Copyright Statement

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- you will use the copy only for the purposes of research or private study
- you will recognise the author's right to be identified as the author of the thesis and due acknowledgement will be made to the author where appropriate
- you will obtain the author's permission before publishing any material from the thesis.
Abstract

Post Disaster Tourism Crisis Recovery in SIDS: Development and Testing of an Integrated Approach

by

Abdulla Niyaz

The tourism industry is especially vulnerable to crises and disasters. Its vulnerabilities include both physical infrastructure and more intangible elements such as destination image and reputation. Being a fragmented industry, its response is typically difficult to initiate and coordinate during a disaster. Natural disasters and environmental vulnerabilities are of special concern for Small Island Developing States (SIDS). If a disaster occurs in a small country which is economically based on tourism, it will usually entail a second disaster including; reduced tourist arrivals, loss of employment, declines in private sector profits, a reduction in government revenues, increased imports and rising insurance costs.

In the last decade, there has been a growing interest in the tourism research field of crises and disasters. This is partly due to security incidents and natural disasters that appear to have increased in frequency and significance during this period. Various models and disaster management frameworks have been developed. Most of the literature focuses on the effects of risks, crises and disasters in the short-term rather than on long-term impacts and lessons learned from this aspect of a tourism industry following a major disaster. Furthermore, most of these studies are focused on larger and developed nations. A thorough review of crisis and disaster management literature and models revealed that an integrated framework and approach are lacking, and require development and testing for tourism disaster planning and management.

This thesis has investigated how tourism destinations that have suffered from natural disasters recover and plan for future disasters. A framework for tourism area disaster planning and management has been developed through a critical literature review. In terms of testing this integrated framework, the research adopted a case study design using mixed methods of data collection. The exemplar used was the Maldives (afflicted by the Indian Ocean Tsunami
Qualitative interviews were conducted in the field in the case study destination with individual tourism operators, the government and private sector agencies responsible for destination marketing and emergency services.

Findings show that the proposed integrated framework for tourism disaster planning and management is a practical framework that could be applied by National Tourism Organizations (NTOs) in a Small Island Developing State to proactively prepare for a tourism crisis or a disaster and to even revitalize their tourism industry following a crises or a disaster. The NTOs actions and strategies in the Maldives can be used as a reference when dealing with adverse events to the tourism industry. Based on a comparison between the conceptual framework and the case study results, the integrated framework for tourism disaster planning and management was redeveloped. The new framework integrated several components from the existing Tourism Disaster Management Framework (TDMF). The framework provided details on required emergency actions from the governmental and private sectors, whilst focusing on tourism industry responsibilities. The new framework focused on activities and strategies that the NTOs should be pursuing in a proactive approach to manage disasters that can affect tourism.

This research indicates the need to be prepared for crisis and disaster management in the tourism industry. A tourism destination that has a realistic assessment of the risks and required disaster management strategies and disaster management planning is likely to respond and recover quickly should a crisis or disaster occur. Investigation of previous disasters and crises is required for developing comprehensive scenarios based crises or disaster management plans. NTOs could undertake research on adverse events which have had an impact on the tourism industry in the past and base their tourism disaster management plans on these findings.

Effective institutional arrangements are also crucial for implementing the integrated approach. Respective governments need to ensure that there is one overall disaster management agency with a clear line of authority and decision making process, particularly for emergency relief and response. In the tourism context, the NTOs or the relevant government departments must develop clear strategies and should be delegated with the decision making authority at a national level.

Future research is suggested for any component/s in the proposed Integrated Framework for Tourism Disaster Planning and Management. Similarly, the whole framework could be tested
by using a case study of another type of crisis or disaster. Another area of future research could focus on the effects of disasters on destination image and the effectiveness of government strategies in restoring market confidence. More research is also required to understand disaster preparedness and organizational learning within the tourism industry in Small Island Developing States.

**Keywords:** tourism, crises and disasters, integrated approach for tourism crisis planning and management, small islands.
Acknowledgements

Where do I begin? My PhD has been a journey. It began when my family and I left my familiar surroundings to move to a foreign country of which I had no knowledge. Everything that happened after that has helped me to better understand the challenges of life, the meaning of living on the edge and the realization that there are always more mountains to climb. It has been a learning experience and has helped to broaden my awareness. I am thankful to Allah for giving me courage and patience to overcome all the hurdles that came my way and for all those angels who came to hold my hand throughout all the tough times.

I am immensely grateful to my supervisors, Professor Ken Hughey, Dr. David Fisher and Professor David Simmons, for their guidance and support throughout the supervision of this thesis. I am especially grateful to Professor Ken Hughey for his patience, understanding, efficient feedback and guidance. Ken, I am eternally grateful for all you have done for my family and I.

I have received a lot of support and encouragement from my parents, family members, friends and well-wishers. It is impossible to to name each and every one, as I may forget someone important. I am very thankful to my former and present employers for their financial support and understanding throughout this period of my life. I am especially grateful to my mum, who has always encouraged me to study. My sister and brother have also supported me and helped me in any way they can to enable me to complete my studies. My aunt and her family have always been there to support me in both the good and the bad times. In particular, my aunt, has always motivated me, and checked up and advised me throughout my academic endeavours.

The Maldivian community in Christchurch has been a great source of support and ‘family’ for me. Over the years we have developed a special connection with each of the families and over time we all have become like an extended family. At all critical times, each and every family have supported me and my family in some capacity. I appreciate all the help extended to me in the wake of the February 22nd Christchurch earthquake.

My family has encouraged me throughout my PhD journey. They have endured every challenge with me and have supported me in the the good and the bad times. I would like to thank my wife and daughter for their tolerance and patience during the most difficult years of my life.
Table of Contents

Abstract ...................................................................................................................................ii
Acknowledgements .................................................................................................................. v
Table of Contents .................................................................................................................... vi
List of Tables ............................................................................................................................ x
List of Figures .......................................................................................................................... xi
List of Acronyms ..................................................................................................................... xii

Chapter 1 Introduction ......................................................................................................... 1
  1.1 Personal Background and Motivation for the Research ...................................................... 1
  1.2 Rationale ............................................................................................................................... 3
  1.3 Research Objectives ............................................................................................................ 5
  1.4 Potential Research Outcomes ............................................................................................. 6
  1.5 Thesis Organization ............................................................................................................ 7

Chapter 2 CRISIS AND DISASTER MANAGEMENT IN TOURISM .................................................. 8
  2.1 Introduction ........................................................................................................................... 8
  2.1.1 Understanding Crises and Disasters .............................................................................. 8
  2.1.2 Typologies of Disasters and Crisis ............................................................................... 10
  2.1.3 Importance of Crisis and Disaster Management for SIDS .......................................... 14
  2.1.4 Review of Disaster Studies in Tourism ....................................................................... 17
  2.2 Crisis and Disaster Management Models and Frameworks .............................................. 19
  2.2.1 Faulkner’s Tourism Disaster Management Framework (TDMF) .................................. 22
  2.2.2 Ritchie’s Tourism Crisis Management Framework (TCMF) ...................................... 27
  2.2.3 Hystad and Kellers’ (2008) Destination Disaster Management Model ........................... 29
  2.3 Disaster as a Mechanism for Positive Change ................................................................. 31
  2.4 Media Coverage .................................................................................................................. 32
  2.5 Post Disaster Market Recovery Strategies ........................................................................ 34
  2.6 Stakeholder Collaboration .................................................................................................. 37
  2.7 Gaps and Direction ............................................................................................................. 38
  2.8 Summary ................................................................................................................................. 42

Chapter 3 INTEGRATED APPROACH FOR TOURISM CRISIS AND PLANNING AND MANAGEMENT ........................................ 43
  3.1 Introduction ........................................................................................................................... 43
  3.2 Review of Tourism Crisis and Disaster Management ......................................................... 43
  3.3 Crisis and Disaster Management Models and Frameworks (1986-2009) ............................ 46
  3.4 Components of an Integrated Framework for Tourism Disaster Planning and Management .... 54
  3.4.1 Proactive Approach....................................................................................................... 57
  3.4.2 Crisis and Disaster Communication ............................................................................ 57
  3.4.3 Management of Resources ......................................................................................... 58
  3.4.4 Collaboration with Stakeholders .................................................................................. 60
  3.4.5 Government Sector Roles ........................................................................................... 60
  3.5 The Proposed Integrated Framework for Tourism Planning and Management ................... 61
  3.6 Summary ................................................................................................................................. 63
# Chapter 4 SMALL ISLAND DEVELOPING STATES

4.1 Introduction ............................................................................................................................... 65
4.2 Small Islands and their Vulnerability ....................................................................................... 66
4.3 Characteristics Leading to SIDS Vulnerability ...................................................................... 67
   4.3.1 Social and Economic Conditions ..................................................................................... 68
   4.3.2 Natural Resources and Space Limitations ....................................................................... 69
   4.3.3 Susceptibility to Climate Change .................................................................................... 70
   4.3.4 Sensitivity and Exposure to Extremely Damaging Natural Disasters ............................... 71
4.4 Small Islands and Tourism ....................................................................................................... 72
4.5 Maldives: A Typical Small Island Developing State ............................................................... 75
   4.5.1 Geography ..................................................................................................................... 75
   4.5.2 Disaster Risk Likelihood ................................................................................................. 75
   4.5.3 History of Natural Disasters in the Maldives ................................................................. 77
   4.5.4 Sustainable Tourism ...................................................................................................... 79
   4.5.5 Research Setting ........................................................................................................... 81
4.6 Summary .................................................................................................................................. 84

# Chapter 5 RESEARCH METHODOLOGY

5.1 Introduction ............................................................................................................................... 85
5.2 Epistemology and Theoretical Perspective ............................................................................ 85
5.3 Positionality .............................................................................................................................. 86
5.4 Research Design ....................................................................................................................... 87
5.5 Research Methods ................................................................................................................... 88
   5.5.1 Documentary Sources .................................................................................................... 88
   5.5.2 Case Study as a Method ................................................................................................. 89
   5.5.3 Qualitative Interviewing ............................................................................................... 90
   5.5.4 Interview Questions and Topics ..................................................................................... 91
5.6 Sample Selection ..................................................................................................................... 95
5.7 Data Analysis ........................................................................................................................... 96
5.8 Ethical Considerations ............................................................................................................ 98
5.9 Limitations ............................................................................................................................... 99
5.10 Conclusion ............................................................................................................................... 100

# Chapter 6 Results From government tourism and emergency organizations

6.1 Introduction ............................................................................................................................... 101
6.2 Tourism Organizations and Emergency Organizations ......................................................... 102
6.3 Pre-event and Prodromal Stage ............................................................................................. 102
   6.3.1 Potential for Disasters and Probability of Occuring ......................................................... 102
   6.3.2 Pro-Active Planning Measures ....................................................................................... 105
   6.3.3 Environmental Scanning, Risk Analysis and Disaster Contingency Plans ...................... 106
   6.3.4 Warning Systems in Place ............................................................................................. 107
6.4 Emergency and Intermediate-Phase ...................................................................................... 107
   6.4.1 Crisis Response and Communication Strategies Implemented ...................................... 107
   6.4.2 Crisis Control Mechanisms Implemented ...................................................................... 108
   6.4.3 Short-Term Challenges to the Organization and Restoration ........................................ 110
   6.4.4 Challenges Faced by Emergency Organizations ............................................................ 115
   6.4.5 Challenges Faced in Managing Foreign Aid ................................................................. 116
   6.4.6 Lack of Consultation with the Community ..................................................................... 118
   6.4.7 Civil-Military Coordination ........................................................................................... 119
Chapter 7 Results from The private sector ........................................................................140

7.1 Introduction ......................................................................................................................140
7.2 Impact of the Indian Ocean Tsunami of 2004 on the Private Sector of the Tourism Industry ..140
7.3 Pre-Event and Prodromal Stage ......................................................................................144
  7.3.1 Preparedness for Disasters .........................................................................................144
  7.3.2 Pro-Active Planning Measures ..................................................................................145
  7.3.3 Environmental Scanning, Risk Analysis and Disaster Contingency Plans ..............148
7.4 Emergency and Intermediate-Phase ..............................................................................149
  7.4.1 Crisis Response and Communication Strategies Implemented ..............................149
  7.4.2 Crisis Control Mechanisms Implemented .................................................................152
  7.4.3 Short-Term Challenges to the Organization ...............................................................154
7.5 Long-Term Recovery and Resolution (1-5 years) ..........................................................157
  7.5.1 Co-Ordination with External Stakeholders for Long-Term Recovery ....................157
  7.5.2 Challenges for Long-Term Recovery .......................................................................159
  7.5.3 Lessons Learned .......................................................................................................163
7.6 Conclusion .......................................................................................................................169

Chapter 8 discussion .........................................................................................................170

8.1 Introduction ......................................................................................................................170
8.2 Government Context .....................................................................................................170
  8.2.1 Proactive Approach - Prevention and Proactive Planning .......................................170
  8.2.2 Reactive Approach – Communication .....................................................................171
  8.2.3 Reactive Approach – Management of Resources ....................................................173
  8.2.4 Reactive Approach – Collaboration with Stakeholders ...........................................175
  8.2.5 Reactive Approach – Resolution and Feedback .......................................................176
8.3 The Private Sector Tourism Context ............................................................................179
  8.3.1 Proactive Approach - Prevention and Proactive Planning .......................................179
  8.3.2 Reactive Approach – Communication .....................................................................180
  8.3.3 Reactive Approach – Management of Resources .....................................................181
  8.3.4 Reactive Approach – Collaboration with Various Stakeholders ............................183
  8.3.5 Reactive Approach – Resolution and Feedback .......................................................184
8.4 Revisiting the Framework ...............................................................................................186
  8.4.1 Prevention and Proactive Planning ............................................................................193
  8.4.2 Emergency and Immediate Response .......................................................................194
  8.4.3 Crises/ Disaster Communication ...............................................................................195
  8.4.4 Resource Management .............................................................................................197
List of Tables

Table 1: Features of “Happen Locally – Affect Globally” Tourism Crises ............................................... 11
Table 2: Typology of Disasters and Crises, their Characteristics and some Examples .......................... 11
Table 3: Natural Disaster Events, Deaths and Populations for SIDS, 1995-2015 .................................. 16
Table 4: Selected Cases of Disaster Studies in Tourism from Literature .............................................. 18
Table 5: Crisis and Disaster Lifecycle .................................................................................................. 19
Table 6: Crises Management Models .................................................................................................. 20
Table 7: The Six Stages of a Disaster Life Cycle ............................................................................... 22
Table 8: Faulkner’s Modified Tourism Disaster Management Framework (simplified) adaptation to stage 5 ................................................................................................................................ 26
Table 9: Crisis and Disaster Management Frameworks ......................................................................... 47
Table 10: Basic Types of Design for Case Studies (Yin 2003) .............................................................. 90
Table 11: Disaster Incident Response Evaluation (DIRE) ...................................................................... 94
Table 12: Selected Government and Private Sector Stakeholders for Interviews in Maldives ............. 96
Table 13: Disaster Management Plans Developed by Government agencies ...................................... 104
Table 14: List of Press Releases and Recovery Marketing Campaigns from MTPB and MOT ......... 111
Table 15: Key Activities and Details Provided in the 2005 Recovery Marketing Campaign by MTPB 113
Table 16: Actions Introduced for Emergency Evacuation, Transport and Communication
   Infrastructure for Resorts (Source: Ministry of Tourism) .............................................................. 129
Table 17: Actions to Strengthen the Preparedness of the Tourism Industry to Resort-Specific Crisis
   and Industry-Wide Disaster Situations (Source: Ministry of Tourism) ........................................ 129
Table 18: Actions to Strengthen Surveillance and Security for the Safety of all Tourists (Source:
   Ministry of Tourism) ................................................................................................................ 130
Table 19: Key Projects Under Disaster Risk Reduction by UNDP in Maldives (Source: UNDP,
   Maldives) ....................................................................................................................................... 133
Table 20: Summary Evaluation of the Extent to which the Government Sector has Performed in
   Relation to the Maldives Tsunami Against the DIRE ................................................................ 136
Table 21: List of Private Sector Participants Interviewed ......................................................................... 144
Table 22: Summarizes the Extent to which Private Sector has Performed in Relation to the
   Maldives Tsunami against the DIRE Grid .................................................................................... 166
Table 23: Case Study Findings and Lessons Learned .......................................................................... 186
Table 24: Lessons Learnt Together with the Actual Steps Taken to Implement New Plans or
   Approaches ........................................................................................................................................ 188
Table 25: Changes and revisions to the conceptual framework ............................................................ 190
Table 26: Tourism Recovery Strategies Identified by Carlsen (2005) .................................................. 195
List of Figures

Figure 1: Faulkner and Vikulov’s (2001) Tourism Disaster Management Framework (TDMF) Source: Faulkner and Vikulov (2001, p.338) ........................................................................................................25
Figure 3: Ritchie’s (2004, p.674) Crises and Disaster Management: A strategic and Holistic Framework .........................................................................................................................29
Figure 4: Hystad and Kellers’ (2008, p.159) Destination Disaster Management Model..........................30
Figure 5: Proposed Integrated Framework for Tourism Disaster Planning and Management ..............56
Figure 6: GDP Contribution by Major Economic Sectors of the Maldives, 2013, Source: Ministry of Tourism ........................................................................................................................................76
Figure 7: Tsunami Hazard Zones in the Maldives Islands, Source: UNDP Maldives (2005) ...............78
Figure 8: Map of Maldives, Source: www.worldmapfinder.com/En/Asia/Maldives ..............................82
Figure 9: Tsunami Effect on Tourist Arrival/Departure Numbers (Source: Ministry of Tourism, Statistics Section 2005) ........................................................................................................113
Figure 10: Tourist Arrivals by Month, 2001-2006 (Source: Department of Immigration and Emigration 2005, 2006) .............................................................................................................122
Figure 11: Tourist Arrivals and Bed capacity (Source: Ministry of Tourism, Statistical Section) ..........123
Figure 12: Bed Occupancy (Source: Ministry of Tourism, Statistical Section) .....................................123
Figure 13: Location of Private Sector Participants .............................................................................142
Figure 14: Integrated Framework for Tourism Disaster Planning and Management ..........................192
### List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>BCP</td>
<td>Business Continuation Program</td>
</tr>
<tr>
<td>DAM</td>
<td>Dive Association of Maldives</td>
</tr>
<tr>
<td>DDR</td>
<td>Disaster Risk Reduction</td>
</tr>
<tr>
<td>DIRE</td>
<td>Disaster Incident Response Evaluation</td>
</tr>
<tr>
<td>DMO</td>
<td>Destination Management Organizations</td>
</tr>
<tr>
<td>DRT</td>
<td>Disaster Response Team</td>
</tr>
<tr>
<td>EEZ</td>
<td>Exclusive Economic Zone</td>
</tr>
<tr>
<td>EIA</td>
<td>Environment Impact Assessment</td>
</tr>
<tr>
<td>EO</td>
<td>Emergency Organizations</td>
</tr>
<tr>
<td>EWS</td>
<td>Early Warning System</td>
</tr>
<tr>
<td>HIRU</td>
<td>Housing and Infrastructure Redevelopment Unit</td>
</tr>
<tr>
<td>IDP</td>
<td>Internally Displaced Population</td>
</tr>
<tr>
<td>IGMH</td>
<td>Indira Gandhi Memorial Hospital</td>
</tr>
<tr>
<td>IPCC</td>
<td>Inter Governmental Panel on Climate Change</td>
</tr>
<tr>
<td>MACL</td>
<td>Maldives Airports Company Limited</td>
</tr>
<tr>
<td>MATATO</td>
<td>Maldives Association of Travel Agents and Tour Operators</td>
</tr>
<tr>
<td>MATI</td>
<td>Maldives Association of Tourism Industries</td>
</tr>
<tr>
<td>MMPRC</td>
<td>Maldives Marketing and Public Relation Corporation</td>
</tr>
<tr>
<td>MNDF</td>
<td>Maldives National Defence Force</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MOT</td>
<td>Ministry of Tourism</td>
</tr>
<tr>
<td>MPS</td>
<td>Maldives Police Service</td>
</tr>
<tr>
<td>MTPB</td>
<td>Maldives Tourism Promotion Board</td>
</tr>
<tr>
<td>NAPA</td>
<td>National Adaptation Programme of Action</td>
</tr>
<tr>
<td>NCPE</td>
<td>National Commission for Protection of Environment</td>
</tr>
<tr>
<td>NDMC</td>
<td>National Disaster Management Centre</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>NMC</td>
<td>National Meteorological Centre</td>
</tr>
<tr>
<td>NTC</td>
<td>National Thalassemia Centre</td>
</tr>
<tr>
<td>NTO</td>
<td>National Tourism Organizations</td>
</tr>
<tr>
<td>NTTC</td>
<td>Northern Territory Tourism Commission</td>
</tr>
<tr>
<td>PATA</td>
<td>Pacific Asia Travel Association</td>
</tr>
<tr>
<td>RMSI</td>
<td>Risk Management Solution India</td>
</tr>
<tr>
<td>SARS</td>
<td>Severe Acute Respiratory Syndrome</td>
</tr>
<tr>
<td>SIDS</td>
<td>Small Island Developing States</td>
</tr>
<tr>
<td>SIP</td>
<td>Safe Island Program</td>
</tr>
<tr>
<td>SME</td>
<td>Small Medium Enterprise</td>
</tr>
<tr>
<td>SNAP</td>
<td>Strategic National Action Plan</td>
</tr>
<tr>
<td>SOP</td>
<td>Standard Operating Procedures</td>
</tr>
<tr>
<td>TCMF</td>
<td>Tourism Crisis Management Framework</td>
</tr>
<tr>
<td>TDMF</td>
<td>Tourism Disaster Management Framework</td>
</tr>
<tr>
<td>TEOC</td>
<td>Tourism Emergency Operation Centre</td>
</tr>
<tr>
<td>TLU</td>
<td>Transport and Logistic Unit</td>
</tr>
<tr>
<td>TPAC</td>
<td>Tourism Promotion Advisory Council</td>
</tr>
<tr>
<td>TRRF</td>
<td>Tsunami Relief and Reconstruction Fund</td>
</tr>
</tbody>
</table>
Chapter 1

INTRODUCTION

The aim of this research is to build an integrated theoretical model of tourism disaster management. It is believed that understanding tourism crises and disasters and how destinations have responded and recovered from them, will enable more effective planning for future disasters. This chapter will provide introductory material on the research work presented in this thesis. The background and motivation behind the research are described in section 1.1; the rationale for the research topic and objectives are detailed in sections 1.2 and 1.3, respectively; finally, in sections 1.4 and 1.5, potential research outcomes and thesis organization are discussed.

