

ACHIEVING RECONSTRUCTION OBJECTIVES WITHIN APPROPRIATE REGULATORY FRAMEWORKS

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ABSTRACT

The paper describes an on-going research that explores improvement schemes on the regulatory framework that will facilitate the implementation of reconstruction after disasters in New Zealand.

There is evidence suggesting that the existing regulatory provisions may cause procedural constraints, loss of pragmatism on the part of disaster practitioners, improper coordination arrangements coupled with unclear inter-agency responsibilities, which may eventually hinder the achievement of effective reconstruction programmes.

The research focus and methodology are presented, to give an insight into the opportunities for research that will proffer best practice guidelines for achieving reconstruction objectives through appropriate regulatory frameworks.

Keywords: Legislation, Reconstruction

INTRODUCTION

The rising scale and magnitude of disasters in the world is unprecedented. Between 1994 and 2003, natural disasters caused an average of US\$67 billion damage annually, with an average of 58,000 lives lost annually. (Guha-Sapir, Hargitt, & Hoyois, 2004). Guha-Sapir et.al. indicates a future upward trend in the number of extreme disaster events due to global climate changes, urbanisation and population growths. Vulnerabilities to natural disasters and environmental emergencies are therefore on the increase. Recent disaster data published by the Emergency Disasters Data Base (EM-DAT) corroborates this prediction, estimating an 18% rise in the number of natural disasters and of the people affected in 2005 against the previous year's figures.

The fall out from this phenomenon (disaster cycle) is that vulnerable countries need to be prepared for the imminent task of reconstruction and recovery from the events

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when they happen. Appropriate arrangements at both pre and post event would go a long way to alleviate the effects that usually follow all wide-scale devastation. Lizarralde (2004) suggested that reconstruction strategies need to be improved to combat this increasing level of natural disasters while strategic improvements can become a key to accelerating the process of reinstating affected communities (Ye, 2004) and an aid to planning sustainable developments.

Events immediately following a disaster can be particularly complex, so conscious recovery and reconstruction efforts cannot be overemphasised considering that even more advanced economies are being caught off guard in spite of well acclaimed policies to that effect. The rational starting point will be the formulation of public policies for mitigation, response and recovery (Comerio, 2004), which will be complemented by a regulatory framework for the interaction and interrelationships of all stakeholders during the reconstruction operations (Spence, 2004).

New Zealand's recovery planning and management arrangements are contained in the National Civil Defence Emergency Management Strategy (MCDEM, 2004) and is delivered through a continuum of central, regional, community and personal structures (Angus, 2004). The foundations for the CDEM environment are provided by the Civil Defence and Emergency Management (CDEM) Act 2002. Four broad spheres of activities are identified in the Act (MCDEM, 2005) that will contribute towards the vision of a resilient New Zealand. These are:

- Goal 1: to increase community awareness, understanding and participation in civil defence and emergency management.
- Goal 2: to reduce the risk from hazards to New Zealand.
- Goal 3: to enhance New Zealand's capability to manage emergencies, and
- Goal 4: to enhance New Zealand capability to recover from disasters.

Essentially the objectives for recovery and reconstruction will include the revival of the economy; empowering individuals and communities; enlisting private sector participation and equity; be affordable; and decentralized (Ofori, 2004).

The paper reviews some of the obstacles to achieving these objectives placed by legislation and links this with current research initiatives aimed at addressing this and other contiguous issues.

A REVIEW OF RECONSTRUCTION CHALLENGES

Reports prepared by Tonkin and Taylor Ltd (2005) on the Matata flooding incident in 2004; and the research studies on resource availability conducted by AELG, (2005) highlighting recovery during Manawatu 2004 flood event, both in New Zealand; reveal that some of the existing legislation were not drafted to cope with an emergency situation and were not developed to operate under the conditions that will inevitably prevail in the aftermath of a disaster event.

Resource Management Act (RMA) issues were a source of frustration in the Manawatu 2004 flood event (AELG, 2005). It was observed that so much time was taken to develop an understanding with the Regional Councils about emergency actions that would cover all situations under the RMA, rather than requiring a formal process for each activity. WRLAWG (2004) highlights similar issues that could complicate each step in building consent processing and suggest alternative approaches to expedite the consent process that could cope with the high volume of consent applications after a major disaster. Expediting the building consent process becomes necessary because of the immediate needs for shelter in the aftermath of a disaster. Feast (2004) explains that the heavy emphasis on a consultative process placed by the RMA may be unreasonable, as the problem of meeting the reconstruction requirements of a devastated city within a reasonable period will preclude such consultative procedures.

