

CENTRE FOR ARMY LESSONS

NATURAL DISASTER RELIEF

HANDBOOK



2011

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PUBLICATION ADVICE:

This CAL publication is not a doctrinal product but is intended to inform soldiers of experiences from recent Army operations and training. The information and lessons found herein are validated by Army subject matter advisers. The tactics, techniques and procedures (TTP) reported are written by soldiers for soldiers.

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PREFACE

This booklet is designed to assist you in preparing for your deployment on a natural disaster relief task. Much of the information has been sourced from the Centre for Army Lessons (CAL) database (available via the intranet) and through our allied partners. Other information is open source and can be obtained by anyone with access to the Defence Restricted Intranet (DRN) and the internet. CAL appreciates that not everyone has access to such resources, especially during preparation for support in response to a natural disaster, and has compiled this booklet as an aide to Australian (AS) troops.

The first article provides general information on the provision of Army support to domestic disaster recovery and was written by the Defence Support Group. The following seven articles describe lessons from previous AS military rotations assisting with natural disaster relief tasks. They cover a wide range of topics that will aid military personnel by providing information collected from previous deployments.

1st Psych Unit wrote the 'Coping with Stress on a Deployment' article, and also assisted CAL in clearing the 'Dealing with Death' article. 'Care for the Muslim Patient' was written by a former Australian Defence Force (ADF) officer.

CAL also has articles that can be provided upon request on the topic of response and support to the US Hurricane Katrina catastrophe. The lessons from these articles are applicable to many natural disaster situations AS troops may face.

This booklet could not have been produced without the input of those AS soldiers who have gone before you, both operationally and in training. As CAL has captured past observations to inform you, we request that you submit your observations to help those who come after you. Send them to CAL.submit@defence.gov.au. Take the time during your operation to record your observations and forward them, both directly and through your chain of command, at every opportunity.

While researching information for the early version of this publication, it was found that there is a distinct absence of any tactical level natural disaster relief deployment Post Operation Reports (POR). Should you have access to such a POR please contact CAL through details provided above. This publication will be updated as more information becomes available.

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ARMY SUPPORT TO DOMESTIC DISASTER RECOVERY LESSONS

Tasking of Army elements to participate in natural disaster recovery within AS will normally be the result of a request by State or Territory Governments to the Federal Government for assistance. Each State and Territory maintains emergency management plans which underpin response arrangements and potential support from the ADF. ADF support will normally be under the guise of Defence Aid to the Civil Community (DACC). Some DACC task may evolve from incidents dealt with under Defence Force Aid to the Civil Authority (DFACA).

The Attorney Generals Department, specifically Emergency Management Australia (EMA), would be the national coordinating agency for Federal support.

State and Territory agencies have primacy of operations within their jurisdictions. Defence would assist in an 'in support' role and ADF personnel would remain under Defence command.

Within Defence and at the national level, Joint Capability Commitments and Concepts Division (Military Strategic Commitments Branch) and Joint Operations Command (JOC) would initially be the key advisory and planning agencies.

At regional and capital city level, Joint Operations Support Staff (JOSS) within Defence Support Group are responsible for liaison with State and Territory Government agencies including Police, Fire and Emergency Services as well as their and committees. This liaison occurs regularly as a part of normal daily business and is embedded in State/Territory SOP. For emergency events, JOSS will normally be the first Defence elements at the Police, Fire or Emergency Operations Centres and will deploy forward to maintain the liaison link with local agencies when required. JOSS' provide timely and accurate advice to civil



authorities and are a trusted source in this role. They have a thorough knowledge of State and Territory processes and are well placed to provide this liaison on behalf of assigned Joint Task Force (JTF) commanders. JOSS also has extant tasks to establish liaison with State/Territory authorities within specified AS Operational Concepts.

JOSS is located in each capital city and Townsville. In Darwin, HQ Northern Command also performs the equivalent role. Army commanders and staff access to State and Territory agencies should initially be through JOSS. JOSS has subject matter expertise in DACC and DFACA and will generally provide the initial coordination of Defence support through JOC, by providing initial information and Situation Reports on the specific incident. JOC will then undertake its normal planning processes to affect ADF support to the State/Territory affected.

JOSS will provide deployed Army commanders with situational awareness, update briefings, and advice on State/Territory legislation and emergency procedures as necessary. They will also be an ongoing liaison link to local Emergency Service commanders to provide two-way advice on specific tasks and support requests. Commanders should utilise JOSS to establish communications with the key regional emergency management agencies.

JOSS could be appointed under operational control or in support of the JTF Commander.



OP QUEENSLAND FLOODS ASSIST LESSONS

This article provides an overview of key lessons obtained from interviews with personnel who provided support on OP QLD FLOODS ASSIST 2011. Supplementary lessons are available on trades, threats and other topics. These can be requested in part or whole via CAL.RFI@defence.gov.au.

Tactical lessons from OP QLD FLOODS ASSIST will be published in Smart Soldier 27, due for release in Oct 11.

Force Preparation

It was identified at the onset of the Operation that there was a lack of qualified chainsaw operators and members qualified for working in confined spaces, especially within non-engineer units. The chainsaw operator deficiency was addressed by conducting chainsaw operator courses at the commencement of the Operation. The lack of confined-spaces qualified members was not able to be addressed through training.

There were instances where units were unable to field personnel in accordance with operational manning document (OMD) requirements, subsequently impacting on the ability of units to meet operational tasks. Where possible, commanders need to ensure that operational manning details are fully populated. If there are identified deficiencies that cannot be filled from within the unit, they should request replacements from other units. Not doing so could result in missing key personnel early in the deployment.

Command and Control

Consideration should be given to the establishment of operational/tasking boundaries for disaster relief deployments. Not doing so can cause confusion regarding units' responsibilities, and creates the potential to waste resources. For example, a unit was tasked to work in the same area as a sub-unit from a different formation. This resulted in local authorities becoming confused as to who was the local Army point-of-contact.

Command relationships need to be made clear before force elements are deployed. This ensures that units know who is able to direct tasking and provides a point-of-contact for queries. Not doing so creates confusion when there are multiple units in the same area and when civilian agencies are also involved in providing support.



Detailed daily orders are essential for disaster relief operations. This is because locations, tasks, resources and attachments often vary each day, resulting in the need for detailed orders on a daily basis. It was found that the provision of such orders each evening was ideal.

Keeping soldiers informed of all occurrences and activities in the area, even if they did not have an impact on troop activities, significantly improved troop morale. It is recommended that commanders strive to keep their soldiers as informed as possible so as to improve their sense of informational security, and to avoid instances of frustration at not understanding what is occurring.

Resources. It is necessary for commanders to make decisions regarding the allocation of resources for a range of support requests from local elements, all of which need to be considered against a number of competing priorities. For example, units would receive tasks from higher headquarters, and at the same time receive requests from the Police, SES, Fire Fighters and other emergency support organisations. As such, commanders of humanitarian assistance and disaster relief (HADR) operations need to be prepared to exercise a greater degree of flexibility than usual. Force generation planners are advised to consider ways to train commanders for such operations.

Tasking. For many units, tasking typically occurred in a reactive manner rather than proactively. This is because commanders would have to wait to receive tasks from the emergency agencies before they could then allocate troops to tasks for the following day.

Army command posts became the focal point for civilian support requests, queries or offers of support from the local population instead of going to the local council or Police Station they should have. For example, a command post at North Booval was identified by civilian volunteers and dump truck drivers as the place to determine where they were required rather than queuing up at the registration centres. Eventually, it became the place that anyone working in the Booval area reported to for tasking. It was suggested that to coordinate tasking, local councils could consider positioning a liaison officer within major Army command posts.

HADR operations involve planning at all levels, with differing priorities being dictated by a range of external influences. This often results in tactical elements being tasked to conduct relief activities that did not align with their assessment of priorities. It has been suggested that a greater degree of mission command is incorporated into such operations, whereby units could be allocated areas of operation in which relief priorities and tasks could be determined by the local commander.

During OP QLD FLOODS ASSIST, some units were tasked to support an organisation outside their chain-of-command, or units worked with or supported units they have not worked with in the past. In these instances, it was found that there were multiple SOPs, which resulted in some confusion. Force generation



planners are advised to consider directing the production of an SOP for future HADR operations. Such SOPs should be multi-organisational, and be easily translated by all participating organisations, both military and civilian.

Personnel. Personnel tracking is a challenge during disaster relief operations. Tracking personnel entering and exiting the operational area

was difficult to manage, particularly when there were multiple units operating and the area of operations was so dispersed.

Given the arduous nature of HADR operations, fatigue management is critical to allow sustained operation. This was achieved by rotating soldiers through positions that required less effort, such as traffic control and piquet. Access to local amenities at night, such as movie theatres, was also found to be beneficial in allowing soldiers to relax and de-stress.

An ideal time to deploy Reserve soldiers in support of disaster relief is over December and January, when they are normally on annual leave. This has minimal impact on their civilian employers. To facilitate the mobilisation of large numbers of ARes members, units will need to have an alternate delegate to sign DA50 forms in the event the delegate is not contactable. A lack of alternate delegate is likely to delay the mobilisation of ARes members.

Leadership. A common recurring theme during post-operation interviews was that the standard of leadership from junior commanders was very high. There were numerous instances where junior commanders exercise a high degree of initiative, and provided direction and leadership to civilian elements within their area of responsibility. The level of initiative and leadership was underpinned by a significant degree of mission command, which was necessary given the dispersed nature of relief operations.

It was suggested that units should formally recognise the valuable contribution that soldiers make to a disaster relief deployment. This helps recognise that their efforts contributed to the overall success of the disaster relief support effort, thereby increasing morale. This issue has been a recurring theme in a range of CAL post-operation interviews with members returned from operations.

Equipment

Information Technology. Defence computers need to be compatible with civilian emergency support service computers. This enables soldiers to access imagery, Google maps, email addresses of civilian agencies and to share unclassified data with civilian agencies. Defence Restricted Network (DRN) laptops do not allow the sharing of data and accessing the DRN through Defence Remote Electronic Access Mobility Service (DREAMS) provides a system that is too slow to download the latest imagery. Consideration needs to be given to Army having an unclassified computer network, with laptops purchased on an as needed basis to ensure that they did not sit in storage and become redundant. The laptops should also be loaded with useful software as used by civilian agencies to allow for interoperability.

Communications. RATEL communications were difficult to obtain because of the steep terrain in the flood areas and the lack of re-trans facilities to enable sufficient coverage. Another problem was that there were not enough combat net radios (CNR) to go around to all work parties. Most units were totally reliant on mobile phones, both personal and Defence-owned, to communicate between force elements. Mobile phones provided a quick means to communicate without the need for RATEL and soldiers could communicate with other emergency service providers using mobile phones as well. Defence did not have enough mobile phones to meet the demand, which meant that many personnel had to use their own mobile phone. Some soldiers were told to claim it on tax, others to seek reimbursement through the system while some soldiers just accepted the expenditure as being for a good cause. It was suggested that a solution to this problem is for Defence to purchase sim cards and then hand these out to personnel to use in their private mobile phones when needed. Defence needs to promulgate a policy detailing procedures for soldiers to be recompensed when required to use personal mobile phones for Defence purposes.

Personal Protective Equipment (PPE). Units need access to suitable and sufficient quantities of PPE for tasks at the start of the disaster relief deployment. PPE that was required included gloves and face masks/respirators when handling asbestos and corpses; and gumboots, gloves and high visibility vests for conducting searches or removing rubbish. There were instances during the first four days when corpses were found and had to be handled without suitable PPE. Supplies were eventually purchased four days into the operation using local purchase arrangements from local hardware stores and issued to soldiers. It was recognised that it is not appropriate to have most of this PPE sitting on Q-Store shelves in anticipation of a call out. It was recommended that such supplies be either purchased in bulk in preparation for a similar operation in the future or units purchase this equipment themselves on an as required basis.