1.1 Personal Background and Motivation for the Research

Early in the morning on the 26th December 2004, my phone rang and I woke up to hear of the tragic and sad news of an employee’s death while at work. Being the Director of Human Resources in the company, I arranged to bring the body from the resort island to the capital city Male’ where I worked. The morning was approaching and so I went to the mosque for the prayers, as was my custom. I thought about how I would tell the family this dreadful news. This was but a slice of my everyday responsibility in a 5000 employee company.

The earthquake that originated in Sumatra, Indonesia on the 26th of December 2004 was felt in the Maldives at about 6.25 am. The country was about to wake up, while the hospitality industry in the country was fast asleep after Christmas celebrations. I met some people who complained of minor tremors but life went as usual. I went to the harbour to receive the speed boat which brought my employee’s body. The time was 09.20 am and the ambulance personnel closed the door. I saw the massive waves coming towards me.

Male’, where I was born, is just under six square kilometers and was the first among the islands to be hit. There was no news, no warning that such an event may take place. I ran for my life behind the ambulance and just reached the hospital which was a few hundred meters away from the jetty. As I turned to see the waves following us,
the boats were raised from their moorings. The waves, reaching seven metres, were largely controlled by the sea walls that surrounded the capital city, but some crossed the outer roads and seawater found its way into the city.

The hospital was in chaos, there were no functioning telephone connections, the streets were flooded with water and debris, and reports of deaths and causalities were growing by the hour. The tsunami destroyed several islands in the Maldives and many were evacuated, including those full of tourists. I watched as all of these events unfolded in front of me. An inner voice told me this is it, while another urged me to do something about the chaos I saw around me.

I worked fifteen years in the tourism and hospitality industry, moving from an entry level position to a strategic level. During my time in this industry, I also gained my Masters degree, in the same field. In my fifteen year stint, I worked in five star hotels and other industrial projects in construction, pre-opening and operation stages. I had the opportunity to work on a number of tasks, including environmental projects, health and safety monitoring and reporting for projects funded by international financial institutions. I was always concerned that the tourism industry, as well as the government agencies, were not adequately prepared for a major emergency and disaster.

Hence, my interest in the current research developed. I developed a firm belief that I needed to pursue knowledge in this field of tourism crisis and disaster management so that one day I would be able to contribute to my country in this important area. My history teacher once told me that the ultimate theme in social sciences is humanity and that is where I was heading. I embarked on a long journey to seek answers in the quest for knowledge.

By the time I began this research, in 2009, five years had passed since the tsunami. Much had happened in the Maldives, or had it, at least in terms of learning from the past to inform the future? What follows is my journey to understand tourism and disaster risk management in Small Island Developing States (SIDS).
1.2 Rationale

Faulkner (2001) notes an ever-increasing number of disasters and crises which affect the tourism industry, ranging from natural to human induced disasters. This has been most evident since the terrorist events of September 11, 2001, which severely impacted upon the tourism industry, illustrating the need to understand and effectively manage the implications of such incidents. The tourism industry is highly vulnerable to disaster and its vulnerabilities including both damage to the physical infrastructure and more intangible elements such as destination image and reputation (Méheux & Parker, 2006). Several major crises have adversely effected the tourism industry worldwide (for example, the 2001 Foot and Mouth Disease outbreak in the United Kingdom, the 2001 terrorist hijackings in the USA, the 2002 and 2005 Bali bombings, the 2003 SARS epidemic in Southeast Asia and Canada, the Influenza A (H5N1) in 2003-2004, the 2004 Indian Ocean Tsunami and Ha, the H1N1 virus in 2009).

Tsunamis, volcanoes and floods have affected many tourism destinations during the past five years. In 2010, the eruption of Eyjafjallajökull, a major volcano, in Iceland disrupted air travel to and from the United Kingdom, Ireland and Western Europe. In 2011, the eruption of the Chilean volcano and its ash disrupted air travel throughout much of the southern hemisphere. Similarly, other major disasters of 2011 (the Queensland floods, the Japan earthquake and tsunami and the Christchurch earthquake) caused significant destruction and loss of life in the affected regions, resulting in damage to the tourism industries in each of these destinations. These events indicate that all destinations are susceptible to the possibility of a disaster or a crisis. Moreover, each of these examples suggest that all tourism destinations are likely to experience some kind of disaster at some point in their evolution (Faulkner, 2001).

Due to these incidents, greater academic and administrative attention has been focused on managing risks in this field. Despite an increase in research on this issue, there is a considerable lack of clarity on the impact of crises on the tourism and hospitality industry. There is also limited scholarly activity and documentation on the development of models and frameworks for crisis management to prepare stakeholders for negative events that could also guide their response when a crisis arises (Pforr & Hosie, 2008). Faulkner (2001, p. 136) highlights that more efficient
research on tourism disaster “is an essential foundation for assisting the tourism industry and the relevant government agencies to learn from past experiences and develop strategies and for avoiding and coping with similar events in the future.” He argues that by analysing “past events, the response of those affected and the recovery measures adopted, and retrospectively evaluating the effectiveness of those responses, we can develop strategies” for the future.

Prideaux and Laws (2007) argue that the role of academics in tourism crisis management is to record crisis events, demonstrate best practice planning, develop better analytical tools, and build theoretical models. Peters and Pikkemaat (2006, p. 18) argue that the development of effective crisis management tools requires “systematic and complete documentations about crisis management processes to benchmark or learn from comparable tourism destinations.” Ritchie (2004) recommends further research on theoretical and conceptual frameworks focusing on the tourism industry. He notes a shift from simple prescriptive models of what managers should do before, during and after disasters, towards the development and testing of existing frameworks or theories using descriptive and analytical case studies to determine how management occurred in reality and why the crises or disasters were managed in the way that they were.

Many tourism crisis and disaster management researchers have identified gaps in the research and have made recommendations for productive areas of tourism crisis and disaster management research. Such gaps are identified in Chapter 2, section 2.7, to establish a research direction for this thesis. There is no evidence of long-term research being done in a Small Island Developing State (SIDS) to determine industry experiences after a disaster, what recovery strategies were initiated, the ongoing effects and how tourism crisis and disaster management has changed. Based on the research gaps identified, this thesis will provide an analytical case study of short, medium and long term actions used by stakeholders in the recovery of the tourism industry in the Maldives following the Indian Ocean Tsunami of 2004. Maldives was chosen primarily because the country is a SIDS, and is highly dependent on tourism for economic growth. These reasons are discussed further in Chapter 4, section 4.5.4. Moreover, the Maldives is familiar to the researcher, as has been noted in section 1.1.

The research proposes an integrated framework for tourism disaster planning and
management, which is based on constructs used in disaster management theory and frameworks (Faulkner, 2001; Faulkner & Vikulov, 2001; Hystad & Keller, 2008; Miller & Ritchie, 2003; Ritchie, 2004). This research tests and redevelops the conceptual framework using the real life case study mentioned above.

1.3 Research Objectives

The main purpose of the research presented in this thesis is to propose an integrated framework for tourism disaster planning and management in SIDS, with a focus on natural disasters. The proposition was that from understanding tourism crises and disasters and how destinations have responded and recovered, will enable more effective planning for future disasters. The central research questions were:

- What can be learnt from past tourism crises and disasters in terms of planning for future disasters?
- What have the Maldives learnt following their disaster experiences and how is this currently being incorporated into their future preparedness plans?

The framework adopted in this research is supported by the literature review in Chapter 2. The research presented herein sought to meet the following objectives:

- Review previous studies on tourism disaster management and propose an integrated framework for tourism disaster management.
- Analyze the unique characteristics of disaster recovery for the tourism industry in SIDS, both short and long-term recovery requirements, through examining the impact of the Indian Ocean Tsunami of 2004 (Maldives).
- Explain the roles and importance of key stakeholders in disaster recovery for the tourism industry.
- Examine whether the lessons learned from previous disasters have been incorporated into future plans within the tourism disaster management practices in SIDS.
1.4 Potential Research Outcomes

The main contribution of this research is an integrated approach that could be used as a crisis and disaster management framework for managing tourism crises or disasters in Small Island Developing States (SIDS). This research makes an academic contribution to the field of tourism crisis and disaster management where it addresses the lack of research on destination response and recovery in SIDS with tourism based economies. This research builds upon existing studies; namely, Faulkner (2001), Faulkner and Vikulov (2001) and (Ritchie, 2004). It also responds to Carlsen and Liburd’s (2008), research agenda which examines research on managing recovery and restoration, marketing and promotion during and after the crisis, and rebuilding the destination (see section 9.7). It also responds to Ritchie (2009)’s research recommendations to examine the lack of studies on the long-term impact to assist Destination Management Organizations (DMOs), National Tourism Organizations (NTOs) and industry associations who have an important role to play in educating the industry and facilitating readiness, response and recovery actions and strategies (see section 2.7). Further, the research expands Ritchie’s work (2004) on understanding stakeholder collaboration and planning in the tourism industry.

All SIDS are vulnerable to economic shocks and natural hazards. They share common challenges due to their small size, remoteness from large markets, and vulnerability to economic and environmental shocks. In most SIDS, tourism is the main economic activity (Neto, 2003), bringing in most of their foreign currency earnings (Ashe, 2005), in addition to being the largest source of employment generation (Scheyvens & Momsen, 2008). A disaster can have a significant impact on the tourism industry and economy of a small country. The recovery of the destinations’ economy therefore would be vital for overall recovery of the government and the community.

The analytical case study of stakeholder strategies (short, medium and long term actions) in the recovery of the tourism industry in Maldives, following the Indian Ocean Tsunami of 2004, is an opportunity to test the conceptual framework developed for the study and is a practical outcome for the tourism industry in SIDS.
1.5 Thesis Organization

This thesis has been organized into nine chapters. The present chapter introduces the thesis, outlining the rationale, objectives and organization of the research. A brief description of the chapters that follow is provided below:

- **Chapter 2**: Reviews and discusses the significant literature which forms the theoretical and methodological basis for this study.

- **Chapter 3**: Outlines the framework for tourism disaster planning and management that has been developed based on constructs used in disaster management theory and frameworks.

- **Chapter 4**: Reviews and discusses vulnerabilities, challenges and constraints faced by the Small Island Developing States (SIDS) in their cause for development.

- **Chapter 5**: Outlines the epistemology, theoretical perspectives and the methods used in this research.

- **Chapter 6**: Presents the empirical results obtained from government agencies that were interviewed for the thesis.

- **Chapter 7**: Presents the empirical results that were obtained from interviews with private-sector establishments.

- **Chapter 8**: Discusses the findings from Chapters 6 and 7 in relation to the framework that has been proposed for this study (Chapter 3). It presents a redeveloped framework based on comparison between the proposed conceptual framework and the case study findings.

- **Chapter 9**: Concludes the thesis by summarizing the research implications and limitations before making recommendations and suggestions for further research.
Chapter 2

CRISIS AND DISASTER MANAGEMENT IN TOURISM

2.1 Introduction

The goal of this research is to build a broadly integrated theoretical model of tourism disaster management. It aims to examine and analyze how tourism destinations that have suffered from natural disasters recover and plan for future disasters. This research uses the context of a Small Island Developing State (SIDS) as an exemplar. Understanding tourism crises and disasters and how destinations have responded and recovered will allow for more effective planning for future disasters. This literature review refines the purpose and contribution of this research by examining academic literature, government and industry documents as the basis for proposing an initial theoretical model for testing and later refinement based on an empirical study of a major natural disaster.

The chapter consists of four main sections. The review begins with an examination of definitions, concepts and typologies of crises and disasters in tourism, tracing the growth in tourism research and literature in this field with a brief look at the vulnerability of Small Island Developing States (SIDS) to crises and disasters. The second section focuses on three tourism crisis and disaster management frameworks based on crisis/disaster life-cycle approaches. The third section more closely examines key themes in tourism literature related to response and recovery stages of crises and disasters in a tourism destination. Finally, a series of gaps in the research is identified, relevant to the purpose of this thesis, for further exploration.

2.1.1 Understanding Crises and Disasters

According to Pforr and Hosie (2008) a clear, accessible and agreed upon, definition of crisis is lacking in the literature. Definitions of tourism crisis are extremely rare and those that do appear in the literature are contextualized and reflect one single purpose, usually explaining a particular crisis phenomenon (Santana, 2004). Pauchant and Mitroff (1992, p. 12) define a crisis as a “disruption that physically affects a system as a whole and threatens its basic assumptions, its subjective sense of self, its
existential core.” Selbst (1978, p. 136) defines a crisis as “any action or failure to act that interferes with an organization’s ongoing functions, the acceptable attainment of its objectives, its viability or survival, or that has a detrimental personal effect as perceived by the majority of its employees, clients or constituents.” Selbst seems to imply that if stakeholders perceive a crisis, that perception could manifest itself as a real crisis.

As per Glaesser (2006), crisis management is understood as the strategies, processes and measures which are planned and implemented to prevent and cope with a crisis. Crisis management is the planning for, responding to, and recovering from a crisis (Huang, Tseng, & Petrick, 2008). Keown-McMullan (1997) proposed a model for the situation to develop into a crisis. There must be three elements: (i) a triggering event causing significant change or having the potential to cause significant change. Once this trigger is perceived by those in the organization there will be a crisis if; (ii) management feel they are unable to cope with change that has taken place, and (iii) the trigger is so significant as to pose a threat to the survival of the organization (Shaluf, Fakharu'l-razi, & Aini Mat, 2003, pp. 28-29). Santana (1999) defined crisis management as an ongoing integrated and comprehensive effort that organizations effectively put into practice in an attempt to first and foremost understand and prevent the crisis, and to effectively manage those that occur, taking into account, in each and every step of their planning, and training activities, the interest of their stakeholders (Santana, 2004, p. 308). Crisis management is still a relatively challenging concept within tourism, although it already has an established presence in other business environments.

Many researchers differentiate between a disaster and a crisis, which could be an important factor for researchers and managers to consider in studying and preparing for these situations. Faulkner (2001, p. 136) distinguishes between the two terms, arguing that a crisis is a situation where “the root cause of an event is, to some extent, self-inflicted through such problems as inept management structures and practices or a failure to adapt to change” while a disaster is a situation where “an enterprise...is confronted with sudden unpredictable catastrophic changes over which it has little control.” Key characteristics of disasters (Faulkner, 2001, p. 138) include: “(1) a triggering event; (2) a high threat environment with short response times; (3) a
perception of an inability to cope by those directly affected, at least in the short term; (4) a turning point where the situation is responded to; and (5) characterized by “fluid, unstable, dynamic” situations.” Parker (1992) suggested that the preferred definition of a disaster is “an unusual natural or man-made event, including an event caused by failure of technological systems, which temporarily overwhelsms the response capacity of human communities, groups of individuals or natural environments and which cause massive damage, economic loss, disruption, injury, and or/loss of life” (Shaluf et al., 2003, pp. 28-29). Carter (1991, p. xxiii) defines a disaster as “an event, natural or man-made, sudden or progressive, which impacts with such severity that the affected community has to respond by taking exceptional measures” (Faulkner, 2001, p. 138).

Hence, disasters are sudden and unforeseen shocks to the socio-economic and environmental system, involving loss of life and property that often exceeds the local capacity of the affected community to cope. Similarly, a crisis event can lead to a dangerous situation, like an emergency or a disaster. Crisis is a time of extreme difficulty, trouble, or danger and can affect a small population, or a company dealing with a very serious problem.

This research focuses on natural disasters. The purpose of the study is to examine how the tourism industry is affected by natural events in general and how prepared are they for future occurrences. To be clear, I use ‘disaster’ as a term to signify a major natural disaster that has the potential to turn into a tourism crisis. Thus, both terms are used, but are consistent with the above definitions.

### 2.1.2 Typologies of Disasters and Crisis

A number of authors have sought to develop typologies of crisis, which can be useful in developing an understanding of crisis and implementing appropriate managerial responses (Evans & Elphick, 2005). It is helpful for some managers, especially in the planning stage, to classify crises. Parsons (1996) suggests three types of crises: “1. immediate crises: where little or no warning exists therefore organizations are unable to research the problem or prepared a plan before the crisis hits. 2. Emerging crises: these are slower in developing and may be able to be stopped or limited by organizational action. 3. Sustained crises: that may last for weeks, months or even
years” (Ritchie, 2004, p. 671). In line with Parson’s classification, Seymour and Moore (2000), argue that there are two types of crises: the “cobra” type, which strikes suddenly and the “python” type which occurs gradually (Evans & Elphick, 2005, p. 140). In classifying crises, de Sausmarez (2007) contends that crises are traditionally classified as either natural (hurricanes and earthquakes) or man-made (industrial accidents, plane crashes or terrorist events). In addition, although crises may occur in a single country or region, the repercussions may be global (de Sausmarez, 2007, p. 701). Maditinos and Vassiliadis (2008) note the main kinds of crises which occur on the local level and can be magnified over a considerable area, sometimes affecting the global tourism industry. These include terrorist attacks, natural disasters, political instability and war, and epidemics or diseases. Table 1 presents some of the types of crises using the classifications discussed above.

**Table 1: Features of “Happen Locally – Affect Globally” Tourism Crises**

<table>
<thead>
<tr>
<th>Types of Crisis</th>
<th>Gestation Period</th>
<th>Cobra/Python</th>
<th>Human Involvement</th>
<th>Manmade/Natural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrorism</td>
<td>Immediate</td>
<td>Cobra</td>
<td>Direct</td>
<td>Man-made</td>
</tr>
<tr>
<td>Natural disasters</td>
<td>Immediate</td>
<td>Cobra</td>
<td>Indirect and no involvement</td>
<td>Man-made and Natural</td>
</tr>
<tr>
<td>Political instability and war</td>
<td>Sustained</td>
<td>Python</td>
<td>Direct</td>
<td>Man made</td>
</tr>
<tr>
<td>Epidemics and diseases</td>
<td>Emerging</td>
<td>Python</td>
<td>No involvement</td>
<td>Natural</td>
</tr>
</tbody>
</table>

*Source: Adapted from Maditinos and Vassiliadis (2008)*

Table 2 presents some of the types of crises and disasters, their characteristics and examples as given by Ritchie (2009). The table includes incidents that meet the core requirements of either being a crisis or a disaster, in the sense that they all include sudden change, severe socio-economic impact and they require quick action. Some are self-inflicted (such as organizational misdeeds), and some are not self-inflicted (such as natural disasters).

**Table 2: Typology of Disasters and Crises, their Characteristics and some Examples**

<table>
<thead>
<tr>
<th>Types of Crises/disasters</th>
<th>Specific Environment</th>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Natural or physical disasters/Human disasters | Physical environment/ Human or social environment | When an organization or destination is damaged as a result of the weather, ‘acts of God’, human influences or a combination of the | • UK Foot and Mouth Outbreak in 2001  
• SARS epidemic  
• Hurricane Hugo  
• Asian fires and smog |
above. Examples include earthquakes, tornadoes, floods, hurricanes, avalanches, fires, bad storms, tsunamis, health crises or biosecurity threats or technological hazards. May be as a result of natural processes such as climate change or the result of human processes or action such as deforestation, forest burning, pollution.

| Political crises/disasters | Human or social environment | The tourist industry and tourists are often indirect victims, but can be specifically targeted in some cases. Examples can range from within international tourism such as international wars, civil war, coups, terrorism, riots and political and social unrest. | • Gulf War 1991 and Iraq War 2003  
• Sri Lanka, Yugoslavia  
• Fiji Coups  
• British handover of Hong Kong to China in 1997  
• Opposition by locals towards tourism development |
| Economic crisis | Human or social environment | Ranging from international recessions, regional currency crisis to national recession or monetary crises. | • Stock market crash 1987 and slow down after September 11, 2001  
• Asian economic crisis 1997-1998 |
| Malevolence | Human or social environment | When some outside actor or opponent employs extreme tactics to express anger toward the organization or destination to force the organization or destination to change. Examples include product tampering, kidnapping, terrorism, and espionage. | • Basque separatist group ETA bombing campaigns in Spanish resorts  
• Muslim extremist attacks in Egypt in the 1990’s to force change in government |
| Challenges                          | Human or social environment                                                                 | When the organization or destination is confronted by discontented stakeholders. The stakeholders challenge the organization because they believe it is not operating in an appropriate manner and does not meet their expectations. Examples include boycotts, strikes, lawsuits, government penalties and protests. | • Unofficial strike by British Airway check-in staff in July 2003  
• Domestic air pilot strike in Australia in 1989 |
|------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Megadamage                         | Human or social environment                                                                 | When an accident causes significant environmental damage. Examples include oil spills and radioactive contamination.                                | • Chernobyl  
• Exxon Valdez                                                                                                                                 |
| Organizational misdeeds            | Management Failure                                                                          | When management takes actions, it knows will harm or serve to discredit or disgrace the organization in some way. Examples include favoring short-term economic gain over social values, deliberate deception of stakeholders and illegal acts by management | • Bribery or price fixing  
• Enron, Wordcom                                                                                                                                   |
| Workplace violence                 | Management Failure                                                                          | When an employee or a former employee commits violence against other employees on organizational grounds. Examples include killing or injuring co-workers | • Sexual harassment by staff  
• Rape or violence against hotel guests                                                                                                         |
| Rumours                            | Management Failure                                                                          | When false information is spread about an organization or its products. The false information hurts the organization’s reputation by putting the organization in an unfavourable light. Examples include rumours linking the organization to radical groups or stories that their products are contaminated. | • Rumors of second terrorist attack after American Airlines plane crashes after September 11, 2001 |

Source: Adapted from Ritchie (2009, p. 28-29), Modified after Coombs (1999:61-62) and Hall and O’Sullivan (1996)
2.1.3 Importance of Crisis and Disaster Management for SIDS

Crises and disasters have become more frequent in the last decade. According to Hystad and Keller (2008) this may be partly due to the more complex and interconnected world we live in today, and the modern communications bringing even the most distant disasters to our attention. As per Ritchie (2004) globalization has also led to the expansion of tourism investments at an international scale, in pursuit of a greater share and profitability. Managers in these companies, which are exposed to greater political, economic, social and technological changes in these countries, are required to effectively deal with crises and disasters. Today, a small crisis in one part of the world can have a significant impact on other parts of the world. The tourism industry is not immune to these events, as clearly demonstrated by September 11th, SARS, the Iraq War, and Hurricane Katrina (Hystad & Keller, 2008).

