Strengthening linkages between land-use planning and emergency management in New Zealand

Saunders, Forsyth, Johnston and Becker highlight the importance of the CDEM Act in New Zealand in promoting natural hazard risk reduction

Abstract

Fifteen years on from the inception of the Resource Management Act 1991 (RMA) in New Zealand, many councils are now, or will be, undertaking a review of their plans and policies. This review time, which results in second-generation plans, allows for policies to be reviewed and amended, deleted, or added as required. In 2002 the Civil Defence Emergency Management Act (CDEM Act) was enacted, and supports natural hazard reduction measures, primarily through the RMA framework. With many legislative requirements for planners to consider during the plan review process, this paper highlights to planners how important the CDEM Act is in promoting natural hazard risk reduction, and how measures under the CDEM Act need to be supported under the RMA planning framework. When CDEM Group Plans are reviewed in a couple of years' time, it is equally important that RMA planners are involved, and that policies under the two pieces of legislation complement, rather than contradict, each other.

This paper provides a brief overview of the RMA and CDEM Act. A framework is introduced showing how the CDEM Act and RMA can work together in supporting policies to reduce the risks from natural hazards. Several case studies provide examples of how linkages can be strengthened, and the importance of strengthening the relationships between policy planners and the emergency management profession.

Introduction

As natural hazards continue to inflict disastrous impacts on society, there is a new focus from government to community level to find better ways to manage these risks. Research has shown that disaster losses can be reduced in communities that have sound planning and decision-making (Lindell and Prater, 2003). Tools available to communities include: 1) risk assessments; 2) building codes and standards; 3) land use planning; 4) land and property acquisitions; 5) taxation and fiscal policies; 6) emergency management measures; and 7) public education (Burby et al., 2000). These tools are most effective when all stakeholders are engaged in the decision-making processes (Ronan and Johnston, 2005). Britton and Lindsay (1995) describe *"a compelling need for a closer integration between disaster and city planning"*. Burby (1998) takes this point further, stating that collaboration must extend beyond government to embrace professional groups, non-governmental citizen groups, and private citizens. He goes on to say: *"Critical to all of this is fuller understanding of sustainability so that the concerns about the use of land in hazardous areas … are shared widely … so that consensus begins to form about appropriate courses of public and private action"* (Burby, 1998).

The purpose of this paper is to highlight how the philosophies of the New Zealand Civil Defence Emergency Management Act 2002 (CDEM Act), in particular reduction measures, can be transferred into the resource management planning context, with the ultimate goal of reducing the effects of natural hazard events on communities. The strengthening of these linkages will result in increased community resilience, as the risk to communities from hazard events is reduced. Within the existing resource management climate in New Zealand, many Regional Councils are, or will be, reviewing their Regional Policy Statements (RPS). This review process provides an opportunity for stronger linkages with CDEM measures to be incorporated into planning practice.

The Resource Management Act 1991

The RMA is the key piece of environmental legislation in New Zealand. Effects-based, its purpose is to promote the sustainable management of natural and physical resources.

Under the RMA, both regional councils and territorial authorities have responsibilities associated with natural hazards. Sections 30 and 31 (functions of regional councils and territorial authorities) reflect that natural hazards are best managed at a regional council level, with the actual or potential effects managed at a territorial authority level.

The RMA does not prescribe how development in hazard-prone areas is to be managed. Rather, the intention is to allow for the development and adoption of a mixture of measures to support the RMA's single purpose — the sustainable management of natural and physical resources. Therefore territorial authorities may manage natural hazards by using the following tools (Ericksen et al., 2002):

- Subdivision and building consents (through the RMA and Building Act 2004);
- The district plan (through identifying hazards as required by s35, educating people as to the risks, provision of financial incentives, land use controls, and engineering works);
- The implementation and maintenance of hazard registers; and
- Resource consent applications.

At the top of the regional planning hierarchy is the Regional Policy Statement (RPS). The RPS provides an overview of the resource management issues facing the region, sets region-wide objectives and policies, and identifies the methods to be used across the region to address the objectives and implement the policies. As the RMA was legislated in 1991, RPS's do not take into account the CDEM Act requirements at this stage. However, with many councils reviewing their plans in the coming year, there is an opportunity for CDEM requirements to be incorporated into these second-generation RPS's.