Credit cards. Many units used a credit card to purchase items they needed on this deployment. This proved to be very useful, as they had to purchase a number

of items that were not held within the unit.

Maps. Access to suitable maps was problematic during the initial week of the Operation. Some personnel were initially issued with 1:100,000 maps - too small to plan and track dismounted search and clearance tasks. It was stated that topographical maps with a scale somewhere between 1:25,000 and 1:10,000 would have been ideal. It is recommended that for future disaster relief operations, at the onset of the operation, appropriate maps currently available to emergency services be procured.



Some maps provided by the Police used a geographic coordinate system (latitude and longitude). This is not compatible with the military grid reference system (MGRS) on Army's topographic maps. It is necessary for Army to be able to convert latitude and longitude to MGRS and vice versa. This can be done through a global positioning system or computer software.

Some troops were not issued maps. These personnel relied on the police to provide the maps, which were sometimes found to be outdated. Other sources of mapping utilised included slides from Google maps, urban district maps, hiking maps, state forest maps and plans. This resulted in mapping that was inconsistent in the location of features. To overcome this issue, they would identify a master map, place talc over it and then update the map with markers.

Interagency

At the onset of operations, it is necessary to establish who the key personnel are. This should include key personnel from the Police, civilian emergency services, local councils and other relevant organisations. This needs to occur at all levels through the chain of command to ensure unity of effort and effective interoperability between Army and civilian authorities. It is recommended that a memorandum of understanding be raised at the onset which details key personnel by appointment and provides guidance on the conduct of operations between agencies.

Military staff working with civilian government organisations need to quickly understand the government's roles and responsibilities, and the differences in writing standards and terminology. Aspects of the government's roles and responsibilities should include the machinery of the governments, budgetary and election cycles. The issue of terminology can be overcome by providing a list of commonly used terms and their definition, and by also using generic terms where



possible. Understanding all of this will assist the Army and civilian government organisations to work in a unified approach.

Interoperability. The capabilities of many Army assets are unlikely to be known to council officers, unless there is an attached Army liaison officer (LO) who can provide this information. For example, the Army Environmental Health team identified this as an issue and in response provided a demonstration and brief on their capabilities to the council personnel. As a result the council asked for assistance with larvae surveys, vector control and mosquito trapping and identification.

Military language presented problems for civilian personnel. The joint military appreciation process (JMAP) was effective in enabling disaster recovery planning; however, there was a need to adapt the language to the nature of the operation in order to make it easily understood by civilian members. For example; the term 'mission' was changed to 'task', 'course of action' was changed to 'option', 'war-gaming' was changed to 'testing', and 'purpose/method/endstate' was changed to 'why/who/when'. These changes allowed for easy understanding by government representatives, thereby increasing interoperability. It is considered essential for military personnel to adapt their use of language to ensure complete understanding by others.

Training

A lot of asbestos was found in the old houses destroyed by the flood. It is suggested that the 'asbestos awareness' campus training package is used to provide education to soldiers on the identification and handling of asbestos prior to future disaster relief operations where they may be likely to encounter asbestos debris.

Some soldiers were both amazed and shocked at the extent of the damage. The soldiers said that it was worse than it looked on the television. They believed that their previous military training stood them in good stead to deal with the shock and to provide effective disaster relief support. Many soldiers went on to say that they only had positive feelings about the experience and felt proud to help.

Threats

Soldiers were required to remove large, damaged items from the flood affected area, such as lounge chairs and beds, and put them on Unimog trucks for transfer to local rubbish collection points. Hazards in doing this task included exposure to asbestos, infection from cuts and scrapes, syringe injuries, and exposure to aerosol cans, gas bottles or petrol, oils and lubricants. One civilian found ammunition and handed that to a soldier. Consequently, it is recommended that sufficient OH&S trained personnel accompany work parties or visit work sites to ensure the safety of those employed in such tasks.

Vehicles

Bobcat and skid steer loaders were 'priceless' during the Operation. Once buildings were stripped, it was much more labour effective to use skid steer loaders to clear the rubbish and debris from the side of the road instead of having soldiers loading dump trucks by hand. Another advantage of heavy lifting equipment is that there are less soldiers waiting for the dump truck to return and meant that this manpower could be used for other tasks such as traffic control and coordination of tasks.

The establishment of temporary dumping sites may be required to facilitate rubbish collection prior to moving it to permanent sites. A dozer is required at temporary dumping sites to keep pushing the rubbish back and compact it so that room can be created for more rubbish. One location did not get a dozer and meant that this had to be done by hand.

Supplementary information is available on this deployment, including tactical tips – which will be used in Smart Soldier 27 – and observations relating to trades and corps. These can be requested from CAL.RFI@defence.gov.au.



OP YASI ASSIST LESSONS

Just before midnight on 02 February 2011, Category 5 Tropical Cyclone Yasi hit the North Queensland coast between Innisfail and Cardwell leaving scenes of mass destruction in its wake. The townships in and around Tully, Silkwood, Mission Beach, Cardwell and Innisfail were worst hit, suffering severe structural and infrastructure damage. Flooding and tidal surges were widespread along the North Queensland coast. JTF 664 (the ADF's response) was established on 02 February 2011, and within one week, over 1,200 personnel were involved in support of the operation.

In May 2011, CAL interviewed Army personnel in both Cairns and Townsville who were involved in JTF 664. The purpose of this paper is to document the main lessons learned from this ADF response.

Command

Some of the key lessons learned pertaining to command highlight that, even with the best planning, confusion and chaos is 'part and parcel' of a natural disaster, particularly once the human reaction is felt. The ADF's response was part of a multi-agency reaction at local, state and federal levels. While the ADF had clear contingency plans in place, it was evident that this was either not present within the civilian organisations or was stove-piped and/or disjointed. Challenges arose when the organisations formed as a whole-of-government response.

The deployment and presence of liaison officers in the four District Disaster Coordination Centres (DDCC) within the operational area (OA) and at the State Disaster Coordination Centre (SDCC) were deemed as very successful for providing situational awareness at the higher command level. It also aided in reducing the friction that existed initially between the ADF and the civilian and government organisations, particularly in relation to roles and responsibilities.

Much of the confusion existed at the soldier level. Personnel interviewed indicated that there was very limited situational awareness or commander's guidance on the ground. Tasking from higher was frequently perceived as unclear, particularly in the initial response, or delayed in its transfer to the lowest levels,



leading to confusion.

Communications

Communications were a major source of frustration and concern for Regional Force Surveillance Unit (RFSU) personnel involved in the initial response. As the first land force element into the isolated region of Innisfail, it was found that communication infrastructure proved



intermittent because telephone lines were down. Another challenge was that, as there was no electricity, locals had lost the ability to charge their mobile phones.

Personal mobile phones became the standard form of communication for tasking, situational awareness, and other routine matters. Most personnel noted that they incurred a hefty phone bill in that period and, particularly among the RFSU personnel, this was borne from their own pocket as personnel either didn't know, or didn't want to seek compensation after the event. Keeping their batteries charged presented some challenges, but once generators were set up, a roster for charging phones was put in place.

One of the benefits highlighted by the use of personal mobile phones was their capability for capturing and transferring images to raise situational awareness of commanders and other personnel.

Another benefit of using personal mobile phones was interoperability with other civilian and government organisations on the ground. Soldiers provided examples where they swapped mobile phone numbers with ambulance officers, media, and local council representatives to aid in mutual support.

Force Protection

Attending a natural disaster event brings with it numerous environment biohazards that must be considered as part of force protection planning. Hazardous material such as raw sewerage and asbestos must be expected, and commanders need to ensure that personnel have access to suitable PPE and training. Furthermore, awareness of the ADF policy in regards to exposure to hazardous material must be understood so that appropriate post-exposure screening is provided.

It is essential that all PPE deployed as part of a natural disaster response is in

good working order and appropriate to task. Personnel indicated that there were some deficiencies with PPE deployed for the response to Cyclone Yasi, leaving soldiers operating without PPE. Examples included faulty helmet shields and improperly sized gloves.

Access to integral medical support may be limited during natural disaster events, and personnel may be forced to treat conditions within their own organisation using combat first aiders, and not rely on civilian infrastructure. Personnel noted that there were no medical or preventative health personnel present in the initial RFSU response beyond their own combat first aiders. Planners should consider this aspect and ensure that they have adequate numbers of trained personnel amongst their force element.

Training

RFSU personnel believe that they are generally well prepared for participating in natural disaster operations; however, they provided topics that could be included in any ad hoc training opportunity or annual training calendar in order to better prepare personnel specifically for the chaos and confusion that is evident during and after natural disasters. Examples include building searches, command post (CP) and watchkeeper responsibilities, hazard identification, traffic control, media awareness, interactions with locals and other government agencies, tree felling and debris removal techniques, and emergency/disaster management.

One of the most frequently used items of equipment during post-cyclone responses is chainsaws. Access to communities via roads may be severely hampered by felled trees. Getting into Innisfail was extremely difficult and slow as chainsaw crews operated around the clock to clear one lane to allow vehicles into the community. Personnel suggest that it is essential that as many members are annually qualified on the safe use of chainsaws. Members noted that there were not enough qualified members deployed on Op YASI ASSIST, and this resulted in fatigue and safety issues for those who were qualified. This is an important consideration for inclusion in annual training requirements.

Logistics

A key lesson learned by the RFSU command elements was that logistics planning should encompass the 'worst case scenario'. Planning for the worst case scenario is vital, especially when it comes to resupply during a natural disaster. The RFSU mission initially began as a 36-hour operation while the larger elements from 3BDE made their way up the coast to marry up with them. All





planning was based on this timeframe. However, this was extended when the replacement force were not able to get through as planned because the road between Townsville and Cardwell was destroyed, and all consumables had to be stretched to support the extended mission.

Requirements such as food, water, fuel and electricity can become extremely difficult to source once the crisis begins, so planning for adequate consumables is essential. Planners must not assume that they can utilise local facilities, as they too may be affected during

the disaster. The effect of the local devastation in the Innisfail region meant that electricity was non-existent, and the RFSU's supply of generators were well used for a range of tasks, especially recharging mobile phones which were being used extensively as the primary method of communication. Personal supplies of rations and water were provided to locals who were cut-off from the local community shelter centres.

Petroleum, oils and lubricants (POL) planning must ensure that there are adequate supplies for all items of equipment. There were several occasions where personnel volunteered their own personal supplies of 2 stroke fuel to supplement the dwindling supply of chainsaw fuel.

Planning for the placement of stores prior to a natural disaster response is seen as vital. Containers could be pre-placed in key locations along the North Queensland coast that could be readily accessed by deploying personnel. These containers could contain POL, chain saws and all its CES, items for setting up a CP, phones, batteries, generators, food/water and more.

There was a considerable initial shortfall in the provision of maps for personnel on the ground. Personnel utilised Google maps to cover the shortfall to good effect. There is some degree of predictability when it comes to cyclone impact, and as such, it is recommended that organisations pre-emptively produce maps and other material in small quantities so there is at least some product available initially.

Information Actions

Engagement with the civilian population is an inevitable part of natural disaster operations. Personnel must be prepared to interact with civilians who are going through a degree of loss and trauma. Responding with patience and empathy is vital. Personnel suggest that civilians don't often understand the tasking process and may respond negatively to the presence of military personnel, particularly

when they don't see that the military are doing anything to help individuals.

Personnel noted that the presence of media proved extremely beneficial, particularly for providing up-to-date situational awareness that they weren't getting through the chain of command. Reporters regularly provided updates to personnel on the ground as to roads. Furthermore, positive relationships were forged between the media and the ADF.