SIDS are mainly located in the tropics and sub tropics, in the Pacific, Indian and Atlantic oceans, as well as the Caribbean and Mediterranean seas. In most SIDS, tourism is the main economic activity (Neto, 2003), bringing in most of their foreign currency earnings, in addition to being the largest source of employment generation (Scheyvens & Momsen, 2008). According to UN (1994), SIDS have some of the highest exposure levels to natural hazards globally; at least 13 of the 25 most disaster-prone countries are SIDS. As per Mimura et al. (2007), environmental vulnerabilities of SIDS that were identified included, the threat of rising sea levels and the location of small islands in relation to phenomena such as cyclones, hurricanes and seismic activity which can lead to tsunamis. Table 3 shows natural disaster events and deaths, from 1995 to 2015.

Natural disasters are of special concern due to the typically small size of SIDS; their dependence on agriculture and tourism which are particularly vulnerable to natural and environmental disasters; their narrow resource base; and the pervasive impact of such events on their people, environment and economies, including the loss of insurance coverage.

For SIDS affected by such natural disasters, those particular characteristics can mean long lasting economic, social and environmental consequences leading to high recovery costs. In the aftermath of the 2004 tsunami, the issue of adequacy of
insurance company became apparent. Most of the businesses owned and operated by major international or local groups were covered for both physical damage and business interruption. However, smaller local companies operating one or two resorts unfortunately discovered inadequacies in their cover. The financial and operational strength of these large companies ensured their resorts could be rebuilt from a mix of adequate insurance cover and their own resources.

Insurance can be a risk transfer mechanism in post-disaster recovery, however as Wright (2013, p. 15) notes its contribution to disaster risk management is limited in SIDS due to the low level of insured households and small businesses either due to unavailability or high cost. According to Holland (2009, p. 42) insurance coverage of Nadi households and businesses during 2009 flooding in Nadi, Fiji was very low. Only 1 per cent of households reported having any insurance to recover from flood losses, while 88 per cent of business operators reported having no insurance, which led to a government review of the insurance industry after insurance companies refused to issue policies in flood prone areas (Holland, 2009). Orchiston, Vargo, and Seville (2013, p. 23) reports that following the Canterbury earthquakes in 2010-2011, the tourism sector in Christchurch and surrounding areas was found to be well insured with a range of insurance products, however, relatively few operators had business interruption cover (44% of those surveyed). The region was fortunate to have a high level of insurance, which protected tourism businesses from hardships, allowed them to continue in the industry and to survive while it offered the chance to redevelop and create opportunities to thrive into the future (Orchiston et al., 2013, p. 23).

As Ritchie (2009) notes, these recovery issues put increasing pressure on tourism managers and planners in countries reliant on tourism economies to think about the impact of crises and disasters and to develop strategies to deal with the impact to defend tourism businesses and society. (Huang et al., 2008, p. 204) contends that “when a disaster happens, various aspects of international tourism demand can be affected negatively including reduced visitor arrivals, a fall in employment, declines in private sector profits, a reduction in government revenues, and eventually the cessation of further investment.” This poses many challenges for the destination management organizations.
### Table 3: Natural Disaster Events, Deaths and Populations for SIDS, 1995-2015

<table>
<thead>
<tr>
<th>Types of Crisis</th>
<th>Events</th>
<th>Deaths</th>
<th>Total Population in 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIMS Region</strong> (Atlantic, Indian Ocean, Mediterranean, and South China Sea)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cape Verde</td>
<td>6</td>
<td>9</td>
<td>503,367</td>
</tr>
<tr>
<td>Comoros</td>
<td>13</td>
<td>90</td>
<td>752,438</td>
</tr>
<tr>
<td>Guinea Bissau</td>
<td>13</td>
<td>2777</td>
<td>1,745,798</td>
</tr>
<tr>
<td>Maldives</td>
<td>3</td>
<td>110</td>
<td>351,572</td>
</tr>
<tr>
<td>Mauritius</td>
<td>7</td>
<td>4685</td>
<td>1,249,151</td>
</tr>
<tr>
<td>São Tomé and Principe</td>
<td>0</td>
<td>0</td>
<td>197,882</td>
</tr>
<tr>
<td>Seychelles</td>
<td>6</td>
<td>8</td>
<td>93,306</td>
</tr>
<tr>
<td>Singapore</td>
<td>3</td>
<td>36</td>
<td>5,517,102</td>
</tr>
<tr>
<td><strong>Caribbean Region</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antigua and Barbuda</td>
<td>6</td>
<td>6</td>
<td>90,903</td>
</tr>
<tr>
<td>Bahamas</td>
<td>13</td>
<td>16</td>
<td>382,571</td>
</tr>
<tr>
<td>Barbados</td>
<td>5</td>
<td>1</td>
<td>286,066</td>
</tr>
<tr>
<td>Belize</td>
<td>11</td>
<td>64</td>
<td>339,758</td>
</tr>
<tr>
<td>Cuba</td>
<td>37</td>
<td>78</td>
<td>11,258,597</td>
</tr>
<tr>
<td>Dominica</td>
<td>7</td>
<td>7</td>
<td>72,341</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>46</td>
<td>1689</td>
<td>10,528,954</td>
</tr>
<tr>
<td>Grenada</td>
<td>3</td>
<td>40</td>
<td>106,303</td>
</tr>
<tr>
<td>Guyana</td>
<td>6</td>
<td>34</td>
<td>803,677</td>
</tr>
<tr>
<td>Haiti</td>
<td>141</td>
<td>236,686</td>
<td>10,461,409</td>
</tr>
<tr>
<td>Jamaica</td>
<td>20</td>
<td>74</td>
<td>2,798,837</td>
</tr>
<tr>
<td>Saint Kitts and Nevis</td>
<td>3</td>
<td>5</td>
<td>54,789</td>
</tr>
<tr>
<td>Saint Lucia</td>
<td>7</td>
<td>21</td>
<td>183,598</td>
</tr>
<tr>
<td>Saint Vincent and the Grenadines</td>
<td>7</td>
<td>16</td>
<td>109,371</td>
</tr>
<tr>
<td>Suriname</td>
<td>2</td>
<td>5</td>
<td>543,925</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
<td>6</td>
<td>3</td>
<td>1,344,235</td>
</tr>
<tr>
<td><strong>Pacific Region</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td>6</td>
<td>19</td>
<td>20,732</td>
</tr>
<tr>
<td>Fiji</td>
<td>22</td>
<td>126</td>
<td>887,027</td>
</tr>
<tr>
<td>Kiribati</td>
<td>3</td>
<td>0</td>
<td>103,942</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>4</td>
<td>6</td>
<td>52,772</td>
</tr>
<tr>
<td>Micronesia, Federated States of</td>
<td>6</td>
<td>77</td>
<td>103,903</td>
</tr>
<tr>
<td>Nauru</td>
<td>0</td>
<td>0</td>
<td>10,081</td>
</tr>
<tr>
<td>Niue</td>
<td>2</td>
<td>2</td>
<td>1,307</td>
</tr>
<tr>
<td>Palau</td>
<td>0</td>
<td>0</td>
<td>21,097</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>126</td>
<td>3103</td>
<td>7,476,108</td>
</tr>
<tr>
<td>Samoa</td>
<td>5</td>
<td>165</td>
<td>191,831</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>17</td>
<td>135</td>
<td>572,865</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>8</td>
<td>29</td>
<td>1,152,439</td>
</tr>
<tr>
<td>Tonga</td>
<td>8</td>
<td>10</td>
<td>105,782</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>0</td>
<td>0</td>
<td>9,894</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>20</td>
<td>171</td>
<td>258,301</td>
</tr>
</tbody>
</table>

Source: Total Population Data is from UNDP (2014). Disaster Events, Deaths Statistics of SIDS are from CRED International Disaster Database (accessed on June 2015)

Ritchie (2009, p. 18) argues that “crisis and disaster management should be a core competency for tourism destination managers as well as business managers.” Santana (2004) notes that understanding how a crisis develops and evolves and being familiar with all phases, is a critical knowledge for effective crisis management. Santana
(2004, pp. 303-304) argues that “unfortunately, crisis management is still considered peripheral to the core activities of the day-to-day operations of organizations. Research on crisis management has been largely overlooked in comparison to other issues that promote “success.” The net result of such emphasis is that managers are not prepared technically, psychologically, and emotionally to deal with a common feature of business operation and management today: crisis.” Therefore, it is crucial that tourism organizations and businesses investments in SIDS focus on crises and disaster management as a core knowledge and competency area and incorporate crisis management at a strategic level to gain management commitment.

2.1.4 Review of Disaster Studies in Tourism

In the tourism literature, research has been conducted on natural hazards and disasters generally (Méheux & Parker, 2006), and more specifically:

- Hurricanes (Chandler, 2004; Soñmez & Backman, 1992);
- Flooding and tsunamis (Carlsen, 2006; Cheung & Law, 2006; de Saussmerez, 2005; Faulkner & Vikulov, 2001; Garcia et al., 2006; Henderson, 2007; Ichinosawa, 2006; Reddy, 2005; Sharpley, 2005);
- Earthquakes (Huang & Min, 2002; Young & Montgomery, 1997);
- Bushfires (Armstrong & Ritchie, 2008; Cioccio & Michael, 2007; Hystad & Keller, 2008; Hystad & Keller, 2006);
- Biosecurity and disease, with an emphasis on the Foot and Mouth Disaster in the UK (Baxter & Bowen, 2004; Irvine & Anderson, 2006; Miller & Ritchie, 2003; Ritchie, Dorrell, Miller, & Miller, 2004; Rodway-Dyer & Shaw, 2005; Sharpley & Craven, 2001; Williams & Ferguson, 2005); and
- Biosecurity and disease, with an emphasis on the impact of Severe Acute Respiratory Syndrome (SARS), particularly in the Asia-Pacific region (Hall, 2005; Henderson & Ng, 2004b; McKercher & Chon, 2004; Pine & McKercher, 2004)

These diverse studies focus primarily on destination restoration and recovery during
those natural hazards and disasters and enhance the understanding of different approaches taken to prepare and respond to them. The selected cases from literature in table 4 are illustrative of the list and enhance the understanding of crises and disaster management in tourism.

Table 4: Selected Cases of Disaster Studies in Tourism from Literature

<table>
<thead>
<tr>
<th>Case study</th>
<th>Scenario</th>
<th>Results/lessons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hurricane:</strong>&lt;br&gt;An Analysis of the economic impact of Hurricanes’ Dennis, Floyd, and Irene on North Carolina’s Lodging Industry (Chandler, 2004)</td>
<td>- During September and October of 1999, the state of North Carolina was devastated by the effects of successive hurricanes, followed by the worst flooding in 500 years.&lt;br&gt;- At the request of the state hotel association and the division of tourism, a state-wide study was conducted to determine the economic impact of the natural disasters on the lodging industry.</td>
<td>- Based on data provided by responding hotels, the physical damages suffered and lost room revenues were estimated to be between $96 million and $125 million for September and October alone.&lt;br&gt;- To make accurate predictions about the future economic trends of the hospitality industry, North Carolina’s hoteliers and restaurateurs need to recognize the potential danger posed by tropical storms and developing appropriate response plans.</td>
</tr>
<tr>
<td><strong>Flooding and Tsunamis:</strong>&lt;br&gt;Katherine, washed out one day, back on track the next: a post-mortem of a tourism disaster (Faulkner and Vikulov, 2001)</td>
<td>- On 26 January 1998, the Katherine Gorge in the Northern Territory was flooded.&lt;br&gt;- For the Katherine community and its tourism industry, the ‘Australia Day Flood’ was a disaster of huge proportions, with half of the resident's homes, the whole of the town's Central Business District (CBD) and most of its tourism business premises being extensively damaged or destroyed.</td>
<td>- This research argues that disasters are part of the evolution of a destination and if it has a tourism disaster management plan in place, the destination will cope with the challenges the situation presents more effectively.&lt;br&gt;- In doing so the research refines a previously developed framework for tourism disaster management plans (companion paper) by examining the case of the 1998 Australia Day flood at Katherine.&lt;br&gt;- In the process, the potential contribution of such a plan to destination preparedness is illustrated, and valuable insights into the details of such a plan and the more enduring tourism impact of disasters are provided.</td>
</tr>
</tbody>
</table>
| **Bush Fires:**<br>Towards a destination tourism disaster management framework: Long-term lessons from a forest fire disaster (Hystad and Keller, 2008) | - This research is a follow-up study investigating the long-term experience of a tourism industry affected by a major forest fire disaster that occurred during the summer of 2003 near Kelowna, British Columbia, Canada.<br>- The first study determined the preparedness, responses, and recovery methods of the local tourism industry from interviews with 104 local tourism businesses, and a review of relevant government, media, and organizational reports. | - This research investigates what the local tourism industry experienced over the long-term after the disaster, what recovery strategies were initiated, the impacts that remained, and how tourism disaster management has changed.<br>- The research includes repeat interviews with 60 of the original 104 businesses, two and a half years after the disaster.<br>- A number of surveys conducted by relevant tourism agencies, 1 year after the disaster, are also examined to provide information on intermediate impacts.<br>- The aim of this paper is to contribute to shortage of research investigating the long-
term experiences of tourism industries after
disasters.
- The lack of disaster management in tourism
is also addressed through a framework
proposed to increase tourism disaster
management at the destination level.

Biosecurity and Disease:
A Farming Crisis or a Tourism
Disaster? An
Analysis of the
Foot and Mouth
Disease in the UK
(Miller and
Ritchie, 2003)
- Cancellation of the Cheltenham festival
- Managers were dealing with the crisis in
the best way they could as limited proactive
strategies were available for implementation
- Additional funds provided to marketing to
promote tourism
- Introduced plans for a crisis management
unit with the national government, with the
aim of providing an early warning system
for future disaster
- Small tourism businesses were uninsured by
the losses the FMD caused them
- Disagreement between different
communities on the most appropriate course
of action
- The perception from the media reports that
the whole of the UK was closed due to the
disease
- There was no pre-determined disaster
management planning

2.2 Crisis and Disaster Management Models and
Frameworks

According to Ritchie (2009, p. 44) there is a belief that disasters and crises are
temporary and that they have certain lifecycles, which has resulted in the development
of a number of generic models to help managers and researchers to understand them.

In order to more closely examine the lifecycle of a disaster various researchers
(Faulkner, 2001; Fink, 1986; Henderson, 2003; Ritchie, 2004) have outlined different
stages of a disaster. Ritchie (2004), Fink (1986) and Roberts (1994) developed models
to clarify the lifecycle of crises (Table 5) explaining that crises and disasters go
through series of progressive stages. This classification, based on the lifecycle or
anatomy, is useful as it may provide managers with a list of strategies that could be
considered or developed at the various stages of a crisis or disaster and how to stop
crises moving into the next stage (Ritchie, 2004).

Table 5: Crisis and Disaster Lifecycle

|--------------------------|---------------------|-----------------------|
| 1. Pre-event             | Proaction           | Pre-event: where action can be
taken to prevent disasters (e.g.
growth management planning or
plans aimed at mitigating the
effects of potential disasters) |
| 2. Prodromal             | Prodromal Stage: when it
becomes apparent that the
crisis is inevitable        |                       |
There are many crisis management models or frameworks identified in the literature. Table 6 outlines the 12 main models or approaches proposed, and their limitations. In the next sections I evaluate three generic tourism disaster management frameworks developed after careful analysis of previous research on disasters. These three frameworks are selected because they are tourism specific, frequently quoted in recent tourism disaster management literature and have been tested in real case studies. They are Faulkner’s (2001) tourism disaster management framework, Ritchie’s (2004) tourism crisis management framework and Hystad and Keller’s (2008) destination disaster management model respectively.

Table 6: Crises Management Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Approach</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caplan’s (1970) Crises Model</td>
<td>Psychological perspective, where the focus is on how the individual copes with a crisis</td>
<td>The model lacks precision and is descriptive. The most important criticism is that it is homeostatic.</td>
</tr>
<tr>
<td>Slatter’s (1984) Crisis Susceptibility Model</td>
<td>Economic approach to crises</td>
<td>It suggests only the factors that are susceptible to a crisis in an organization. It is not a process, merely a model</td>
</tr>
<tr>
<td>Model Description</td>
<td>Description</td>
<td>Criticism</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Arnold’s (1980) Model of Crisis</td>
<td>Sociological perspective. Examines how communities react to crisis</td>
<td>Only focuses on the sociological view and examines the individual in relation to a group. The way an individual views the crisis may be different to the organization</td>
</tr>
<tr>
<td>Process Model of Crisis Development (Booth, 1993)</td>
<td>Aims to identify features that appear to be common in many crises</td>
<td>Too general and simple - all crises are unique in terms of the particular causes and effects involved</td>
</tr>
<tr>
<td>The Crises Life Cycle (Seymour and Moore, 2000)</td>
<td>Examines the obstacles to decision making during a crisis</td>
<td>Too descriptive and general - although can be made to fit any organization</td>
</tr>
<tr>
<td>Clarke and Varma (2004)</td>
<td>Presents a model of risk management as a strategic process</td>
<td>Difficult to put in to operation</td>
</tr>
<tr>
<td>Model of Crisis Management (Smith and Sipika, 1993)</td>
<td>A process from start to finish of a crisis</td>
<td>May be too general and descriptive</td>
</tr>
<tr>
<td>Four Stage Model (Murphy and Bayley, 1989)</td>
<td>Based on two detailed natural disaster case studies, addresses strategic management themes in the recovery stage, including resource allocation, planning, restoration and transformation.</td>
<td>Simple assessment of disaster cycle, presently the emergency and restoration periods are combined and are separated from the recovery phase, may be too descriptive.</td>
</tr>
<tr>
<td>Santana’s (1999) crisis Management Model</td>
<td>Theoretically-based and focused on human-induced crises and disasters</td>
<td>Too descriptive, recovery component is minimal and undeveloped, the components and linkages are not explained and it is not clear upon which evidence or data it is based, focuses on human-induced crises and disasters thus limiting its general applicability</td>
</tr>
<tr>
<td>Hystad and Keller (2008) Destination Disaster Management Model</td>
<td>Based on a case study of the 2003 Kelowna forest fires in British Columbia, Canada, a long term study of focusing on the roles, responsibilities and communication channels between stakeholders</td>
<td>The authors argued that in its generic form it will be suitable to be applied in any disaster, however it is not known whether it has been tested yet by any researcher, and its main limitation is that its primary focus is on the communication aspect of recovery</td>
</tr>
</tbody>
</table>
### Faulkner’s (2001) Tourism Disaster Management Framework (TDMF)

Based theoretically and later applied to the Katherine Floods (1998) in Australia (Faulkner and Vikulov, 2001), basically the first tourism disaster management framework, suitable for studying complex crisis management steps in natural and man-made disasters in tourism. Represents a mix of prescriptive and descriptive approaches, framework does not clearly separate tourism industry response with standard emergency management response, limited in its usefulness because crises and disasters are so variable. Despite some level of testing, it has not been applied to larger disasters or in long term studies.

### Ritchie’s (2004) Tourism Crisis Management Framework

He used the four elements of strategic management – (i) analysis, (ii) direction and choice, (iii) implementation and control, and (iv) evaluation and feedback - as the foundation for framework. Proposed a strategic and holistic approach to crisis and disaster management based on prevention and planning, implementation and evaluation and feedback - with each featuring management actions, strategies, concepts or issues. Prescriptive, theoretically based and too complicated, sometimes actions and concepts are mixed. Framework is designed for public or private sector organizations but does not distinguish between businesses or DMOs specifically. Has been tested once using the ACT Canberra Bushfires of 2003.

### 2.2.1 Faulkner’s Tourism Disaster Management Framework (TDMF)

Faulkner (2001) developed a six-stage model of a disaster lifecycle (Table 7) using the lifecycle model developed by Fink (1986) and Roberts (1994). To these six stages Faulkner added disaster survival strategies based on previous research by Turner (1994) and Quarantelli (1996) and the ingredients of tourism disaster strategies developed by Cassedy (1991) and Drabek (1995) to develop the TDMF. As per Ritchie (2004), this is the first tourism specific disaster management framework. This framework has not been applied to a long term study of a disaster.

<table>
<thead>
<tr>
<th>Stages</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre event</td>
<td>Where action can be taken to prevent or mitigate the effects of the</td>
</tr>
<tr>
<td></td>
<td>potential disasters</td>
</tr>
<tr>
<td>Prodromal</td>
<td>When it is apparent that a disaster is imminent/unavoidable</td>
</tr>
<tr>
<td>Emergency</td>
<td>The effect of the disaster is felt and action is necessary to protect</td>
</tr>
<tr>
<td></td>
<td>the people and property/ medical relief activities</td>
</tr>
</tbody>
</table>
Intermediate | A point where the short-term needs of the people have been addressed and the main focus of the activity is to restore utilities and services and the community to normal

Long-term (recovery) | Continuation of previous phase but items that could not be attended to quickly be attended to at this stage. Post-mortem, self-analysis, reflection, healings, rebuilding

Resolution | Routine restored or new improved state established

Source: Faulkner (2001, p. 144)

Faulkner (2001) applied this framework to the Katherine Floods in Australia making some modifications based on application to the case study (Faulkner & Vikulov, 2001). Miller and Ritchie (2003) further applied the Faulkner (2001) disaster framework to the 2001 Foot and Mouth Outbreak in the UK. In the former, the Australia Day Flood at Katherine in 1998, the whole community and tourism industry was affected with almost half of the Central Business District and most of the tourism business premises damaged or destroyed. The study’s focus was to examine the disaster’s impact upon tourism activities and responses within the tourism sector. It achieved this through interviews with individual tourism operators, representatives of key agencies associated with destination marketing and emergency services personnel, followed up by a workshop with the respective tourism operators.

According to Prideaux (2004, p. 283), in this test, the TDMF (Figure 2) demonstrated a potential to be used as both a “preventative planning tool and as a template for real-time disaster management.” An important element of TDMF’s success is the incorporation of a forecasting element that allows authorities to develop contingency plans, based on generating a series of scenarios for a range of possible risks or threats (Prideaux, 2004, p. 295). This led to further development of theoretical and conceptual aspects of tourism disaster planning, so it represented a mixture of prescriptive and descriptive approaches. In the latter, Miller and Ritchie (2003) applied Faulkner’s TDMF to the 2001 Foot and Mouth Outbreak in the UK. However, it was of limited use, as Foot Mouth Disease was a much more complex disaster compared to the Katherine floods. The prodromal, emergency and recovery stages all happened concurrently over an extended period of time, in different locations and also different industrial sectors at the same location and, in some cases, within the same organization.