District and regional plans are one of the most important aspects of the RMA. The RMA states that councils have to prepare plans to help them manage the environment in their area. These plans tell citizens what they can or cannot do, or whether consent is required. Regional plans tend to concentrate on particular parts of the environment, such as the coast, soil, a river or the air. They set out the management of discharges or activities to prevent the resources being degraded or polluted. District plans concern the use and development of land and set out the policies and rules a council will use to manage land use in its area. By looking at these plans, landowners are able to find out whether they need to get a resource consent for the activity they want to do.

When central government wants to give local councils direction on environmental issues, it can issue National Policy Statements or set National Environmental Standards. This planning framework is shown in Figure 1 below. To date there is no National Policy Statement or Environmental Standards for natural hazards.

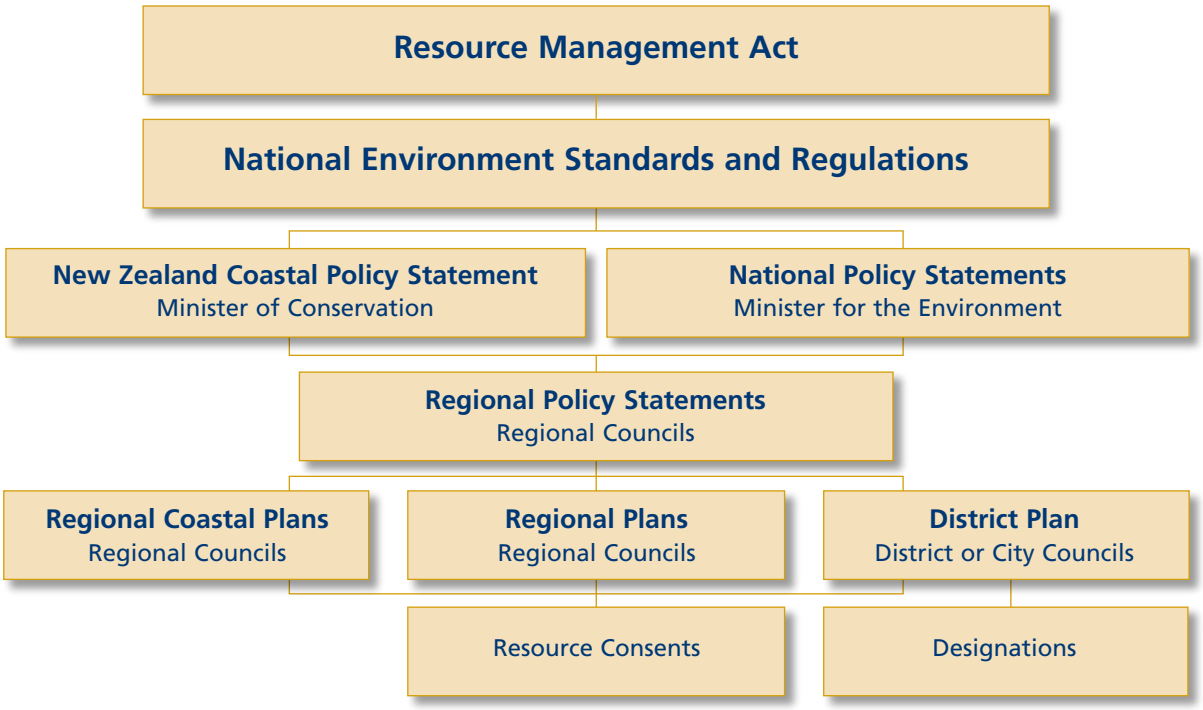

Figure 1: Planning framework under the RMA 1991 (Ministry for the Environment, 2006).

The Civil Defence and Emergency Management Act 2002

The Civil Defence Emergency Management Act 2002 (CDEM Act):

- promotes sustainable management of hazards
- encourages and enables communities to achieve acceptable levels of risk
- provides for planning and preparation for emergencies (readiness and reduction), and for response and recovery
- requires local authorities to coordinate planning and activities
- provides a basis for the integration of national and local civil defence emergency management
- encourages coordination across a wide range of agencies, recognising that emergencies are multi-agency events.

