A Malaysian Study of Mixed Methods

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An Example of Integrating Quantitative and Qualitative Methods

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ACRONYMS

International

ADB	Asian Development Bank
ALNAP	Active Learning Network for Accountability and Performance
ASEAN	Association of South East Asian Nations
COHRE	Centre on Housing Rights and Evictions
DMC	Disaster Management Centre
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EU	European Union (a partnership of 27 democratic countries in Europe)
EWS	Early Warning Systems
FEMA	Federal Emergency Management Agency, US
GFDRR	Global Facility for Disaster Reduction and Recovery
HAP-I	Humanitarian Accountability Partnership - International
HDI	Human Development Index
HPG	Humanitarian Policy Group
IASC	Inter-Agency Standing Committee
ICRC	International Committee of the Red Cross
IDNDR	United Nations International Decade for Natural Disaster Reduction
IDPs	Internally displaced persons
IFRC	International Federation of Red Cross and Red Crescent Societies
ISDR	International Strategy for Disaster Reduction
NGO	Non Governmental Organisation
OCHA	Office for the Coordination of Humanitarian Affairs
ODI	Overseas Development Institute
OFDA	Office of US Foreign Disaster Assistance (of USAID)
OHCHR	Office of the High Commissioner for Human Rights
OHS	Occupational Health and Safety
UK	United Kingdom
UN	United Nations

UN/OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNCRD	United Nations Centre for Regional Development
UNDP	United Nations Development Programme
UNDRO	Office of the UN Disaster Relief Co-Ordinator (now OCHA)
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction
USAID	United States Agency for International Development

Malaysia

ATM	Malaysian Armed Forces
BKN	National Security Division
CCC	Contingent Control Centre
CDM	Crisis and Disaster Management Unit
CIDB	Construction Industry Development Board
DCC	District Control Centre
DOR	Defence Operation Room
JBPM	Malaysian Fire and Rescue Department
JPBBD	District Disaster Management and Relief Committee
JPBBN	State Disaster Management and Relief Committee
JPBBP	Central Disaster Management and Relief Committee
JKR	Public Works Department
JPM	Prime Minister Department
LPTA	Atomic Energy Licensing Board
MCC	Malaysia Control Centre
MKN	National Security Council
MNSC	Malaysia National Security Committee
NDMRC	National Disaster Management and Relief Committee
NIPA	National Institute of Public Administration
NPM	New Public Management
NRS	New Remuneration System
NSD	National Security Division
PBSM	Malaysia Red Crescent Society
PCB	Public Complaints Bureau
PDRM	Royal Malaysia Police

PKOB	Disaster Operation Controlling Centre
PKTK	Control Post on Scene
PPA	Public Personnel Administration
PSD	Public Services Department
PTO	Operation Standing Rules
RELA	Malaysian People Voluntary Alliance
SMART	Special Malaysia Disaster Assistance and Rescue Team
STC	Staff Training Centre
STMB	Malaysia National Telecommunications Agency
TNB	Malaysia Electrical Power Agency
UBBL	Malaysia Uniform Building Bylaw

FOREWORD

This book will describe how to combine quantitative with qualitative methods in a research project. The approach of combining both methods is called 'Triangulation'. In the social sciences, triangulation is often used in combining several research methods to study one subject. Also known as "cross-examination" or "mixed method" research, triangulation is very useful in capturing more detail, minimizing the effects of bias and ensuring a balanced research study, no matter how big or small that study may be. Triangulation gives a more detailed and balanced picture of the situation, with overlaps which are complementary at times and contrary in others. This has the effect of balancing each method out and giving a richer and hopefully truer justification.

This triangulation approach is detailed through a real research project. The inspiration for this research began when I volunteered to work in post-disaster recovery when the Tsunami struck Malaysia at the end of 2004. The Tsunami with a huge volume of moving seawater destroyed buildings, trees, wildlife and people (Foong *et al*. 2006). In this and other activities, I was able to make observations on disaster sites and I concluded that there was much scope for improvement in both planning practice and training for those in the front line of disaster management. As I explored these issues further, I was aware that, although sufficient regulation existed, regulatory compliance was low. I wished to explore why there was a gap between regulation and performance.

This research focused on pre- and post-disaster planning in Malaysia since the adoption of the Hyogo Framework for Action (HFA) 2005–2015 and the nation's Vision 2020. A review of the existing research and practice in Malaysia, including the structure and attitude of government officers in charge at the central and local authorities, was the starting point. A key focus is regulatory compliance with the Malaysian National Security Council (MNSC) Directive 20 programme. The MNSC Directive 20 exists as the important core of disaster regulation in Malaysia, but it is not being implemented according to plan and regulatory compliance is low. Failures in regulation and compliance were identified as the key vulnerability and the causes of disasters in Malaysia. The beneficiaries were actually unaware of the non-compliance that exposed them to hazards. In general, the more developed Asian economies, of which