Prideaux (2004) explored the adaptability of Faulkner’s TDMF to large scale disasters and recommended specific modifications. He examined the Australian Federal
Government’s response to a sequence of tourism disasters and crises that affected the Australian tourism industry in 2001 and measured its impact against the response mechanism suggested in the Tourism Disaster Framework (Figure 1) Model. Prideaux (2004, p. 295) suggests a range of modifications in his revised TDMF (Figure 2) to adapt the TDMF (Figure 1) to large scale disasters and to provide added capabilities to assist authorities to respond to single or multiple disasters. His first suggestion was to add a joint industry/government standing disaster coordination committee to the precursors element. The second suggestion was to add reviewing and identifying shortcomings that can be rectified to the review stage. A third suggestion was to add public sector funding requirements to the reconstruction and reassessment element. Prideaux (2004, p. 295) also suggested adding a forecasting capability (in addition to a risk assessment capability) and a review of risk assessment after the event to the disaster contingency planning mechanism.

The TDMF (Figure 1) has also been adapted and tested on the 1999 Avalanche Disaster in Tyrol (Peters & Pikkemaat, 2006), the 2003 SARS epidemic (Henderson & Ng, 2004a) and the restoration of tourism after the 1999 Taiwan earthquake (Huang et al., 2008). Furthermore, it has also been used to design a strategic framework for terrorism prevention (Paraskevas & Arendell, 2007).
<table>
<thead>
<tr>
<th>Phase in disaster process</th>
<th>Elements of the disaster management responses</th>
<th>Principal ingredients of the disaster management strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre-event</td>
<td>Precursors</td>
<td>Risk Assessment</td>
</tr>
<tr>
<td></td>
<td>- Appoint a Disaster Management Team (DMT) Leader and establish DMT.</td>
<td>- Assessment of potential disasters and their probability of occurrence.</td>
</tr>
<tr>
<td></td>
<td>- Identify relevant public/private sector agencies/organizations.</td>
<td>- Development of scenarios on the genesis and impacts of potential disasters.</td>
</tr>
<tr>
<td></td>
<td>- Establish coordination/consultative framework and communication systems.</td>
<td>- Develop disaster contingency plans.</td>
</tr>
<tr>
<td></td>
<td>- Develop, document and communicate Disaster Management Strategy.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Education of industry stakeholders, employees, customers and community.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Agreement on, and commitment to, activation protocols.</td>
<td></td>
</tr>
<tr>
<td>2. Prodromal</td>
<td>Mobilisation</td>
<td>Disaster Contingency Plan</td>
</tr>
<tr>
<td></td>
<td>- Warning systems (including general mass media);</td>
<td>- Identify likely impacts and groups at risk.</td>
</tr>
<tr>
<td></td>
<td>- Establish disaster management command centre;</td>
<td>- Assess community and visitor capabilities to cope with impacts.</td>
</tr>
<tr>
<td></td>
<td>- Activate communication tree;</td>
<td>- Articulate the objectives of individual (disaster specific) contingency plans.</td>
</tr>
<tr>
<td></td>
<td>- Secure facilities and office files;</td>
<td>- Identify actions necessary to avoid or minimise impacts at each stage.</td>
</tr>
<tr>
<td></td>
<td>- Switch communication systems;</td>
<td>- Devise strategic priority (action) profiles for each phase.</td>
</tr>
<tr>
<td></td>
<td>- Relocate mobile resources;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Relocate perishable food stocks.</td>
<td></td>
</tr>
<tr>
<td>3. Emergency</td>
<td>Action</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Rescue/evacuation procedures;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Emergency accommodation and food supplies;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Medical/health services;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Monitoring and communication systems.</td>
<td></td>
</tr>
<tr>
<td>4. Intermediate</td>
<td>Recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Damage audit/monitoring system;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Clean-up and restoration.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Office facilities and communication support;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- “Buddy System” Taskforce for operator counselling/support.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Media communication strategy;</td>
<td></td>
</tr>
<tr>
<td>5. Long-term (Recovery)</td>
<td>Reconstruction and Reassessment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Repair of damaged infrastructure.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Rehabilitation of environmentally damaged areas.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Counselling victims.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Restoration of business/consumer confidence and development of investment plans.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Debriefing to promote input to revisions of disaster strategies.</td>
<td></td>
</tr>
<tr>
<td>6. Resolution</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Reappraisal of marketing, planning and policy regime.</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: Faulkner and Vikulov's (2001) Tourism Disaster Management Framework (TDMF) Source: Faulkner and Vikulov (2001, p.338)
Scott, Laws, and Prideaux (2008) developed the long term recovery phase in Faulkner’s TDMF model based on chaos and complexity theory and social network analysis (Table 8). They proposed three sub phases, 5A – recovery of damaged infrastructure, 5B – marketing responses and 5C, adaptations to the system to incorporate the role of marketing in post crisis recovery, stressing that failure to inform the customers about the reopening of business and normal operations will result in loss of markets and finance.

Table 8: Faulkner’s Modified Tourism Disaster Management Framework (simplified) adaptation to stage 5

<table>
<thead>
<tr>
<th>Stages</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre event phase: disaster contingency plans, scenarios or probability assessments play a major role in the disaster management strategy</td>
</tr>
<tr>
<td>2</td>
<td>Prodromal phase: the disaster is imminent and warning systems and command centers are established. In this second phase contingency plan actions are initiated</td>
</tr>
<tr>
<td>3</td>
<td>Emergency phase: disaster effects are felt and action is necessary to protect the people or property in the tourism destination</td>
</tr>
<tr>
<td>4</td>
<td>Intermediate phase: short-term and immediate needs of people have to be addressed by emergency rescue teams. A clear media communication strategy is crucial in this phase.</td>
</tr>
<tr>
<td>5</td>
<td>Long-term (recovery) phase: the damaged infrastructure has to be rebuilt and environmentally damaged areas have to be reconstructed.</td>
</tr>
<tr>
<td></td>
<td>• 5A-recovery of damaged infrastructure; includes roads, water, electricity, hotels, transport and other services</td>
</tr>
<tr>
<td></td>
<td>• 5B-marketing responses; by individual firms, DMOs, STOs, NTOs</td>
</tr>
<tr>
<td></td>
<td>• 5C-adaptation to the system itself; as rebuilding occurs</td>
</tr>
<tr>
<td>6</td>
<td>Resolution phase: this phase corresponds to Smith’s (1990) feedback loop where existing assessment methods or contingency plans are improved</td>
</tr>
</tbody>
</table>

Source: Scott et al. (2008, p.9)
2.2.2 Ritchie’s Tourism Crisis Management Framework (TCMF)

Ritchie (2004, p. 674) provides a strategic approach to crises and disaster management in public and private sector organizations. He contends that developing organization strategy could help destinations limit the severity of change induced by crises or disasters. The classification of the three stages (Figure 3) with various management tasks or activities within each stage are: prevention and planning (proactive planning and strategy formulation; scanning to planning); strategic implementation (strategic evaluation and strategic control, crisis communication and
control, resource management, understanding and collaborating with stakeholders); and resolution, evaluation and feedback (resolution and normality; organization learning and feedback).

According to Ritchie (2004, p. 673), understanding and classifying a crisis or disaster, its type, scale and magnitude, will impact upon strategy development and implementation as it progresses through its lifecycle. A sustained crisis will require different strategies than an immediate crisis. Ritchie (2004, p. 673) further notes that there are similarities between the life cycle of a crisis and the strategic management framework proposed; a pre-stage allowing the development of strategy and plans; a stage immediately before or after a crisis or disaster occurs which requires the implementation of strategies to deal with its impacts; continued implementation of strategies to control or reduce the severity of the crisis/disaster; and a long term recovery or resolution phase allowing for evaluation and feedback into future prevention and planning strategies for destinations and businesses.

The initial literature search revealed that the TCMF is a prescriptive, theoretically based framework and complicated when some of the actions and concepts are mixed. Ritchie’s framework is designed for public or private sector organizations but does not distinguish between businesses or DMOs specifically. This framework has been tested once using the details of the ACT Canberra Bushfires of 2003 and has been redeveloped by Armstrong (2008, p. 291). In his book, Crisis and Disaster Management for Tourism, Ritchie (2009, p. 266) contends that researchers need to “further develop, expand or test the model or components of the model” (Figure 3). I accept his challenge.
2.2.3 Hystad and Kellers’ (2008) Destination Disaster Management Model

Hystad and Keller (2008, p. 159) destination disaster management model (Figure 4) is based on a case study of a tourism industry affected by a major forest fire in 2003 near Kelowna, British Columbia, Canada. The first study identified the preparedness, responses and recovery methods of the local tourism industry from interviews with 104 local tourism businesses, and a review of relevant government, media and organizational reports. The follow-up study investigated the long term impact and recovery of the tourism industry. The research found that tourism businesses and various organizations involved in tourism disaster management have roles and responsibilities that change during each stage of a disaster. The model demonstrates the importance of coordination between primary, secondary and tertiary stakeholders (tourism, organizations, tourism businesses, emergency organizations) before, during and after a disaster. Hystad and Keller (2008, p. 160) point out that businesses usually assume that some other authority (emergency organizations, and DMOs) will take responsibility for planning and executing emergency plans. In this model, emergency organizations were considered primary stakeholders before and during a disaster,
while tourism businesses and tourism organizations were invited to take the lead role after the disaster. The bottom-up approach of encouraging tourist businesses to take the initiative in developing their own disaster management plans was considered ineffective. The authors argued that in its generic form their model would be suitable for application to any disaster, however it is not known if this model has been tested by researchers. Its principal limitation appears to be that its main focus is only on the communication aspect of recovery.

![Disaster Management Model](image)

**Figure 4: Hystad and Kellers’ (2008, p.159) Destination Disaster Management Model**

As noted in the introduction, the next section will outline the key themes in the tourism literature related to response and recovery in terms of crises and disasters in a tourist destination. The four themes are; disaster as a mechanism of positive change, media coverage, post-disaster market recovery strategies and stakeholder collaboration.
2.3 Disaster as a Mechanism for Positive Change

A common theme in the literature on recovery is the potential a disaster or crisis creates for positive change (Burnett, 1999; Faulkner, 2001; Kash & Darling, 1998), whether through more sustainable redevelopment, product repositioning, or better emergency preparedness. Scott et al. (2008, p. 2) argue that tourism crisis recovery may mean a change to pre-existing ways of operating. Further, Scott et al. (2008, p. 2) note “the consequences for an organization of a crisis (beyond its immediate impacts in terms of suffering, damage, and loss of business) are often more fundamental and may necessitate changes to the way the organization operates, forces it to create new networks, and even stimulate the development of new business opportunities or social objectives.” Faulkner (2001, p. 137) highlighted the potential for a crisis to produce a more vigorous and adaptable tourism industry in the affected destination, “crises and disasters have transformational connotations, with each such event having potential positive (e.g., stimulus to innovation, recognition of new markets), as well as negative outcomes.”

In their case study of the Katherine floods, Faulkner and Vikulov (2001) highlighted the opportunities and the transformational effect in Katherine with refurbishment of infrastructure in hotels and community, clean streets, the team spirit and cohesiveness developed within the tourism sector, improved community awareness of tourism benefits, media coverage and flood history attracting the markets, disaster awareness through implementation of tourism disaster management plans and upgrading of all insurance policies to allow for flood damage. Faulkner (2001) positions this in the framework of chaos theory, which sees chaos not as a destructive process, but rather as a creative force with potential for innovative new creations emerging from the ruins. He believes that some shocks have lingering effects and, in terms of the chaos framework, systems are usually at the edge of chaos and one event can begin a series of positive feedback loops which make it impossible to return to the pre-crisis status quo. Faulkner (2001, p. 143) notes that the site of the disaster too can become an attraction in its own right. Beirman (2003) agrees that the scene of a battle, crime or natural disaster often becomes a tourist attraction and provides examples from all over the world stressing that sometimes much good can come from a crisis.
Burnett (1999, p. 475) notes that one positive outcome is that heroes or leaders emerge and help direct the destination or organization back to normality or an improved state. An improved state is possible because of an organization’s ability or destination to learn from crises and disasters, make policy changes, and adapt and modify strategies that did not work effectively (Blackman & Ritchie, 2008, p. 46). Ritchie (2004, p. 680) proposed that during the resolution stage of a crisis or disaster, an opportunity exists for a feedback loop to proactive planning and prevention. Ritchie (2004, p. 679) agrees that crises can have enormous potential for creative improvements, through the generation of new knowledge, relationships and policy. Ritchie (2004, p. 680) notes that the Australian Tourist Commission discovered an over reliance on Asian markets during the Asian Economic Crises of 1997–1998. On discovering this flaw in their marketing efforts, they quickly redistributed resources, increasing their marketing efforts to New Zealand, Europe and North America (Ritchie, 2004). According to Blackman and Ritchie (2008, p. 55), some destinations have reduced their reliance on key markets, increased government support and funding for tourism, developed new products and tourism related policies. Examples include Australia after the Asian financial crisis (Prideaux, 1999) and the Foot and Mouth Outbreak (Miller & Ritchie, 2003).

2.4 Media Coverage

The media plays a central role in travel patterns since it has the power to shape the public’s perception of a destination or issue (Santana, 2004). Unfortunately, the agony and death caused by a disaster are often considered much more newsworthy than the recovery and redevelopment updates. Immediately after a crisis occurs there is a huge wave of media attention (Prideaux & Laws, 2007), often sensationalized. According to Ritchie (2009, p. 179), sensationalist media reporting coupled with consumer perceptions of risk can have a huge impact on tourism demand patterns at source and receiver destinations. The misconception of risk, frequently exaggerated by the mass media, can cause a significant level of unwarranted anxiety among potential customers (Huang et al., 2008, p. 206). A media communication strategy involving the early establishment of a centralized source is essential in order to ensure that misleading and contradictory information is not disseminated, and to support the coordination of responses (Faulkner, 2001). Every destination and organization must
take responsibility for having an effective public relations campaign in order to improve the destination image and decrease the perceived risk and “communications need to address tourist concerns, change false perceptions, and reinforce positive perceptions” (Huang et al., 2008, p. 206). Organizations responsible for tourism should have mechanisms and expertise to deal with both real and perceived issues (Santana, 2004).

Faulkner notes that “the role of media in disaster management strategies can be crucial to such an extent that it might make the difference between whether or not a difficult situation evolves into a disaster” (Faulkner, 2001, p. 141). Sensationalist media coverage of the Mt St. Helens disaster and the 1985 East Kootenay forest fires were blamed for misleading the public about the severity of the disasters and contributing to confusion during the emergency phase of the disaster lifecycle (Ritchie, 2004). Ritchie (2004, p. 676) highlights the importance of responding quickly to media demands because they have tight deadlines and must look for quick sources of information. Glaesser (2006) believes that companies will lose their opportunity to put forward their own position if they fail to make information readily available to the media. Following the tsunami in 2004, the major media networks continuously played images of people who were swept away by the waves, images showing the destruction of towns and cities alongside the images of Aceh, Indonesia. While some tourist areas in Asian countries received less damage, the stigmatization of total destruction remained causing a ‘second wave’, an economic crisis that continued throughout 2004/2005 in these countries. Similarly, this form of media attention has been blamed for slowing the long term recovery phase of the Palestinian-Israeli conflict and giving the public the impression that Israel was enmeshed in violence at an important time for pilgrimage tourism in 2000 and 2001 (Ritchie, 2004, p. 676). Faulkner (2001, p. 141) notes that the media can actually hinder recovery by spreading misinformation and distracting emergency personnel from their duties. As per Huang et al. (2008), secondary impacts after a disaster may occur when news companies exaggerate the situation in order to attract audiences’ attention to their messages instead of reporting the truth of the incidents.

The media plays a vital role in conveying information to tourists (Faulkner, 2001) and the message of recovery to the public. It can therefore have a positive impact on
destination recovery. Hall (2002, p. 461) notes that the media is very important in the process of rebuilding the image and restoring confidence in a destination or organization because of the power they have to influence public opinion and can help speed up the recovery process (Ritchie, 2004). Ultimately, the speed of the destination's recovery hinges on the degree to which market communication plans have been integrated with disaster management strategies (Faulkner, 2001).

Social media plays a significant role in the field of crisis communications. However, few studies have been conducted in this area in the field of tourism. Pennington-Gray, London, Cahyanto, and Klages (2011) found that social media can be used to effectively communicate during a tourism crisis. More recently, this has been experienced in the 2010 eruptions of Eyjafjallajökull in Iceland which caused enormous disruption to air travel across western and northern Europe over an initial period of six days in April 2010. The large number of people stuck in the airports communicated messages using all forms of social media. Following this, the 2011 earthquake off the Pacific coast of Tōhoku and the resultant tsunami and the nuclear accidents at Fukushima Daiichi Nuclear Power Plant was also widely shared in the social media. The Student Volunteer Army, a student movement, was born from a Facebook page following the Christchurch earthquakes of September 2010 and February 2011. More recently, following the April 2015 Nepal earthquake, Facebook launched applications to help profile users to confirm their safety. Schroeder, Pennington-Gray, Donohoe, and Kiousis (2013, p. 140) note that “more that is known about which subgroups of tourists are likely to seek information via social media, as well as the types of crises that they are likely to seek information about, the more that tourism managers can benefit during the development and operationalization phases of strategic social media crisis communication plans.”

2.5 Post Disaster Market Recovery Strategies

Tourism is the first sector to be impacted by disasters and crises and the first sector that community leaders look to in the recovery phase (Carlsen & Liburd, 2008, p. 266). According to Santana (2004, p. 315), organizations seek to repair the damage to their images during this clean up-phase or the post-mortem phase. In the post disaster situation, recovery and crisis marketing plays a central role in the process to return to normalcy. However, due to negative publicity from the media, the anticipated period
usually takes longer (Faulkner, 2001) for the restoration of essential infrastructure and, the recovery of livelihoods took longer (Carlsen & Hughes, 2008) for those who depend on viable visitor arrival numbers. Therefore, it is imperative that strategies are implemented right away to revive and recover the markets as well as “normal business operations so that strategic goals are not further distorted or damaged” (Santana, 2004, p. 315).

Marketing a destination soon after a disaster is complex due to the bad media publicity or the associated death and destruction, as was the case with the Indian Ocean Tsunami of 2004 when thousands of people died in the disaster. The survivors must have time to mourn their losses, as well as clean up and rebuild their destination before tourists can return. However, too much time before tourists return can create a further ‘disaster’ by depriving an area of its key industry (Carlsen & Hughes, 2008). Some argue about the correctness of visiting a destination in the wake of a disaster and in this debate, two views emerge: those who believe travelling to tsunami-stricken areas was insensitive to grieving communities, and those pleading for tourists to return to tsunami-stricken areas, so that the communities would not be further devastated by an economic crisis.

Armstrong and Ritchie (2008, p. 187) stress that crisis communication is a key role of DMOs (Destination Management Organizations) to minimize such negativity, bring together the private and public sectors and implement consistent messages and recovery marketing methodologies. This includes working with internal stakeholders (staff), and external stakeholders, including the government, tourism industry, tourists or potential tourists, the media and other DMOs (Blackman & Ritchie, 2008). As Pforr and Hosie (2008, p. 251) note, many South East Asian governments have shown a preference towards reactive crisis management and have developed specific response patterns or practical guidelines of how to respond to a crisis. Santana (2004, p. 318) believes that “perception is reality in tourism,” and restoration of infrastructure has to go along with a campaign to change public perception. Recommended responses include increased co-operation between all stakeholders (public and private) and marketing that focuses on developing new markets, in addition to the expansion of existing ones (Carlsen & Hughes, 2008).

In order to ensure that disaster recovery can occur as rapidly as possible, market
confidence must be regained. To achieve this goal, the recovery process must be broadcast widely through constructive and optimistic media coverage, and the travel industry needs to be well informed as to the status of the destination’s resurgence. This strategy should be stepped up in the period immediately following the ‘end’ of the crisis, which Beirman (2003) refers to as the intensive phase, with discounts, value-added packages, and prizes offered as incentives to lure travelers back to the destination. The more creative and enticing the incentives are, the more allure and urgency will be created in the eyes of the media, and the consumer (Beirman, 2003).

Ritchie (2004) believes that it is important for destinations to augment crisis management plans with marketing efforts to recover lost tourism revenue by restoring a positive image. Tour operators, travel agents, and other industry leaders need to be mindful of the opportunity to influence travelers’ decisions. This can be achieved simply by maintaining contact with them, and keeping them informed of special events, discounts, and other offers. Beirman (2003, p. 27) explains that “successful marketing of tourism requires maintaining a balance between pull marketing (appealing direct to consumers) and push marketing (appealing to those who sell travel in a manner that will encourage them to sell a specific destination).” To use Beirman’s push/pull marketing strategies effectively, a careful balance must be maintained between the two tactics. The pull marketing strategy relies on appealing to retailers, while the pull marketing strategy appeals directly to consumers, often through the media. An example of a successful balance of these elements would be an airline offering greatly discounted fares to media and travel professionals who are visiting an area to survey the recovery efforts (Beirman, 2003). One of the most important elements of this alliance is between national tourism authorities and flag carrier airlines (Beirman, 2003). Following the Izmit earthquake, Turkish tourism offices mobilized media and travel agency hosting to Turkey, which were facilitated by the Turkish Ministry of Tourism, Turkish Airlines and major tour operators servicing Turkey (Beirman, 2003). This is an excellent example of push marketing: journalists, television crews and travel agents were invited to come to see the extent of the damage, which made it a highly topical, desirable story. They were asked to visit the main tourist areas to reinforce the message that they were largely untouched by the quake (Beirman, 2003).
Ritchie (2009, p. 213) has highlighted the collaboration of tourism enterprises alongside emergency and disaster managers to restore and rebuild destinations affected by crises or disasters, arguing that it provides an opportunity for change and transformation and that such events can be viewed as positive in the long term, particularly if learning results from such incidents. Carlsen and Hughes (2008, p. 139) report a study on market responses in the case of the Maldives following the tsunami disaster. Post tsunami tourism strategies (Carlsen, 2006) have been adapted based on the ten steps of recovery identified by Beirman (2003).