The CDEM Act requires that a risk management approach be taken when dealing with hazards. In considering the risks associated with a particular hazard, both the likelihood of the event occurring and its consequences must be considered. As part of the comprehensive approach to civil defence emergency management (CDEM), all hazards, not only natural hazards, must be taken into consideration. The primary goal for communities is to be self-reliant. Communities should aim to reduce the likely impact from, prepare for, and be able to respond effectively to, emergency events on their own. To encourage this, regional cooperation and coordination are paramount and form one of the cornerstones of the Act.

Under the current CDEM philosophy, the '4-R's' (reduction, readiness, response, recovery,) are critical components of the comprehensive emergency management approach (MCDEM, 2002):

Reduction

- Identifying and analysing long-term risks to human life and property from natural or man-made hazards;
- taking steps to eliminate these risks where practicable and, where not, reducing the likelihood and the magnitude of their impact.

Readiness

- Developing operational systems and capabilities before an emergency happens. These include self-help and response programmes for the general public, as well as specific programmes for emergency services, utilities, and other agencies.

Response

- Actions taken immediately before, during or directly after an emergency, to save lives and property, as well as help communities to recover.

Recovery

- Activities beginning after initial impact has been stabilised and extending until the community's capacity for self-help has been restored.

For the purpose of this paper, the focus is on those land use reduction measures that can be achieved through the RMA framework. Reduction considerations are included within the CDEM Act, the National Strategy, National Plan, and some CDEM Group Plans. The National Strategy consists of Goals, Objectives, Targets and Outcomes, and Actions. Goal 2 of the Strategy is "To reduce the risks from hazards to New Zealand". There are four objectives (A-D) under this goal, two of which are directly relevant to land use planning. Objective C is to "Encourage all CDEM Stakeholders to reduce the risks from hazards to acceptable levels". The objective acknowledges that land use planning does play a role, and the reader is directed to the Quality Planning website managed by the Ministry for the Environment for planning issues and best practice techniques. Objective D is to "Improve the coordination of government policy relevant to CDEM". It does not state what policy or legislation should be considered, or which central government agencies should be working together.

While reduction is included in the National Strategy, the National Plan is predominantly an operational plan, with comparatively little guidance on reduction compared with the other 3 R's. The Guide to the National Plan acknowledges this, and does provide some guidance on where reduction measures can be incorporated outside the CDEM framework. An example of this is shown in Figure 2 over page, which presents the operational side of the National Plan framework, with the linkages to reduction on the left hand side.

Reduction is shown to be included in other central government policies and local RMA plans, however these links need to be strengthened. There is no further guidance provided on how reduction is included through the RMA; how it is implemented through the Building Code, GeoNet[1] and hazards research; nor how regional or district plans can play a role.

1 GeoNet is New Zealand's geological monitoring project, which provides real-time monitoring and data collection for rapid response and research into earthquake, volcano, landslide and tsunami hazards (www.geonet.co.nz).

Figure 2: Relationship of the National CDEM Plan to the CDEM Act, National CDEM Strategy, CDEM Group plans, and other agencies' operational plans. Readiness, response and recovery planning and activities also link to more broadly based risk reduction policies and programmes at the national and local levels (MCDEM, 2006).

Reduction measures are incorporated within the Guide to the National CDEM Plan again when it presents the structure for CDEM Groups (see Figure 3). While reduction is mentioned on the right, the diagram does not explain who is responsible for hazard and risk reduction, or how this risk reduction is achieved.

To promote reduction measures, the authors propose a framework to show how reduction measures can be incorporated into the RMA planning framework.

A framework for strengthening linkages

From anecdotal evidence, it appears that the planning processes of both the RMA and CDEM Act regarding reduction measures currently work somewhat in isolation to each other, or in 'silos'. Resource management planners have little understanding of the reduction requirements under the CDEM Act, how they have a part to play under the RMA, and vice versa. To strengthen the linkages, a framework has been developed to show where linkages between the RMA and CDEM Act processes can occur (see Figure 4). It outlines the legislative framework of both pieces of legislation, with key statutory and non statutory documents included.

Colour-coded, it shows the hierarchical role of central government documents, regional council/regional CDEM group documents, and district council documents. At the bottom of the framework are non-statutory planning tools, which include plans made at both regional and district level. These plans, while being produced under the RMA and CDEM Act to fulfil responsibilities, also serve to improve statutory documents by informing the future direction of land use and mitigation measures. Therefore the double arrows indicate information flowing between documents – each influencing the other.