Malaysia is one, have not devoted much attention to pre-disaster planning despite a rapidly growing capital stock of buildings, including public and private housing. Although the Asian Development Bank has provided templates for pre-disaster planning, the uptake has been slow. This Malaysian case study is an important example, not just for the country but also for the region. The aim of this research is to highlight shortfalls in provision, training and awareness, and to recommend ways of improvement. Perspectives gathered from actors in the implementation of regulatory compliance at all levels of the emergency management system in Malaysia help to explain the reasons for regulatory compliance failures. Measuring their attitudes towards regulatory compliance reveals actual commitment, because regulatory compliance would require making changes to existing barriers in the administrative environment. These changes would have to be based, to a large extent, on how actors perceive and judge the benefits of regulatory compliance implementation. The research uses both quantitative and qualitative methods together, involving 484 respondents. They have broadly negative general attitudes towards regulatory compliance, arguing that currently too many barriers are present at the various department levels to make implementation of regulatory compliance straightforward. They need informative advice and guidance to enable them to see the very probable societal benefits that can lead towards the development of regulatory compliance. The research concludes by categorising obstacles that need to be overcome to encourage actors to accept regulatory compliance, and recommends changes to department structures, systems and practices prior to regulatory compliance implementation.

According to Foong *et al.* (2006), Tsunami victims in Kota Kuala Muda, Malaysia, have shown a high level of satisfaction with the provision of temporary longhouses provided by the government. This is because they were provided with the minimum 3 bedroom houses, to provide distinct spaces for the different genders and age groups within the house; and there were also shared community space, storage and a prayer room. Having 3 bedrooms is the minimum requirement stipulated in the 1986 Malaysia Uniform Building Bylaw (UBBL) for habitable bedrooms. Amenities were in some cases better than in previous dwellings. The beneficiaries were actually unaware of the non-compliance that had exposed them to hazards. A legal non-complying building is any building that was legal when it was built, but which no longer complies with one or more of the present regulations (Barakat, 2003). I saw many examples of non-compliance such as: bedroom size that was not according to specification; partition walls built of combustible instead of non-

combustible materials; no vehicle parking and open spaces as required; improper insulation and paint finishes; and no front porch as a safety zone between the main entrance of the houses and the access road. The failure of the Malaysian Government to exercise the proper conduct of post-disaster provision has slowed the process of restoring livelihoods.

The Malaysian government should give extra attention to housing provision. Providing emergency shelter is one of the most important emergency activities because of safety, land use and ownership issues (Quarantelli, 1995a). This research indirectly explores thematic issues in disaster management such as the dangerous location of buildings, improper construction, cultural attitudes about development and political preferences (Quarantelli *et al.* 1977). However, compliance occurs when business goals and political interest are enhanced (Parker, 1999). Thus, I hope to highlight shortfalls in provision, training and awareness and to recommend improvements in implementing a disaster policy in Malaysia. The emphasis on disaster management policy in this book and in the research work results from the essential nature of compliance requirements in the policy on housing provision.

The handling and resolving of disasters in Malaysia is currently conducted through the committee system, which includes inter-agency and inter-sectoral approaches such as the local authorities[1], the Public Works Department and a Social Welfare Department section known as the 'National Disaster Management and Relief Committee' (NDMRC). This functions as the national coordination mechanism for the management of disaster activities as stated in the MNSC Directive 20 (see section 4.5.1). DMRC will establish a Disaster Operation Control Centre (DOCC) for monitoring the progress and development of these efforts and to ensure that disaster management is effectively and smoothly implemented without compromising compliance with national and international legislation (NSC, 1997).

According to the MNSC Directive 20, the important core of disaster regulation in Malaysia, authorities involved in disaster response are obligated to follow rules and regulations (e.g. Uniform Building Bylaws, Town and Country Planning Act and Road Transport Act) in providing housing to the disaster victims. The Malaysian National Security Council (MNSC) Directive No. 20 sets out the mechanism on the management of natural and technological disasters, including the responsibilities and functions of the various agencies under an integrated emergency management

[1] The terms 'officials', 'authorities' and 'officers' are used interchangeably but all have the same meaning.

system (Moin, 2007). Unfortunately, temporary housing built after the Tsunami did not fully comply with these rules and regulations.

Malaysia has a policy of disaster management called the 'Policy and Mechanism on National Disaster and Relief Management'. This framework contains directives that relate to disasters and relief management, such as Directive 18 for the relief and management of disasters that result from terrorist action, Directive 19 for establishing a special unit called Special Malaysia Disaster Assistance and Rescue Team (SMART) and Directive 20 for relief and management of natural and technological disasters. The policy statement for disaster relief operations in Directive 20 was purposely put in place to mitigate the effects of various hazards; to prepare for measures that will preserve life and minimise damage to the environment; to respond during emergencies and provide assistance; and to establish a recovery system to ensure the affected community's return to normalcy.

The Malaysia National Security Council (MNSC) Directive 20 clearly stated guidelines on the management of disasters including the responsibilities and functions of various agencies within the scope of national and international legislation (Shaluf *et al.* 2006). The MNSC Directive 20 is one part of this policy framework and outlines the actions on land management according to the level and complexity of the disaster. It establishes management mechanisms for determining the roles and responsibilities of agencies at three levels, namely the national, state and district levels (Moin, 2007b). Quite simply, MNSC Directive 20 is the standard operational procedure (SOP) for all departments involved in disaster management.