According to Walters and Mair (2012, p. 87) understanding how to communicate with the tourism market in the wake of a disastrous event is essential for destination marketing organizations seeking to manage the misperceptions and media-imposed attitudes held by potential visitors. Walters and Mair (2012, p. 101) suggest that tourism businesses need to maintain visitor databases, identify their loyal customer base, and communicate with their regular clientele and encourage their support within the six month period after the disaster. Furthermore, Walters and Mair (2012, p. 101) recommend integrating celebrity endorsed messages at early stages of post disaster market recovery, using a famous celebrity known in the region. They also advocate having honest factual messages and open for business style messages to portray community readiness while discouraging short-term discounting strategies as a means of encouraging visitation.

### 2.6 Stakeholder Collaboration

Working with internal and external stakeholders is absolutely necessary in a tourism disaster. Due to the fragmented nature of the tourism industry, a diverse range of stakeholders are involved in a tourism disaster situation. Hystad and Keller (2008, p. 160) define a stakeholder in the following manner: “any individual business or organization with an interest in the success of tourism and who has the potential to become involved in tourism disaster planning, can be considered as a stakeholder.” Ritchie (2004, p. 679) argues that the relationship between the internal stakeholders (business units, staff, managers and shareholders) and external stakeholders (other agencies and organizations, general public, media, tourists) is critical due to their interrelationships, dependency on each other in developing strategies to deal with crises and disasters and the fact that these plans are usually integrated. Cooperation and
partnerships are required between public and private sector organizations, departments, emergency units, media instruments and other relevant stakeholders. Ritchie (2004, p. 679) proposes a “multi-disciplinary or multi agency approach” towards crisis and disaster management for the destination management organizations.

Stakeholder actions and responses towards various disasters are important lessons that will be helpful for management of future crises and disasters. Even though stakeholders will usually be involved in the management of tourism crises or disasters, very few have documented disaster management strategies or plans (Faulkner, 2001; Hystad & Keller, 2008; Ritchie, 2004). Such preparedness is usually restricted to larger businesses (Hystad & Keller, 2008). The scale and type of disaster or crises determines what actions are required from different stakeholders. Hystad and Keller (2008, p. 160) note that businesses usually assume that some other authority (DMOs or emergency organizations) will take responsibility for planning and executing emergency plans. Furthermore, there is little collaboration between the tourism businesses, tourism organizations and emergency organizations (Becken & Hughey, 2013; Hystad & Keller, 2008).

2.7 Gaps and Direction

The literature review reveals that there are few publications on crises management in the context of tourism (e.g., (Beirman, 2003; Faulkner, 2001; Faulkner & Vikulov, 2001; Glaesser, 2006; Henderson & Ng, 2004b; Laws & Prideaux, 2006; Pizam & Mansfeld, 2006; Ritchie, 2009; Santana, 2004). Ritchie (2004, p. 680) argues that a “small but growing body of research on crisis and disaster management has been conducted in the tourism industry. This may be due, in part, to the “chaotic and complex nature of these incidents and an inability by some managers and researchers to understand such phenomena.”

Faulkner (2001, p. 136) argues that relatively little research has been conducted on disaster phenomena in tourism, the impact of such events on the tourism industry and the responses of industry and government agencies to cope with the impact. Méheux and Parker (2006, p. 69) highlight that the small amount of literature available on disaster management in tourism is restricted to studies of larger, more developed
nations. Carlsen and Liburd (2008, p. 265) note that more literature focuses on effects of risks, crises and disasters, but that response and recovery strategies are less understood. Prideaux and Laws (2007) stated that post disaster crisis recovery, visitor care strategies and media management are other significant areas of research that require further attention. Furthermore as Carlsen and Liburd (2008) suggest, the literature is mainly prescriptive, describing strategies and techniques for assessing, managing risk and preventing crises, focusing primarily on immediate and short term effects on destinations.

Carlsen and Liburd (2008, p. 267) also identify the absence of a theoretical framework for the study of this topic area and that there has been virtually no research as to the effectiveness of these prescriptive strategies, or have there been any real attempts to understand the scope of crisis management for research. In this context Pizam and Mansfeld (2006) have developed a theory on the tourism security phenomenon. Hystad and Keller (2008, p. 152) note that most tourism case studies focus on the importance of developing disaster management plans and very few have reported on long-term impact, recovery and lessons learned from the aspect of a tourism industry following a major disaster. Therefore, we need to advance such research which according to Faulkner (2001, p. 136) is “an essential foundation for assisting the tourism industry and relevant government agencies to learn from past experiences, and develop strategies for avoiding and coping with similar events in the future.”

Hystad and Keller (2008, p. 152) point out that businesses which are more prepared are in a more competitive and advantageous position to react to negative events, and that decisions made before a crisis or disaster will enable a quicker and more organized response by providing clear directions to follow. Despite the negative impact crises and disasters have on tourism there is little proactive planning within the tourism industry. Hystad and Keller (2008, p. 152) point out that, “research investigating the long-term impacts and responses of a tourism industry following a disaster may provide insights into: (i) how a major disaster has temporarily or permanently shifted the nature and quality of the tourism product; (ii) how the behavior of tourists may have changed; (iii) what strategic management actions and policy changes have yielded success; and (iv) what changed in terms of the
preparation of the local tourism.” Hystad and Keller (2008, p. 152) further note that “case studies that investigate tourism industries during and after a disaster provide valuable information to assist tourism planning for and recovery from disaster’ and such exploration of the long term response to a disaster has the ‘potential to build off these initial studies by examining the long term impacts, recovery and experience of the tourism industry affected.”

There has been little research conducted on SIDS to determine the long-term effects upon the industry following a disaster, what recovery strategies were initiated, the impact that remained and how the tourism crisis and disaster management has changed in a SIDS. As several authors have noted, an important part of any recovery effort in a tourism crisis is the collaboration and partnership between the private and public sector stakeholders (Faulkner & Vikulov, 2001; Hystad & Keller, 2008; Ritchie, 2004). However, stakeholder roles and responsibilities before, during and after a tourism crises or disaster both within the industry and within emergency departments is less understood (Ritchie, 2009, p. 681) and requires further investigation.

In light of these arguments it is evident that there is a need for long-term and in-depth studies on tourism recovery following disasters. I intend to address the following gaps in this research:

- The lack of an overall conceptual, theoretical or applied framework for tourism disaster management in SIDS;
- The lack of research into tourism crisis and disaster management in SIDS with tourism based economies;
- The lack of studies on the long-term impact to assist Destination Management Organizations (DMOs), National Tourism Organizations (NTOs) and industry associations who have an important role to play in educating the industry and facilitating readiness, response and recovery actions and strategies (Ritchie, 2009);
- The need to understand stakeholder collaboration and planning in the tourism industry (Ritchie, 2004) and research is needed into their activities before,
during and after a tourism crisis or disaster;

- Tourism crisis and disaster literature appears to be dominated by response and recovery at the expense of planning and prevention (Ritchie (2009);

- Case study approaches are needed to test the models and concepts surrounding crisis and disaster management in the tourism industry (Ritchie, 2004) and that also build on existing frameworks.

After reviewing the literature on tourism crisis and disaster management it also appears that most of the research has concentrated on reactive responses and recovery strategies of the tourism industry. Ritchie (2009, pp. 266-267) identified this factor in an earlier study:

“Further research on a number of topics associated with crisis and disaster planning and readiness are urgently required. Tourism crisis and disaster literature appears to be dominated by response and recovery at the expense of planning and prevention. Such research can assist tourism managers and policy-makers to develop effective policies and strategies.”

Despite Ritchie (2004) more proactive and strategic planning approaches to tourism crisis and disaster management and more recent research on emergency management and hazards, focusing on reduction and readiness, tourism researchers and managers have not focused on tourism disaster planning (Ritchie, 2008, p. 316). Therefore, Ritchie (2008, p. 316) argues that “tourism managers must change their thinking from a reactive approach to tourism disaster management to a more proactive planning perspective”, and at the same time researchers should “focus at understanding the current level of industry reduction and readiness efforts as well as potential barriers and impediments in tourism disaster planning to ensure more effective planning and management are undertaken.” It is critical for countries to adopt a more structured approach to crisis and disaster planning and management. This thesis is interested in closing this gap.

Many authors have identified gaps in the research and have made recommendations for productive areas of tourism crisis and disaster management research. At the same time, this literature review has revealed a lack of descriptive and analytical case
studies on SIDS, medium and long term destination recovery and little testing and
development of the various frameworks that have been proposed. Based on the
research gaps identified, this thesis will focus on a descriptive and analytical case
study of short, medium and long term actions taken by the stakeholders in the
recovery of the tourism industry in Maldives following the Indian Ocean Tsunami of
2004.

2.8 Summary

This literature review has described the growth of tourism literature in crisis and
disaster management. A review of crisis and disaster management frameworks by key
researchers in the field was conducted before key themes of disaster response and
recovery, disaster as a mechanism of positive change, media coverage; post-disaster
market recovery strategies and stakeholder collaboration were discussed. The chapter
concluded with an outline of research gaps that will be examined in the study and a
justification of the research topic. The following chapter will outline the framework
for tourism disaster planning and management that has been developed based on
constructs used in disaster management theory and frameworks (Faulkner, 2001;
Faulkner & Vikulov, 2001; Hystad & Keller, 2008; Miller & Ritchie, 2003; Ritchie,
2004).
3.1 Introduction

As indicated in the previous chapter, the goal of this research is to build a broadly integrated theoretical model of tourism disaster management in SIDS. It aims to examine and analyze how tourism destinations that have suffered from natural disasters recover and plan for future disasters using a Small Island Developing State (SIDS) as an exemplar. Understanding tourism crises and disasters and how destinations have responded and recovered from them, will enable more effective planning for future disasters. Thus, this chapter proposes an integrated crisis and disaster management framework. It is further proposed that if applied, this framework could accelerate tourism recovery in the SIDS if applied. Ongoing competitiveness of the tourism state could be enhanced through sound crisis and disaster management practices which are included in the model.

This chapter therefore, consists of three main sections. It begins with a brief review of crisis and disaster management in tourism, with the intention to understand the various ingredients of crisis and disaster management. The second section focuses on tourism crisis and disaster management frameworks appearing in the available literature from the last two decades. The third section introduces and proposes the integrated model of tourism crisis and disaster management.

3.2 Review of Tourism Crisis and Disaster Management

Coombs (1999), Richardson (1994) and Fink (1986) argue that the world has become increasingly crisis prone and all businesses are on the edge of chaos. Researchers have provided numerous definitions for crises and disasters, as has been highlighted in Chapter 2. Faulkner (2001) contended that crises are induced by internal factors, or actions or inactions of organizations, whereas disasters are induced by external factors, consisting of natural phenomena. Ritchie (2009) has summarized typologies of crises and disasters, their characteristics and examples. Table 2 (Chapter 2)
includes incidents that meet the core requirements of either being a crisis or a disaster, in the sense that they all include sudden change, severe socio-economic impacts and incidents that require quick action. Some are self-inflicted (such as organizational misdeeds), while others are not (such as natural disasters). Santana (2004) clustered various types of crises according to a range of broad factors and positioned disasters as severe crises that originate from natural and technological factors, whereas Preble (1997) explained these crises types as organizational-based disasters.

The tourism industry is vulnerable to natural disasters, given its product’s sensitivity and customer perceptions of safety and security. Such incidents have an immediate impact upon the “hardware” of destinations. Faulkner (2001) and Laws and Prideaux (2006) suggest that extensive destruction can befall both tangible and intangible elements of tourism businesses, as well as the destinations involved. The tangible elements are facilities and physical infrastructure while intangible elements include long-term built reputation and perceived image for tourists and publicity. Given the fact that service products are intangible in nature, it is necessary to dedicate considerable time during tourism recovery efforts to rebuild customers confidence in a disaster struck destination, while reversing the public’s negative perception of the affected areas (Hystad and Keller (2008). However, these efforts are typically beyond the scope of usual tourism SMEs, destination marketing organizations (DMO), and local and regional governments. Rather, such recovery endeavors will require an integrated approach between destination stakeholders, which includes the government. The ultimate goal of operating and implementing effective tourism disaster management is to achieve long-term sustainability rather than short-term profitability (Gurtner, 2007). The question of how the tourism industry, as well as governments, could prepare, and should respond to disasters, is well researched.

Tourism disaster management has been conceptualized in a number of ways. Many approaches emphasize strategic considerations; i.e., how to integrate resources in managing disasters whenever they occur, especially in their aftermath. Faulkner (2001); Méheux and Parker (2006); (Ritchie, 2009) and Faulkner and Vikulov (2001) have all summarized the broader disaster management literature (Cassedy, 1991; Fink, 1986; Quarantelli, 1997; Roberts, 1994), thus synthesizing a tourism disaster management framework, and articulated a set of comprehensive principles for disaster
management strategies, for the benefit of tourism companies and destination management organizations. This framework follows a linear disaster process; pre-event, prodromal, emergency, intermediate, long-term (recovery), and resolution.

Long-term recovery and resolution engender experiences for mitigating the effects of similar potential disasters, thereby showing a repetitive pattern leading to the replacement of the pre-event and prodromal processes (Heath, 1998; Kolb, 1984). Spillan (2003) and Pauchant and Mitroff (1992) have identified two simplified approaches to disaster management: proactive and reactive. The proactive approach includes risk assessment, warning signal detection, and preparation. In contrast, the reactive approach comprises limitation of damage and recovery of the destination. In his model, Ritchie (2009) highlighted the components of tourism disaster management, including (a) disaster prevention and planning, (b) strategic implementation and resolution, and (c) evaluation and feedback. Strategic implementation consists of crisis communication and control, resource management, and stakeholder collaboration.

Hystad and Keller (2006) led a study of a 2003 forest fire involving interviews with 104 local tourist businesses. The authors found that the tourism industry, in general, was poorly prepared for the fire and responded to the disaster reactively. Two and a half years later, the authors conducted a longer term study in an attempt to understand recovery strategies in the same case. They assessed the tourism industry and whether it has learned any lessons from the previous experiences. They found some changes had taken place such as: having to close businesses forever, minimizing the number of employees and changes to the products and/or concepts. They also found that less than half of the businesses surveyed either had a disaster management plan in place or were considering developing plans as a result of the disaster. The authors explained these findings in their destination disaster management model (Figure 4, p.30), by assigning different roles (such as managing marketing responsibilities) to the various stakeholders. The roles of the tourism organizations (regional, local or national) and emergency organizations were seen as being very important, while the role of tourism businesses was considered less vital in pre-disaster and post-disaster periods.
3.3 Crisis and Disaster Management Models and Frameworks (1986-2009)

According to Fink (1986), crisis management involves the planning for, responding to and recovering from a crisis. It is the skill of removing much of the risk and uncertainty inherent in low-probability and high-impact events so that tourism administrators and business managers can achieve more control over management operations (Fink, 1986). Crisis and disaster management plans in tourism must deal with the identification of crises at the destination and the recovery and rebuilding after a crisis and disaster, while aiming to restore a positive image and impede a decrease in tourist arrivals. In an organization or tourism destination, potential crises or disasters could be avoided with the use of active crisis management plans (Peters & Pikkemaat, 2006).

In its most basic form, crisis management implies being prepared before the crisis strikes, effectively executing the crisis management plan during the crisis, and quickly recovering to normal after the crisis (Yu, Stafford, & Armoo, 2006). During the past two decades (1986 - 2009), crisis and disaster management has made significant progress in focus and numerous strategic approaches, frameworks and models. Patterns of crisis and disaster can be determined by looking at the major models. A detailed literature search has resulted in the following frameworks which have been proposed during this period.

Table 9 summarizes the crisis and disaster management frameworks, the approaches, stages, and approaches that different authors specified in their crisis and disaster management frameworks. The frameworks were studied closely for their content and patterns. It was found that they primarily drew upon three different crisis and disaster management approaches. These three approaches were summarized to make it easier to highlight the various components in order to understand approaches recommended by the authors. The three approaches identified were: life-cycle approach, action oriented crisis management approach and strategic crisis management approach. The following paragraphs explain these approaches.
Table 9: Crisis and Disaster Management Frameworks

<table>
<thead>
<tr>
<th>Model/Type</th>
<th>Crisis and Disaster Management Stages/ Content</th>
<th>Elements of Crisis or Disaster Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fink (1986), General</td>
<td>Detailed Audit</td>
<td>• Strategic actions</td>
</tr>
<tr>
<td></td>
<td>• Prodromal</td>
<td>o Integrate crisis management into strategic planning process</td>
</tr>
<tr>
<td></td>
<td>• Acute/Emergency stage</td>
<td>o Include outsiders in the crisis management team</td>
</tr>
<tr>
<td></td>
<td>• Chronic/Recovery stage</td>
<td>o Training and workshop</td>
</tr>
<tr>
<td></td>
<td>• Resolution</td>
<td>o Diversity crisis management strategies</td>
</tr>
<tr>
<td>Person and Mitroff (1993),</td>
<td>Portfolio Planning Approach</td>
<td>• Technical and structural actions</td>
</tr>
<tr>
<td>Management</td>
<td>• Detection of signal</td>
<td>o Crisis management team</td>
</tr>
<tr>
<td></td>
<td>o Early warning</td>
<td>o Dedicated budget expenditures for crisis management</td>
</tr>
<tr>
<td></td>
<td>• Prevention/preparation</td>
<td>o Emergency policies and manuals</td>
</tr>
<tr>
<td></td>
<td>o Crisis management team</td>
<td>o Backup system</td>
</tr>
<tr>
<td></td>
<td>o Crisis training and simulation exercises</td>
<td>o Working relationship with public and private sectors</td>
</tr>
<tr>
<td></td>
<td>• Damage limitation/Containment</td>
<td>• Evaluation and diagnostic actions</td>
</tr>
<tr>
<td></td>
<td>o Damage control</td>
<td>o Legal and financial audit</td>
</tr>
<tr>
<td></td>
<td>o Evacuation plans and procedures</td>
<td>o Insurance coverage with crisis management contingencies</td>
</tr>
<tr>
<td></td>
<td>• Recovery</td>
<td>o Environment impact audits</td>
</tr>
<tr>
<td></td>
<td>o Short-term and long-term recovery mechanisms</td>
<td>o Tracking system for warning signals and past crisis</td>
</tr>
<tr>
<td></td>
<td>o Alternatives</td>
<td>• Communication actions</td>
</tr>
<tr>
<td></td>
<td>• Learning</td>
<td>o Training for dealing media</td>
</tr>
<tr>
<td></td>
<td>o Learning and reassessment</td>
<td>o Communication line with local community</td>
</tr>
<tr>
<td></td>
<td>o Critical examination</td>
<td>o Communication with intervening stakeholders</td>
</tr>
<tr>
<td></td>
<td>• Psychological and cultural actions</td>
<td>• Psychological and cultural actions</td>
</tr>
<tr>
<td></td>
<td>o Increase visibility of top management commitment</td>
<td>o Increase visibility of top management commitment</td>
</tr>
<tr>
<td></td>
<td>o Relationship with activist group</td>
<td>o Relationship with activist group</td>
</tr>
<tr>
<td></td>
<td>o Improve upward/downward communication</td>
<td>o Improve upward/downward communication</td>
</tr>
<tr>
<td></td>
<td>o Psychological support and training</td>
<td>o Psychological support and training</td>
</tr>
<tr>
<td></td>
<td>o Reinforce symbolic recall</td>
<td>o Reinforce symbolic recall</td>
</tr>
<tr>
<td>Preble (1993), Financial Normative Approach</td>
<td>Roberts (1994), Natural Disaster-Flood</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>--------------------------------------</td>
<td></td>
</tr>
<tr>
<td>• Pre-event / CM Formulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Top management initiates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>contingency planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Risk assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Develop alternative strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Crisis Management Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Documentation of plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o BOD approval</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Post-event / CM Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Recycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Group formed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Resources allocated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Identity threats</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Estimate likelihood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Determine impact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Prevention techniques</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Backup plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Steps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Responsibilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Update</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Revise</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Pre-event                                |                                      |
| o Warning system                         |                                      |
| o Monitoring vulnerable area             |                                      |
| o Liaison group                          |                                      |
| o Evacuation plan                        |                                      |
| 2. Emergency                             |                                      |
|   o Mass rescue                          |                                      |
|   o Immediate safe and care              |                                      |
|   o Evacuate                              |                                      |
| Intermediate                             |                                      |
|   o Short-term needs                     |                                      |
|   o Re-establishment of utilities        |                                      |
|   o Essential service                    |                                      |
|   o Accessibility                        |                                      |
| Long term                                |                                      |
|   o Re-housing                           |                                      |
|   o Repairing                            |                                      |
|   o Providing clear information          |                                      |
|   o Dealing with stress and counselling  |                                      |
|   o Re-investment policy                  |                                      |
|   o Producing financial plan and aid     |                                      |
|   o Assessing response                   |                                      |
|   o Learning from experience             |                                      |