Of particular interest was that, in many cases, RFSU personnel were operating in their own communities. As a consequence, they knew key civilians and were able use their contacts to smooth over any interoperability issues that arose between civilian organisations and the ADF.

Personnel issues

Whilst responding to the needs of the wider community is essential as a result of a natural disaster, it is also important for commanders to appreciate that their own personnel may also be affected by the disaster and ensure that mechanisms are in place that will provide assistance to the member and his/her family. Several examples were provided where personnel had to deploy within Innisfail when their own property was affected, and they experienced emotional turmoil between deploying to help their community and also leaving their own families at home to manage the aftermath.

Deploying the right person on a task is vital to ensuring the timely success of the mission. Disaster operations are not training events. Personnel provided examples where new or inexperienced personnel deployed on the operation which proved a liability at times. Other examples included ensuring that personnel with the right experience participate, particularly chain saw qualified personnel, as much as possible. Whilst the enthusiasm of new personnel is often noted, it is still important that people with adequate experience and qualifications are deployed wherever possible.

Personnel noted that whilst it was simple to fall into an inadequate work/rest cycle in the initial response due to the overwhelming devastation in the area, commanders were generally able to identify those personnel who were suffering from fatigue, particularly the chain saw operators, and rotate personnel through. It is important that there is a redundancy in qualified personnel to allow an adequate rotation of personnel.

Tactical lessons from OP YAS/ ASSIST will be published in Smart Soldier 27, due for release in Oct 11.



BUSHFIRE DISASTER SUPPORT

'Brigade has had us on standby every Christmas since the fires in 2003, and the RQ assembles all the stores. I got the call on Sunday morning, swung by Watsonia and was in loc at Pucka by last light. By the time I left the coord meeting at 1000 hrs Monday, all of my plant was there, along with the APCs and three ambulances, awaiting tasking....'

An Engineer officer

The Victorian bushfires of early 2009 demanded a rapid response from the ADF. Local ADF assets made a valuable contribution to fire fighting support and remediation activities, despite being neither structured nor equipped for such a role. The fires were a significant event, from which Army can extract lessons. CAL conducted interviews and drew a range of initial impressions. This article attempts to capture those impressions for consideration in relevant decision making activities.

Command

Command arrangements for Defence Aid to the Civil Community (DACC) tasks should be reviewed in light of the Victorian fires emergency. Forming a JTF and establishing a clear chain of command at the commencement of operations will not only improve responsiveness, but will also avoid soldiers being tasked by several individuals, units and headquarters simultaneously.

A decision on whether Reserve brigades are to sponsor JTF for future DACC tasks may help to ensure they are manned and equipped to respond to such tasks. Suggestions to improve future command and control for DACC tasks included:

- development of appropriate standing operating procedures (SOP),
- regular command post exercises (CPX),
- establishment of a forward operating base or 'tactical headquarters',
- early formal division of the disaster area into OA that mirror those of civil agencies, and
- consider responsibility for and tasking of specialist Reserve Response Force (RRF) members when both the RRF and member's parent units are activated.



Operations

Army elements deployed on DACC tasks should deploy as formed bodies with organic support, and be able to operate independently of external support for 48-72 hours. For the Victorian fires, unit transport was brigaded or units were instructed to leave their transport behind. Without sufficient unit transport or dedicated Q-Staff, first line support was minimal. It concerned troops in the first rotation to Flowerdale that brigade transport departed immediately after unloading, leaving them without transport while fires were still burning within one kilometre of their location (although whether a real risk existed has not been shown).

Volunteers to participate in Army's support to the Victorian fires were 'called for'. A 'call out' of the Reserve would yield more volunteers, who would be prepared to deploy for a longer period. 'Call out' would also alleviate concerns that civilian jobs might be at risk, particularly when limited communications while deployed prevent Reservists from communicating with their workplaces. Many volunteers would have been happy to contribute to the effort for a protracted period had they known their jobs were safe.

When Reserve support is required, a seven day commitment from initial volunteers and 7-14 days from subsequent rotations appears to be workable, although planners need to be prepared to take on some key individuals within the constraints of their own circumstances.

Army elements deploying in support of natural disasters require comprehensive topographical support. Personnel are at increased risk without good maps and situational awareness. Few maps were supplied to units deploying in support of the Victorian fires. The maps were out of date and inaccurate. In an attempt to overcome this shortfall, soldiers sought maps from police and the Country Fire Authority (CFA), the Department of Sustainability and Environment (DSE), the Lands Office, and purchased maps privately. Some tore pages from their Melways street directories, used 'Google' maps and benefited from the GPS information supplied by personal 'Blackberry' terminals. Interviewees did not see Army topographical support on the ground for the first two weeks of the operation.

More Public Affairs Officers (PAO) are needed when responding to natural disasters, particularly early in the deployment. This will enable the media to have a greater appreciation of the JTF contribution, and ensure that they do not inadvertently hinder JTF tasking. It also avoids the JTF having to take personnel away from other tasks to undertake a role they are not trained for.



Civil military liaison (CML) teams are invaluable for determining local community concerns and facilitating a more focussed response. An initial allocation of one CAPT/MAJ to each platoon-sized organisation proved to be inadequate and was soon supplemented by a 10 man team (WO2-MAJ) within days. Psychologists and padres were later added to the CML teams in the search area.



Communications

Provision of Army communications to individual search teams and engineer detachments will improve safety while considerably enhancing efficiency. Issuing a lightweight, compact, radio system (with a range of up to five km in rugged terrain) to section level was recommended, along with the establishment of a pool of modern satellite phones.

If procuring Army radios for this task, consideration should be given to interoperability with the, reportedly, very capable Department of Sustainability and Environment (DSE) system. These measures should ensure that:

- fire threat warnings can reach teams in a timely manner;
- intelligence/situation reports issued via Defence Restricted Network (DRN), which were generally not available to teams in the field, could be relayed via radio;
- detachment commanders will not have to drive between sites to supervise and check on the safety of their teams;
- search teams will not have to rely on improvised field signs to inform other teams which properties have been searched;
- Personnel do not need to use their personal mobile phones (where possible, in areas where towers had not been destroyed) and logistics units don't have to reimburse their call charges.

Command and control nodes fielded in response to natural disasters require access to a pool of Defence Remote Electronic Access Mobility System (DREAMS) tokens, and a means of connecting to the DRN.

DRN Level 2 support should be available at all times. Email is a valuable communication option forwards from JTF headquarters, but to work efficiently, group/generic email accounts are required eg. "JTF662 Watch keeper". It took up to 20 days to establish accounts, which is not timely.

Training

If Army formations are to be called on to mount a JTF in support of natural disasters, then SOP need to be developed and annual exercises/preparation activities, incorporating other government agencies (OGA), need to be held. This should ensure that available capabilities can be fully utilised, by both Army and OGA. With greater mutual awareness:

- Police, CFA and DSE staff can make better use of allocated Army assets;
- Pioneer Platoons of Reserve infantry battalions can field their chainsaws and use the many tradesmen within their ranks to facilitate urgent reconstruction;
- Army work hours can be aligned with civilian agencies, thus avoiding idle time;
- communications interoperability workarounds are more easily achieved; and
- pooling of personal protective equipment, legal briefings, and equipment preparation can be completed in advance.

Specific fire fighting support training will minimise Occupational Health and Safety risks to soldiers responding to natural disasters. Soldiers should know how to protect themselves when there is an asbestos risk, using protective equipment and decontamination procedures to minimise this risk. Soldiers should be taught how to move safely around a fire-ravaged area while conducting searches, thus avoiding danger from overhanging branches and subterranean cavities where fire is still smouldering. Engineers engaged in these tasks need training in how to safely topple trees using dozers and other equipment.

Logistics

'They were keen! We had to dress one (inactive) volunteer in a uniform we took off the recruiting dummy...'

A Signals SNCO

The fielding of a JTF for future natural disaster relief operations requires personnel to be removed from their normal role. This ensures that they are

capable and responsive enough to support a large deployment to the field at short notice. In the case of the Victorian fires:

- sourcing transportation and a capable communication suite was difficult;
- ration packs were necessary for the initial push;
- water had to be brought in for the troops;
- some forces were initially reliant on civilian resources for food and accommodation;
- medics and medical supplies were needed from the beginning;
- basic orderly room support was required for the field;
- without sufficient resources available to deployed troops, some soldiers had to purchase items with their own money; and
- staff needed to have more control and influence over logistic support for their unit.



So overwhelming were the requirements of this support that the CSSB and BOSC were expected to be working for many months to cope with the backlog of work.

Outposted staff should ideally have a common background with the units they support. This would help to ensure that specialist lines of supply are correctly delivered when required.

Support staff will need to be capable of arranging pay for all three services, and both regular and reserve members. Current manning is only suitable for administering Army pay.

The requirement to perform Reception, Staging, Onward Movement and Integration (RSO&I) functions will need to be determined. During the Victorian fires this was performed by a staff of only six, working extremely long hours. By the end of the operation, the log recording personnel movements into and out of the area of operations (essential for pay and compensation) contained over 1700 lines.

Standing Operating Procedures (SOP) should include financial and funding guidelines for disaster relief operations. Consideration should also be given to providing each fielded element with a purchasing capability for small items such as marking paint and fuel.

Equipment

The use of Armoured Personnel Carriers (APC) during the Victorian fires for emergency escape, reconnaissance and road clearing was a popular and reassuring move for troops on the ground. APCs offered improved communications, could carry a medic and extra equipment, were much faster than supported dozers, and had better mobility than wheeled vehicles, including being able to push small trees and logs out of the way. However, even the APC communications were, at times, unreliable.

Despite popular belief, the utility of APCs for creating fire breaks, by using the 'Crazy Ivan' manoeuvre, is extremely limited and wearing on the vehicle. Before the use of APCs becomes accepted for fire fighting support tasks, their actual ability to withstand heat and to keep running in an atmosphere filled with smoke and deprived of oxygen needs to be tested.

A pool of PPE should be established for civil emergency support operations. For fire fighting support, the pool should include goggles which do not admit smoke (like the CFA goggles), high visibility vests/clothing, hard hats and fire blankets. Army plant operators need protective clothing that is easily identifiable. This would remove the need to borrow DSE kit. A distinctive Army equivalent would better promote Army's involvement.

For fire fighting support operations, engineer chainsaws may have benefited from a larger (24 inch) bar and greater engine capacity. Incorporating these improvements into the in-service chainsaw may better suit it to the extended periods of continuous use and the types of tasks likely to be undertaken during emergency response activities.

In-Service plant has been procured for construction, not clearance of vegetation. For fire fighting support operations, the protective cage needs to be able to prevent injury to the operator in the event of tree fall. Additionally, an angled blade is needed to push rubbish away and keep it from damaging the radiator, junction box and hydraulic hoses.

The ongoing rationalisation of engineer plant holdings should be reconsidered in light of natural disaster support activities. If local engineer assets must be brigaded into a loan pool, then equipment may have to be quarantined from bidding during periods when fires or other natural disasters might be expected to occur. Repair turnaround (up to 12 months at times) may also have to be improved.



TROPICAL CYCLONE LARRY LESSONS

The following article provides observations extracted from unit and JOSS PORs from deployments to provide emergency aid in response to Tropical Cyclone Larry. Cyclone Larry passed the coast in the vicinity of Innisfail, Queensland, on Mon 20 Mar 06.

Battle Procedure

A standardised load list needs to be developed and maintained, including as many full sets of maps that the unit requires.

Units need a DACC directive/response plan that is to include identification of authority for issue and control of unit DACC stores. Failure to do this can result in confusion as to the issuing and usage of stores while undertaking the DACC tasks.