This policy framework was developed from international and national requirements such as the Hyogo Framework of Action (HFA) (as shown in Appendix 1); Yokohama Strategy (guidelines for natural disaster prevention, preparedness and mitigation); Habitat Agenda (a practical roadmap for an urbanising world, setting out approaches and strategies towards the achievement of sustainable development of the world's urban areas); other ISDR strategies (a system of partnerships for disaster risk reduction strategies, which consist of international, regional and national agencies); and national rules and regulations. However, Malaysia is still in the phase of restructuring and reorganising the National Disaster Management Mechanism to fit in with the HFA, by taking actions such as monitoring disaster risks, building a safety culture at all private and public levels and strengthening disaster preparedness in order to ensure that disaster risk reduction is a national and local priority, with a strong institutional basis for implementation.

The policy document, however, is not available for public scrutiny (restricted as shown in Appendix 2) for reasons of national security. Most of the information only exists in the form of internal departmental communications. Even then, documents were circulated for office use only. Any training sessions for officers are based on self-volunteering. Training is only mandatory for specific groups or individuals with certain technical skills (e.g. building inspectors, project managers and Special Malaysia Disaster Assistance and Rescue Team). Only top government officers were called by the National Institute of Public Administration (NIPA) and compelled by the Chief Secretary to the Government to attend courses on crisis management after a post mortem revealed the poor handling of development projects (Aini *et al.* 2001). One consequence is that those involved in disaster response received very little information about the implementation, and I saw that some of them did not really know what they were meant to do. The decay of policy effectiveness, from the central government to the districts, parallels the small number of professionals who know what to do and the majority who do not.

There were initial efforts to implement full regulatory compliance after the 2004 Tsunami in Malaysia. I judged that the implementation was not very successful because I thought that regulatory compliance would require making changes to existing barriers in the administrative environment. These changes would have to be based, to a large extent, on how actors' perceive and judge the benefits of regulatory compliance implementation. Local experiences in Malaysia, suggested by recent academic work, indicated that neither public office workers' attitudes nor those of private managers followed regulatory compliance with the MNSC Directive 20 (Aini *et al.* 2006). I wished to explore government officers' or authorities' attitudes to regulation and compliance, in order to understand how better compliance could improve emergency housing in Malaysia.

The presentation of this book, its methods and way of writing, is carefully organized to explain the steps made to combine the two popular methods of undertaking a research project. Actual research projects are presented here to give a real sense of combining both methods. Such writing methods are expected to provide guidance to prospective researchers using the same research method.

CHAPTER ONE

INTRODUCTION TO THE BOOK

In the social sciences, triangulation is often used as a combination of several research methods to study one subject (Cohen and Manion, 2000). Also known as "cross-examination" or "mixed method" research, triangulation is a very useful means of capturing more detail, minimizing the effects of bias and ensuring a balanced research study, no matter how big or small that study may be (O'Donoghue and Punch, 2003). Altrichter *et al*. (2008) contend that triangulation gives a more detailed and balanced picture of the situation with overlaps between findings under each method making for fairness in practice, being complementary at times and contrary in others. This has the effect of balancing each method out and giving a richer and hopefully truer justification.

Denzin (1970) extended the idea of triangulation beyond its conventional association with research methods and designs. He distinguished four forms of triangulation:

1. Data triangulation, which entails gathering data through several sampling strategies, so that slices of data at different times and in different social situations, as well as data on a variety of people, are gathered;
2. Investigator triangulation, which refers to the use of more than one researcher in the field to gather and interpret data;
3. Theoretical triangulation, which refers to the use of more than one theoretical position in interpreting data; and
4. Methodological triangulation, which refers to the use of more than one method for gathering data.

Methodological triangulation is the most common of all the terms. Denzin (1970) also draws a distinction between 'within-method' and 'between-method' triangulation. However, it can be argued that 'between-method' triangulation is more vigilant in terms of practicality, and it is widely used by researchers due to its being capable of cross-checking the validity of findings and its minimal risk of bias. 'Within-method' uses a

variety of techniques within the same method, for example open and closed questions within a questionnaire. By contrast, 'between-method' refers to the combination of a number of research methods, for example questionnaires, unstructured interviews and participant observation. The data produced by each method can be checked by comparing it with the data produced by the other methods.

Triangulation is not in itself a method in undertaking a research project (Jick, 1979). Triangulation is rather known as a term used in the design of research and in its implementation. It is not like any other research method such as a quantitative or qualitative approach with a specific paradigm. A research design is a plan, structure and investigation strategy deployed to obtain answers to problems identified at an earlier stage (Kerlinger, 1986). The design formulates a framework of research that includes data collection strategies. This framework will then become an administrative guide to provide valid and accurate answers to the research question (McMillan *et al*. 1993). Therefore, research design has two purposes. Research design should be able to control the experimental work and provide answers to research questions (Oppenheim, 1992). Triangulation is just a tool to work with in these quantitative and qualitative research methods, because both methods stand for different paradigms of reasoning, the deductive and the inductive.