From the framework it can be seen that the key reduction linkage between the two pieces of legislation is from CDEM Group Plans to Regional Policy Statements. The inclusion of reduction measures in a RPS ensures that those policies will be included in regional and district plans, as these plans must give effect to RPS's, and district plans must not be inconsistent with regional plans. From CDEM Group Plans, reduction measures are influenced by research and associated reports. These fall into the category of non- statutory planning tools, and can link into other plans (for example, hazard mitigation plans can influence growth strategies) by highlighting specific hazard areas, such as flood zones.

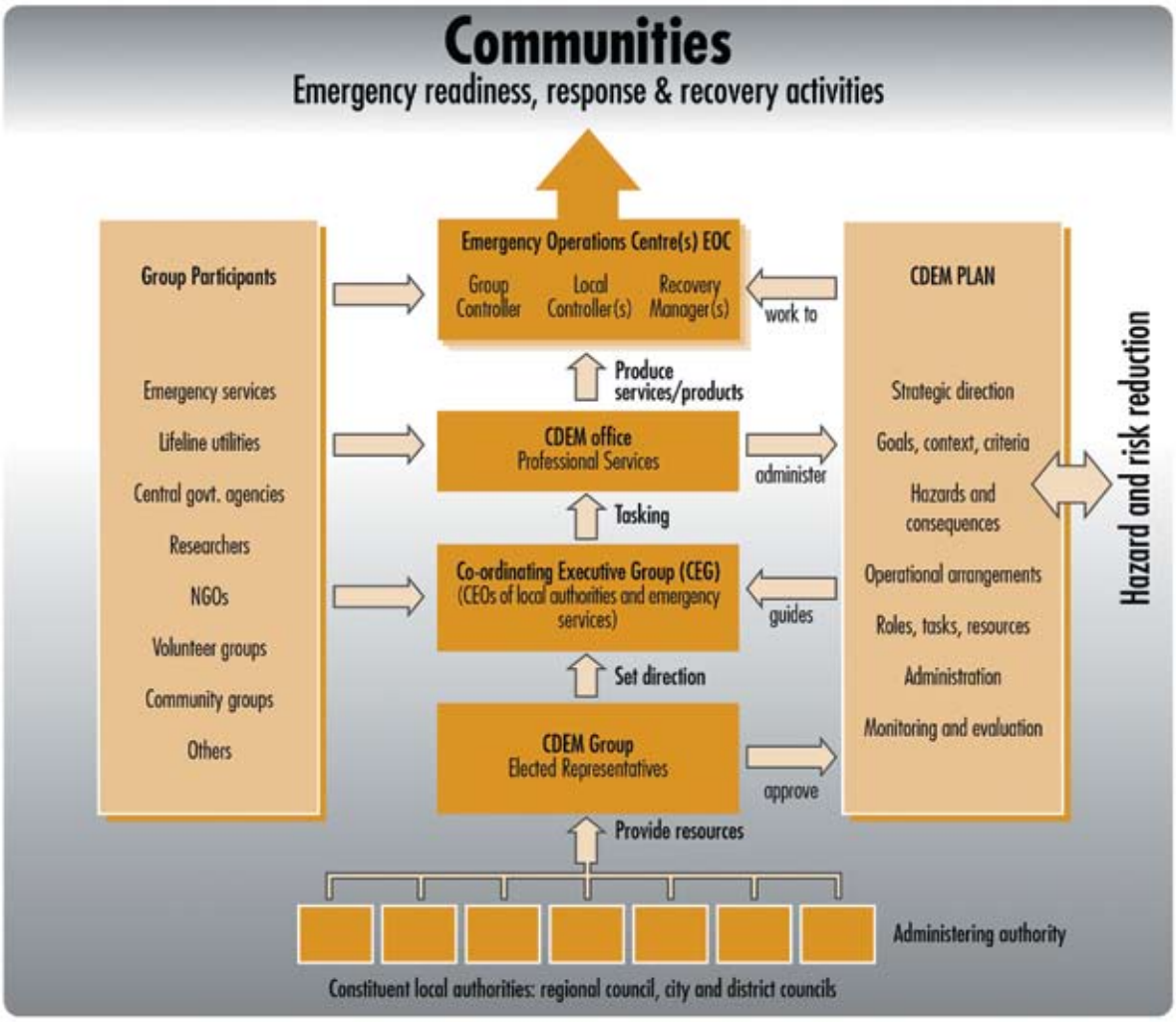

Figure 3: CDEM Group Structure (MCDEM, 2006).

