beneficiaries' requirements.*

REFERENCES

- Barney, JB 1991, 'Firm resources and sustained competitive advantage', *Journal of Management*, vol. 17, no. 1, pp. 99–120.
- Berger, L 2003, 'Religious nongovernmental organisations: An exploratory analysis', *Voluntas*, vol. 14, no. 1, pp. 15–39.
- Coleman, L 2006, 'Frequency of man-made disasters in the 20th Century', *Journal of Contingencies and Crisis Management*, vol. 14, no. 1, pp. 3–11.
- Cornish, S 2007, 'No room for humanitarianism in 3D policies: Have forcible humanitarian interventions and integrated approaches lost their way?', *Journal of Military and Strategic Studies*, vol. 10, Iss. 1.
- Cross, TC 2011, 'Disaster agencies and military forces—not such strange bedfellows after all!', in Christopher, M.G., and Tatham, P.H. eds (2011, forthcoming), *Humanitarian Logistics: Meeting the challenge of preparing for, and responding to, disasters*, London: Kogan Page.
- Darcy, J and C Hofmann 2003, 'According to need? Needs assessment and decision-making in the humanitarian sector', *Humanitarian Policy Group*, Report No. 15, available at: <http://www.odi.org.uk/resources/download/239.pdf> (accessed 5 Nov 2010).
- DOD [Department of Defence] (2007), 'Joint Operations for the 21st Century', available at: <http://www.defence.gov.au/publications/FJOC/pdf> (accessed 15 Nov 2010).
- Douglas, M 1999, 'Four cultures: the evolution of a parsimonious model', *Geojournal*, vol. 47, pp. 411–415.
- Dowty, RA and WA Wallace 2010, 'Implications of organizational culture for supply chain disruption and restoration', *International Journal of Production Economics*, vol. 126, pp. 57–65.
- EM-DAT 2011), 'Natural disaster summary 1900 – 2009 (linear–interpolated smoothed lines)', *Université Catholique de Louvain*, available at: http://www.emdat.be/sites/default/files/Trends/natural/world_1900_2009/1e.pdf (accessed 21 Feb 2011).
- Gattorna, J 2006, *Living Supply Chains*, Financial Times Prentice Hall: London.
- Heaslip, G 2010, 'Key funds for NGO administration often neglected in rush to get aid to victims', *The Irish Times*, Saturday 14th August, 2010, available at: <http://www.irishtimes.com/newspaper/opinion/2010/0814/1224276813009.html>
- HPG [Humanitarian Policy Group] 2003, "Humanitarian NGOs: Challenges and trends", *HPG Briefing*, No. 12, July.
- IFRC [International Federation of Red Cross and Red Crescent Societies] 2008, "Introduction to the Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance, available at: www.ifrc.org (accessed 8 Dec 2010).
- Kovács, G and KM Spens 2007, "Humanitarian logistics in disaster relief operations", *International Journal of Physical Distribution and Logistics Management*, vol. 36, no. 2, pp. 99–114.
- _____ 2009, 'Identifying challenges in humanitarian logistics', *International Journal of Physical Distribution and Logistics Management*, vol. 39, no. 6, pp. 506–528.

- _____. 2011, 'Trends and developments in humanitarian logistics—a gap analysis', *International Journal of Physical Logistics and Distribution Management*, vol. 40, Iss. 1, pp. 32–45.
- Kovács, G, and PH Tatham 2009, 'Responding to Disruptions in the Supply Network—From Dormant to Action', *Journal of Business Logistics*, vol. 30, no. 2, pp. 215–229.
- Lipner, M, and L Henley 2010, 'Working Better Together: An NGO perspective on improving Australia's Coordination in Disaster response', *A Joint APCMCOE and ACFID Study*, available at: <http://civmilcoe.gov.au/resources/publications/working-better-together-an-ngo-perspective-on-improving-australia%e2%80%99s-coordination-in-disaster-response/> (accessed 21 Feb 2011).
- MOD [Ministry of Defence] 2010, 'RFA Largs Bay delivers aid to isolated Haitian village', available at: <http://www.mod.uk/DefenceInternet/DefenceNews/MilitaryOperations/RfaLargsBayDeliversAidToIsolatedHaitianVillage.htm> (accessed 24 Nov 2010).
- NATO [North Atlantic Treaty Organisation] 1997, 'Logistics Handbook 3rd Ed', available at: <http://www.nato.int/docu/logi-en/logist97.htm> (accessed 25 Oct 2010).
- NATO [North Atlantic Treaty Organisation] 2006, 'Pakistan Earthquake relief operation', available at: http://www.nato.int/issues/pakistan_earthquake/index.html (accessed 4 Nov 2010).
- OCHA [(UN) Office for the Coordination of Humanitarian Affairs] 2010, 'Asia-Pacific Regional Guidelines for The Use Of Foreign Military Assets in Natural Disaster Response Operations', Draft Version 8.0 dated 23 November 2010, available at: <http://ochaonline.un.org/roap> (accessed 13 Dec 2010).
- Phillips, B, D Neal, T Wikle, A Subanthore, and S Hyrapiet, 2008, 'Mass fatality management after the Indian Ocean tsunami', *Disaster Prevention and Management*, vol. 17, no. 5, pp. 681–697.
- Reuters 2010, 'US takes control of Haiti airport to speed aid', available at: <http://www.reuters.com/article/idUSN1513622820100116> (accessed 4 Nov 2010).
- Richey, RG, AS Roath, JM Whipple, and SE Fawcett, 2010, 'Exploring a governance theory of supply chain management: barriers and facilitators to integration', *Journal of Business Logistics*, vol. 31, no. 1, pp. 237–256.
- Roberts, A 2001, 'NGOs: New gods overseas', *The World in 2001*, p. 73. London: The Economist Publications.
- Stoddard, A 2003, 'Humanitarian NGOs: challenges and trends', in Macrae and Harmer eds *Humanitarian action and the 'global war on terror': A review of trends and issues*, HPG report No. 14, available at: <http://www.odi.org.uk/resources/download/240.pdf> (accessed 1 Nov 2010).
- Tatham, PH 2009, 'An Initial Investigation into the Suitability of the use of Unmanned Aerial Vehicle Systems (UAVS) to Support the Emergency Assessment Process in Rapid Onset Humanitarian Disasters', *International Journal of Risk Assessment and Management*, vol. 13, no. 1, pp. 60–78.
- Tatham, PH, and G Kovács 2010, 'The application of "swift trust" to humanitarian logistics'. *International Journal of Production Economics*. vol. 126, no. 1, pp. 35–45.
- Tatham, PH, and SJ Pettit, 2010, 'Transforming Humanitarian Logistics: The Journey to Supply Network Management', *International Journal of Physical Distribution and Logistics Management*, Vol. 40, Iss. 8/9, pp. 609–622.
- The Lancet 2010, "Growth of aid and the decline of humanitarianism", *The Lancet*, Vol. 375, No. 9711, p. 253.

