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New Zealand's holistic framework for disaster recovery

Sarah Norman of the NZ Ministry of Civil Defence & Emergency Management overviews their holistic framework for recovery

Abstract

In 2003 the New Zealand Ministry of Civil Defence & Emergency Management began developing a framework for disaster recovery. The six month consultation of the draft version of this document provided a precursor to the New Zealand Recovery Symposium held in Napier in July 2004. The Symposium provided a unique opportunity for Civil Defence & Emergency Management stakeholders to question and debate the multifaceted aspects of recovery but most significantly, it provided an opportunity for delegates to contribute to the development of a recovery framework for New Zealand. Following the consultation period, the document was been revised and has now published. This paper provides an overview of New Zealand's holistic framework for recovery.

Introduction

Following the enactment of the Civil Defence Emergency Management (CDEM) Act in 2002, the Ministry along with government agencies, emergency services, local and regional authorities and non governmental organisations have been working towards the vision outlined in the National CDEM Strategy: *"Resilient New Zealand – Communities understanding and managing their hazards"* (MCDEM, 2003). Focus on Recovery links directly to the National CDEM Strategy, building on its principles and its four Goals. Goal 4 of the National CDEM Strategy relates directly to recovery, which seeks to *"enhance New Zealand's capability to recover from disasters"* (ibid.). It is Goal 4 which provided the basis to develop a holistic framework for recovery.

Focus on Recovery was the culmination of eighteen months of consultation and development of a holistic framework for recovery for New Zealand. It provides a framework for recovery planning and management in New Zealand for local authorities, Civil Defence Emergency Management (CDEM) Groups[1] and government agencies. "Work on recovery is being undertaken to promote the participation of CDEM stakeholders in all aspects of recovery. The aim is to increase the capability of organisations to undertake short, medium and long-term recovery activities, enabling a timely and effective response to the recovery of affected communities" (MCDEM 2005).

In addition to *Focus on Recovery*, MCDEM published *Recovery Management: Director's Guideline for CDEM Groups* [DGL4/05] in May 2005, which uses the principles within Focus on Recovery to provide a coordinated framework for recovery planning and management in New Zealand.

The remainder of this paper has been reproduced directly from Focus on Recovery published by MCDEM in February 2005.

Focus on recovery

Disaster events result in consequences that affect individuals, communities, regions and nations depending on the scale and seriousness of the event. This document provides general principles and concepts of recovery management, which can be applied to all scales of disaster.

Recovery is defined as: 'The coordinated efforts and processes to effect the immediate, medium and long term holistic regeneration of a community following a disaster'. Recovery is a developmental and a remedial process encompassing the following activities:

- minimising the escalation of the consequences of the disaster;
- regeneration of the social, emotional, economic and physical wellbeing of individuals and communities;
- taking opportunities to adapt to meet the social, economic, natural and built environments future needs; and
- reducing future exposure to hazards and their associated risks.

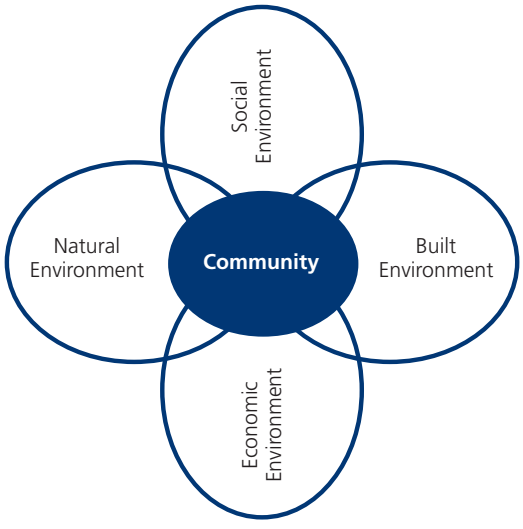
1 CDEM Groups may be considered a consortia of local authorities working in partnership with emergency services, major utilities and others to ensure that emergency management principles are applied at the local level.