The relationship between the Group Plans and RPSs is extremely important, as it is through this level of planning documents that successful reduction policy can be achieved. While not all Group Plans have reduction measures included, those that do can influence RPS reviews to incorporate more reduction measures. This also works in the other direction – CDEM Group Plans are due to be reviewed in approximately two years time, and planners/emergency management officers can ensure that policies in the RPS are incorporated into the CDEM Group Plan. This linkage allows for reduction policies to be incorporated under two legislative tools, which in turn will provide stronger defence of land use planning decisions.

While the purpose of this paper is to explore linkages between the CDEM Act and the RMA, it is acknowledged that there are many other pieces of legislation and associated documents which link into the RMA planning framework, as shown in Figure 5.

The following linkages to reduction measures have been identified:

Building Act 2002 – under Section 35 of the Building Act, a Project Information Memorandum (PIM) is a report prepared by a council prior to the construction of a building. As well as other information, it provides information on special land features, which may include potential: erosion, avulsion (removal of land by water action), falling debris, subsidence, slippage, alluvium (deposition of silt from flooding), inundation (flooding), sea spray zones, soft ground, and the presence of hazardous contaminants. Ideally these land features should be included in some way in the district plan, by locating areas on planning maps as hazard overlays, and/or having associated policy for activities in these areas.

Also, under section 71 of the Act a territorial authority (TA) must refuse to grant a building consent on land subject to natural hazards, unless it considers the building work or land can be protected from the natural hazard risk. Natural hazards are defined as erosion, falling debris, subsidence, inundation and slippage. Under section 72, if the TA considers the work will not worsen or accelerate the natural hazard, and that it is reasonable to grant a waiver, then the TA must grant a