Recovery and reconstruction is delivered through a continuum of central, regional, community and personal structures, which means that a high level of integration is required between these agencies. CDEM agencies are provided with certain powers under the CDEM Act to direct reconstruction, but these powers can only be exercised in a declared emergency situation (AELG, 2005). Clearly there is still a need for coordination once a state of emergency ceases. The situation during these incidents, show that the local authorities were responsible for this coordination through an appointed Recovery Manager (Tonkin and Taylor Ltd, 2005). If a CDEM agency were to direct activities by the provisions of the CDEM Act they would become responsible for the oversight and management of all resources and services. AELG (2005) report that, the MCDEM could not take on such a responsibility lightly.

Another perspective to the legislative problem is that responsibilities for coordination have to be delineated. Reconstruction after a disaster requires a series of hierarchical and horizontal arrangements, thus providing answers to the following questions could help smoothen the relationship between all agencies involved in the reconstruction programmes.

- What needs to be done and in what order of priority - different stakeholders to the reconstruction process would have their different priorities, which have to be considered in all their ramifications.
- Who should take charge of what – political and cultural conflicts over reconstruction plans and lack of organisational capability at the local level can severely inhibit the pace of reconstruction works (Rolfe & Britton, 1995).
- How will it be funded and what is the modality for pooling all resources together towards reconstruction objectives?
- What level of resources will be committed to the process in relation to other conflicting demands for resources?

Existing legislation like the Local Government Act, Health Act and other OSH requirements due to be revised in 2006/07 may make it difficult for practitioners to apply pragmatic solutions to real time problems. This problem is compounded further by the different pieces of legislation that need to be referred to and require compliance, this could affect decision-making.

Another problem that could come from revised legislation is on how to deal with properties located in areas where the levels of risk have been elevated after a disaster event. Such properties may not qualify for any compensation in the event of another disaster. For example, the New Zealand Earthquake Commission (EQC²) Act (Schedule 3 Section 3(d)) indicates that the EQC is not liable to settle any claim where there is an identified large risk. This set of properties may also be refused building consents for reconstruction works because the new Building Act (2004) requires that Territorial Authorities must refuse to grant building consents to lands subjected to natural hazards unless they can be protected from those hazards. Where waivers are granted, the Act requires that notices be placed on the

² EQC is New Zealand primary provider of natural disaster insurance

land to indicate the risk of natural hazards they are exposed to. This is obviously contradictory and a review and realignment of these legislations cannot therefore be overstated.

The Research Needs

At a recent workshop, organised by ‘Resilient Organisations’³, to identify the barriers to post-disaster reconstruction in New Zealand, some research needs were highlighted. These were identified with a view to ensuring that the implementation of existing regulations and pieces of legislations, allow for efficient and effective reconstruction programmes. They are outlined as follows:

- 1) To determine the negative impacts of existing legislation and regulations on inter-agency relationships so as to resolve the conflicts of responsibilities that may occur during large scale reconstruction programmes.
- 2) To determine how the span of control and liabilities of appointed Recovery Coordinators could be enhanced through legislation, so that they become more in control of reconstruction after the initial response.
- 3) To determine the level of risk averseness of practitioners as a result of the implementation of some aspects of legislation. In essence, the extent by which legislation affects decision-making during reconstruction work need to be ascertained.
- 4) To determine how the existing organised arrangements for emergency readiness and response can be extended to cater for the longer-term recovery period especially after the expiration of declared state of emergencies.
- 5) To determine how the consenting process can be simplified and made more responsive to higher demands during the reconstruction period. This will reduce the frustrations experienced under the current process.
- 6) To determine the acceptance issues for changes in existing legislation by CDEM agencies, practitioners and the general public.

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Some of these research priorities would be met through an evaluative study of past reconstruction programmes vis-à-vis the legislative framework. The research is described in more detail in the following section.