Stores and Equipment

DACC stores should be identified and stored separately, ready for use. These stores will obviously be dependant upon the anticipated DACC tasks, but examples can include chainsaws, spare chainsaw blades, overalls, gloves, axes, machetes, safety glasses and hearing protection. It can also include larger stores such as boats for areas where flooding is probable.

Regular annual training should be conducted to ensure that all unit personnel are qualified in necessary equipment.

Sufficient stores should be carried by deployed RAP assets to allow emergency medical support to be provided to civilians, where approved, and where local medical infrastructure is not capable of providing sufficient support.

Command and Control

The Commander's intent needs to be clearly understood by all members of staff. This is particularly important when initial planning will, in all likelihood, be rushed and potentially poorly communicated.

The delineation of responsibilities must be clearly identified and consideration be given to there being only one Watch-Keeper/Duty Officer during periods of deployment, with Barracks Administration, Operations and Logistic support staff working to one Watch-Keeper. This will avoid having duplication of effort and potential confusion.

Clear OA boundaries need to be identified during planning, so that it is clear which areas have been assessed, what support needs have been identified and what emergency assistance has been provided.

Reporting procedures need to be formalised, including the method through which messages are distributed in and out of Battalion HQ. This enables an efficient passage of information between deployed assets.

If the DACC task is for a significant natural disaster, then there should be plans to establish multiple CP in case one of the locations is threatened or needs to close.

Ideally, units should be involved in a 'pull' system, where resources that are needed for the emergency relief are sent in. This is in preference to the 'push' system where needs are anticipated, which can result in a misuse of resources.

Communication

High frequency training should be conducted for all unit personnel, to develop a good understanding of communication capabilities and short comings.

Alternate means to communicate should be available, such as handheld radios, VHF, Satellite Phone or mobile phone assets.

A unit needs to have sufficient spare radios so that the operations staff has more options during planning.

Prior to deploying or redeploying, teams should be conducting a radio check to confirm net availability and notify the CP of any movement intentions.

Liaison should occur to identify a means of communication between emergency response assets at the local level.

Liaison Officer

Units should be prepared to provide a Defence Force Liaison Officer (DFLO) as directed. That person needs to have information required for the task readily available. Ideally, they should have undertaken training by JOSS and be familiar with disaster management system and how ADF works within it.

The DFLO is to be provided with:

- Laptop computer capable of compact disc burning
- DRN and internet connectivity (possibly via a wireless network)
- A small printer
- Staff planning tables and guides
- Capability book
- Standing orders, SOP, references and plans
- Mobile phone
- Stationery
- Vehicle with radio/satellite phone
- Memory stick



Community Liaison

Key unit staff should attend Disaster District Coordination Committee and Damage Control Centre meetings as observers, in order to develop familiarity and provide advice on unit/ADF support and procedures for gaining support. This attendance benefits the unit in expanding regional contacts and engagement.

A Public Affairs officer should provide the commander with relevant daily key messages and talking points. Furthermore, a Public Relations representative should be considered for deployment with and in support of deployed elements. A significant natural disaster will normally be followed by high profile visits from politicians.

Be aware that if a television station broadcasts that the ADF are transporting donated goods to the disaster effort, civilians are likely to drop goods off at Defence establishments. Security agencies at bases should be given guidelines to respond to such occurrences and Public Relations need to be able to respond quickly to such statements by television broadcasts.

Joint Operations Support Staff

The following DACC principles have been adopted by JOSS, to assist in the understanding of JOSS role with civilian agencies:

- Provide advice not answers to requests for support from civilian agencies.
- Do not commit to ADF support for all task requests.
- Provide early warning for pending support requests to the JOC of possible supporting elements.
- Develop working relationships with other supporting agencies.
- ADF work in support of the civilian agencies, not as a separate entity.
- The civilian agency always retains primacy.



2004 INDIAN OCEAN TSUNAMI LESSONS

On 26 December 2004, the Indian Ocean tsunami struck coastal areas of the nations surrounding the Indian Ocean. As part of the response to this disaster the AS Government provided an engineer group of broad engineering capabilities to the assigned Combined JTF 629.

The following article provides some observations from the Engineer Group POR.

Preparation

Units must train and practice in readiness for short-notice deployments by air or sea in accordance with DACC and humanitarian assistance/disaster relief (HA/DR) likely tasks.

Units need to maintain up-to-date registers of all personnel. Failure to do this may result in significant challenges in getting the unit ready for short-notice deployments.

Logisticians with Dangerous Goods and Air-portable Team Leader skills are required to be on-call during leave periods if the unit has assigned readiness tasks.

Deployment Briefs and Training

Training was coordinated across a four-day period while in transit on HMAS Kanimbla. Due to a lack of space, this training was conducted in whatever briefing rooms, galleys and mess decks were available. Training targeted revision and awareness in the following areas:

- Situation/topography brief
- Communications revision (HF/VHF)
- Psychological awareness brief
- Medical briefings
- First-aid revision
- Media awareness
- Basic language lessons
- Cultural awareness and Indonesian military/Gerakan Aceh Merdeka awareness



Recovery

Military. The employment of RAEME recovery mechanics in Banda Aceh was used to maximum effect. The poor road conditions and inclement weather contributed to unstable and boggy ground that often could not support the weight of the heavy B vehicles and plant equipment operating in the area. Additionally, mud and debris carried by the tsunami clogged and covered large drains and drops in the ground level, which were not visible to drivers and plant operators. This contributed to an increased requirement for vehicle recovery.

Civilian. Recovery mechanics were employed to assist with the local recovery of civilian vehicles damaged or 'bogged' by the tsunami. This was important in the effort to clear rubble and the recovery of vehicles required for reinstatement of essential services, such as water trucks, ambulances and police vehicles.

Supply Management

Planners need to be aware of holidays outside the AS calendar. For example, resupply was facilitated through Butterworth and was generally good; however, on occasion minor delays were experienced due to local holidays (eg. Chinese New Year and other religious holidays).

One of the main Class 2 stores required was safety equipment. An immediate deployment required a significant quantity of stocks be available to enable a safety kit to be issued to every individual deploying ashore. Those stores are as follows:

- Safety goggles
- Rubber gloves
- Rigger gloves
- Toxicological gloves
- Sunglasses
- Face masks
- Waders (for work in the muddy environment)



Locally Employed Civilians

To assist ADF activities and liaison with Acehnese, locally employed civilians (LECs) were employed as interpreters. The use of LECs in support of the Engineer Group provided a direct link into areas of the local community for provision of various classes of supply. The LECs were also utilised as local guides for vehicle drivers to assist local purchase. Many recovery tasks utilised a local linguist to facilitate an understanding between the Indonesian National Army (Tentara Nasional Indonesia - [TNI]) and local owners for the conduct of the task.

Host nation vehicles. Contracted host nation vehicles were used to transport military personnel and for general tasking around Banda Aceh. The provision of these vehicles allowed the successful draw-down of vehicles without adversely effecting capability.

Equipment Return and Remediation

Equipment that has been washed needs to be allowed to dry properly before being packed. If not, you risk water/moisture damage.



Heavy stores need to be packed at the bottom, with plastic containers above that and cardboard boxes on top. Not doing this will cause considerable and unnecessary damage to other stores.

Catering

Cooks are combat multipliers. They have an overwhelming effect on morale. Fresh rations needed to be introduced earlier and more frequently. The soldiers quickly became tired of the one-man CRP, which led to local purchases and the increased risk of non-battle casualties. All deployments of sub-unit size or greater should include integral cooks and a field kitchen.

The daily fresh meal was provided as the evening meal, rather than the lunchtime meal as originally planned. This ensured timely consumption in an environment where personnel could be clean and away from diseased work sites.

Universal Lessons

Appropriate delegation of authority is a must in an environment of poor communications and rapidly changing situation.

Soldiers returning from operations should be kept busy within the barracks for a reasonable period of time prior to post-deployment leave. This will allow them to share experiences with others who were also there, thereby reducing the cases of Post-Traumatic Stress Disorder.

Verbal orders should be used where time and the situation allows. Engineer Group orders were provided verbally where inflection, tone and delivery were as important as content.

Programming of our own tasks to allow AS soldiers to feel a sense of 'having done well for the people' shapes the soldiers perception of the entire operation.

Engineer Specific Observations

Ample quantities of construction stores need to be held for access by CERs. This reduces the reliance on local infrastructure and supply systems. Longer lead times are necessary in Darwin for some classes of supply where 30 days of supply (DOS) are required.

The Engineer Group was directed to hold 30 DOS for all classes on leaving AS. If 30 DOS is going to be considered a normal practice with respect to supplies, all high readiness units should be in a position to carry or at the very least access a system where 30 DOS is held.

Empty 205-litre drums are an adaptable and valuable asset for HADR tasks and should be considered as a required store item.

Crane Support. Deployment by sea allowed the Engineer Group to deploy with specific 'heavy vehicle' capabilities that did not exist in-theatre. This equipment was operationally essential, as there was limited heavy lifting equipment available in-theatre.



LESSONS FROM OP SUMATRA ASSIST

Following the 2004 Indian Ocean tsunami, the Department of Defence provided national humanitarian relief effort to Indonesia.

KEY LESSONS

The lessons identified against the key FIC during Operation SUMATRA ASSIST are as follows:

Command and Liaison

Real estate. Real estate was a significant issue affecting all Task Groups in Banda Aceh. Any reasonable civilian infrastructure that was still remaining after the tsunami was either still being used by the local inhabitants and/or was occupied by NGOs. Real estate sourcing was managed through the TNI, and that was further complicated by the absence of an interpreter in Joint Force Support Group structure. Ultimately, the ability to source good work sites and living accommodation needs to be managed with the aid of an interpreter, a financial advisor (they had to hire many of the buildings) and a qualified engineer to assess the structural integrity of the buildings. In the future, the Force Support Group structure should either include or have reasonable access to personnel with these skills.

Australian Quarantine Inspection Service and Officer Commanding Force Extraction Team Involvement. One of the major lessons learnt from the planning and establishment of the Force Extraction Team was to get Australian Quarantine Inspection Service (AQIS) and OC Force Extraction Team involved at the earliest possible opportunity, preferably at the initial planning stages. A great deal of information was learnt from the AQIS Reconnaissance Officer and clearly this information would have greatly assisted in the planning process.

A lot of Indonesians did not recognise the AS flag as a symbol of AS. AS uniforms and equipment could be marked with unique AS identifiers (such as the kangaroo).



Sending LOs early supported quality information passage. To facilitate the passage of information on short-notice deployments, all official mobile phones should be capable of operating overseas. A number of handheld satellite mobile phones should be on hand within each brigade for such deployments to remote areas.

Early involvement of AQIS with Force Extraction staff in extraction planning from the concept phase would do the following:

- enable detailed extraction planning to be conducted in tandem with the current operational focus,
- provide transitional continuity, and
- ensure site selection and acquisition is completed well in advance of Force Extraction and without the potential to compromise Government of Australia intent.

The ability to commence AQIS inspection (manned by AQIS personnel or ADF personnel trained for the AQIS inspection function) needs to be available from day one of Force Extraction Team operations.

Organisation

Initial guidance was very broad in nature and tasks could change as a result of the nature of the situation. This necessitated a balanced engineer force that was capable of undertaking a broad range of tasks. This needs to be supported by a responsive supply system.

At no stage prior to deployment was there any indication of tasks that the Engineer Group was expected to carry out. This lack of knowledge was a hindrance in the planning process. It is difficult to work out load lists, equipment servicing priorities and the ship loading sequence without even a basic knowledge of the task and mission analysis.

Personnel

Official Passport Issues. Considerable delays were experienced in efficiently issuing official passports to deploying members. A possible solution would be



to organise official passport applications with four photos (allows for visas) for personnel upon march-in to unit as part of their personal documentation.