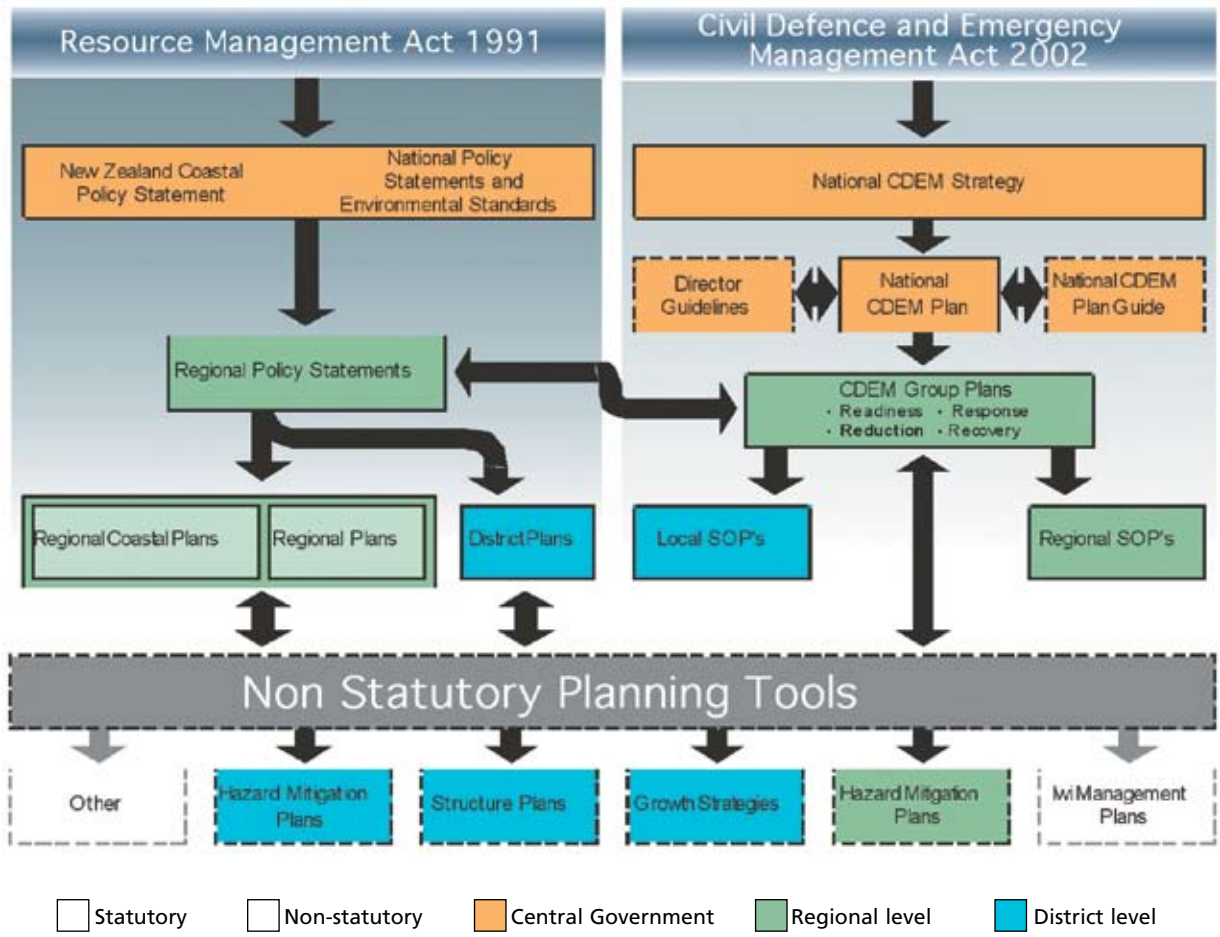

Figure 4: Hazard reduction linkages between the RMA and CDEM Acts.

building consent. Any consent granted under section 72 must notify the Registrar-General of Land, who will note the hazard concerned on the certificate of title. This is often referred to as 'tagging' the title.

The combined management of hazard through section 35 and sections 71-74 of the Building Act, can be linked through good policy at territorial authority level.

Local Government and Official Information Act 1987 – a Land Information Memorandum (LIM) is similar to a PIM, in that information can be requested on a parcel of land, which includes the above listed hazards for a PIM. Those considering purchasing a property are recommended to obtain a LIM before finalising the purchase. The LIM is often very useful in assisting potential landowners in deciding whether the land is worth purchasing, free from any restrictions, and whether the intended use of the land is feasible.

Local Government Act 2003 (LGA) – The LGA requires the creation of long term council community plans (LTCCP). The purpose of a LTCCP is to:

(a) describe the activities of the local authority; and

(b) describe the community outcomes of the local authority's district or region; and

(c) provide integrated decision-making and co-ordination of the resources of the local authority; and

(d) provide a long-term focus for the decisions and activities of the local authority; and

(e) provide a basis for accountability of the local authority to the community; and

(f) provide an opportunity for participation by the public in decision-making processes on activities to be undertaken by the local authority.

LTCCPs contain community outcomes, proposed budgets and performance measures looking ahead for 10 years. The document looks at the first three years in detail and the next seven years are indicative. The plan is revised once every three years and an Annual Plan is produced as part of this process.

Soil Conservation and Rivers Control Act 1991 – includes provisions for the prevention of damage by erosion and the protection of property from damage by floods.