THE CURRENT RESEARCH

Statement of Objectives:

The principal objective of the research is to facilitate efficient and effective post disaster reconstruction within New Zealand that will provide an appropriate level of resilience. Best practice guidelines will be developed for both the existing regulatory framework and any identified potential improvements to the regulatory framework. The objectives are to:

- Critically review the goals for and processes within the existing New Zealand post-disaster reconstruction framework (vis-à-vis guidelines and legislation).
- Identify the factors that governed the effectiveness of past reconstruction programmes in terms of their relationships and levels of influence.
- Develop scenarios with a range of disaster magnitudes that can be used to measure the effectiveness of existing and proposed reconstruction programme frameworks.
- Develop process models that encapsulate the existing reconstruction framework using systems methodologies to identify critical constraints within that framework.
- Postulate improved frameworks, model and evaluate their response to the identified scenarios so as to quantify their improvement.
- Recommend the best framework for reconstructing New Zealand communities affected by a major disaster.

Research Method:

The research methodology is essentially scientific. It will involve a systematic process of problem identification, data collection and analyses, and conclusions drawn objectively for effective problem solving and decision-making. Three major approaches will be employed, Empirical Research Methods; Case Study Analysis and Scenario Writing; and Systems Analysis and Process Models.

Conceptual Model

To facilitate the research a theoretical framework was developed. This conceives that reconstruction programmes (Dependent variable) are affected by four independent variables namely: Community involvement and participation; Resource Availability; Contractual processes and relationships; and Political interests and interferences (the Independent variables). Moderating the level of interaction and the relationship between the dependent and independent variables is the legislative framework (Moderating variable). The figure below gives a schematic diagram of this relationship:

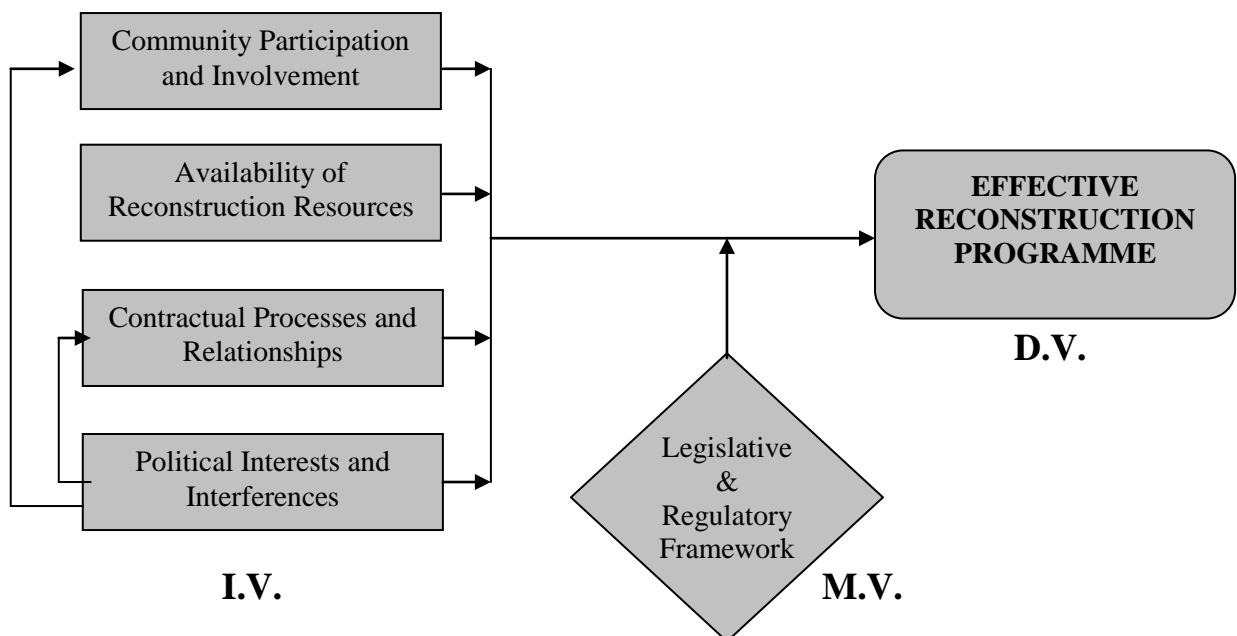


Figure 1: Schematic diagram of the Theoretical Framework

Three hypotheses were developed from this theoretical framework so as to determine the factors that govern the effectiveness of past reconstruction programmes.