In contrast to conventional research design, situationalists focus on research methods and maintain that both approaches have value. The two approaches cannot be combined because the different paradigms (i.e. inductive and deductive) are 'mutually exclusive' (Burrell *et al*. 1979; Smith, 1983). The 'purists' believe that assumptions about knowledge and social reality would lead directly to one or the other methodology (quantitative or qualitative) and that there is no way of combining these two research methods.

A false division of assumptions exists between these two types of data (Denzin, 1970). Nevertheless, scholars will separate the two research techniques in order to get a significant research outcome (Daft, 1983). However, both research techniques have inherent weaknesses, and they also contain an inherent strength (Sieber, 1973). The trick is to make the most efficient use of both in attempting to understand a social phenomenon. Qualitative and quantitative methods can contribute to one another in the design, data collection and analysis phases of a project (Sieber, 1973; Madey, 1982).

Design in quantitative research implies a 'positivism philosophy' with certain objectives involving numbers, statistics and experimental control to quantify a phenomenon (McMillan *et al*. 1993). A quantitative approach

assumes that the social environment constitutes an independent reality and is relatively constant across time and setting (Gall *et al*. 1996). By contrast, qualitative research is the process of inquiry to understand a social or human problem. The researcher determines his or her conceptual framework, by using holistic design, as well as word analysis and citing views from informants in a natural setting (epistemology). Qualitative methodology is specially designed to clarify the meanings of social situations and focus upon the way different people experience, interpret and structure their lives (Burgess, 1984).

There are advantages and disadvantages of combining both methods. There is no single technique which could claim superiority in combining both methods. However, recently researchers have witnessed an increasing trend towards integrating both methods (Trow, 1957) by combining both fieldwork and survey methods in the same study (Sieber, 1973). Surveys often test hypotheses generated through fieldwork, which subsequently provide 'representative information' that is then elaborated through qualitative data (Vidich *et al*. 1955). Thus, each method has its usefulness in a specific situation or phase of the research process; and the two are considered as 'complementary'.

Strategies in combining both methods require an understanding of methods of merging, to link paradigms to methods and triangulate all study phases into research designs. Triangulation will neutralise any inherent bias from the sources of data, investigators and methods (Jick, 1979). The main task is to combine the two paradigms into one, at all phases in the design.

In conducting qualitative research, the type of questions asked will determine the kind of research strategy that must be adopted (Yin, 1994). A case study approach is appropriate for investigating 'how' questions. In seeking an answer, the researcher does not try to influence or to control behavioural events. The subject studied is a contemporary and real-life phenomenon. The term 'case study' has been defined in many ways. There is no common understanding of what constitutes a case study (Lincoln *et al*. 1985; Merriam, 1998). A case study is an in-depth study on a particular event, circumstance or situation which might escape scrutiny from broader surveys (Allison, 1996). Thus, a case study may be based on a combination of quantitative and qualitative evidence (Yin, 1994).

For a better understanding about this triangulation technique, it might be helpful to present here an example of a real research project, its initiation and discussion. The main challenge of undertaking this research was the nature of respondents at the selected sites: they have a common understanding to provide a 'safe' reply and behave in a low profile manner

in giving their answers in the surveys, so as to protect their own interests - which results in them giving predictable answers. The participants could only report their personal perceptions, limited by their own understanding and by their emotions, which might have led to inaccurate answers or over-emphasised issues. In order to overcome these weaknesses, a qualitative method was chosen which, hopefully, could produce evidence (barriers, suggestions and reasons) to illuminate and articulate the findings established by the questionnaires (quantitative), and to support such aspects, especially those concerning negative aspects or feelings towards the issue. Therefore, two phases were involved in the process of collecting data, requiring sample re-visiting for in-depth interviews.

Another challenge was that the life cycle in a disaster model comprises four phases: pre-disaster planning in mitigation; preparedness; response in emergency; and recovery and reconstruction (Haddow, 2006). The importance of the focal response will come from the governments with the coordination efforts of the local, state and federal agencies (Clay, 2004; Levine *et al*. 2007). For that reason, the research will focus only on emergency housing in Malaysia, which is provided by the government/authorities in the National Disaster Management Mechanism in disaster phases. The scope of the study is limited to attitudes to compliance with the MNSC Directive 20, especially the degree to which government agencies act accordingly (Gelderman *et al*. 2006).