The RSM and Adjutant were the only personnel who were involved in the clearance of corpses as a result of the tsunami during Operation SUMATRA ASSIST. The RSM would clear rooms before soldiers entered for the first time to ensure that exposure was minimised. The Battalion established a good working relationship with the TNI and they would ask the TNI to remove the corpses and/or body parts that were found. The RSM believed that they would have fewer psych issues as a result of this methodology. Another consideration is to use RAP personnel to assist the RSM in this task.

Support

Australian Quarantine Inspection Service Inspectors. A delay in deploying AQIS personnel resulted in previously cleaned equipment being brought back onto the cleaning line for inspection and further cleaning as required which put Force Extraction Team operations back by four days. While this is not an insurmountable issue, it is one which could have been avoided by the following:

- Aligning AQIS staff deployment with commencement of Force Extraction Team operations; or
- Consider seeking permission to train ADF personnel to carry out AQIS standard inspections.

POL. POL was purchased in Butterworth and dispatched forward by air in 205-litre drums. This proved to be quite successful and was used for unleaded petrol and diesel fuel until a contract could be established in Banda Aceh for the bulk supply of diesel fuel and aviation turbine fuel (AVTUR). A Theatre Waste Management Plan for all types of waste needs to be developed and implemented early in the operations. AS regulations should be followed by AS deployed forces as much as possible – including disposal of waste. Given the location of this operation, disposing of effluent, chemicals, fuels and other contaminated waste into the ocean seems unacceptable and potentially dangerous; however, no other options were available to AS Forces.

Equipment

The ADF was tasked to provide a 10-man water purification team with a water purification unit and some minor engineering equipment as an immediate response to the tsunami. Several problems were encountered with this initial deployment. Delays and confusion with the deployment existed resulting in some of the initial equipment being left behind. This was due to the following:

- inability to confirm exact aircraft type, departure time and space available on aircraft; and
- inability to secure a stopover that would have allowed more weight/ equipment to be carried. If a stopover could have been guaranteed then all equipment could have been moved in one lot.

The skid steer loader was delayed in deploying due to no load and lashing diagram. Air Movements Training Development Unit had to be contacted and provided with the vehicle dimensions so that a waiver could be raised. All new equipment, as part of its introduction in to service, needs all relevant documentation to be completed in order to allow it to be transported by road, rail, air and sea.

The use of air asset to transport bottled water is a waste of valuable lift assets when drinking water can be prepared in the OA after the lift of water purification equipment and stores. Environment Health Officers must be correctly equipped to make an assessment of the water quality 'fit for human consumption'. The failure to declare the water made at Banda Aceh to be "drinking quality (AS Standards)" was exasperating with in-Service environmental health tests not able to support the Environmental Health Officers (samples needed to be sent back to AS). Furthermore, it is acknowledged that bottled water is the accepted practice, and reduces contamination problems. Deployable bottling plants should be considered for future operations.

Construction stores need to be held and maintained within reach of agencies such as Engineer units in sufficient quantities to allow the supply chain to catch-up and not rely on local infrastructure to supply. It is recommended that the full-time RAE elements hold and maintain a minimum of 30 DOS of construction stores, for plumbing, electrical and carpentry.

The Army's systems for field sanitation and hygiene could be modernised and improved. Local purchase of materials and improvisation was needed to provide a very basic level of hygiene. This includes showers, toilets, hand washing facilities, and clothes washing facilities. Equipment solutions are available and should be considered a force protection measure in this type of operation.



LESSONS FROM OP PAKISTAN ASSIST

The ADF deployed medical support into Pakistan in November 2005 to provide health care assistance as part of the AS Government's relief assistance to Pakistan following earthquakes on 08 October 2005.

KEY LESSONS

The lessons identified against the key Fundamental Inputs to Capability (FIC) during Operation PAKISTAN ASSIST are provided below. Comments from CAL are provided in italics.

Command and liaison

Public Relations. The diversity of Pakistani society made the targeting of specific interest groups difficult owing to the number of sub-groups, their range of interests and the resources that would have been required to achieve a desired effect. Consequently the decision was made to amplify aspects of the relief effort being provided by JTF 632 in an attempt to generate a positive perception of their efforts.



- * *Establishing a strategy of public relations is an effective way of generating a desired effect when conducting humanitarian operations and specific threat group cannot be identified or targeted.*
- * *A comprehensive and active health plan can form the basis of a robust public relations strategy for humanitarian operations.*

Information Networks. Relief agencies need to operate networks that allow easy transfer and sharing of information.

- * *Rapid and easy access to the electronic information databases of relevant agencies would be beneficial. This may be augmented by a Liaison Officer (LO) at that agency.*

Aviation Liaison Officer. Collocating the Aviation LO with Task Group 632.2 expedited the Aeromedical Evacuation (AME) process and ensured that Task Group 632.1 received accurate and timely detail on the casualty. It also ensured that supporting processes improved incrementally as anomalies were identified and addressed.

- * *Aviation LOs are beneficial when embedded in the HQ that command medical capabilities.*

Clinical Governance. Health Work Instructions were drafted to ensure the delivery of a high standard of clinical care to Pakistan and JTF casualties. The

Health Work Instructions followed the clinical governance model and were ordered into the following chapters – management, clinical, risk management, quality improvement, continuing professional development and general. These work instructions enabled standardisation of care.

- * *Health Work Instructions provide a robust means of ensuring a consistent level of health care is delivered.*

Australian High Commission. A lack of local situational awareness by JTF 632 made it necessary for the ADF Attache to provide a list of AS High Commission accredited service providers. These service providers proved highly reliable, cost effective and responsive.

- * *AS High Commission accredited service providers offer a robust start point for establishing life support contracts and accessing locally available materiel.*

Organisation

Primary Health Care. Historically, ADF humanitarian operations have been characterised by the rapid deployment of a surgical capability in the early stages of disaster recovery. Whilst this provides a substantial up-front capacity, the issues faced after the emergency are often more significant. It was observed that primary health care interventions, including vaccination, have a far greater sustainable public health impact than the provision of temporary surgical facilities and the like.

- * *Primary health care is a very meaningful and sustainable humanitarian activity.*
- * *The utility of a primary health care organisation would be enhanced on humanitarian operations if a public/environmental health capability, that is able to deliver a health education function, was embedded (with due consideration for local standards and customs).*
- * *Clinicians delivering primary health care can be drawn from a wide range of organisations, reducing the requirement for ADF to source and roster specialist medical practitioners.*



Environmental Health. The very nature of a humanitarian crisis generally requires operations to be prosecuted in an environment where sanitation infrastructure has been destroyed or is very primitive. This generates a requirement to construct and adapt field hygiene equipment such as incline incinerators, burn latrines and field ablutions and to establish, monitor and enforce occupational hygiene practices. The ability to conduct health threat assessments is also a required force protection measure.

- * *An embedded occupational hygiene capability provides a critical force protection capability during humanitarian operations.*

Linguist/Interpreter Capability. The lack of an embedded linguist/interpreter capability dictated a requirement to employ local Pakistani nationals as interpreters. This became problematic. The preferred level of English proficiency was available in Islamabad; however, relocating these individuals to Dhanni would have generated additional administrative (eg. housing, transport and meals) and force protection considerations.

- * *There are significant administrative benefits to embedding a Service linguist capability in any force element group deploying to a non-English speaking OA. However, employing a local interpreter will provide other benefits such as local knowledge and contacts.*



Personnel

Information Actions. The information actions (IA) plan is critical to achieving operational objectives and maintaining an acceptable level of force protection, particularly in humanitarian operations where transparency is vital. As humanitarian operations effects can be achieved by basing the plans on the health plan, commanders would benefit from having an embedded IA subject matter expert.

- * *An IA subject matter expert embedded on the HQ of the force executing a humanitarian operation would facilitate objectives being achieved, and increase their force protection capability.*

Meteorological Support. The lack of an organic meteorological capability in task groups JTF 632 was a significant risk owing to the terrain and rapidly changing weather patterns over northern Pakistan, which was only mitigated by access to the US capability. Weather data accessed from the internet was generally dated, too generic and lacking the detail required for Aviation operations.

- * *An embedded metrological capability is a significant risk mitigator when conducting aviation operations.*

Rest and Recreation. A rest and recreation (R&R) program was established to provide in-theatre relief from the operational tempo. Force protection was the major concern and strategies were established to improve against identified and possible threats.

- * *Pocket cards identifying emergency contact details and detailing force protection measures carried by personnel on R&R provided a robust and rapid means of maintaining situational awareness. The cards also reinforce the message that security is something that needs constant attention.*

Support

Medications. The World Health Organisation (WHO) provided a basic health care kit that contained pharmaceuticals well-suited for treating earthquake related injuries. By utilising these kits the casualties received medications that are readily available in Pakistan. By comparison, JTF 632 deployed with pharmaceuticals more suited to chronic disease.

- * *The development of a block scale primary health care package similar to the WHO basic health care kits (each designed for a different location) would support short-notice humanitarian operation deployments.*

Vaccines. Vaccines brought from AS were all used within 2 weeks of arrival in the Pakistan OA. The government of Pakistan provided resupplies at no cost as the Commander agreed to administer immunisations in accordance with the existing government immunisation program.

- * *Adopting existing Government immunisation programs ensures consistency with local guidelines and continuity with established immunisation programs.*

Supply Chain. Initially, significant delays were experienced obtaining Government of Pakistan clearances for consolidated consignments owing to the need for communications materiel getting clearances from numerous government departments. The timeframe for obtaining clearances were reduced when consignments were categorised by commodity (eg. aircraft parts, communications equipment and general stores) and cleared by the responsible departments.

- * *Consigning materiel by commodity expedites host nation customs clearance.*

Equipment

Aeromedical Evacuation. The Blackhawk functioned without problems in the high mountainous terrain of the Pakistan OA. Crews crossed ridgelines at 9800 ft and landed as high as 7500 ft. Aircraft loaded with stores, role equipment and personnel experienced Category 4 power at 9800 ft.

- * *The Blackhawk is capable of conducting combat AME operations in a high altitude environment.*

Force Protection. In a humanitarian assistance operation, civilians at medical facilities need to be screened as a force protection measure, particularly when a heightened threat state exists. For cultural reasons this capability needs to be non-intrusive.

- * *Man-portable metal and explosive detecting wands would provide commanders with an additional force protection capability.*

Oxygen Management. Reliance on cylinderised oxygen proved problematic owing to the impact of weather on the supply chain and the inability of service providers to source cylinderised oxygen.

- * *An embedded oxygen concentrator would improve the support of a deployed force element by providing a reliable oxygen capability.*

Field Hygiene/Occupational Hygiene Equipment. Improvised field and occupational hygiene methods and equipment were employed as no comprehensive deployable kit was available for deployment at short notice. A capability was consigned at short notice; however, it had little utility and the contents appeared to be an adhoc selection.

- * *An environmental health point of entry kit capable of sustaining a force element group of 100 personnel for 30 days would provide a suitable capability for short-notice deployments. The inclusion of an occupational hygiene monitoring capability would increase its utility, particularly for humanitarian operations.*

Instrument Sterilisation. The primary health care facility had no embedded ability to sterilise instruments, including those used for minor invasive procedures (eg. suturing, incision and drainage of abscesses). While chemical disinfection



and boiling was available, it did not guarantee destruction of bacterial endospores and hepatitis viruses prevalent during humanitarian operations.

- * *A portable steam steriliser would have great utility for a primary health care capability on humanitarian operations.*

Cold-chain Management. The cold-chain consistently failed until allocated a disproportionate quantity of resources and was intensely managed by JOC. The points of failure included equipment breakdown, poor articulation of storage requirements, and the failure of service providers to execute their agreed responsibilities.