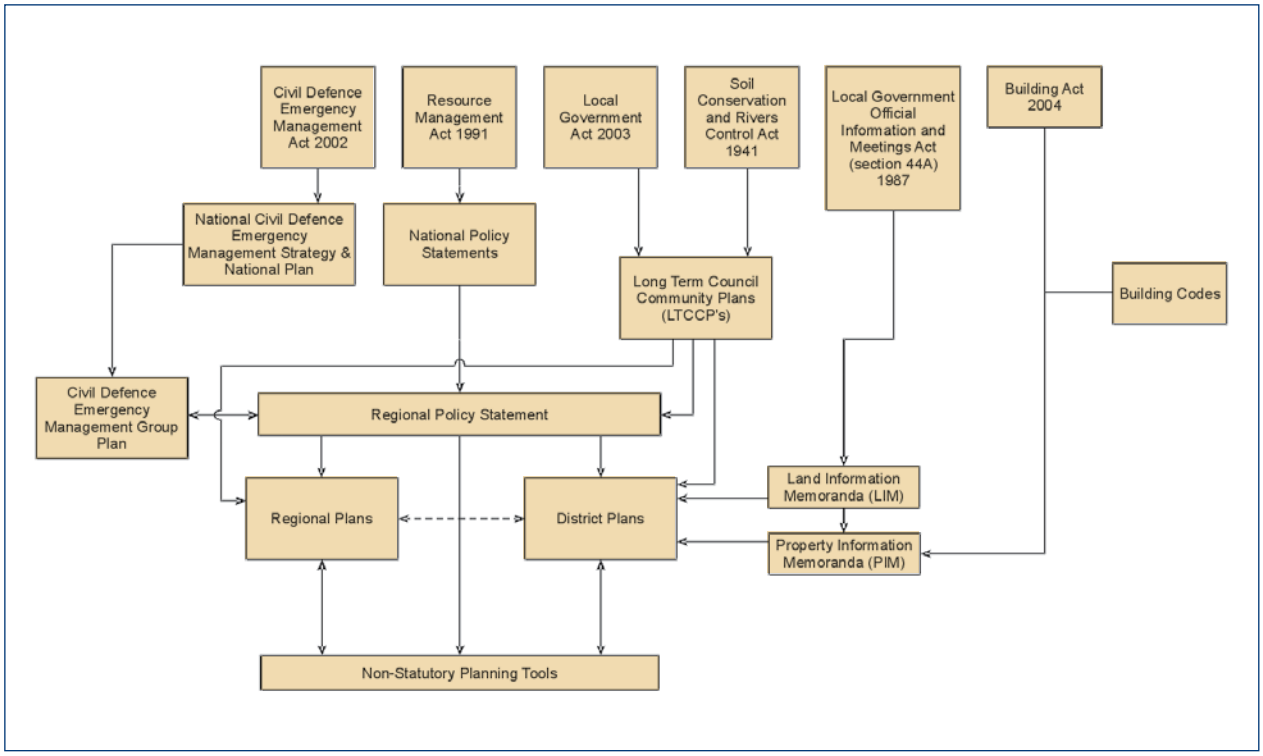

Figure 5: Legislative linkages (adopted from ALAHLG, 2003).

Examples of how linkages can be strengthened

The following three examples show how linkages can be strengthened between the RMA and CDEM Act:

Horizons Regional Council

Horizons Regional Council (covering the Manawatu-Wanganui region) is replacing its seven current resource management plans with one easy-to-use document, a combined Regional Policy Statement and Regional Plan. Meanwhile, the local CDEM Group Plan considers hazard reduction measures, which include planning tools (Horizons Regional Council, 2005). During the One Plan process, Horizons intends to strengthen hazard reduction policies, which in turn can be adopted by the next update of the CDEM Group Plan.

Queenstown Lakes District Council

The centre of Queenstown, a major tourist destination, is flooded periodically. Since the last major flood in 1999, several types of physical works have been proposed and discarded (Forsyth et al. 2004). A new Flood Strategy (ORC/QLDC, 2006) changes tack, emphasising the responsibility of individual citizens in "Learning to live with flooding" and improving public guidelines about the risk and recommended actions. Although the new strategy is still conceptually isolated from the CDEM Group Plan and the Regional Policy Statement, this new philosophy will no doubt be incorporated during forthcoming reviews of both documents.

Review of the New Zealand Coastal Policy Statement (NZCPS)

The NZCPS, in effect since 1994, is currently under review. A section on coastal hazards acknowledges the need for coordination between the CDEM Act and the RMA (DoC, 2006, p52). This is a good example of integration between the two pieces of legislation, which will enable consistency of approaches, reduction measures that satisfy the legislative requirements, and ultimately enhance sustainable development and communities.

Conclusion

A framework has been developed to assist in strengthening linkages between the CDEM Group Plans and resource management plans — the key link being to the RPS. Many RPSs are due for review, and it is imperative that planners take into consideration at this stage reduction measures and actions in their region's CDEM Group Plan. Only when these linkages are strengthened, can issues, objectives, policies and methods in regional and district plans be improved and focused on reducing the effects of natural hazards on communities. Also, when CDEM Group Plans are reviewed in the next couple of years, an opportunity exists to support the RPS of the region by incorporating reduction measures in the RPS into the Group Plan.

By RMA and CDEM policy and plans supporting each other and integrating reduction measures, the sustainability of communities can ultimately be improved.

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