The description of the triangulation approach is integrated through Methodological Caveats; Research Project Initiation; Determination of Samples and Biographical Data; Determination of Variables; Questionnaire and Interviews; Analysis and Conclusion and Recommendation. The literature is reviewed in Chapter 2; Chapter 3 and Chapter 4 have three themes, namely: Disaster Management; Compliance and Enforcement; and the Malaysian Context. There is a lack of recent information available on the opinions and attitudes of actors in regulatory compliance and emergency housing (Dynes, 1993). Much of the past research had focused on levels of compliance and had quoted organisational response rather than understanding individual attitudes towards regulatory control (Aini *et al.* 2006). Available literatures suggest that non-compliance occurs (Dynes, 1993). Davis (2007) argued that disaster response has become highly politicised and does not comply with guidelines provided by international organisations like SPHERE and Oxfam. Then Quarantelli (1984) identified disaster planning not as a tangible product, but rather as ‘a process’ (see section 2.4). As a result, disaster itself is a failure of the social system (Dynes, 1993) and any development activity during a

disaster can be seriously damaging (Allen, 1990) because communities themselves give very low priority to disaster planning and actions.

Thus, in Chapter 3, Hutter (2001) and Meidenger (1987) suggested that research on regulations should focus on organisational routines, the attitudes and values of bureaucrats who shape governmental action, and the role of culture in institutions. Enforcement and compliance are measured with reference to factors such as commitment to regulatory objectives and attitudes to compliance which would increase effectiveness (Hutter, 2001). The nature of the institution and the behaviour of authority are significant for compliance in emergency management programmes (Braithwaite, 2002). Research in building a better foundation for understanding behaviour is a necessary step before trying to improve public policy implementation (Cohen *et al.* 2000). Individual behaviour in a particular setting is affected by an individual's initial emotional or normative state, and then by direct experience with others in a specific setting (Cox, 2004). Attitudes depend much on what people do together to respond, in an organised fashion, to disaster and on the continuities between the pre- and post-disaster states of social organisations (Aguirre, 1995).

In Chapter 4, in Malaysia, I found that regulatory failure has contributed to how the public service itself behaves. Aini *et al*. (2007) found that regulatory and organisational failure has contributed to greater vulnerability in disaster situations. I could read all of this in the literature, but it posed another question for me. Malaysia is neither a developed nor a developing country; it is somewhere in between. In effect, Malaysia has developed-world regulations with developing-world implementation. How could implementation be improved through changing the behaviour of public officials? An informed public can be a major ally in any attempt at this, because awareness can lead to action, including putting pressure on legislators and other policymakers (Anderson *et al.* 1998).

The questions I wished to ask and to whom they are directed are defined in Chapter 5. This Chapter is developed further from the notion of regulatory culture explained earlier in Chapter 3. The issue of culture remains unclear, not the least because culture is a complex construction of organisations, consisting of attitudes, perceptions, values and belief. There are five sources of regulatory culture with significant influences in regulatory compliance (Meidinger, 1987). These are general culture, social structure, law, regulatory tradition and regulatory work. Nurturing a compliant culture requires an organisation to value compliance goals (Braithwaite, 2002). There is a need to understand behaviour to build a better foundation for public policy (Cohen *et al.* 2000). Individual

attitudes will determine what the person will hear, think and do about the compliance issue (Allport, 1973). Franzoi (1996) argued that attitudes consist of three components (cognitive, affective and conative) (see section 3.8.1); this is a division I have deployed in my research design. The aim of this research is to highlight shortfalls in provision, training and awareness and to recommend ways of improvement. The aims were achieved by trying to answer the following broad questions about the concept of regulatory compliance as currently understood in Malaysia:

1. What are Malaysian actors' attitudes towards regulatory compliance implementation?
2. What do Malaysian actors understand by regulatory compliance?
3. What are the actors' own perceived rationales behind regulatory compliance implementation?

The research uses both quantitative and qualitative methods together (thoroughly discussed in Chapter 6; Chapter 7; and Chapter 8). The central premise (Golden, 2000) in this research is that the participation of government officers in the MNSC Directive 20 is essential. They are the managers, clerical staff members, technical staff members and general officers at the national, state and district levels. Local government is perhaps best positioned to implement mitigation as they control many of the most effective tools to reduce vulnerability to hazards, such as land use regulation and building code enforcement (Prater, 2000).

The key quantitative and qualitative findings (Chapter 9) are:

1. Malaysia is unique and different from other developing countries because Malaysian authorities need to consider cultural and religious matters (e.g. a minimum of 3 rooms in providing shelter and separate places for worship).
2. Actors had broadly negative attitudes towards regulatory implementation. These negative general attitudes were attributed to their negative thinking towards the level of knowledge and understanding (see section 9.1.2 and section 9.1.3) regarding MNSC Directive 20.
3. They know very little about the MNSC Directive 20. This lack of knowledge about regulatory compliance is due to the lack of information about the programme given to the departments at the national, state or district levels.
4. Generally, actors felt they did not have the skills required to comply with the programme.

5. The majority of actors interviewed agreed that victims have the right to regulatory compliance due to equal rights and socialisation opportunities.
6. Actors in Malaysia appear to see the process of regulatory compliance from the point of view of the existing public service system.
7. Actors are aware of the many barriers and uncertainties. Actors wish to see changes (see section 10.2) at the departmental levels before regulatory compliance is implemented.
8. Both methods of research, quantitative and qualitative, proposed that more efforts should be done to promote the importance of knowledge towards MNSC Directive 20 because of the actors' lack of information.