- * *Risk is mitigated when the shortest possible cold-chain is established.*

Materiel Handling Equipment. Heavy lift was dependent on the goodwill of coalition partners owing to a lack of an embedded materiel handling equipment (MHE) capability. This also dictated that heavy loads were manhandled at landing zones to meet tight timelines. The lack of the MHE capability also increased the potential for serious injuries to personnel.

- * *There is utility in including a light all-terrain MHE, and necessary technical support, as a capability for all operational deployments.*

Training and Doctrine

Clinical Governance. Health Work Instructions structured on the clinical governance model were drafted to standardise care within a culture of improvement and resulted in the delivery of consistent levels of medical treatment, particularly in the areas of management, clinical, risk management, quality improvement, and continuing professional development.

- * *Health Work Instructions be developed as a baseline for ADF health force element groups on operational deployments.*

Aeromedical Evacuation Documentation. Confusion was generated by Pakistani military, non-government organisations (NGOs) and troop contributing nations submitting differing medical evacuation documentation to the UN Air Operations Centre.

- * *AME procedures and documentation for the USA, UK, Canada, AS and NZ should be standardised. Additionally, LOs could resolve this.*

AUSTRALIAN OBSERVATIONS FROM HURRICANE KATRINA LESSONS

LTCOL Jason Hedges was the only ADF member deployed to the City of New Orleans Emergency Operations Centre immediately following Hurricane Katrina. LTCOL Hedges was assigned to the Mississippi Division of the US Army Corps of Engineers as a liaison officer and operations planner, and was in location in the City of New Orleans and surrounding districts for a two month period.

Based on these experiences, the following are offered as an AS perspective:

Differences in Scale. Many of the US lessons are difficult to relate easily to the ADF due to the differences in organisational scale. The differences in scale apply directly to resources organic to the US Military assistance contribution, including but not limited to all platforms (such as rotary wing assets and land vehicles), naval assets, organic logistic capacity and reach, intelligence, surveillance and reconnaissance assets for situational awareness and funding to enable immediate purchases for civilian solutions. Sustainability of these resources and assets also needs to be considered.

Military Credibility. The military was instantly viewed as a credible, well-organised organisation capable of fixing problems and getting the job done. This was a perspective from civilians on the street, NGO and US Government Agencies at all levels - city, district, state and federal. This was most evident during the period immediately following Hurricane Katrina and until the Federal Emergency Management Agency (FEMA) was established and assumed effective control of the situation on the ground. Civilians, NGO and Government employees would look to a soldier in uniform (of any variety) and expect



decisions, answers and solutions (even if it was well outside their responsibility).

Engineering and Project

Management. Almost every 'war stopper' issue in the provision of humanitarian assistance involved an engineering and project management aspect or key element, such as water removal, immediate

levy repairs, debris removal, sanitation, infrastructure and building assessments for structural integrity and temporary housing repairs etc. Ensure you have qualified and accredited engineers (civil and mechanical) and project managers within your organisation.



Military Staff Function. The military's approach to doing business (command and control, current operations, future operations/plans, personnel, logistics, etc.) is readily accepted by external agencies as being an effective framework to get things done. External agencies that do not have a similar approach require close supervision.

Priorities. Determining priority of effort across the multitude of responsibilities the military had was extremely difficult yet extremely important to get right. There is a tendency for mission creep due to people on the ground trying to help in whatever way they can. This was particularly prevalent before the lead agency (FEMA) was operating effectively in location. Communicating this intent within the chain of command is also problematic given the lack of communications and the dispersal of elements.

Force Protection. Rules of Engagement (ROE) and force protection must be addressed. Civilian US Army Corps of Engineer employees were being shot at by angry locals believing they were looting houses, when they were undertaking structural assessments of houses to determine whether or not they were safe for owners to return and move back in. As a result of this, we had force protection assets assigned to civilian teams on task.



CARE FOR THE MUSLIM PATIENT

FLTLT Hyder Gulam wrote an article for ADF Health to assist non-Muslim healthcare professionals to come to a better understanding of Islam so that they can provide appropriate and effective care to their Muslim patients. The following provides a few extracts from this article.

Aspects of General Care

Good communication and open dialogue is the key to providing culturally sensitive care.

When possible, healthcare should be given by people of the same gender as the patient. This has become more possible with the advent of more males in nursing, and more females in medicine. For female patients, there is an overriding objective of modesty and privacy. In some cases, a close family member of the same gender may assist in the washing of the sick person.

Muslims generally wear clothing that does not reveal the shape of their bodies. Hospital attire should be provided that meets these requirements, or if not, the patient can be advised to bring some of their own appropriate clothing.

Unnecessary touching between non-related people of the opposite sex should be avoided. The left hand is considered unclean, so it is preferred that the right hand be used for feeding or administering medications.

A beard is considered a very important religious symbol to the Muslim male patient. Like any other patient, permission must be obtained to shave any part of the beard, which should be done by a man.

A sick Muslim patient who does not have freedom of movement may perform prayers while seated or even while lying down. Healthcare providers should be aware of this and not disturb the patient at prayer. Muslim patients may require special or additional assistance after toilet duties. It is of utmost importance that patients are given the necessary assistance to clean themselves after clearing their bowels (even in a pan). Having a jug in the bathroom/toilet is greatly appreciated, as Muslims prefer to wash with running water after using the toilet.

The holy day for Muslims is Friday, when a patient may receive a number of hospital visitors above that normally expected.

Death, Dying and the Muslim Patient

Death is seen as something predestined by Allah. It is only the beginning of eternal life. The more pious families may thus appear inappropriately calm and accepting by Western standards. In Islam, grieving is allowed for only 3 days (except that a widow may grieve for 4 months and 10 days).

Because death is perceived as predestined by Allah, Muslims disapprove of any medical care that may hasten the death of a patient, even for humane reasons.

If a patient is in a coma, it is preferred that the patient be turned to face Mecca (shown on the map), with the right shoulder also being towards Mecca. It is important for Muslims to recite the Qur'an or prayers in front of the patient or in a room close by.

For a patient who has just died, the face and right shoulder of the deceased should be turned in the direction of Mecca. The whole body of the deceased must be covered by a sheet and should be handled as little as possible. The body must be handled with the utmost respect only by a person of the same sex. *A cross must never be placed on the body.* The body should not be washed, as this will be done as part of a special religious ritual before burial. Muslim burials are performed as soon as possible after death, preferably on the same day. The eyes should be closed; the lower jaw should be bandaged to the head to stop a gaping mouth. The body is then straightened and the feet are tied together.



Blood and Organ Donation

Muslims accept blood transfusions and transplants of various human organs. It is acceptable for Muslims to donate blood and organs, as the saving of life is considered an act of great virtue.

Conclusion

A holistic approach to care recognises that spirituality and health are intertwined for most patients. To be able to perform an accurate assessment and provide competent and sensitive care, the health care practitioner must consider the patient's religious and spiritual beliefs, as well as cultural customs.



DEALING WITH DEATH

This article has been cleared by 1st Psych Unit and the Army School of Administration and Health.

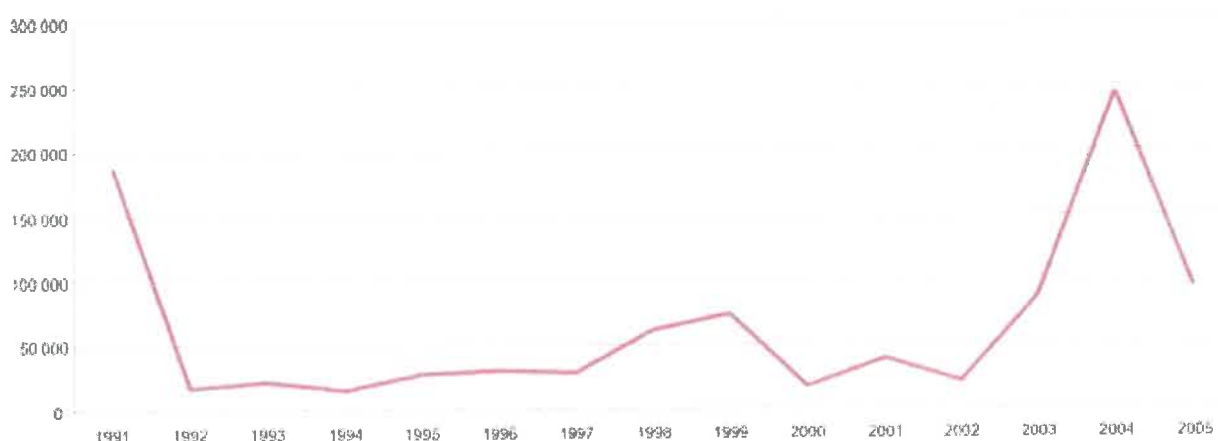
Dealing with death and destruction

Important Note: This article is a general discussion paper.

It is not meant to take the place of any psychological debriefing or counselling.

Large-scale natural disasters caused by environmental hazards occur regularly world-wide. They may be caused by climate (drought, flood, cyclone) or geology (earthquake, volcano, tidal wave, landslide) or the environment (pollution, deforestation, desertification, pest infestation) or combinations of these. The entire Pacific Ocean is circled by the so-called 'Ring of Fire', a collection of volcanoes and earthquake fault lines, which is why countries in the Asia-Pacific region experience more natural hazards than countries located in other parts of the world.

Natural disasters result in death and destruction. They can cause large numbers of deaths in a short period of time, placing overwhelming stress on individuals and society and presenting health officials with an uncommon challenge of handling large numbers of cadavers (dead bodies). Natural disasters impact more in the less-developed countries where poverty, increasing urbanisation and environmental degradation can result in increased vulnerability to the impacts of natural events. In addition, developing countries often lack the technological know-how or facilities to warn and rescue populations at risk before the occurrence of the impending disaster. Southern and eastern Asia has the greatest fatality rate from natural disasters, with Bangladesh topping the list of individual countries. The figure below illustrates the world-wide death rate of people reportedly killed by natural disasters between 1991-2005.



Source of data: EM-DAT : The OFDA/CRED International Disaster Database.
(<http://www.em-dat.net>), UCL - Brussels, Belgium.

Experience within the ADF in the management of mass casualties, including dead bodies, is relatively sparse. During operations you may be exposed to, or required to, provide assistance in recovering, processing and perhaps burying human remains. Unfortunately, very little training in managing the physical

and psychological aspects of dealing with death and destruction is conducted. Personnel who have returned from humanitarian assistance deployments have indicated that every little piece of information will greatly assist individuals to prepare themselves physically, mentally, spiritually and behaviourally for a similar deployment.

Considerations

There are several considerations that individuals need to be aware of that will affect the responses to working with mass death and destruction that follows in the wake of a natural or environmental disaster. These are as follows:

- **Who.** One of the more difficult aspects of body handling for most people – even the most experienced disaster recovery workers – involves the retrieval and management of the bodies of children and babies, for whom we feel an innate sense of sadness. Personnel from previous deployments who were involved in mass recovery of bodies noted that those personnel with children of their own found this task particularly confronting; however, no-one found the recovery of children and babies easy.
- **State of the body.** Temperature, climate and time affect the degree of the body's composition. Bodies may be decomposing, bloated, bruised, and unrecognisable if they have been involved in a traumatic natural disaster. This can be extremely unpleasant to view, and difficult to manage physically and psychologically. Alternatively, the recovered bodies may be in good condition, clothed and look relatively normal, which can still be confronting and unpleasant.
- **Sensations.** In addition to the sight of death, you will not be able to avoid the smell of bodies and other associated strong odours (such as raw sewerage). You may have to touch the remains, move them, and perhaps hear the sounds of autopsies being performed, or other burial activities. These sensations may place a strain on your capacity to do the work, and may trouble you in dreams and thoughts. What personnel from previous deployments have found most confronting is that it wasn't like they thought it would be either. Seeing death on television or in the movies might provide some minor preparation for the sight of death, it does not prepare you for the smells – and it is this that many people find particularly challenging.