The Components of Recovery

Following disasters, the very fabric of society and the relationships within the affected communities depend on an effective and efficient process of recovery. It is a complex social process and is best achieved when the affected community exercises a high degree of self-determination (MCDEM, 2002 and EMA, 2004). Recovery extends beyond just restoring physical assets or providing welfare services. Successful recovery recognises that both communities and individuals have a wide and variable range of recovery needs and that recovery is only successful where all are addressed in a coordinated way. Recovery is a process that will certainly last weeks and months but may extend for years and possibly decades. Organisations involved in recovery will need to recognise the commitment required to resource (both human and material) and the provision of business as usual services during medium and long term recovery.

A holistic and integrated framework is needed to consider the multi-faceted aspects of recovery which, when combined, support the foundations of community sustainability. The framework encompasses the community and four environments: social, economic, natural and built environments. Recovery activity (the central oval in black) demonstrates the integration between the community and the four environments.

Figure 1. Integrated & holistic recovery



Community

Successful recovery needs to recognise that both communities and individuals have a wide and varying range of recovery needs. Recovery can only be successful where all needs are addressed in a coordinated way (including the implications on other communities). Community recovery involves regeneration of a community's functions, social structures and systems following a disaster. The ability of a community to achieve this will involve the holistic interaction between the community and the social, economic, natural and built environments. This interaction must involve members of the community and be supported by the local, regional and national structures.

Social Environment

The Social Environment component is comprised of three distinct elements: Safety & Well-being, Health and Welfare (refer to Figure 2).

Figure 2: Elements of the Social Environment

Safety & Well-being

The first priority in any recovery activity is to ensure the safety of those people remaining in the disaster area. Much will have been done during the initial phase of response to the disaster but in some cases danger to life may continue while the recovery operation is underway. Recovery plans may include the demolition of, or barring of access to, damaged buildings, repair of sanitation and hygiene facilities or the provision of temporary facilities, emergency feeding and housing, emergency medical facilities, or the evacuation of inhabitants from the area.

Health

Health provision during recovery includes a broad range of services from those individuals affected/injured from the event and the follow up care they require, through to the case management of individuals/groups who may have been exposed to hazards (e.g. chemicals, dust etc)

or traumatised by their experiences. It is also important to recognise that vulnerable groups such as children or the elderly may require specialist care post-event. Additionally, existing health clients may need access to extra resources to ensure the continuity of their care due to access or service limitation following an event e.g. pharmaceutical supplies.

Welfare

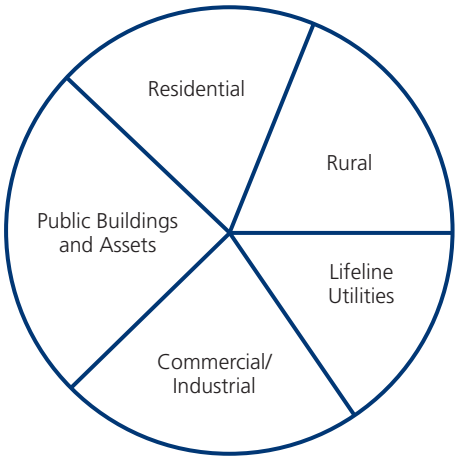
Welfare or Psychosocial Support[2] ensures an individual's emotional, spiritual, cultural, psychological and social needs are addressed in the immediate, medium and long term recovery following a disaster. These needs are addressed through the provision of feeding, housing, financial assistance, counselling and other services. It also addresses the wider community social structure and mechanisms for supporting the community as a whole, such as the culture and heritage, sports and leisure, education and spiritual groups within the community.

It should also be recognised that all those people involved in an event, including rescue workers, support staff and relatives will have been affected by their experiences. The wellbeing of all must be considered during recovery.

Built Environment

The Built Environment component is comprised of five elements, namely: Residential, Commercial/ Industrial, Rural, State-owned Public Buildings & Assets and Lifeline Utilities (refer to Figure 3). Planning for recovery of the Built Environment addresses infrastructure recovery, including the repair, reconstruction or relocation of:

Figure 3: Elements of the Built Environment



Residential Housing

Assessment and repair of peoples' homes, to expedite the return of people to normal life functioning is a critical priority.

