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Exploring New Zealand's Capability to Strategically Manage Logistical Responses to Major Civil Defence and Emergency Management Events

A thesis presented in fulfilment of the requirements for the degree

of

Master of Logistics and Supply Chain Management

at Massey University, Palmerston North,
New Zealand.

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April 2014

MASSEY UNIVERSITY
GRADUATE RESEARCH SCHOOL

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Shaun Thomas Fogarty
April 2014

Abstract

Effective management and leadership in readiness for and response to disaster events can mean the difference between life and death, as well as shaping the scale of the impact that these events can have on the economy and social stability of New Zealand.

The purpose of the current study is to contribute to the research field of Humanitarian Logistics, with a particular focus on New Zealand's management capability to logistically respond to civil defence and emergency management (CDEM) events. In the wake of the 22 February 2011 Christchurch earthquake, it is timely to contribute academic literature that focuses directly on New Zealand's readiness and response, and assesses the country's capabilities should such a significant scenario occur again.

The thesis focuses on three contributing research fields that set the foundation of the study's research framework. These are Humanitarian Logistics, Emergency Management and Leadership, and Governance and Policy. An extensive literature review examines these areas with the aim of drawing together common themes and contemporary issues that have shaped the subsequent research questions. The research design is centred on a simplified model of research (without hypotheses), and used a 'Hierarchy of Concepts' to facilitate an inductive approach to data collection and analysis. Data collection resulted in a high response rate to a questionnaire survey that saw the contribution of 84 emergency management professionals, along with the cooperation of seven of New Zealand's senior executives from the wider CDEM sector who agreed to participate in a thorough interview process. Audit assessments and independent performance reviews also provided a basis with which to compare and contrast the data collection set.

Research analysis found that New Zealand possesses the foundation of a robust framework of emergency management legislation, a National CDEM Plan, and other policies, yet implementation and performance against this framework indicated a range of deficiencies. In a number of cases these areas require urgent attention.

The main findings are categorised under six common and interrelated themes: Logistics Development, Enhancing Collaboration, Smart Integration, Strengthening Governance, Smarter Resource Management, and Enhancing Professional Development. Under each of these themes a number of potential improvements are identified that would benefit the wider CDEM sector as a whole. Analysis and associated deductions, conducted through the lens of these six themes, resulted in 17 key recommendations.

Acknowledgements

I would like to offer my sincere thanks to all those who have helped me during the course of my research into this important and stimulating topic. Humanitarian Logistics goes to the heart of how our nation can respond and support those in need at a time of crisis. The spirit of support that I have received as I've travelled New Zealand researching and interviewing CDEM professionals has demonstrated to me the strength of character that abounds in our country.

Importantly I pay my respects to the memory of those brave souls who have died in CDEM disaster events across New Zealand and overseas. A major focus area of this thesis has been on the 22 February 2011 Christchurch earthquake. The 184 lives that were lost on that tragic day will forever be remembered in the chronicles of New Zealand's history. It is the hoped that the research contained in this thesis will assist in the future advancement of CDEM, and may add in someway to alleviating the heartache suffered by the families and friends of those lost or injured.

I thank the leadership of the New Zealand Defence Force (NZDF) who have allowed me full-time study leave to focus on this research project. The NZDF plays an important role as a supporting agency to CDEM. It is my hope that the analysis and recommendations of this research will assist in the development and effectiveness of the vital support the NZDF can provide in a time of need.

To my supervisors, Professor Paul Childerhouse and Walter Glass, I thank for their academic support and guidance. In particular, I thank Walter for finally convincing me to undertake the Masters degree some 10 years after he lectured me through the Massey University Diploma of Logistics.

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My last thank you goes to my wife, Felicity. Without her forbearance, understanding and support I would surely have struggled to complete what has been a wonderfully rewarding piece of work.

Finally, I acknowledge the research approval obtained from the Massey University Ethics Committee. In doing so I make the following statement:

> *"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.*
>
> *If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Professor John O'Neill, Director (Research Ethics), telephone 06 350 5249, email: humanethics@massey.ac.nz."*

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Glossary

ADF	Australian Defence Force
AFP	Australian Federal Police
AoG	All of Government
ASEAN	Association of Southeast Asian Nations
AUSAID	Australian Aid and International Development
CARE	Cooperative for Assistance and relief Everywhere
CBD	Central Business District
CDEM	Civil Defence Emergency Management
CERA	Canterbury Earthquake Recovery Authority
CIMS	Critical Information Management System
CIPD	Chartered Institute for Professional Development
CIVMIL	Civilian-Military
CoS	Chief of Staff
CRC	Christchurch Response Centre
C2	Command and Control
DDIS	Directorate of Defence Intelligence and Security
DESC	Domestic and External Security Coordination
DFID	Department for International Development
DHB	District Health Board
DIA	Department of Internal Affairs
DPMC	Department of Prime Minister and Cabinet
DVI	Disaster Victim Identification
EMIS	Emergency Management Information System
ECC	Emergency Coordination Centre
EOC	Emergency Operations Centre
FMCG	Fast Moving Consumer Goods
GCSB	Government Communications and Security Bureau
GFC	Global Financial Crisis

GR	General Research
HADR	Humanitarian Assistance and Disaster Relief
HUMLOG	Humanitarian Logistics
HQ	Headquarters
ICG	Intelligence Coordination Group
ICRC	International Committee of the Red Cross
IFRC	International Federation of the Red Cross
ILD	Institute for Leader Development
INCIS	Integrated National Crime Information System
INGO	International Non Governmental Organisation
INTERFET	International Forces in East Timor
ISL	Institute for Strategic Leadership
JMAP	Joint Military Appreciation Process
JSP	Joint Service Plan
KPI	Key Performance Indicator
LDC	Leadership Development Centre
L&SCM	Logistics & Supply Chain Management
LUC	Lifeline Utility Coordinator
LG	Lifeline Group
MBIE	Ministry of Business, Innovation and Employment
MCDEM	Ministry of Civil Defence and Emergency Management
MFAT	Ministry of Foreign Affairs and Trade
MNZ	Maritime New Zealand
MoD	Ministry of Defence
MoH	Ministry of Health
MoU	Memorandum of Understanding
NAB	National Assessment Bureau
NCMC	National Crisis Management Centre
NGO	Non Governmental Organisation
NSS	National Security System
NZDF	New Zealand Defence Force

NZFS	New Zealand Fire Service
NZLC	New Zealand Lifelines Committee
NZP	New Zealand Police
NZRC	New Zealand Red Cross
NZSIS	New Zealand Security Intelligence Service
NZTA	New Zealand Transport Authority
ODESC	Officials Domestic & External Security Committee
OGA	Other Government Agency
RAAF	Royal Australian Air Force
RNZAF	Royal New Zealand Air Force
RNZN	Royal New Zealand Navy
SAR	Search and Rescue
SCM	Supply Chain Management
SR	Specified Research
SRG	Security and Risk Group
SSC	State Service Commission
TLA	Territorial Local Authority
UN	United Nations
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNTAET	United Nations Transitional Administration in East Timor
WFP	World Food Programme
WoG	Whole of Government
WREMO	Wellington Region Emergency Management Office
4Rs	Reduction, Readiness, Response & Recovery