Expect movement to cause air to escape the lungs and cause a groaning sound from the dead (a soldier it happened to nearly dropped the body with fright). Expect blood to pool and the area on the body to look blotchy red or brown ... especially confronting if they die lying face down.

Not all dead are stiff. It's a phased process - after death the body is flaccid [limp], then rigor mortis sets in, and then they go flaccid as they decompose and bloat. The length of time for each of these phases depends on the ambient temperature.

Being exposed to large numbers of dead bodies is not a normal part of human experience. For that reason when you are exposed to bodies you should not be surprised should you develop feelings you are not used to. When you are exposed to bodies, you may well experience a whole range of emotions: sorrow, regret, repulsion, disgust, anger and futility. These are normal experiences given the situation in which you have been placed. In fact, it would be surprising if you did not have at least some of these emotions.

It is important to remember that you may have contact with the living victims of the event and their families. Be prepared that in their grief and shock, they may be seeking answers, comfort and understanding from you. They may be searching for missing family members and may at times 'hamper' your mission. It is important for you to recognise their grief and shock but still get on with your job. Provide them with advice as to where they can seek assistance and information. Be aware of what services are available on the ground for locally displaced people and for the management of identified dead so that you can be helpful but do not become involved. It is best to direct them up the chain of command or to the appropriate NGO who can provide them with the necessary time, resources and assistance.

In any body handling task, it is important to maintain some distance from the situation. This means you should not become 'part of the story'. It is important that the human remains you collect and return home are just that, human remains. Try not to see them as 'Joe Bloggs, father of eight'. Consequently, in your role it is important to keep the families and living victims at arms length.

Tips for Managing Body Handling

Personnel who have returned from previous operations that involved significant dealing with death have provided some insights into managing the physical aspects of the experience.



- Preparation should also include an orientation to how to 'search, bag and tag' human remains. If your role is to help in the recovery of bodies, then make sure you are familiar with the equipment, masks, gloves, body bags, etc.
- Lifting a body, particularly an adult, is very difficult because of the weight distribution. Practicing lifting your mates from the ground (with no assistance from them) is helpful to determine appropriate grips and positions (for yourself and for the body). At the end of this article, you will find more specific lifting and moving tips.
- For those whose tasking will routinely involve body recovery and handling, it is important that, where possible, you remain with the same team throughout the series of tasks. These people will inevitably become your support group. You will learn each others' strengths and weaknesses and be able to support each other through the more difficult times.
- Remember that despite the horror, and enormity of the task in front of you, your role is an important one. You are providing closure for families, respect for bodies, and families have the chance to mourn and put their family member(s) to rest. This is a monumentally important task to those family members.
- It is important to focus on the mission and the job. Try not to think about the individual, the situation and the circumstances. Remember what your role is and how you can assist closure.
- When dealing with bodies, try to think of the remains as wax models or mannequins as a means of maintaining some 'emotional' distance. Do not stare or have direct physical contact with the remains unless you have to. If possible, keep away from the site of any body identification centres as this will minimise contact with family members and identification with the body. Remember you are dealing with human remains, not the person.
- Limiting exposure means taking normal precautions. Where possible, use opaque (solid coloured) body bags and double glove (with one pair of surgical gloves and covered with a pair of textile or tradesman's gloves for added protection and to reduce tactile stimulation). Adequate spares of equipment should be readily available. Cover human remains before moving. Use stretchers where possible in movement of human remains to assist in managing the weight of the body as well as limiting physical touch.
- Although the use of face masks is recommended in certain books and thought, organisations such as the WHO – who routinely work in the area of mass disasters –



rarely consider them necessary. Since masks limit ventilation and the workers tire more easily, using them can slow down the tasks of moving, storing and preparing corpses. Some individuals use eucalyptus oil or Vicks vapour rub on masks to try to block the smell. This only has short term use and may act as a memory trigger later. Try breathing through your mouth like a scuba diver instead.

- It is important to have some breaks and to move away from the scene where possible. Try to rest when you can to manage fatigue. Your task will be mentally, physically and emotionally tiring. Allowing yourself to become unnecessarily fatigued will not be helpful. Drink plenty of fluids and eat well. Remember the Heat Injury Policy, being particularly mindful of the work/rest tables and adequate hydration.
- Be respectful - don't take photographs. 'Graveyard' or 'black' humour is an often inevitable response and may be helpful if on a witty and abstract level. But it is unhelpful and unprofessional if it is too gross, disrespectful or personal (picking on others who need support).
- It is vital to monitor new members to the unit and those with recent life changes or issues back home. This is one time in your career where looking out for your mates is essential.
- Psychologists will tell you that you may experience dreams, nightmares, or thoughts both during and after the event. This is the mind's way of dealing with things that are worrying to you. This is normal. However, regular and frequent episodes (for three or more days) that are getting you down or affecting your performance is an indication that you might need some assistance to work through what is troubling you. It is essential that you take action and seek out someone you can talk to, like a psychologist or padre.



If forensics is required, then a chain of evidence of evidence will be necessary. Personnel should wear personal protective equipment - wear gloves/mask/eyewear, take a photo of the body, 4 to 6 person lift onto an opened body bag which is already placed on a NATO stretcher. Consider paper bags over hands and weapons etc. of the deceased, and don't wash anything. Never leave the body alone and sign over to the appropriate authority.

Cultural Considerations

Respect of the dead is a value deeply ingrained in most cultures and religions. However, it can be difficult to separate respect for the deceased from the deep fear of death itself that is common to all human beings. The little we know from

many now-vanished civilisations is due to our findings in tombs and burial grounds. Rituals and practices may differ according to time, religion, or place: burial before sunset for Muslims, funeral after one night of prayer for Jews or before three days for Christians, the use of the white shroud in Oriental culture or the coffin in most of the Western world. However, under almost all circumstances, these traditions are strictly respected by believers and atheists alike.

Death is a moving occurrence for any social group. Characteristics that shape the funeral beliefs within any culture include:

- the beliefs with respect to an afterlife,
- relationships between the living and the dead,
- the desire to offer respect and honour the deceased,
- the mystery and the fear that surround the unknown,
- the change in routine, and
- the grief inherent in the death of a human being.

Religion is one of the greatest aspects that give differences on how people treat the dead through public and private rituals. It is said to be the greatest aspect that affect a person's belief about how funeral services should be done because religion deals with the spiritual concept of a human being. Since death could be categorised as the beginning of the spiritual journey of a person, different religions teaches their followers on how they could help the dead person's spirit towards their spiritual journey. Their teachings serve as guide on the things that a follower is expected to do during funeral. In your role, you may be exposed to families seeking to find information about their loved one in order to fulfill their religious obligations.

Safe Lifting Tips

It is recommended that litter or body retrieval teams be made up of a minimum of four personnel. This provides effective stabilisation of the litter on rough or unstable ground, much like what you would expect at the site of a natural disaster like a tsunami or earthquake. The assumption here is that stretchers or lifting frames will be available for use to assist with carrying the bodies.

Plan the Lift

- Ideally, you want to minimise contact and double handling of bodies, so be sure to have an open body bag laid out on the stretcher prior to lifting the body.
- Check the pathway for any obstacles and clear these prior to lifting. Having additional personnel tasked to clear paths for the body retrieval teams is ideal.
- Effective communication within the teams is essential. It is important to establish emergency commands should one of the members experience difficulty during the carry. Additionally, one team member needs to be responsible for calling the commands for lifting, lowering or adjusting the load.

Execute the Lift

This task is best broken down into two distinct parts: firstly, moving the body off the ground onto the stretcher, and second, lifting the body on the stretcher.

- Spread an open body bag over the stretcher. Turn the body onto its side (using ropes/sticks if available) and place the stretcher as close as possible behind the body's back. Roll the body back onto the stretcher until stretcher is resting flat on the ground. Do up the body bag.
- In preparing to lift the stretcher, it is ideal to have one person assigned to each handle in order to minimise fatigue and distribute the weight of the load more equally. Squat down next to the handle, with feet slightly apart. Tighten your abdominal muscles (as this will increase intra-abdominal pressure and help to support your back). Letting your legs do the lifting, the body retrieval team needs to stand up in a swift and smooth motion. Hold the stretcher handle close to your body and keep it steady.
- While moving with the load, it is important that you change direction by turning your feet, not your back. Your nose and toes should always be pointing in the same direction. Any sudden twisting can result in a back injury.

Setting the Load Down

- Following the call to lower the stretcher by the allocated leader of the lifting party, personnel need to squat down by bending their knees, allowing your legs to do the work.
- Remember not to twist your body while setting down a load.

If You Have No Stretcher

- If there is no stretcher or lifting frame then you may try and use clothing as handles, focusing on weight points (shoulders and hips).
- If there are no clothes or the body is too decomposed, then lift parts and try to keep the body parts together.

Further information is available from ADFP 1.1.1 Mortuary Affairs 2007; or Army Treatment Protocols Manual Volume 1 (for information on using a lifting frame).

Other information and support can be accessed from the 1st Psych Unit. Try their intranet website (<http://intranet.defence.gov.au/armyweb/Sites/1PSYCH/>), or phone (02) 9349 0535.



COPING WITH STRESS ON DEPLOYMENT

Army Guide to Deployment Stress: How to Increase Your Combat Effectiveness



By MAJ Michelle McInnes, 1st Psychology Unit

'The oath to serve your country as a soldier did not include a contract for the normal luxuries and comforts enjoyed within our society. On the contrary it implied hardship, loyalty and devotion to duty regardless of rank'

George Mansfield

Rifleman Korea 1952

Brigade Commander 1987

The purpose of this article is to provide you a detailed understanding of stress on operations and practical ideas to keep yourself 'fighting fit' throughout the deployment. Having the skills and training to deal with stressful situations and operational demands is just as much your job as training to be physically fit and strong. This article aims to get you to think about how you will cope with the mental demands. What is your plan to ensure that you are at your best five months into the operation? If you want to do the best you can, you need to be both physically and mentally tough.

Our bodies and minds are built to deal with stress, and our training aims to increase our ability to handle pressured and stressful situations. When we fight through a hard situation, we can feel really great. But there are times when the amount of stress we face is overwhelming, and it starts to impact on our individual ability and capability. For example, when you are sleep deprived or at the end of a high paced month of operations. Sometimes, it gets to the point that we start to act, feel, and think in ways that are different from what is normal for us – we just do not feel 'right', or we feel like we can't do the things we are used to doing.

This is nothing new. There are descriptions from 2000 years ago of soldiers experiencing operational stress reactions, that is signs and symptoms of being overwhelmed by their circumstances. The big difference now is that there is a much better understanding of these problems and consequently



more effective unit and mental health support services for members returned from operations. Remember, the key here is to manage the situation and yourself so that you continue to do your best.

Fight or Flight

Feeling afraid is part of being human, and is part of the survival instinct. It is natural, necessary and appropriate to feel afraid. However it helps if you know about the whole series of physical, emotional and behavioural changes that happen when we are threatened.

Physically, as soon as danger is perceived, the brain sends a message to our autonomic nervous system. Our autonomic nervous system has two sections: the sympathetic branch and the parasympathetic branch. These two sections control the physical changes that occur in the fight/flight response. The sympathetic branch is the part that activates the various areas of the body to be ready for action. When the sympathetic branch is activated, it includes all areas of the body, and therefore, the person experiences physical changes from head to toe. To get things moving, the sympathetic nervous system releases two chemicals from the adrenal glands on the kidneys. These chemicals are called adrenalin and noradrenaline and are basically messengers that serve to maintain the physical changes for a sufficient amount of time.

What physical changes do you see?