<p>| Obtain an overview of the incident(s).  |                                      |
| Obtain a clear picture of the main events. |                                      |
| Decide on priorities.                    |                                      |
| Insert order into chaos.                 |                                      |
| Build up a cohesive team.                |                                      |
| Check on needs.                          |                                      |
| Fulfil needs.                            |                                      |
| Reduce duplication.                      |                                      |
| Ensure the most essential tasks are carried out. |                                      |
| Set a program of actions.                |                                      |
| Instigate quality control.               |                                      |
| Care for people in a better way.         |                                      |</p>
<table>
<thead>
<tr>
<th>Preble (1997), General, Business Oriented</th>
<th>Crisis/Strategic Management Integration</th>
<th>Burnett (1998), Management</th>
<th>Faulkner (2001), Natural Disaster-Flood</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crisis/Strategic Management Integration</strong></td>
<td><strong>Pre-event/Precursors</strong></td>
<td>Burnett’s Strategic Approach-Classification Matrix focused on crisis assessment mechanism. There are four dimensions of strategic approaches to managing crisis:</td>
<td><strong>Initial stage:</strong></td>
</tr>
<tr>
<td>- Formulation</td>
<td>- Disaster management team (DMT)</td>
<td>1. Time pressure</td>
<td>Risk assessment on disaster probability, impact, contingency plans</td>
</tr>
<tr>
<td>- Develop mission statement</td>
<td>- Relevant institution and department</td>
<td>2. Control issues</td>
<td></td>
</tr>
<tr>
<td>- Perform internal and external audit</td>
<td>- Communication system</td>
<td>3. Threat level concerns</td>
<td></td>
</tr>
<tr>
<td>- Revise mission statement and establish long-term objectives</td>
<td></td>
<td>4. Response option constraints</td>
<td></td>
</tr>
<tr>
<td>- Perform crisis audit</td>
<td></td>
<td>1) Goal formulation</td>
<td></td>
</tr>
<tr>
<td>- Generate, evaluate, and select planned and crisis strategies</td>
<td></td>
<td>2) Environmental analysis</td>
<td></td>
</tr>
<tr>
<td><strong>Implementation</strong></td>
<td></td>
<td>3) Strategy formulation</td>
<td></td>
</tr>
<tr>
<td>- Establish policies, annual objectives and crisis plans</td>
<td></td>
<td>4) Strategy evaluation</td>
<td></td>
</tr>
<tr>
<td>- Allocate resources</td>
<td></td>
<td>5) Strategy analysis</td>
<td></td>
</tr>
<tr>
<td>- Crisis approval and simulations</td>
<td></td>
<td>6) Strategic control</td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Evaluation and control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation detail:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disaster contingency plans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Likely impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Community and visitor capabilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Minimum impact action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Priority action</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• On-going review on experience, structural change, environment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Luhrman (2005), General</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Before a crisis-preparing for the worst</td>
</tr>
<tr>
<td>o Communication strategy</td>
</tr>
<tr>
<td>o Promotion planning</td>
</tr>
<tr>
<td>o Reviewing security system</td>
</tr>
<tr>
<td>o Research readiness</td>
</tr>
<tr>
<td>• During the actual problems- minimizing damage In a crisis</td>
</tr>
<tr>
<td>o Communication from the front line</td>
</tr>
<tr>
<td>o Hard decision about promotion</td>
</tr>
<tr>
<td>o Ensuring security</td>
</tr>
<tr>
<td>o Quick research tactics</td>
</tr>
<tr>
<td>• Immediately after a crisis</td>
</tr>
<tr>
<td>o Image building communication</td>
</tr>
<tr>
<td>o Flexibility in promotion</td>
</tr>
<tr>
<td>o Security for the future</td>
</tr>
<tr>
<td>o Using research effectively</td>
</tr>
</tbody>
</table>

| • Develop strategy |
| • Education system |
| • Activation protocols |
| • Prodromal/Mobilization |
| o Warning system |
| o Command centre |
| o Secure facilities |
| • Emergency/Action |
| o Rescue/Evacuation |
| o Daily supplies |
| o Medicals |
| o Monitoring systems |
| • Intermediate/Recovery |
| o Monitoring system |
| o Restoration/Clean-up |
| o Media |
| • Resolution/Reconstruction and reassessment |
| o Repair |
| o Rehabilitation |
| o Reactivate |
| o Revision |
| o Counselling victim |
| o Review |

Designate spokespersons
Press and communications department
Communicate and pay attention regularly with media
Maintain working relationship with public and private sectors
Security training
Emergency centre
Monitoring system
Not to impose a news blackout
Media centre
Challenge untrue statement
Positive and honest
Increase promotional budget
Financial assistance
New niche market product
Experienced and special interest travellers
Special price
| Wilks and Moore (2005), General | • Reduction—detecting early warning signal  
  o Crisis awareness  
  o Political awareness  
  o Standard operating procedures  
  • Readiness—preparing plans and running exercises  
    o Crisis management plan  
    o Tourism planning  
    o Health and safety measures  
  • Response—executing operational and communication plan in a crisis situation  
    o Emergency response procedures  
    o Investigation  
    o Family assistance  
    o Communication  
  • Recovery—returning the organization to normal after a crisis  
    o Business continuity plan  
    o Human resource  
    o Debriefing | • Incentive  
  • Post-evaluation  
  • SWOT analysis  
  • Identify risk and impact  
  • Secure political cooperation and involvement  
  • Anticipate system  
  • Enhance staff awareness  
  • Crisis management team  
  • Public and private sectors involvement  
  • Priority decision  
  • Contingency plan  
  • Training system  
  • Caring for visitors and involving the community  
  • Target marketing  
  • External marketing communications  
  • Leadership  
  • Victim support  
  • Public communication  
  • Domestic health services  
  • Disability issues  
  • Counselling  
  • Return of effects of deceased victims to next-of-kin  
  • Community harmony  
  • Community support  
  • Rural issues  
  • Inter-governmental welfare issues  
  • Role of airlines  
  • Insurance coverage  
  • Domestic economic issues  
  • International issues and interaction with other disasters |
Hystad and Keller (2008), *Forest Fire*

The model demonstrates the importance of coordination between primary, secondary and tertiary stakeholders (tourism, organizations (TO), tourism businesses (TB), emergency organizations (EO)) before, during and after a disaster. Authors point out that businesses usually assume that some other authority (emergency organizations and DMOs) takes the responsibilities for planning and executing emergency plans. In this model emergency organizations were considered as primary stakeholders before and during a disaster while tourism businesses and tourism organizations were suggested to take the lead role after the disaster. The bottom-up approach of encouraging tourism businesses to take the initiative in developing their own disaster management plans was considered ineffective.

- **Pre-disaster:**
  - EO: Primary (develop and communicate disaster strategy; develop warning systems; coordinate plan with TO);
  - TO: Secondary (develop media and marketing strategy; coordinate planning with TB; facilitate communications between EO and TB);
  - TB: Tertiary (develop individual plan; communicate plan with employees; communicate with TO)

- **Disaster:**
  - EO: Primary (emergency responses; communicate with TO and TB; establish media response centre);
  - TO: Secondary (communicate with EO; Communicate and update TB; support media communications; create tourism information line);
  - TB: Tertiary (implement individual disaster plans; update tourists on situation)

- **Post-disaster:**
  - TO: Primary (fine-tune marketing response; establish recovery marketing; communicate with TB; continue tourist info line);
  - TB: Secondary (Communicate issues with TO; stay in contact with clientele; conduct individual recovery marketing);
  - EO: Tertiary (situation review)

- **Resolution:**
  - Share experiences between TO, EO, and TB: review and revise disaster management plans

He used the four elements of strategic management –
(i) Analysis,
(ii) Direction and choice,
(iii) Implementation and control, and
(iv) Evaluation and feedback - as the foundation for framework.

Proposed a strategic and holistic approach to crisis and disaster management based on - prevention and planning, implementation and evaluation and feedback - with each featuring management actions, strategies, concepts or issues

- Crisis/ disaster prevention and planning
  o Proactive planning and strategy formulation: environmental scanning; issues analysis; scenario planning; strategic forecasting, risk analysis.
  o Scanning to planning: developing plans from scanning and issues analysis; contingency and emergency planning

- Strategic implementation
  o Strategy evaluation and strategic control: formulation of strategic alternatives, evaluation of alternatives, selection of appropriate strategies; making effective decisions quickly; influence or control over crises/disasters.
  o Crisis communication and control: control over crisis communication; development of crisis communication strategy including use of a public relations plan; appointment of a spokesperson; use of crisis communication to recover from incidents; short versus long term crisis communication strategies.
  o Resource management: responsive organisational structures; redeployment or generation of financial resources; leadership styles and employee empowerment.
  o Understanding and collaborating with stakeholders: internal (employees, managers, shareholders) and external (tourists, industry sectors, government agencies, general public, media) stakeholders; need for collaboration between stakeholders at different levels to resolve crises or disasters.

- Resolution, evaluation and feedback
  o Resolution and normality: resolution and restoration of destination or organisation to pre-crisis situation; reinvestment strategies and resourcing; crises/disasters as agents of change.
  o Organisational learning and feedback: organisations or destinations may reassess and take stock’ of themselves; evaluating effectiveness of strategies and responses; feedback to pre- event planning; levels of learning depend on single or double loop learning.
The first categorization of crisis and disaster management focused on the life-cycle approach (Faulkner, 2001; Fink, 1986; Roberts, 1994). This three-phase (pre-event, emergency, post-event) crisis management approach is the earliest version of the life cycle approach which was later integrated by Faulkner (2001) into a six-phase (pre-event prodromal, emergency, intermediate, long-term, and resolution) crisis management plan to more comprehensively manage tourism disasters.

The second categorization is the strategic crisis management approach. Preble (1997) and Ritchie (2009) argue that it has three key components; crisis management formation, implementation, and evaluation. The third categorization was action-oriented crisis management (Burnett, 1999; Hystad & Keller, 2008; Pauchant & Mitroff, 1992; Wilks & Moore, 2004). These frameworks used the Four Rs: Reduction, Readiness, Response and Recovery.

### 3.4 Components of an Integrated Framework for Tourism Disaster Planning and Management

It is evident from the literature discussed above and the various themes discussed in Chapter 2 that there is no overall integrated framework for tourism crisis or disaster management. Therefore, this study presents an integrated approach that could be used as a crisis and disaster management framework for tourism in SIDS (Figure 5). In this model, similar actions to those identified in the life cycle phases (Faulkner, 2001; Fink, 1986; Ritchie, 2009; Roberts, 1994) are included. This integrated approach includes both proactive and reactive strategies targeted for management planning before, during and after disasters. Activities that are planned and conducted before the disaster to minimize the adverse impacts are called proactive approaches. In contrast, post-disaster activities related to responses and recovery are termed reactive approaches (Moe & Pathranarakul, 2006). Furthermore, there are three primary components within these two approaches (Preble, 1997). First, the formulation phase is concerned with determining the future management of the crisis. Second, the implementation phase focuses on the modification of organizational structures and processes to help ensure that the planned results are obtained. The third phase is evaluation, which is concerned primarily with review and feedback after a disaster (Preble, 1997).
The next sections detail the main constructs that have been used to develop the integrated model for tourism crisis and disaster management. They are: the proactive approach (prevention), the reactive approach (communication, resource management, stakeholder collaboration, resolution and feedback) and government and private sector roles.
Figure 5: Proposed Integrated Framework for Tourism Disaster Planning and Management

Private sector

Proactive Approach

Learning and Feedback

Reactive Approach

Government sector

Policies and Regulations – Law enforcement, disaster relief and security measures, tax cuts and temporary assistance, industry support and joint strategic rebuilding, education of stakeholders, environment scanning, scenario planning, risk analysis, contingency and emergency planning

Prevention
Recognition of vulnerability and capability of dealing with disasters proactively

Communication
Short-term communication strategy for media and internet, communication leadership, PR Plan

Resource Management
Financial: damage audit, monitoring system, clean up and restoration, minimizing expenses

HR- employee empowerment, payroll cost reduction, unpaid leave, staff education, job sharing

Market recovery- Crisis recovery marketing campaign, perception change campaign, diversifying the markets, value-added packages, discounts and

Stakeholder collaboration
Collaboration with internal and external stakeholders to resolve crisis or disasters

Resolution and Feedback
Restoration to pre-crisis situation, reinvestment strategy, resourcing, agents of change, learning

Emergency Actions – Rescue and evacuation procedures, emergency accommodation and food supplies, medical and health services, monitoring and communication systems
3.4.1 Proactive Approach

Ritchie (2009) argues that a disaster, as its definition indicates, is capable of forcing organization into an extreme condition due to the fact that it is unable to prevent it from occurring. Attempts should be made to develop coping strategies for such events, especially when certain forms of crises and disasters are likely to happen or repeat over time. The tourism industry has experienced numerous disasters and crises over the review period, which suggests that they should be prepared for the next disaster. Management must constantly evaluate threats in the internal and external environment, identify risks in the environment and their disaster management toolkit should be regularly revised. According to Glaesser (2006), an awareness strategy aims to generate cognition of vulnerability and capability of individuals and companies in handling disasters. Scenario analysis, a method discussed by Ritchie (2009), aims to use structural means to develop full preparation for future disastrous hazards, although Méheux and Parker (2006) argued that these cognition-based results could be biased. Rousaki and Alcott (2006) argued that an organization’s overall experience is more important than its size or managers’ job level in determining successful preparedness in the case of a crisis or a disaster. One outcome of disasters should always be the agreement of all stakeholders that tourism disaster management strategies should be continuously reviewed. The tourism industry has much to gain from persistently assessing the collective and cumulative experiences acquired from disasters. This step belongs to the range of reactive measures. Disaster management is literally an ever-lasting process that galvanizes proactive strategies in the long run (Kolb, 1984). Therefore, past experiences need to be reviewed perpetually. This effort should be paired with continued communication, stakeholder cooperation and a combination and advancement of resources.

3.4.2 Crisis and Disaster Communication

Disaster communication plays an important role in emergency and revitalization processes. Both tourism businesses and associations are responsible for facilitating speedy, up-to-date and accurate information communication on a consistent basis (Cassedy, 1991; Faulkner, 2001; Ritchie, 2009). Modern crisis communication suggests the formalization of a system in conjunction with communication leadership and team effort (Fall & Massey, 2006; Faulkner, 2001). For obvious reasons, in times
of crisis, tourists and their hosts will equally rely on timely and relevant information communicated through various media channels. It is essential that key stakeholders, i.e., decision-makers, and managers, follow public announcements through the media closely (Fall & Massey, 2006), in order to be able to make informed decisions in times of emergencies. Experience shows that media distortion may result in negative effects. The Indian Ocean tsunami of 2004, devastated only a small portion of the island of Phuket, however the media instead stated that the island had been completely destroyed (Gurtner, 2007). On a different note, the reporting of the Palestinian-Israeli conflict had a damaging impact on the perception of the Israeli tourism industry (Beirman, 2003). Unfortunately, as the negative side of disasters are over emphasized, and news of increasing death tolls and lost tourists reiterated, such reporting may gravely effect subsequent recovery efforts (Ritchie, 2009). Many researchers have highlighted the importance of a public relations program within a strategic communications strategy (Fall, 2004; Marra, 1999; Massey, 2005).

3.4.3 Management of Resources

In accordance with Ritchie (2009) propositions, emphasis is placed on flexible and effective resource management. In this respect, financial, human, and marketing resource elements are explored. During times of acute emergency and short-term recovery (Faulkner, 2001), certain tasks are seen as the top priorities of any emergent disaster plan list; i.e., the rehabilitation, repatriation, and redevelopment of physical assets. Attention will be given to tangible resources, including indispensable documents, which are needed to normalize routine operations. When the Katherine flood hit Australia in 1998, the Northern Territory Tourism Commission (NTTC) implemented its damage audit system. It assessed the damage and identified the recovery potential to ensure the reconstruction process was implemented (Faulkner & Vikulov, 2001). Its primary role was to ensure the viability of the tourism industry and the entire destination (Coombs, 1999; Ritchie, 2004).

Sufficient financial resources and human resources have to be allocated and human resources empowered in such a way that they are able to take the necessary actions. In such a disaster management framework, employees are viewed as intangible assets. Human capital is to be retained, even in times of crisis. Since the economy declines soon after a disaster, and in the case of tourism, many companies face a very sharp
decline in occupancy; many employees are thus encouraged to take unpaid leave. This is done to prevent exhaustion of cash flow. Companies also have to minimize payroll costs and other operational recurrent expenditures to prevent net cash outflows. Another commonly used method for preventing layoffs is job sharing, where two or more employees split one job. This method is vital in retaining the competency of the employees at the core, since the peripheral employees usually are made redundant in a similar situation. This method also reduces some payroll costs. As Faulkner and Vikulov (2001) argue, from a human resource perspective, the uncertainty of such times becomes an “acid test” for testing the loyalty of employees. Similarly, these turbulent times give employees an opportunity to learn about loyal and good employers.

Learning opportunities present themselves to employers and employees. To make the operations more efficient at such times, investments in technology can occur. At the same time, organizations can update their knowledge to be better prepared for future operations. Hence, making a crisis or a disaster an opportunity for change is a time in which strategies and operations are reviewed and foundations are laid for innovation which may benefit the organization’s effectiveness and efficiency in using its resources. Small companies also learn the importance and role of human resource management which can ensure the organization’s long-term success.

Similar to the human resources component, market recovery and image restoration is equally important. According to Ritchie (2009) and Faulkner (2001) literature in the field examines refreshed marketing and promotion plans and confidence-building campaigns carried out in the event of crises and disasters. Genuine disaster cases in the past involved joint marketing usage and tourism product diversification when dealing with a range of contexts, e.g., Foot and Mouth Disease (Miller & Ritchie, 2003); forest fire (Hystad & Keller, 2008; Hystad & Keller, 2006); tsunamis (de Sausmarez, 2005); or Severe Acute Respiratory Syndrome (Henderson, 2007). During the post-disaster recovery phase much investment is made in market recovery. Gurtner (2007) explains that the slogans used in the case of the Bali bombings; “Unified in Diversity”; “United We Stand”, and “Bali for the World”, were not only promotional activities, were also activities to build overall confidence in the destination.
3.4.4 Collaboration with Stakeholders

Collaboration with stakeholders is a fundamental ingredient of tourism crisis and disaster management (Faulkner, 2001; Fink, 1986; Ritchie, 2009). Sautter and Leisen (1999) designed a tourism stakeholder map that includes government, competitors’, national business chains, tourists, activist groups, residents, local businesses and employees. Tiernan, Igoe, Carroll, and O’KEEFE (2006), argue that one of the key features of a crisis communication response strategy in the tourism industry is to ensure a positive relationship between tourism stakeholders. Such a strategy would require stakeholders to be aware of their role under each critical circumstance so that required crisis communication processes can be successfully initiated and facilitated. This perspective is explored further by Hystad and Keller (2008) who integrated this component in their tourism disaster management framework. In their model, they allocated different tasks to each tourism stakeholder during the pre-disaster, disaster, and post-disaster period. Ritchie (2009) also noted that stakeholder collaboration will make a significant difference when reacting to a disaster.

3.4.5 Government Sector Roles

While the government sector plays the most important role in disaster management, discussions about the government’s involvement in tourism disaster management is relatively rare (Prideaux, Laws, & Faulkner, 2003). Several researchers have agreed on the importance of the government either locally or nationally in forecasting potential disasters and coping with them (Henderson, 2003; Prideaux, 2004; Ritchie, 2009). A disaster’s severity will naturally require emergency actions (Faulkner & Vikulov, 2001). Immediate actions will include: (a) rescue and evacuation procedures, (b) emergency accommodation and food supplies, (c) medical services, and (d) monitoring and communication systems (Faulkner & Vikulov, 2001). Governments’ timely actions involve relief and security measures, tax rate reduction (Blake & Sinclair, 2003), tax deferment and business employment assistance (Sharpley & Craven, 2001), disaster related law enforcement (Henderson, 1999), long-term risk assessment (Prideaux, 2004), and economy stabilization and domestic and inbound tourism promotion (de Sausmarez, 2005). After the Bali bombings, government efforts to reactivate the tourism industry included the acceptance of inter-migrants (Hitchcock & Putra, 2005). Thailand and Indonesia relaxed their immigration policies
during the Asian Financial Crisis (Henderson, 1999) and Malaysia adopted a bipolar budgeting strategy. While it reduced spending for some budgetary items, it also contributed more to stabilizing the national economy, including spending on tourism promotion (de Sausmarez, 2005). On a smaller scale, governments may decrease taxes for particular areas of business, e.g., the tourism industry (Blake & Sinclair, 2003; Sharpley & Craven, 2001), to help cope with difficult economic challenges.

3.5 The Proposed Integrated Framework for Tourism Planning and Management

Figure 5 illustrates an integrated framework for tourism disaster planning and management in SIDS based on constructs used in disaster management theory and frameworks (Faulkner, 2001; Faulkner & Vikulov, 2001; Hystad & Keller, 2006; Miller & Ritchie, 2003; Ritchie, 2004), discussed in section 3.4.

As a model of tourism disaster planning and management for SIDS, this approach assumes that disasters need to be effectively managed through quick and effective reaction based on adequate preparation. Both proactive and reactive strategies (see Figure 5) are needed to assist the crisis management team in responding to a disaster, during and after the initial event. These strategies are not mutually exclusive, but in fact impact upon each other, resulting in an ongoing learning process.

Proactive strategies incorporate preparation efforts and promote prevention and awareness. They include activities carried out for mitigation, preparedness and warning for disasters before they occur to minimize adverse impacts. Examples of such activities are; a written disaster management plan based on a worst case scenarios for crisis management, a coordinated approach between private and public sector organizations, regular procedures in place for staff training and staff participation and involvement in development, implementation and revision of these plans. Post-disaster activities related to response and recovery are termed reactive approaches (Moe & Pathranarakul, 2006).

Reactive strategies integrate four aspects: (a) crisis communication, (b) management of resources, (c) collaboration with stakeholders and, (d) resolution. Crisis communication is a vital component of an integrated approach. A crisis communication plan needs be incorporated into the overall tourism disaster
management plan and the crisis management plans of particular businesses. A scenario-based crisis communication plan should address common issues that could happen in a crisis situation and therefore are beneficial for both government and the private sector tourism businesses, to enable a quick reaction and implementation of plans. Such plans could consider short and long term strategies depending on the impact of the crisis or disaster. It should also involve clear instructions on media management, centralization of communications and appointment of a spokesperson. Furthermore, it should include the use of a crisis website, and internal and external communications with stakeholders. Communication campaigns need to be supported by public relations activities.

Another vital task in response and recovery is the management of resources. Effectively dispatching, generating and sourcing funding can speed up the response and recovery. Conducting damage assessments, monitoring of emergency expenses and insurance records are crucial for revising future management plans. Similarly, crises and disasters have a huge impact on employees. The disruption for some businesses may mean temporary or even long-term closure, which can result in immediate measures such as giving leave for employees or even making some of them redundant. Counselling and medical support should be made available for those in need. Appropriate feedback, recognition and rewards may help to keep staff motivated. Employees may have to volunteer to work extended hours with periods of leave.

For SIDS, destination and community recovery, following a disaster depends upon the recovery of tourism. In order for this to happen, negative media images following a disaster need to change and markets need to recover. Usually familiarization trips for the media, discounting and value-added packages are offered as part of a perception change campaign. Crisis market recovery strategies should have clear goals and objectives to achieve tourism recovery. The final step in response and recovery management is stakeholder collaboration. Communication, consultation and empowerment of internal and external stakeholders are very important steps in gaining their co-operation, clarity of their role and continuous support throughout the response and recovery process.
The resolution and feedback stage corresponds to long-term recovery and resolution. It is not possible to return to a pre-crisis situation. However, redevelopment, rehabilitation and re-opening of the tourism infrastructure and services are important as is the restoration of the industry and destination to an improved state. At this stage, learning from the crisis and disaster is achievable. The incorporation of lessons learned to an existing or new tourism crisis and disaster management context is a key step in the resolution stage.