These findings necessarily have direct relevance for further development in Malaysia because actors are actually willing to support the implementation if they are provided with enough support in terms of resources, training, exposure and incentives. The actors are knowledgeable in the scope of their own work, but not about the information regarding MNSC Directive 20.

The contents of MNSC Directive 20 are suitable and practical to implement at the departmental level; however actors and victims revealed that the policy delivery system is not yet effective enough. And it needs to be considered that actors could not reasonably be accused for having this negative attitude. They need to be convinced that the efforts required for regulatory compliance will produce benefits for both actors and victims. They need informative advice and guidance to enable them to see the very probable societal benefits that can lead towards regulatory compliance development. Actors might be persuaded to accept regulatory compliance, but it cannot simply be expected that they will accept the programme without any changes being made to the present department settings or as regard to the status of their working conditions. There is no doubt that actors would expect to triumph over barriers with additional input in the form of increased resources and extra support, especially in the form of working assistants. In terms of originality, no one has previously questioned the public sector over compliance and more importantly no one has done so with the disaster management procedures in Malaysia.

Presently, Malaysia is still in the phase of restructuring and reorganising the National Disaster Management Mechanism to fit in the HFA and ISDR Programme (Shaluf *et al.* 2006). Hence, I recommend (Chapter 10) that these research outcomes can be used by the decision makers, authorities and NGOs to develop strategies and actions that include raising awareness and capacity-building for enhancing enforcement of the current legislation. The findings of this research might

give insights into the designing and planning of the national policy and disaster management framework by restructuring and reorganising the present National Disaster Management Mechanism, in terms of enhancing the coordination of responsibility between and within government bodies in the National Disaster Management Mechanism.

The decision-making circle in Malaysia starts with a social learning process. In every project delivered by the authorities, there will be a project report and evaluation. Inputs from academic research and consultation are essential in revising and formulating new policies such as the National Structural, Physical and Local Plan and other related works in Malaysia. Policy-makers should account of and measure what matters, especially in assessing the needs of the victims, while being realistic about any evaluation. 'Needs' are not interpreted solely in terms of economic interests, but are taken to be the necessities of a fully functional, harmonious, global system that incorporates both people and ecosystems (Earth Summit, 1992). Therefore, policy-makers should consider who the policy is formulated for, from the central government to local delivery agents; and from professionals and service delivery to communities and service users. Support may also come from good community leadership with good personalities and other local conditions such as their own skills, dedication and experience. In addition, full regulatory compliance, as a sign of significant progress, may take a long time to consider. Hopefully the policy-makers will be patient and persistent in delivering humanitarian work and involvement in policy-making.

For the future direction in Malaysia, Malaysia is serious about the vision for 2020 (Sarji, 1996), to become an industrialised and developed country if it can maintain the 7 per cent annual economic growth (EPU, 2006). The direction is for public service reforms with a clear emphasis on the development of a 'clean, efficient and effective' administration. In order to be considered as up to world-class standards, Malaysians must have a strict code of working ethics for implementing regulatory compliance. This culture will then shape the behaviour of its members. The success of the organisation itself is best achieved by ongoing compliance with regulatory goals (Brooks, 1988).

CHAPTER TWO

DISASTER MANAGEMENT

2.1 Introduction

Disaster research is based on disaster planning rather than outputs (Wisner *et al.* 2002). Dynes *et al.* (1978) described disaster research as looking at a 'social pathology' that brings about disruptions in normal life. The complexities of various relationships within a disaster environment usually fail to diminish the vulnerability of populations, with the probability of further disasters in the future. The dynamics of disaster research subsequently expose the real scenario of rehabilitation or reconstruction[1] activities following a disaster. It is still ambiguous as to what is of most concern in the officials' responsibilities, whether it is their daily routine or the mechanism of their humanitarian activity. This may be due to the process of regulatory compliance per se, or the aims of the regulators, or it may be situational, based on the theory of good regulatory practice.

In the context of emergency management, the concept of sustainable hazard mitigation refers to creating places that are less vulnerable to natural and technological hazards and that are resilient to those events (Mileti *et al.* 1990). "Sustainable hazard mitigation consists of five elements: environmental quality; quality of life; disaster resilience; economic vitality; and inter- and intra-generational equity" (Ronan *et al.* 2006: 91). From this perspective, public risk management schemes go hand-in-hand with communities in order to reduce hazard risks, reduce losses from disasters, and make efforts in developing sustainable communities. Disaster mitigations and risk reductions are seen as core elements of community resilience because, in general, any emergency management is the continuous process by which all individuals, groups and communities manage hazards in an effort to avoid or improve the impact of disasters resulting from the hazards.

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[1] The terms 'rehabilitation' and 'reconstruction' were adopted from Corsellis, T. and Vitale, A. (2005) *Transitional Settlement Displaced Populations* [Online] Available at: www.shelterproject.org (Accessed: 1 February 2014).