- An increase in heart rate and strength of beat
- An increase in rate and depth of breathing
- A redistribution of blood from areas that aren't so vital (like skin, fingers and toes) to areas that are (like muscles) leading to coldness and clamminess
- An increase in sweating (to cool the body)
- Widening of the pupils of the eyes (to let in more light so you can see better)
- Less activity in the digestive system (because the blood goes to the muscles)
- Muscles tense up in preparation for fight or flight

What behavioural changes would you expect?

- An overwhelming urge to respond, by either being aggressive or by fleeing/withdrawing.
- Your attention shifts to the surroundings, to increase your situational awareness

When it's over:

- Heart rate slows
- Breathing slows
- Temperature begins to fall
- Still feel keyed up, as system does not go back to 'normal' for some time

So what does this mean? Depending on how you make use of the positive symptoms and work around the negative, your reaction can affect your performance in responding to the threat.



Operational Stressors that Australian Soldiers Report:

- | | |
|--|--|
| <ul style="list-style-type: none"> - Noise - Extreme of heat and cold - Sleep deprivation - Physical strain - Lack of nutritious food - Disturbing visual scenes - Experiencing death in various forms - Dealing with the threat of violence - Contacts - Working with foreign organisations | <ul style="list-style-type: none"> - Environmental stressors (eg. terrain) - Lack of meaning in the mission - Poor communication - Poor leadership or morale - Low unit cohesion - Difficult cultural adaptation - Problems with administration - Separation from family and friends - Domestic issues - Boredom |
|--|--|

Short term, your body is designed to have increases and decreases in stress levels. Long term, if there are excessive stressors, you might find you feel the following:

- Emotional: anger, sadness, anxiety or other mood changes.
- Physical: headaches, lack of energy, problems sleeping, or muscle aches and pains.
- Behavioural: overreacting to situations, not wanting to talk or be with your mates, or not dealing with people as well as you usually do.
- Thinking: reduced attention, poor concentration, or being distracted.

How to Cope with Fatigue and Stress

Pre-deployment

- Take responsibility for your training and developing expertise.
- Research what you are going to see and how you are going to live.
- Speak to others who have been there before.
- Continue to learn: listen, learn and take notes.
- Appreciate your need to have mental strength to tap all of your physical strength.
- Make yourself a strong part of the team.
- Make a realistic plan about who you will talk to when it does get tough.
- Do everything you can to leave home and family settled.
- Minimise culture shock by learning about the cultures you will be dealing with.
- Prepare for the impact of separation on partner and children as best you can.

During Deployment

- Focus on normality of feeling stressed and your reactions – know how to handle yourself.
- Understand cultural adaptation (try to speak the language, understand their culture).
- Look after yourself:
 - get enough to eat, exercise and try and get enough sleep;
 - don't take on unnecessary tasks when you need rest;
 - manage your time;
 - stay positive about your experiences, this is a great opportunity;
 - plan for what leisure activities you are going to have;
 - use humour; and
 - practice relaxation techniques.
- Look after your mates:
 - let them talk if they are feeling angry or upset , and
 - support them as you like them to support you.
- Maintain regular contact with friends and family.

When the going gets tough...	Slow breathing helps
Think about your strengths of character – are you strong, a good mate, funny, loyal, how can you develop these and maybe use them in a new way?	If you feel that you are losing control of yourself, use distraction techniques such as focusing on the things that you can see, hear and feel, talk yourself down
Write down three good things that happened to you today	Check your breathing. When you slow your breathing, you slow your heart rate - use your watch to count 1 minute of breaths:
Express your gratitude to someone – write a positive email or letter	Average is about 10 to 12 breaths per minute
Practice simple relaxation (see next box)	Very fast is up to 20 breaths per minute
	Slow and relaxed is about 8 breaths per minute





Resources that are available to help you while deployed include your chain-of-command, chaplains, or medical officer. Most operations also have a force embedded mental health team.

Myth-buster: When you see a MO or psychologist, you will get a full assessment and where possible you will stay close to your unit and be returned to duty as rapidly as possible. Be aware that most members only need short-term advice and support.

It is rare to be discharged because of mental health problems – you may be downgraded briefly, just as you would for a broken leg, but it is better to be downgraded and treated than to carry on and be a risk to you, your family and your mates.

Post-deployment

- Look after yourself in the first few weeks back, make sure you eat and sleep well, and get enough exercise.
- Talk to your mates and family; tell them about your experiences. There may be some experiences you don't want to discuss with your family or mates who didn't deploy, so talk about those experiences with your mates who were there.
- If you can't talk to your mates, schedule your post-op screen early by calling the psych team and telling them you need to talk through stuff early.
- Don't drink so much that you lose control.
- There is a requirement for everyone to do a Post Operational Psychology Screen (POPS) at 3 to 6 months, so use this opportunity to talk about your worries or problems.

The earlier you get on top of this the better! Putting in the effort BEFORE and DURING the operation can mean the difference between an average performer and doing really well.

This information has been provided by 1st Psych Unit. Further information is available on their website (<http://intranet.defence.gov.au/armyweb/Sites/1PSYCH/>), or phone (02) 9349 0535.

ADDITIONAL RESOURCES

Additional resources are available for personnel planning and involved in the provision of relief support for natural disasters. There is insufficient room in this publication to provide all of that information, so the following describes other sources of information.

The AS Emergency Manual Series, sponsored by EMA, has been developed to assist in the management and delivery of support services in a disaster context. It comprises principles, strategies and actions, compiled by practitioners with management and service delivery experience in a range of disaster events.

These publications are available from the CAL intranet website (<http://lwdc.sor.defence.gov.au/cal/>).

It includes the following publications:

- Australian Emergency Management Agreements
- Australian Emergency Management Glossary
- Australian Emergency Management Terms Thesaurus
- Community and Personal Support Services
- Community Development in Recovery from Disaster
- Disaster Loss Assessment Guide
- Disaster Medicine
- Economic and Financial Aspects of Disaster Recovery
- Emergency Catering
- Emergency Management Concepts and Principles
- Emergency Management Planning and Floods Affected Dams
- Emergency Risk Management
- Emergency Planning
- Evacuation Planning
- Flood Preparedness
- Flood Response
- Flood Warning
- Guidelines for Psychological Services
- Guidelines for Psychological Services
- Health Aspects of Chemical, Biological and Radiological Hazards
- Implementing Emergency Risk Management
- Managing Exercises
- Managing the Floodplain
- Multi-agency Incident Management
- Operations Centre Management
- Planning Safer Communities
- Post Disaster Survey and Assessment
- Recovery
- Reducing the Community Impact of Landslides

Safe and Healthy Mass Gatherings
Small Group Training Management
Urban Search and Rescue

As new articles are written for this publication, older articles are removed. These older articles, listed below, may still contain information that is of use to Army. These articles can be requested by emailing CAL.RFI@defence.gov.au.

'Hurricane Katrina and Rita Lessons' - US Center for Army Lessons Learned collected lessons from personnel that provided support in response to hurricanes Katrina and Rita.

'Lessons from a Hurricane' - Extracts from a Marine Corps Center for Lessons Learned product, detailing planning, NGO, information dissemination and more.

'Medical Lessons from Earthquake Support' - Extracted from a US Joint Center for Operational Analysis journal.

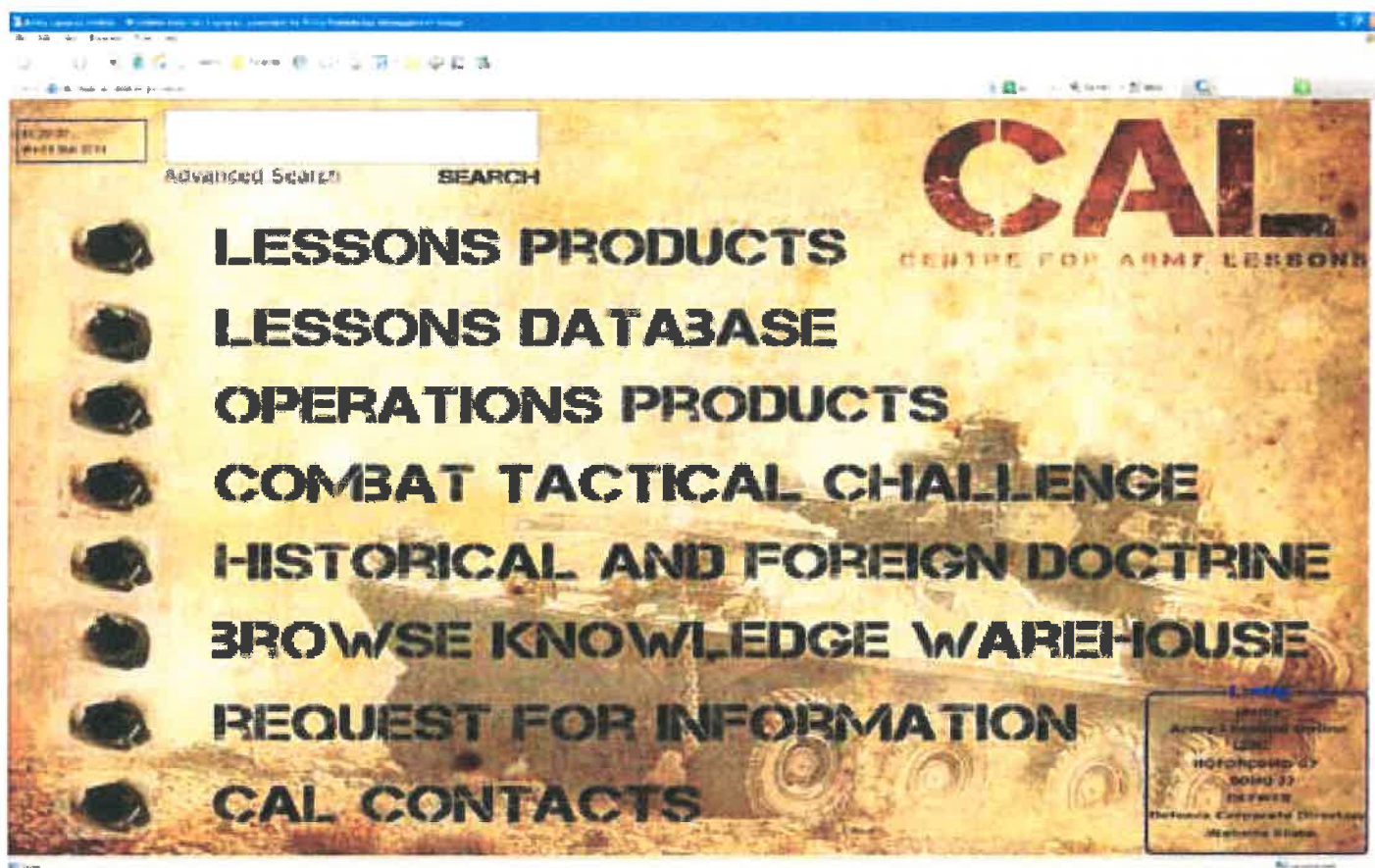
For more bushfire information, try the Bushfire Cooperative Research Centre, a cooperative research group with federal funding that looks at fighting fires and fire management and associated issues in AS and NZ (www.bushfirecrc.com). They have their own 'Lessons Learned' function and feed back info to fire management agencies across the country.

The publications and articles described above plus more information are available from the CAL intranet website (<http://lwdc.sor.defence.gov.au/cal/>).

Contact CAL if you need assistance to find them: CAL.RFI@defence.gov.au.



Notes:



IMPROVE YOUR SOLDIER SKILLS

A really good way for soldiers to improve their warfighting skills is to download tactical lessons from the CAL database.

You can download lessons by visiting:

<http://lwdc.sor.defence.gov.au/cal/>

and submit them to:

CAL.submit@defence.gov.au