The private sector of the tourism industry and the government sector play different roles at different stages in disaster management. Any actions or strategies for disaster management in tourism therefore will combine both private and public sector efforts. Any ensuing policies and regulations or changes to them will thus be negotiated outcomes of an ongoing dialogue and co-operation and/or sharing of experiences and knowledge between different stakeholders. In general, governments bear the tasks of enforcing law and order but also providing immediate relief and informing the general public and private sector of reliable risk assessments to adapt to these critical situations. The public depends upon emergency measures instituted government institutions. Successful tourism disaster management depends not only on sharing the knowledge and experiences, but also on proactive and reactive strategies. The integrated management approach is proactive by allowing for mitigation, preparedness, and disaster warnings before events occur. It is also reactive because it includes assessing the impact of a disaster. Communication between all stakeholders is therefore crucial before, during and after a disaster in the tourist industry.

### 3.6 Summary

Building upon the previous chapter, this chapter initially reviews key crisis and disaster management frameworks with the intention of constructing an integrated framework for tourism crisis and disaster planning and management in SIDS. Secondly, it examines strategic approaches, frameworks and models developed during the last two decades. It summarizes these approaches and examines them in detail to identify patterns of crisis and disaster ingredients and their main focus areas. There were three main approaches identified: they were the life-cycle approach, the strategic crisis management approach and the action-oriented crisis management approach. An opportunity to develop an integrated approach was identified and the main theoretical
constructs were explored further to develop such a framework.

The chapter concluded with an outline and an explanation of the proposed framework that will be applied and tested in a SIDS post-disaster tourism crisis and disaster recovery case study. The following chapter discusses vulnerabilities, and some of the challenges and constraints faced by Small Island Developing States (SIDS) in their development pathway to provide the context for considering how such states can plan and respond to crises and disasters.
Chapter 4

SMALL ISLAND DEVELOPING STATES

4.1 Introduction

Islands are often shaped by their remoteness, or insularity, which results in ecologies and cultures that are usually distinctive to their location. Islands tend to have fragile environments, fragile economies, and are highly vulnerable to some of the most devastating hydro meteorological and geological disasters. This chapter outlines some of the challenges and constraints faced by Small Island Developing States (SIDS) during their development. In doing so, it first provides definitions for SIDS and vulnerability, as both of these terms are used throughout the chapter. This section is followed by a discussion of characteristics of SIDS that lead to their vulnerabilities in relation to their socio-economic and environmental contexts. The Maldives is introduced as a SIDS while discussing the issues related to environmental vulnerability and sustainability. The Maldives is further outlined as the research setting, and why the recovery of Maldives tourism following the Indian Ocean Tsunami 2004 was chosen as the case study for the thesis.

The Small Island Developing States Network (2009) defines SIDS as:

“are small island and low-lying coastal countries that share similar sustainable development challenges including small population, lack of resources, remoteness, susceptibility to natural disasters, excessive dependence on international trade and vulnerability to global developments. In addition, they suffer from lack of economies of scale, high transportation and communication costs, and costly public administration and infrastructure.”

The term “vulnerability” refers to the possibility of damage from external forces. SIDS are particularly vulnerable because they tend to be exposed to factors outside their control, and the impact of external shocks tends to be relatively greater on these states (Witter, Briguglio, & Bhuglah, 2002). Conceptually, vulnerability provides an easier context for understanding how a particular SIDS is responding in a comprehensive manner to the economic, environmental and social challenges it faces (Binger et al., 2002). Economic vulnerability arises largely from the high exposure of SIDS to economic conditions in the rest of the world. SIDS economies frequently experience “shocks” from external factors originating in major global commercial centers, sometimes leading to serious instability. One type of external shock originates when natural forces, such as the destruction of tourist facilities by a hurricane
or typhoon. Environmental vulnerability is concerned with the risk of damage to the country’s natural ecosystems (e.g., coral reefs, swampland, mangroves, ground water, coastal areas and marine resources, forests, and soils). Each of these resources is essential in providing services to the economy and the general public. Degradation in the quality of the environmental resources could lessen the level of services they can provide to meet local needs and contribute to export earnings. Unsustainable use can result in irreversible long term damage. Natural environmental resources may also be affected by natural disasters, the risk of which varies across time and place (Binger et al., 2002).

Social vulnerability reflects the degree in which societies or socio-economic groups of people are affected negatively by stresses and hazards, whether brought about by external forces or intrinsic factors (internal and external) that negatively impact upon the social cohesion of a country. Social vulnerabilities caused by these stresses and hazards are more common in SIDS compared with other developing countries. This is due to their typically high recurrence rate in SIDS and their limited capacity to respond adequately (Binger et al., 2002). Therefore, the social impact of such stresses can have long-lasting effects. Social vulnerability is characterized by many factors such as increased growth in criminal activities, growing rates of HIV/AIDS infection, and rising rates of children dropping out of school, declining age of the prison population, declining public health, poor public infrastructure and migration of skilled professionals (Binger et al., 2002). The next section outlines the vulnerabilities faced by SIDS.

4.2 Small Islands and their Vulnerability

Small Island Developing States (SIDS) are mainly located in the tropics and sub tropics, in the ocean regions of the Pacific, Indian and Atlantic, as well as the Caribbean and Mediterranean seas. The UN (United Nations) currently classifies 52 countries and territories as SIDS, with a combined population of over 50 million people. Forty-three of these countries are located in the Caribbean and Pacific regions. The UN has continuously advocated special considerations to address the multi-faceted issue of structural weakness and vulnerability. The Global Conference on Sustainable Development of SIDS held in Barbados in 1994 adopted the Programme of Action for the Sustainable Development of SIDS. Later on, the International Review Meeting to Review the Implementation of the Programme of Action (Mauritius, January 2005) resulted in the Mauritius Strategy for the implementation of the agreed programme (Santos-Paulino, 2011).

All SIDS are vulnerable to economic shocks and natural hazards, in a way that few other
countries or regions are (McGillivray, Naudé, & Santos-Paulino, 2008; Naudé, Santos-Paulino, & McGillivray, 2009, 2011). These states share common challenges and face a greater risk of marginalization from global economic activities than other developing countries. The problem results from their small size, remoteness from large markets, and vulnerability to economic and environmental shocks. According to the UN (1994), SIDS have some of the highest exposure levels to natural hazards globally; at least 13 of the 25 most disaster-prone countries are SIDS (refer Chapter 2, section 2.1.3). SIDS environment hazards identified included, the threat of sea level rise and the location of small islands in relation to phenomena such as cyclones, hurricanes, volcanism and seismic activity which can lead to tsunamis (Briguglio, 1996). SIDS are known for their cultural diversity as well as influences from former colonial powers in Western Europe, Africa and Asia. SIDS include countries like Singapore and the Bahamas, which are relatively rich by developing country standards, but also some of the poorest countries in the world, such as Haiti. Despite being structurally disadvantaged, for some countries, the advantage of smallness and more consistent population might allow some countries to adapt or change.

As far as development and other financial flows are concerned, SIDS received high levels of foreign aid relative to GDP, when compared with other developing countries. Foreign remittances are also a very important source of income, and some depend heavily on export revenues. The quality of governance varies tremendously among SIDS and many are prone to state failure. These and other factors combine to make SIDS highly vulnerable to external economic shocks and susceptible to natural disasters and climate change.

4.3 Characteristics Leading to SIDS Vulnerability

SIDS consist of small land masses surrounded by ocean, and are frequently located in regions prone to natural disasters, often of a hydro meteorological and/or geological nature. In tropical areas they host relatively large populations for the area they occupy, with high growth rates and densities. As Mimura et al. (2007) argue, several SIDS have poorly developed infrastructures and limited natural, human and economic resources. Small island populations are also often dependent on marine resources to meet their protein needs. Most of their economies are dependent on a limited resource base and are subject to external forces, such as changing terms of trade, economic liberalization, and migration flows (Mimura et al., 2007). Many small islands are highly vulnerable to the impact of climate change and sea-level rise. At the same time adaptive capacity to climate change is generally low, though traditionally there has been some resilience in the face of environmental change.
Other factors that increase the extreme vulnerability of SIDS include; socio-economic conditions, natural resource and space limitations, and the impact of natural hazards such as tsunamis and storms. According to Cocklin (1999), in the Pacific, vulnerability is also a function of internal and external political and economic processes which effect forms of social and economic organization that are different from those practiced traditionally, as well as attempts to impose models of adaptation that have been developed for Western economies, without sufficient thought as to their applicability in traditional island settings (Cocklin, 1999).

4.3.1 Social and Economic Conditions

Socio-economic stressors to island vulnerability include external pressures such as financial crises, increasing external debt, positive and negative effects of globalization, terms of trade, international conflicts and domestic/local conditions such as increasing rates of poverty, higher rates of unemployment, reduced social organization, fast population growth, political instability, and a widening gap between rich and poor, together with interactions between these factors (ADB, 2004).

With the exception of some of the larger Melanesian and Caribbean islands, most settlements in small islands are located in coastal locations, with the main town or city also hosting the port, international airport and center of public services (Mimura et al., 2007). Heavy dependence upon coastal resources for subsistence is also a major feature of many small islands. As Mimura et al. (2007) notes, rapid and unplanned movements of rural and outer-island residents to the major population centers is occurring throughout small islands, resulting in deteriorating urban conditions, with pressure on access to urban services required to meet basic needs. High concentrations of people in urban areas create social, economic and political problems, and make people more vulnerable to short-term physical and biological hazards such as tropical cyclones and diseases. It also increases their vulnerability to the impact of climate change and sea-level rise (Connell, 1999, 2003).

Globalization is also a major issue, although it has been argued that it is nothing new for many small islands, since most have had a long history of colonialism and, more recently, the rise of global capitalism (Pelling & Uitto, 2001). Nevertheless, in the last few years, the rate of change and growth of internationalization have increased, and small islands have had to contend with new extra-territorial economic, political and social forces such as multinational corporations, transnational social movements, international regulatory agencies, and global communication networks. In the present context, these factors become increasingly relevant,
as they may influence the vulnerability of small islands and their adaptive capacity (Adger, Huq, Brown, Conway, & Hulme, 2003; Pelling & Uitto, 2001).

### 4.3.2 Natural Resources and Space Limitations

The availability of freshwater is a major limiting factor for economic and social development in SIDS (UNFCCC, 2005). SIDS mainly depends upon ground water, rainfall or desalination plants for their fresh water supplies. Therefore, like every other utility in SIDS, water is costly and represents a constraint for development of agriculture and industry. Many small islands are experiencing water stress, as current levels of rainfall, and extraction of groundwater often outstrips supply. As SIDS populations grow, the demand for water will increase. So far, the dominant policy response has been to establish very costly desalination plants, which also have high electrical energy requirements (Binger et al., 2002). Conservation, efficient use and recycling are options still awaiting evaluation. The desalination plant option is much easier to implement, but increases vulnerability. Despite being expensive, due to its high energy demand, desalination and abstraction of water from deep aquifers are also measures for increasing the availability of good quality water in SIDS (UNEP, 2014). Groundwater pollution is often a major problem, especially in low-lying islands.

Poor water quality is just one of several health issues linked to climate variability and change and their potential effects on the wellbeing of the inhabitants of small islands (Ebi, Lewis, & Corvalan, 2006). It is also inevitable that the ecological systems of small islands, and the functions they perform, will be sensitive to the rate and magnitude of climate change and sea-level rise, especially where exacerbated by human activities (ADB, 2004), as is the case of small islands in the Pacific. Both terrestrial ecosystems on the larger islands and coastal ecosystems on most islands have been subjected to increasing degradation and destruction in recent decades. For instance, analysis of coral reef surveys over the past three decades has revealed that coral cover across reefs in the Caribbean has declined by 80% in just 30 years, largely as a result of continued pollution, sedimentation, marine diseases, and over-fishing (Gardner, Côté, Gill, Grant, & Watkinson, 2003).

Once the possessors of unspoiled ecosystems and breathtaking beauty, SIDS have had to sacrifice natural capital in order to generate economic resources (Binger et al., 2002). Also being sacrificed is the less visible chemical composition of the soil, coast, ocean, and fresh water. Chemicals imported for agriculture, industry, transportation, health services, and households, are now a growing source of pollution. The ecosystems that make SIDS desirable
tourist destinations are also very fragile. Continued pollution from sewage, solid waste and chemicals will have negative long-term effects on the environment and, over time, will result in reduced capacity to provide environmental and economic services for the country. This is evident in the Maldives, where poor waste management strategies and scarcity of land have created a “toxic bomb”, the largest waste island (landfill) in the world (Matturi & Beykan, 2014). The degradation of critical ecosystems like coral reefs, mangrove forest and sea grass will reduce the natural defenses of the coast, increasing the potential for erosion from hurricanes and storms.

4.3.3 Susceptibility to Climate Change

The Inter-Governmental Panel on Climate Change (IPCC) noted in its Third Assessment Report (Change, 2001) that SIDS are likely to be among the countries and communities most adversely affected by climate change as a result of their small size, economic dependence on a limited number of natural resource-based sectors (particularly agriculture, tourism and extractive industries), and finite human and financial capacities. The IPCC Report also points out that these, mostly small island countries are already extremely vulnerable to a range of natural hazards and variations in oceanic and atmospheric conditions.

The IPCC notes that while the severity of the threat will vary regionally, sea-level rise of the magnitude currently projected (i.e. 5 mm yr^{-1}, with a range of 2-9 mm yr^{-1}), is expected to have disproportionate effects on the economic and social development of many small island states. Coastal land loss is already projected to have widespread adverse consequences. Indeed, it is argued that land loss from sea-level rise, especially in the low limestone islands, is likely to be of a magnitude that would disrupt virtually all economic and social sectors. This, in turn, will increase the vulnerability of coastal environments by reducing natural resilience and increasing the costs of adaptation (Change, 2001).

The likely negative impact on tourism, water resources availability, and food supplies represent significant new threats to SIDS’ continued viability. The increasing national vulnerability will be costly, based on the experience of the Maldives and other SIDS that have recently had to implement the equivalent of climate change adaptation measures to protect vulnerable populations and valuable infrastructure. According to Nath, Roberts, and Madhoo (2010) one economic instrument that has been discussed as a method of promoting adaptation in SIDS is insurance. Insurance cannot solve a problem that occurs constantly, however it can provide an effective method of risk management for storm damage and other intermittent problems (Nath et al., 2010). This increased level of vulnerability has already resulted in
SIDS having one of the highest property insurance cost structures.

External pressures that contribute to the vulnerability of small islands to climate change include energy costs, population movements, financial and currency crises, international conflicts, and increasing debt. As Mimura et al. (2007) contends, internal processes that create vulnerability include rapid population growth, attempts to increase economic growth through the exploitation of natural resources such as forests, fisheries and beaches, weak infrastructure, increasing income inequality, unemployment, rapid urbanization, political instability, a growing gap between demand for, and provision of, health care and education services, weakening social capital, and economic stagnation. These external and internal processes are related and interact in complex ways to heighten the vulnerability of island social and ecological systems to climate change (Parry, 2007).

4.3.4 Sensitivity and Exposure to Extremely Damaging Natural Disasters

Natural hazards of hydro meteorological origin remain an important stressor and effect the economies of small islands that are disproportionately large (Bettencourt, 2006). According to UNISDR (2004), the impact of these hazards upon small island states, especially tropical cyclones and hurricanes, demonstrates a proportional impact not usually experienced by continental countries. Whether measured in terms of area affected, population affected, houses destroyed, or as economic loss, the highest proportional impact is felt in the island states (UNISDR, 2004). The devastation of Grenada following Hurricane Ivan on 7 September 2004 is a powerful illustration of the reality of small-island vulnerability (Nurse & Moore, 2005). In less than 8 hours, the country’s vital socio-economic infrastructure, including housing, utilities, tourism-related facilities and subsistence and commercial agricultural production, suffered numerous damages. The island’s two principal foreign exchange earners – tourism and nutmeg production – suffered heavily. More than 90% of hotel guest rooms were either destroyed or damaged, and more than 80% of the island’s nutmeg trees were lost (Nurse & Moore, 2005).

In some instances, natural disasters threaten the very survival of some small islands. The effect of natural disasters on small economies include the devastation of the agricultural sector, wiping out of entire village settlements, and disruption of a high proportion of communication services and injury or death of a relatively high percentage of inhabitants. One of the major challenges with regard to hydro meteorological hazards is the time it takes to recover from them. In the past it was common for socio-ecological systems to recover from hazards, as these were sufficiently infrequent and/or less damaging. In the future, climate
change may create a situation where more intense and/or more frequent extreme events may mean there is less time in which to recover. Sequential events may mean that recovery is never complete, resulting in long-term deteriorations in affected systems, e.g., declines in agricultural output because soils never recover from salinization; and, urban water systems and housing infrastructure deterioration because damage cannot be repaired before the next extreme event.

4.4 Small Islands and Tourism

Twenty-seven of the Commonwealth’s 53 members are Small Island Developing States (SIDS) with populations of less than 1.5 million. Ashe (2005), like many others, highlights their vulnerabilities in terms of environmental disasters, limited human resources, economic resources and security. SIDS (including low lying coastal countries) share similar sustainable development challenges, including small populations, lack of resources, remoteness, susceptibility to natural disasters, excessive dependence on international trade and vulnerability to global developments. In addition, they suffer from a lack of economies of scale, high transportation and communication costs, and costly public administration and infrastructure. SIDS also have limited availability of human, institutional and financial resources to manage and use natural resources in a sustainable way, and ever increasing demographic and economic pressures on existing natural resources and ecosystems (Ashe, 2005).

Scheyvens and Momsen (2008) disagree with this view, claiming that SIDS do not embrace their potential to chart their own paths in the global economy and provide self-determined futures for their people. Furthermore, they suggest that SIDS can capitalize on their size, economic performance, socio cultural and natural capital, respect for traditional holistic approaches to development, strong international linkages and political strength. Remoteness, a frequent feature of SIDS, is an advantage for tourism because relative isolation can render the destination “more attractive, exotic and enticing, especially in the case of small islands” (Scheyvens & Momsen, 2008, p. 498).

Tourism is widely seen as the driver behind economic activities in SIDS. In a growing free trade environment, it became clear that island states could no longer rely on guaranteed markets or prices for their traditional export earners, primary products, and thus, many island states sought growth in the tourism sector. According to UNWTO (2013) the number of international tourists visiting SIDS destinations has been significant: from 28 million in 2000 to 41 million in 2013. In the same period, exports from tourism grew from US$26 billion to
US$53 billion. Tourism accounts for over one quarter of the Gross Domestic Product (GDP) in at least seven SIDS and represents 9% of the overall exports (US$61 billion). Tourism has been key in the recent graduation of Samoa, Cabo Verde and the Maldives from Least Developed Country (LDC) status (UNWTO, 2013). Similarly, according to the International Monetary Fund (IMF) tourism contributes to economic resilience in SIDS where there is growing revival of tourism in the aftermath of the global economic crisis, and there is growing momentum for economic recovery, leading to improved fiscal stance, more social spending, and balanced budgets (UNWTO, 2013).

Many SIDS have demonstrated continued economic and social development during the last thirty years, proving that size does not hinder sustained growth (Read, 2004). Hence, it is not surprising that in most SIDS tourism is the main economic activity (Neto, 2003), bringing in most of their foreign currency earnings (Ashe, 2005). Not surprisingly, in most SIDS tourism also provides the largest source of employment generation (Scheyvens & Momsen, 2008). However, in spite of these positive outcomes, the global tourism industry is also believed to have a negative impact upon SIDS. As Rosalie (2002, p. 95) stated, “Tourism in the developing world has both the potential to be an agent of social and economic development ... or a source for friction and alienation within the local community.”

A lack of resources often makes natural environmental assets the only means for economic development for SIDS (Ashe, 2005). But, when tourism development is dependent on fragile ecosystems it causes immense pressures on these resources (Neto, 2003). The extent of the impact can be understood when the small land area and population of most SIDS is weighed against annual tourist arrivals per year, which often exceeds several times that of the total population (Scheyvens & Momsen, 2008). In addition, SIDS are among the countries that are most vulnerable to the threats of climate change such as rising sea levels (Quarless, 2007). Unfortunately, due to limitations in human and financial capabilities, these countries are often less capable of protecting their natural heritage than their larger counterparts (Rosalie, 2002).

At the same time, tourism is blamed for fostering unbalanced dependency and the spread of unequal socio-economic development (Milne, 1997). While tourism provides much needed employment and revenue for SIDS, its overall contribution to a country’s national income and any tourism multiplier effects are significantly diminished due to the high leakage of tourism benefits (Ashe, 2005). A considerable drain on tourism earnings from SIDS comes from the high rate of imports in comparison to domestic production. Unable to generate sufficient domestic investment for tourism development, these countries turn to foreign investors and
Multi-National Corporations (MNCs) for the development and establishment of tourism. This leads to leakage of tourism revenue as repatriation of wages and profits, loss of control of the tourist industry by the host country and the creation of tourist enclaves detached from local communities. In addition, SIDS rely on “the management skills, technological know-how and access to international markets” from MNCs for the successful development of tourism (Bende-Nabende, 2002, p. 82). This is one of the 20 reasons why MNCs are described as “key agents for economic activity in SIDS” (Read, 2004, p. 366). However, the dominant role of MNCs in SIDS contributes to a number of adverse effects. Among these are the leakage of tourism revenue as repatriation of wages and profits, loss of control of the tourist industry by the host country and the creation of tourist enclaves detached from local communities (Bende-Nabende, 2002). These negative effects are further aggravated when tourist hotels establish supply systems with foreign suppliers cutting out local businesses, as is often the case in SIDS.

High dependency upon tourism also makes an economy susceptible to external shocks from both global and regional incidents. The impact is often more profound on SIDS whose tourism industries often rely on long-haul flights for the majority of their incoming tourists. The devastating impact on tourism after the September 2001 terrorist attacks in the United States, and the spread of Avian Flu and severe acute respiratory syndrome (SARS) in Asia (Kuo, Chen, Tseng, Ju, & Huang, 2007) are examples of how external shocks can affect local tourism industries. In addition, any event that causes changes in tourists’ travel patterns, such as political unrest in a region, e.g. Fiji, or a rise in oil prices can have a direct impact on tourism-dependent economies. Excessive reliance on a particular economic sector, particularly when combined with unstable social and economic conditions, is said to create an ideal situation for political insecurity which may impede sustainable development (Sönmez, 2002).