Haddow *et al*. (2004) argued that the process of dealing with and avoiding risks is actually explaining a disaster management scenario. This scenario applies particularly to communities facing the threat of natural or man-made disasters such as floods, earthquakes, wind storms and industrial accidents. Disasters tend to happen to people at risk. They are at risk because they are vulnerable to hazards. This vulnerability can best be reduced by increasing people's capacity to deal with a range of social, cultural, economic and physical factors. Therefore, disaster management is a process of preparation before the occurrence of a disaster (e.g. emergency evacuation, quarantine and mass removal of contaminants) (Quarantelli, 1980). Disaster management is aimed at developing means of prevention, management platforms and collision reduction in disasters. This encompasses a series of policies and practices which go hand in hand. It can be separated into four groups that consist of "preparedness (prevention and recovery planning), response (actions before and during a hazard), recovery (actions taken after a hazard) and mitigation (continuous actions)" (Godschalk, 1991: 142).

In the past, public policy with regard to disaster management has been heavily centered around responses, based on the assumption that natural disasters were almost inevitable as they represented an 'act of God[2]' (a natural event which is not preventable by any human agency) (Smith, 1996). However, over the years, this perspective has been put to rest by disaster researchers such as Quarantelli (1980) and Dynes (1978), who now define disasters as a social phenomenon, in which the emphasis comes to be on internal rather than external factors. In this perspective, a disaster is not an outside force that impacts upon a social system, but a manifestation of internal flaws and weaknesses in the society. This manifestation is the result of interactions between hazard-triggering elements distributed by nature, as well as from human activity and vulnerabilities (Alexander, 1997), where vulnerability commonly evolves into a physical, social, economic and cultural loss (Paton, 2001). Variables that widely contribute to mitigation efforts include structural measures to control a hazard, land use management, building regulation enforcement to minimum standards and warning systems (Paton, 2001).

In the international community, emergency management is the subject of defense strategy. In most cases, emergency management is an instrument of international cooperation, where liberty remains a political agenda. The term emergency management was largely replaced by civil

[2]Religious and philosophical belief systems that a supreme being created the universe, and acts as its overseer, adapted from Swinburne, R. (2004) The Existence of God, Oxford University Press, New York.

defense after the Cold War. The term Cold War refers to the relationship that developed primarily between the USA and the USSR (with influence from the Cuban Missile Crisis, Vietnam, Hungary, the Berlin Wall and others) after World War Two due to the growth in weapons of mass destruction. As a drawback, the original intention of civil defense was limited to protecting civilians from military attack. Over the years, it has been transformed into describing an emergency situation. The term emergency management is predominantly popular at the scene of a disaster.

Meanwhile, disaster management involves the entire process of a disaster circle (i.e. mitigation, preparedness, response and recovery) because disaster management must also consider the long-term protection of civilians. Within European Union countries, the term 'crisis management' emphasises the political and security dimensions rather than measures to satisfy the immediate needs of the civilian population (Norman *et al.* 2003). In particular, academics are much more comfortable using the term 'disaster risk reduction', especially in a development context (Alexander, 2002). They focus more on the mitigation and preparedness aspects of an emergency cycle.

The international community shows more concern over mitigation rather than response and recovery in action. This idea was unanimously agreed to and adopted as the 'Yokohama Strategy' by delegates at the '1994 United Nations World Conference on Natural Disaster Reduction'. Their resolution stated:

> "The impact of natural disasters in terms of human and economic losses has risen in recent years, and society in general has become more vulnerable to natural disasters. Disaster response alone is not sufficient, as it yields only temporarily results with further exposure to hazards at a very high cost. We have followed this limited approach for too long. Prevention contributes to lasting improvement in safety and is essential to integrated disaster management".
>
> (UNISDR, 1994: Chapter 1)

These objectives were repeated continuously and expanded at the '2005 United Nations World Conference on Disaster Reduction' as the Hyogo Declaration (HFA) from 18 to 22 January 2005, which stated that:

> "We, delegates to the World Conference on Disaster Reduction, are deeply concerned that communities continue to experience excessive losses of precious human lives and valuable property as well as serious injuries and major displacements due to various disasters worldwide. We recognise as well that a culture of disaster prevention and resilience, and associated pre-

> disaster strategies, that are sound investments, must be fostered at all levels, ranging from the individual to the international levels. We affirm that the state has the primary responsibility to protect people and property on their territory from hazards, and thus, it is vital to give high priority to disaster risk reduction in the national policy, consistent with their capacities and resources available to them".
>
> (UNISDR, 2005: 2)

As a result, in many countries a specific government body is created for the purpose of coordinating and directing rehabilitation and reconstruction after disasters. This specific government body is responsible for providing all hazard mitigation, preparedness/planning, response, recovery and reconstruction services; continuity of operations, continuity of government and emergency operations planning; risk management and mitigation; and training and exercise design services to local, state and federal government agencies nationwide (Wisner *et al.* 2002). Wisner *et al.* (2002) also argued that this body not only formulates a complete framework but also has to make sure the plan works throughout the whole cycle of disaster management (i.e. warning, preparedness, prevention and mitigation, recovery, ongoing relief and emergency response). It is essential to ensure close liaison between the body responsible for recovery and that concerned with disaster management (e.g. hazard assessment, preparedness, warning, relief and housing reconstruction). Decisions taken in the course of recovery (e.g. the decision to build housing by using traditional methods) could themselves create serious secondary hazards (Tsunami or fires from earthquake) and expose affected victims to potential risks that occur as a result of another (primary) hazard.