Commercial/Industrial Property

Reinstatement and continuation of business is vital for the economic viability and sustainability of an affected area.

Rural Farmland

Rural physical infrastructure needs are different from urban needs and must be planned for accordingly.

Public Buildings & Assets

Critical public buildings and facilities need to be pre-identified as priorities. Elements of the Built Environment that have social value, such as landmark sites and significant community sites, may be symbolically and functionally important to recovery.

Lifeline Utilities

The recovery of these elements, along with their supporting structures and systems is underpinned by restoration of essential utility services and transport and communication links (including the management of stopbanks, drainage networks etc).

Physical recovery of the built environment must be based on long-term strategies of sustainability, such as adopting mitigation measures that prevent or reduce the effects of future hazard events. In order to contribute to recovery, plans need to be developed in advance (Schwarb et al, 1998) for both the physical elements and activities in the following areas:

- urban planning, so that opportunities presented by destroyed infrastructure can be taken up;
- rivers management and protection works in rural communities as well as urban communities;
- skills and resources required (e.g., tradespeople and professional services); and
- mechanisms for organisations, special interest groups and individuals to work and plan together.

Additionally a process for addressing the needs of the built environment during recovery should include:

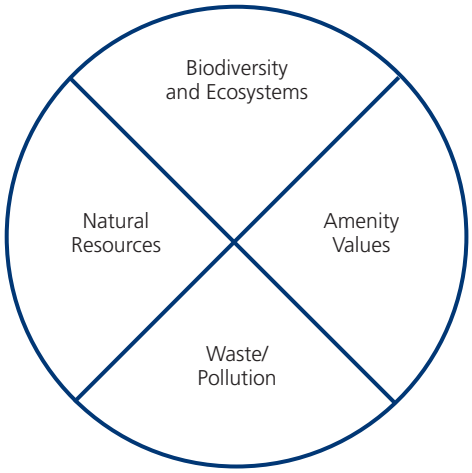
- impact assessment;
- restoration proposals (for example, decisions regarding repair, replace, abandon);
- funding arrangements (insurance, capital investment);
- design, regulatory approvals and consultation; and
- physical construction, including logistics support for infrastructure recovery.

2 Psychosocial refers to the psychological and social needs of individuals as part of a community.

Natural Environment

The Natural Environment component is comprised of four distinct elements; Biodiversity & Ecosystems, Amenity Values, Waste & Pollution and Natural Resources (refer to Figure 4).

Figure 4: Elements of the Natural Environment



Amenity Value – also see Social Environment

Amenity value describes aspects of our physical environment that have some form of recreational, cultural or social importance. In local government terms, amenities may include physical structures such as libraries and community centres, swimming pools and sports fields. Other amenities may include things like scenic lookouts, riverside walkways, conservation estate, and culturally significant sites such as Wahi-tapu. Pre-identification of the importance of such amenities to peoples' social and emotional recovery, will help prioritise recovery activities

Waste & Pollution Management

In the early stages of recovery, the adverse effects of the disaster in respect of waste and pollution must be addressed. Where physical devastation has occurred and debris removal is underway, access to and sites for waste dumps must be identified and consent processes may be fast-tracked. The very nature of the event may dictate the scale and type of waste—for example, pre-planning for volcanic ash disposal is critical to recovery in areas subject to volcanic activity. Society continues to function after any disaster, so both human waste (sewage) and garbage must continue to be disposed of. Systems and access to disposal sites/plants may be impaired by the event.

Biodiversity & Ecosystems

By virtue of its isolated island location, New Zealand has flora and fauna unique in the world, but these can be placed at risk by disasters. For example, severe storms or droughts may result in the loss of habitat and foodstuffs for species. Pollution events may damage local ecosystems or target specific species. Sound recovery practices can lessen the impacts on biodiversity. Biodiversity recovery activity should be a cooperative process led by the specialist agencies supported by local authorities and involving the wider community. A 'holistic' suite of measures should be employed such as:

- enhanced emergency feeding programmes for birds by departments and the community;
- enhanced pest control in the affected areas;
- temporary bans on public access to fragile areas;
- temporary hunting bans and kai moana (Rähui) restrictions;
- active relocation programmes for threatened species;
- community involvement in re-planting activities; and
- use of specialist expertise from around the country and overseas.