Thomas, AS, and L Kopczak, 2005, "From logistics to supply chain management", Fritz Institute, available at: <http://www.fritzinstitute.org/PDFs/WhitePaper/FromLogisticsto.pdf> (accessed 5 Nov 2010).

Thomas, AS and M Mizushima 2005, "Logistics training: necessity or luxury?", *Forced Migration Review*, Vol. 22, p. 60–61.

Thompson, WC 2010, 'Success in Kashmir: a positive trend in civil-military integration during humanitarian assistance operations', *Disasters*, vol. 34, no. 1, pp. 1–15.

UK [United Kingdom] Parliament 1999, 'Minutes of Evidence to the House of Commons International Development Committee, Examination of Witnesses, Tuesday 4 May, 1999', Question 43, available at: <http://www.publications.parliament.uk> (accessed 14 Oct 2010).

UN [United Nations] 2007, 'Guidelines on the use of Foreign Military and Civil Defence Assets in Disaster Relief', Updated November 2006, Revision I.I November 2007, available at: <http://ochaonline.un.org/OCHAHome/AboutUs/Coordination/HumanitarianCivilMilitaryCoordination/PolicyGuidelinesRelatedDocuments/tabid/4938/language/en-US/Default.aspx> (accessed 4 Nov 2010).

UN [United Nations] 2009, 'Strengthening of the coordination of emergency humanitarian assistance of the United Nations', *Report by the Secretary General to the General Assembly Economic and Social Council dated 28 May 2009*, available at: [http://www.reliefweb.int/rw/RWFFiles2009.nsf/FilesByRWDocUnidFilename/SNAA-7U67T3-full_report.pdf/\\$File/full_report.pdf](http://www.reliefweb.int/rw/RWFFiles2009.nsf/FilesByRWDocUnidFilename/SNAA-7U67T3-full_report.pdf/$File/full_report.pdf) (accessed 25 Oct 2010).

UNHCR [United Nations High Commissioner for Refugees] 1999, 'Executive Committee of the High Commissioner's Programme', 50th Session, A/AC.96/914, 7 July, Geneva. Quoted in Pugh, M. (2001), "The Challenge of Civil-military Relations in International Peace Operations", *Disasters*, vol. 25, no. 4, pp. 346.

van Wassenhove, LN 2006, 'Humanitarian Aid Logistics: supply chain management in high gear', *Journal of the Operational Research Society*, vol. 57, no. 5, pp. 475–589.

van Wassenhove, LN, AJ Pedraza Martinez, O Stapleton 2010, 'An analysis of the relief supply chain in the first week after the Haiti earthquake', *INSEAD Humanitarian Research Group*, available at: <http://www.insead.edu/facultyresearch/centres/isis/humanitarian> (accessed 5 Nov 2010).

Völz, C 2005, 'Humanitarian coordination in Indonesia: An NGO viewpoint', *Forced Migration Review*, July, pp. 26–7.

Vos, F, J Rodriguez, S Below, and D Guha-Sapir 2010, 'Annual Disaster Statistical Review, 2009', *Centre for Research on the Epidemiology of Disasters*, at: http://cred.be/sites/default/files/ADSR_2009.pdf (accessed 25 Oct 2010).

Wiharta, S, H Ahmad, JY Haine, J Löfgren, and T Randall 2008, 'The effectiveness of foreign military assets in natural disaster response', Stockholm International Peace Research Institute (SIPRI).

Endnotes

- 1 <http://ochaonline.un.org/OCHAHome/AboutUs/Coordination/CivilMilitaryCoordination/tabid/1274/language/en-US/Default.aspx> (accessed 15 Nov 2010).
- 2 Whilst there are clear distinctions between UN Agencies such as the World Food Programme (WFP); the Red Cross movement; and non-governmental organisations (NGOs) such as Oxfam, for convenience the latter abbreviation will be used to refer to all such entities except where the context dictates a differentiation.
- 3 These are: personnel, collective training, organisation, major systems, supplies, facilities, support, and command and management (DOD 2007).
- 4 The seven fundamental principles of the IFRC are: Humanity, Impartiality, Neutrality, Independence, Voluntary Service, Unity and Universality <http://www.ifrc.org/what/values/principles/index.asp> (accessed 21 Feb 2011).