Reconstruction of infrastructure and housing are two of the primary challenges in recovery efforts because a main indicator to measure the outcome of risk reduction indicators is the percentage of houses constructed according to building codes, with appropriate hazard-resistant features (Christoplos, 2006). On average, studies[3] on post-disaster development are restricted to housing rehabilitation, policies and technical issues and practical implementations (Svetlana, 1998). Comerio (1996) argued that housing was the largest project section, accounting for over 50 per cent of the entire project budget in recovery planning after disasters. (A comparison of reconstruction pace across countries is shown in Appendix 4.) Housing policies that decide the direction in providing housing

[3] The terms 'studies' and 'research' are used interchangeably but have the same meaning.

in pre-disaster situations have a direct influence in conceptualising post-disaster shelter and housing programmes (Svetlana, 1998).

Hence, the perception of potential risk to the victims and even non-compliance with policies would guide officials in this government body into taking appropriate actions (Wisner, 2004). Officials in this government body must possess sufficient knowledge of handling emergency situations, humanitarian works and community works at the scene of a disaster (Baldwin *et al.* 1998; Gunningham *et al.* 1999b). Activities at each level (individual, group, community) would have an effect on the other levels. Still, the norm in disaster management is a scene where the response is one-sided, a government response, since the matter of security control is a prime responsibility of the government. Elected authorities are perhaps best positioned to implement any disaster planning measure, as they control many of the most effective powers of legislation. Therefore, efficient emergency management relies on officials' integrity in accepting the influence of emergency plans.

As argued by Davis (2007), officials' integrity and professionalism are expected to ensure high standards of execution because behaviours associated with 'integrity' include honesty, sincerity, truthfulness, punctuality, ethics, fairness and justice; while professionalism is characterised by expertise, generalised and systematic knowledge, a high degree of self-control and governance by a code of ethics. The strength of a local government and its decision-making entities is conditional, in large part, upon the strength of its legal infrastructure. This legal infrastructure comprises laws that regulate the behaviour of employees and officials in the government while promoting accountability, transparency and high ethical standards through enforcement and compliance (Davis, 2007). Enforcement and compliance are measured with reference to factors such as commitment to regulatory objectives and attitudes toward effective compliance (Hutter, 2001).

The nature of the institution and the behaviour of authority are significant for compliance with disaster management programmes (Braithwaite, 2002). Research in building a better foundation for understanding such behaviour is a necessary step before trying to improve public policy implementation (Cohen *et al.* 2000). Understanding the behaviour of these actors will fill the gaps in knowledge; such understanding is shaping the culture of compliance in authorities in their mechanisms of disaster management.

2.2 Disaster Studies and Planning

Samuel Prince's doctoral dissertation in 1920, in which he investigated the response to the 1917 Halifax shipping explosion, has had an enormous impact on disaster research (Scanlon, 1988; Scanlon *et al.* 2001). Samuel Prince makes a comparison between the Halifax incident and other cases that have occurred in the past. This revolutionary investigation was the beginning of other such subsequent collective behavioural research on organisational response to a range of disaster scenarios. However, it was only in 1942 that the first theoretical research was done by Pitirim Sorokin in 'Man and Society in Calamity'. Such studies were done in greater depth only after the 1950s. Sorokin found a promising direction for resolving crisis in a calamitous situation by developing an integral (knowledge and values) culture into personal and collective action in social organisations (Ford *et al.* 1996). Classical notions were contributed by:

1. Fritz in 1961 (restorative community: a collaborative effort with a mission to build the capacity and sustainability of organisations, initiatives and networks);
2. Thompson *et al.* in 1962 (artificial community: accidentally coming together for short time); Thompson *et al.* in 1962 (mass assault: a violent onset or attack on a community by physical means);
3. Barton in 1969 (unselfish community: deliberate pursuit of the interests or welfare of others or the public interest);
4. Taylor *et al.* in 1970 (the utopian community: an ideal community or society);
5. Parr in 1970 (emergence: the act of emerging from a disaster with a response structure);
6. Bardo in 1978 (emergent behaviour: communities operate in an environment, forming more complex behaviours as a collective).

In 1963, the development of theories on organisational behaviour was more focused after the creation of the Ohio State University Disaster Research Center (DRC). Factual reports on disaster situations were gathered in terms of groups' structures and responsibilities; and a dynamic typology within organisations was developed (Quarantelli, 1966; Dynes, 1970). 1988 was flagged as the year of vigorous growth in sociological research by DRC researchers (Britton, 1988). Scholars since then have relied on DRC research outputs and theories in conducting research in relation to organisational behaviour in disaster scenes (Stallings, 1978; Forrest, 1978; Smith, 1978).