Natural Resources

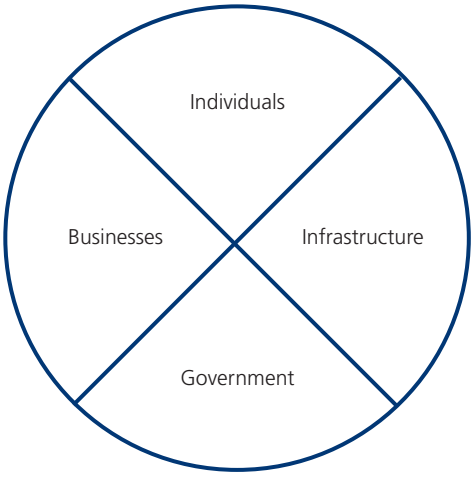
At the same time as recovery action restores and improves access to the environment, its amenities, the biodiversity, and lessens waste and pollution impacts—it also must allow use of the environment for economic recovery.

Natural disasters may alter the landscape, infrastructure and transport routes to such an extent as to restrict or destroy access to resources that form part of the economic and social 'lifeblood' of the area. Whole areas of productive land may be rendered useless for farming, forestry or cropping by severe floods, tsunami or volcanic activity. Crops, trees and stock may need immediate processing via resources outside of the impacted area in order to recoup some of the financial loss. Loss of a quarry, mine or water-source for industry may result in economic downturn and unemployment, with long-term social consequences.

Economic Environment

The Economic Environment component is comprised of four distinct elements, namely Individuals, Firms, Infrastructure and Government (refer to Figure 5).

Figure 5: Elements of the Economic Environment



Individual Needs (Microeconomic Level)

The individual simultaneously represents the demand and supply side of economic management during disaster recovery. Individual needs (Microeconomic Level) include maintaining livelihoods such as employment security, payment of salaries and wages, debt servicing, access to bank accounts and insurance payouts. Equally, on the demand side the individual is an important contributor to local economic sustainability through their purchasing behaviours and general consumption.

Businesses

The impact of disasters upon firms, both large and small, may produce partial or complete incapacitation. In any event the window of survival for affected firms will vary and the goal of disaster recovery should be prompt restoration of necessary trading conditions. Aside from infrastructural aspects, recovery action may include direct assistance to individual businesses. For example, asset protection and salvage is important, as is the availability of information to assist decision-making and planning. Reliance on 'just-in-time' deliveries, an available workforce and customer confidence are further issues requiring consideration for recovery processes.

Infrastructure

Restoration of damaged infrastructure is a crucial requirement for normalising business activity. When firms lose the ability to function, the negative impacts are both short term, in lost productivity and longer term, with business closures and related domino effect consequences. The infrastructural demands of business activity are diverse, including for example, basic utilities, telecommunications, and access to transport. Prioritising the restoration of infrastructure may depend on the economic characteristics and dependencies of disaster affected areas. This may include clearance of major arterial routes and restoration of key utilities.

Central Government (Macroeconomic Level)

Central government will have a role of monitoring the economic impacts of disasters and intervening when economic recovery is seriously impeded. Typically, delivery of assistance should be via appropriate local agencies to secure necessary support and ensure coordination with other relief efforts. Central government assistance should adopt a form that optimises the rate of recovery, or prevents serious negative spillover effects, such as the collapse of affected regional economies.

Additionally, central government (Macroeconomic Level) activities include securing the confidence of stakeholders, including overseas markets and governments and the private sector, all of which may affect New Zealand's ability to recover at a national level.

Electronic copies of Focus on Recovery [IS5/05] and Recovery Management: Director's Guideline for CDEM Groups [DGL4/05] can be downloaded from www.civildefence.govt.nz

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