Hypothesis 1: *There is a relationship between the performance indicators (community involvement, resource availability, contractual processes and political influences) and the effectiveness of reconstruction programmes.*

Hypothesis 2: *The level of influence of the performance indicators on the reconstruction framework depends on regulatory and legislative provisions.*

Hypothesis 3: *A variation in the scale of the disaster may affect the level of influence of the performance indicators on the reconstruction programme.*

A) Empirical Testing

The conceptual model developed would facilitate the use of empirical tests on the three hypotheses developed earlier. Multiple regression analysis will be employed in testing hypothesis 1, while chi-square tests will be used to determine the level of influence of these moderating variables on the relationships as expressed in hypotheses 2 and 3.

Data for this aspect of the study will be obtained from primary sources i.e. through questionnaire mail outs and interviews. Three sets of structured questionnaires are proposed. One set will be administered to Recovery Managers/Coordinators of previous disaster reconstruction programmes; the second will be to randomly selected property and infrastructure owners; and the third set will be administered to EQC and other Insurance firms. Secondary sources will be government statistical records, technical reviews and reports, bulletins and other literature (sourced locally and internationally).

B) Case Studies and Scenario Writing

The study will undertake in-depth contextual analyses of post-disaster reconstruction programmes in New Zealand and evaluations of research information from other parts of the world. Recent flooding incidents at Manawatu in 2004 and at Matata/Whakatane Districts in 2004 may provide useful information for pre-disaster preparations.

Other problem solving experiences in parts of the world would allow an understanding of post-disaster reconstruction phenomena and may generate further theories for empirical testing. Careful selection of the cases would permit a translation of the reconstruction dynamics to the New Zealand situation. Some of the incidents that may be reviewed will include (but not restricted) to the

following: Cyclone Tracy in Australia (1974), Northridge Earthquake, in USA (1994), Gujarat Earthquake in India (2001), Asian Earthquake and Tsunami (2004) etc.

Other aspects to this approach will be the development of disaster scenarios with a range of magnitudes to measure the effectiveness of existing and proposed reconstruction programmes. These scenarios will permit quantification of the proposed improvements to the existing reconstruction framework.

C) Process Modelling

Finally the study proposes to use systems theory ideologies (Checkland, 1981; Senge, 1990) to develop generic process models (Blockley, 1998; Le Masurier, 2001) that will explain the dynamic interactions within the existing reconstruction framework. Analyses of these models will yield the critical constraints to the frameworks.

Improved frameworks will be modelled and evaluated for their effectiveness under different disaster scenarios. Rich descriptive models of the suggested reconstruction framework would be made for clarity and ease of understanding.

Statement of Outcomes:

The research outputs are expected to be beneficial to Ministry of Civil Defence and Emergency Management, New Zealand (MCDEM), the Earthquake Commission (EQC) and other insurance companies, disaster practitioners and property owners. The following specific outcomes are envisaged:

- Improved coordinating and monitoring arrangements by funding agencies that will ensure both efficient and effective achievement of reconstruction Objectives.
- Models of responsibilities and powers for the coordination of reconstruction during and after the expiration of declared state of emergencies.
- Process models that will make explicit the recovery process from disaster damage assessments, to consent processing, till the completion of reconstruction projects.

- Draft clauses in legislation and regulations that may improve large-scale reconstruction programmes.
- Best practice guidelines (in the form of Manuals) for reconstruction works under different disaster scenarios.

CONCLUSION

The task of reconstruction after disasters may pose difficult challenges. Deliberate and coordinated efforts of all stakeholders are needed for effectiveness and efficiency. These have to be underpinned by definite policy frameworks and processes incorporated in appropriate legislation to meet complex reconstruction objectives.

Legislation cannot be used for purposes other than those for which it is intended and there appears to be little provision in several areas of legislation for post-disaster situations. Revising the policies before hand would be useful because hasty revisions during the course of reconstruction works would not provide the best solution.

The harmonisation of conflicting legislative requirements and the resulting misinterpretations are recommended, whilst the roles and responsibilities of the various CDEM agencies and other stakeholders need to be made clarified. Apparent divisions between those who, in practice, take responsibility for reconstruction and those who set policy and legislation create barriers that need to be overcome. Failing this the objectives for embarking on reconstruction programmes may become far-fetched and unachievable.

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