When most investment and development is focused on tourism, development in other economic sectors can be overlooked. Neglect and decline in industries such as fisheries and agriculture can cause locals to abandon these occupations for jobs in tourism, and the motivation for developing, expanding and modernizing local production may be restrained. Tourism multipliers can be limited and the resulting inequalities of income distribution can lead local farmers, fishermen and others who work in food sector to feel alienated from the tourism industry (Jamal & Lagiewski, 2006). This may eventually foster hostility among local communities towards tourism and lead to social unrest (Telfer & Wall, 1996). Participation and involvement of local communities is necessary for the successful and sustainable
development of a tourism industry (Tsaur, Lin, & Lin, 2006), hence local communities should not be ignored (Dodds & Butler, 2009). Although the above inherent characteristics make sustainable development a challenging task for SIDS (Ashe, 2005), due to their lack of other resources, any diversion from tourism as a major economic activity may create further economic hardships for SIDS.

4.5 Maldives: A Typical Small Island Developing State

Maldives’ environmental vulnerability and sustainable tourism development is analyzed in the following section. The Maldives share many similarities in terms of environment and socio-economic features with other SIDS.

4.5.1 Geography

The Maldives is a chain of Indian Ocean islands spread over a distance of 960 kilometers, located between northern latitude 4 to slightly south of the equator (Figure 6). Although the area with the highest elevation is approximately three meters above mean sea level, about 80% of the nation’s total area is less than one meter above mean sea level. The land area, which covers about 26 geographic atolls, is grouped into 20 administrative atolls within a land area of 298 square kilometers. The population of the Maldives is about 350,000.

The country has 1,192 islands, of which 199 are inhabited. Of these islands, only 28 have a land area greater than one square kilometer and 70% of the inhabited islands have a population of less than 1,000. This extremely low population density makes the Maldives unique, even among small island archipelagic states. The water depth in and around the atolls varies considerably: lagoon waters within the atolls have depths of between 30 to 80 m, with the depths increasing as one moves from the north to south. At the outer margins of the atolls, the ocean floor drops abruptly to depths of up to 2,000 m or more. Along the inside of the atoll chains, the water is shallower, with depths of 250 to 300 m. The straits between the east and west atolls are more than 1,000 m deep (Ministry of Environment and Construction, 2004).

4.5.2 Disaster Risk Likelihood

The disaster risk scenario of the Maldives can generally be described as moderate (UNDP, 2006). Nonetheless, its vulnerability to natural disasters was brought to the forefront when it was hit by the devastating Indian Ocean Tsunami of December 26, 2004. The Maldives is also occasionally prone to adverse climatic events such as storms, prolonged dry periods, heavy
rains and strong winds caused by cyclones in the Southern Indian Ocean (the frequency of some of these hazards are outlined in section 4.5.3). Given that the Maldives is a nation of islands whose highest elevation is no more than three meters above mean sea level, the country is at particular risk from rising sea levels associated with climate change.

The small islands (on average, only 16 hectares), with their flat topography and very low elevation, also suffer from damage to their ecosystems (coral reef), land loss and beach erosion due to sea level rises, changes in air and sea surface temperatures and changes in rainfall patterns. The predominant dependence of the country upon the tourism and fisheries sectors enhances economic and social vulnerability to sea-related hazards.

Figure 6 represents the GDP contribution by economic sectors in 2013. As can be seen from the graph, a quarter of the pie (27%), or total GDP comes from tourism. Transport and communication contributed 19% to GDP while construction, manufacturing, electricity and water together contributed 17%. Government administration contributed 11% to GDP in 2013. The percentage share of fisheries and agriculture to GDP was 3%. Other services contributed 23% to GDP in 2013, these include, real estate, wholesale and retail trade, education, health, financial services, business services and social services.

A multi-hazard disaster risk vulnerability assessment was undertaken by the Risk Management Solution, India (RMSI), a Delhi based Information Technology Company, to develop a disaster risk profile for the Maldives under the auspices of the UNDP Maldives in 2005 (UNDP, 2008). The report covers five natural disasters; tsunamis, climate change,
storms, floods and earthquakes (some of these hazards are discussed in section 4.5.3).

This study (Developing a Disaster Risk Profile for Maldives) provides a hazard and risk map for all of the islands on a GIS format, for independent hazards as well as a composite hazard map. The map indicates the potential hazards and risk on an ordinal scale (e.g. high, moderate, and low). As a result of the study, each island has been given a vulnerability ranking of 1-5, with 1 being low and 5 being the highest. The vulnerability ranking also includes socio-economic vulnerability. For example, Figure 7 shows a sample hazard map for a tsunami. The report is useful for disaster managers and development planners to decide on locations for high infrastructure investment to safeguard already settled communities and avoid population settlement in areas of high risk and vulnerability. This study has guided the UNDP’s safe shelter planning and its prioritization of islands for immediate disaster preparedness planning.

4.5.3 History of Natural Disasters in the Maldives

Overall, the Maldives faces a moderate hazard risk except for the low probability and high consequence tsunami hazard, and high probability and high consequence of rising sea levels in the distant future (UNDP, 2006). There is very little recorded history about hazards.

In the Maldives, islands along the eastern frontier are more vulnerable to tsunamis than those along the northern, southern and western boundaries, where the risk is considered low (see figure 7). The Maldives has already been affected by 3 earthquakes in the Indian Ocean, and since 1816, 85 tsunamis have been generated in the region (UNDP, 2006). The maximum tsunami wave height is estimated at 4.5 m and a tsunami similar to the Indian Ocean Tsunami 2004 is likely to occur again sometime within the next 219 years (UNDP, 2006). The likelihood of earthquakes with magnitude of 5 and above in the Maldives is limited only to the southern parts of the country, namely Seenu, Gnaviyani, Gaafu Alifu and the Gaafu Dhaalu atolls. Since earthquakes of this scale are known to cause damage to life and property, the population of these atolls may be at higher risk. Attention should be paid to the possible occurrence of future events in western India and in the waters west and southwest of the Maldives, the oceans lying south of the Maldives, and the Carlsberg Oceanic Ridge Zone, which has a high level of seismic activity (ADRC, 2005).
The Maldives are less prone to tropical cyclones. Only 11 cyclones, which were formed during the months of October to January, crossed the Maldives over a 128 period (UNDP, 2006). Strong winds and rough seas are common, especially during the south-west monsoon (May to November) and for a longer time period in the for the northern part of the Maldives (ADRC, 2005). The Maldives is also affected by severe thunder storms accompanied with rainfall and high waves, which usually affect the southern parts of the islands during April and December. From 1958 to 1988, these kinds of events affected 92 islands throughout the year, with peak seasons during May-July (UNDP, 2006). The maximum probable wind speed is 96.8 knots (180 km per hour), which can cause major damage to structures and environment, as well as, to livelihoods (UNDP, 2006).

One of the threats for the Maldives is sea level rise due to climate change. The sea level is projected to rise between 0.09 m to 0.88 m, and is expected to take place between 1990 - 2100 (UNDP, 2006). As three-quarters of the land area of the Maldives is less than a meter above mean sea level, the slightest rise in sea level will prove extremely threatening. Male is predicted to be inundated by 15% by 2025 and 50% by 2100 (UNDP, 2006). For people living
on low-lying islands, a rise in sea levels by 50 cm could see significant portions of the islands being inundated or washed away by erosion. Rises in sea levels could have far reaching consequences including a loss of land, the flooding of low-lying coastal areas, displacement of population, the loss of crop yield, devastating effects coastal aquaculture, and the erosion of sandy beaches (Fujibayashi, 2009). As most of the economic activities in the Maldives are heavily dependent upon the coastal ecosystem, rising sea levels will impact the social and economic development of the country. Residential areas, major industries and vital infrastructure of the country lie close to the shoreline, within 0.8 to 2 m of mean sea level. Even now, some islands are seriously affected by the loss of shoreline, as well as houses, schools and other infrastructure, compelling the government to initiate urgent coastal protection measures.

### 4.5.4 Sustainable Tourism

Most of the definitions of sustainable tourism focus on socio-cultural and environmental preservation, a high level of community involvement and planning that reflects present and future use (Liu, 2003; Ritchie & Crouch, 2003). Some definitions also advocate that sustainable tourism must contribute to the economic stability of the host region or community (Ritchie & Crouch, 2003; Twining-Ward & Butler, 2002). Sustainable tourism is about economic, social and environmental sustainability, and is dependent upon all three areas (Mbaiwa, 2005). The main purpose of tourism is to gain economic benefits by using a destination’s cultural or environmental wealth. Detrimental impacts on those assets are alarming for the overall tourism industry because, “what is at stake is not just tourism but the survival of tourism-dependent economies” (Poon, 1993, p. 25). Therefore, tourism is required to be sustainable in order to contribute to development (Ntibanyurwa, 2006), particularly in a SIDS like the Maldives. The Ministry of Tourism has developed sound guidelines for planners, managers and operators of tourism establishments in the Maldives. Under the “Environmental Guidelines for Tourist Resort Developers and Operators” published by MOT (2005), several environmental regulations and concerns have been addressed.

The major selling point of Maldives’ tourism is the Maldives’ environment (MCST, 2001). Rapid development of tourism and a dramatic increase in population exert more direct environmental concerns. Further, factors such as poor water quality, coastal erosion, flooding, sanitation pollution of land and water, deforestation, solid waste collection and disposal, environment related health problems, due to urban congestion and loss of biological diversity, are some indications of the need to move towards more sustainable pathways. Like other
small island nations, the Maldives are vulnerable to global climate change, climate variability and sea level rise.

To limit environmental degradation and sustain the natural integrity, carrying capacity for tourist resorts have been defined to limit the number of users below environment thresholds. Maximum built-up area is limited to twenty percent of land area and building heights may not exceed vegetation levels. Only 68% of beach length can be utilized for guestrooms. Twenty percent has to be reserved for public use and 12% must be left as open space. Constructions on reef flats and lagoons are discouraged, though may be permitted provided equal open space is left on the island for the building of floors developed in the lagoon on stilts. All guest rooms must face the beach and five linear meters of beach line is to be allocated to each tourist in front of their rooms.

Efforts are being made by the Government through the implementation of environmental standards to promote and preserve the integrity of the eco-system. These include: restrictions on cutting down trees or the preservation of natural vegetation, mandatory environmental impact assessment (EIA) prior to any coastal works, control of the construction of jetties and groynes, restrictions on the construction of sea walls, and detached/submerged breakwaters. Promotion of greater coral colonization on the peripheral reefs and other natural methods of shoreline protection are also encouraged. The government prohibits coral and sand mining on resorts and uninhabited islands, and has deemed a number of sites protected marine areas. In these areas fishing, anchoring, removal of coral and any other destructive activities are prohibited. There are moves to identify and declare more sites as protected marine areas (WTO, 2000).

The problem of waste management is addressed through the compulsory installation of incinerators, bottle crushers and compactors at every resort. Sewage disposal through soak pits into the aquifer is discouraged, rather, developers are now required to recycle water, permission to do so being determined by the island size and the extent of the aquifer used on the island (MOT, 2005). The installation of desalination plants and the provision of desalinated water on tourist resorts have reduced the stress on aquifers. Developers are required to present plans for new resorts that meet strict environmental design guidelines, which stipulate how many buildings can be constructed, and what they should look like (MOT, 2005). Combined with regulatory efforts to curb coral mining and protect beaches without building breakwaters, these design guidelines have pushed developers to maintain environmental standards. To some extent, resorts have begun to embrace the eco-tourism
concept and are coming up with environment management systems (MOT, 2005).

Tourism in the Maldives appears to be relatively environmentally friendly due to the close relationships between regulating agencies. While the overall policy for environmental protection and environmental impact assessment is within the remit of the Ministry of Environment and Energy; the Ministry of Tourism is also directly involved in environmental regulation through its own laws. This has meant that the Tourism Ministry has had to develop its own level of environmental expertise. Coordination is managed through the National Commission for the Protection of the Environment, which has high-level representation from a number of Government agencies and other interest groups.

Another concerning issue is of physical geography and cultural influence. The country is made up entirely of small coral islands. There are no complex linkages of upland, coastal and marine systems to deal with. As a consequence, the cause-effect linkage between environmental disturbance and impact is almost always clear (MOT, 1996). In addition, almost anyone who visits the Maldives cannot but be affected by the tenuous physical integrity of the atoll-State. With a consistently low reef, the constant threat of obliteration is always with local inhabitants. As a consequence, they have developed an understanding of the need to protect the physical integrity of their land. The above developments have helped to boost activity in the sector and shape the environment-friendly model of tourism in the Maldives. Critically, however, the development of sustainable tourism remains dependent on the willingness and the ability of individuals in the tourism industry to act on such guidelines (MOT, 1996).

4.5.5 Research Setting

The recovery of Maldives tourism following the Indian Ocean Tsunami 2004 was chosen as the case study for various reasons, including the fact that the country is a SIDS, and highly dependent on tourism for economic growth. It is familiar to me and I have lived and worked in the tourism industry in the Maldives throughout all the major tourism crises during the last decade or so, including the tsunami of 2004.

The Maldivian economy is dependent upon tourism and the hospitality industry. Spread over 18 atolls across the island nation (Figure 8), there are 23,677 beds in 101 resorts (approximately 11,838 rooms) and 106 new projects, helping the local economy to grow by ten percent per annum (MOT, 2014). In the Maldives, tourism revenues contributes nearly 30% of the GDP and 63% of total employment (Shakeela, Ruhanen, & Breakey, 2012). A total
of 1,125,202 tourists visited the Maldives in 2013 (MOT, 2014). In 2006, the total tourism workforce was 20,000 (Mausoom, 2007).

Figure 8: Map of Maldives, Source: www.worldmapfinder.com/En/Asia/Maldives

The tsunami that hit the Maldives on December 26th 2004 demonstrated the vulnerability of the small island nation. Wave inundations ranging from 4 to 14 meters were reported in all parts of the country. The force of the waves caused widespread infrastructure devastation in the atolls. The resulting flooding wiped out electricity on many islands, destroying communication links between most atolls. There were 83 confirmed deaths with another 25 people listed as missing. Over 1300 people suffered injuries and 29,577 people were homeless (World Bank, 2005). Even though only 83 lives were lost, the Maldives was physically one of the worst affected countries, 39 islands were damaged and nearly a third of Maldives 300,000 people were affected through the loss of, or damage to, their homes, livelihoods and local infrastructure. The impact on the national economy, which is mostly supported by tourism, and the fishery and agriculture sectors was substantive (World Bank, 2005).

Among 87 tourist resorts (registered in 2004), 19 had to be completely evacuated, while 21 suffered damage (World Bank, 2005). According to estimates, losses for the tourism sector amounted to US$230 million, which was about 49 per cent of total country losses. The total costs for short- and medium-term reconstruction were estimated to be US$406.3 million, the
largest share for the tourism sector being US$100 million (World Bank, 2005). By early October 2005, it was reported that tourism faced a slow recovery. In terms of tourist arrivals, it was said that the country had been pushed back eight years, which would mean a 37 per cent reduction in arrivals. Direct income from tourism was reduced by over US$40 million which included 68 per cent of government revenue in 2005 (World Bank, 2005). There were significant environmental damage resulting in serious repercussions for the Maldives natural and cultural attractions, coral reefs, beaches, soil, vegetation and crops. Several tour operators and other tourism businesses were directly impacted by the tsunami. The effect on destination image was also profound with images of the devastating tsunami being shown on regional, national and international media (UNEC, 2005).

A joint report published by the Ministry of Planning and National Development in the Maldives (MPND, 2005, p. 29) one year after the tsunami clearly outlines the various environmental and disaster risks facing the Maldives:

“…environmental features such as low elevation, beach erosion, high freshwater table, and lack of coastal vegetation—combined with the population's dependency on tourism and fisheries, high import dependence, and limited transport facilities—make the Maldives one of the most environmentally vulnerable countries in the region if not the world. Today the country faces three major disaster risks: climate change, particularly resulting in rising sea levels; storm surge; and tsunami. It is also exposed to droughts, heavy rains, and high waves caused by cyclones in the southern Indian Ocean.”

The impact of the Indian Ocean Tsunami 2004 on Maldives tourism was significant. Carlsen (2005) developed a destination level market recovery strategy for the Maldives soon after the tsunami. The study was reactive, focusing mainly on marketing strategies in the short term to be adopted in order to revive the decline in markets. The Maldives government initiated a macro level disaster management plan (UNDP, 2005). The Disaster Management Strategy and Plan for the Tourism Sector of the Republic of the Maldives suggested a results based framework for disaster management planning, and presented goals, strategic objectives, results and tasks based on the geography, institutional and administrative policy framework with the tourism industry functions (UNDP, 2005). The disaster management plan for tourism recommended the inclusion of the three phases of a tourism crisis with its elements; readiness, response and recovery (Post-Tsunami Review Workshops and Seminar, 2005). Apart from this, there is no known research about how the tourism industry in the Maldives recovered following the Indian Ocean Tsunami 2004.
4.6 Summary

This chapter has described the three types of vulnerabilities that pervade Small Island Developing States (SIDS): economic, social and environmental. These vulnerabilities arise from a wide variety of factors; such as their small size, geographical dispersion, the fragility of their ecosystems, isolation from markets and their limited internal markets. Characteristics leading to vulnerabilities of SIDS were outlined. The extreme vulnerability of SIDS to disaster events and climate change was outlined. The chapter has argued that the small size of many island nations makes retreat from such elements impossible. A single disaster event can impact an entire country, rendering large portions uninhabitable and potentially, completely devastating narrowly based economies. The chapter concluded with a discussion on SIDS sensitivity and exposure to extremely damaging natural disasters within the context of the Maldives. The following chapter outlines the research design including methodology, methods and means of analysis.
5.1 Introduction

This chapter informs and justifies the epistemology, theoretical perspective and methods adopted for this study. This research was carried out in three phases: pre field-work, field-work and post field-work. In the first phase, a critical literature review of disaster studies in tourism research was done to build the conceptual framework for tourism disaster management based on the constructs and dimensions derived from the theory using documentary methods. The second phase (1st and 2nd field work and analysis stage), operationalized and tested the framework by applying it to the Maldives (Small Island Developing State at readiness stage of a disaster), a destination that recovered following the Indian Ocean Tsunami of 2004. During phase 3 (post field work/conclusion stage), once data from the case study was analyzed, the model was further refined based on the findings and research outcomes.

This research adopted a single case study approach and used qualitative methods for data collection and analysis. The various weaknesses and limitations of the approaches are described in addition to the challenges faced by the researcher during data collection. The chapter concludes with an outline of the data collection and analysis procedures and the ethical issues that affected this research.

5.2 Epistemology and Theoretical Perspective

Jennings (2010, p. 36) explains epistemology as “the relationship between the researcher and the participants/subjects/objects.” Crotty (1998) identifies three epistemology stances: objectivism, constructivism and subjectivism. Moreover, Crotty (1998) suggests that an interrelationship exists between the theoretical stance adopted by the researcher, the methodology and methods used, and the researcher’s view of the epistemology. This study draws on the constructionist epistemological tradition (Jennings, 2001). In constructionism meanings are constructed by individuals as they engage with and interpret their world. So, in this study, the focus is on the social construction of meaning about disaster recovery by the participants and researcher. In other words it examines how the participants and the researcher collectively understood and interpreted crisis management of a natural disaster in the social context of Indian Ocean Tsunami of 2004.
More widely known theoretical perspectives include positivism, interpretivism, critical inquiry, feminism and postmodernism (Crotty, 1998). Of the available theoretical perspectives, positivism and various strands of interpretivism are, or have been (arguably) among the most influential (Gray, 2013). Jennings (2001) suggests that the deliberate choice of a theoretical perspective is to ensure the researcher maintains consistency in data collection and construction of knowledge. The interpretive social sciences perspective is primarily informing this research. An interpretive approach sees people and their interpretations, perceptions, meanings and understandings as the primary source of data. From an ontological standpoint this research assumes there are multiple explanations for a phenomenon and the approach to research is primarily considered to be inductive – that is, the explanations or theories are ‘induced’ from the data collected (Jennings, 2001; Veal, 2006). The approach is also holistic-inductive, meaning that the whole phenomenon is studied in all its complexity rather than trying to break something into parts and study discrete variables and relationships (Jennings, 2001). Thus the case study of post-disaster recovery with all its complexity can be understood within its (physical, social, cultural, symbolic, psychological, etc.) full context. The meanings of the various characteristics of the case depend on their relationship with others, as well as the context(s) within which they manifest themselves as an integrated system that does not allow us to study parts of it in isolation (Willig, 2013).

5.3 Positionality

The key component of a qualitative inquiry is the researcher, because it is through the eyes and ears of the researcher that the stories of the participants are told. In this section I hope to draw attention to possible aspects of my personal and professional self that may have relevance to the research for the benefit of the readers. According to McDowell (1992), researchers must take account of their own position in relation to their participants and research settings. In particular, the researcher must consider the reconstruction of insider/outsider status in terms of one’s positionality in respect of education, class, race, gender, culture and other factors, as these offer us tools for understanding the dynamics of researching within and across one’s culture (England, 1994; Merriam et al., 2001). Since bias remains a naturally occurring human characteristic, positionality is often used in the context of the inductive approach to social science inquiry as an exploration of the investigator’s reflection on one’s own placement within the many contexts, layers, power structures, identities, and subjectivities of the viewpoint (England, 1994).
As identified (in Chapter 1, 1.1 and Chapter 4, 4.5.5), I worked in the Maldives tourism industry for 15 years and during this period I developed professional networks with many public and private sector organizations. My identity as a Maldivian familiar with the context and the networks gave me advantages as a researcher to complete the work despite the difficult political situations occurring during the field trips (See 5.9).

Despite my familiarity, I entered to the field as an outsider. I never worked in any of the government sector organizations that I interviewed (though I interacted with them on day-to-day concerns and issues) and neither had I worked in any of the tourism businesses interviewed. I felt the participants took me as neutral, as a person who might objectively listen to their views and recollections. During the field-work I also emphasized that I was not on a government scholarship and that I was a self-funding student who had no obligation to work for any government organization. The participants were receptive of this position and were willing to share their experiences. As I became immersed in the process I felt I became an insider and that through what I learned I would be able to take proper account of their concerns.

5.4 Research Design

Ritchie and Goeldner (1994) present a classification of five research types (policy, evaluation, managerial, action and operational) based on three dimensions of management-level and stage of management and functional areas of management activity. Ritchie and Goeldner (1994) explain that managerial research can be done if there is a need for an in-depth understanding of a specific problem. Descriptive information is required to understand the key factors in the problem and also precise data that permit analysis of the important variables influencing a situation. Characteristics of data collection techniques in this case may be technical and factual data related to the problem and nature of analysis of the data may be methods of extracting information from secondary data, surveys, experimentation, observation, model building while the research output from a managerial perspective may be background/briefing document and/or precise recommendations to overcome a problem and/or take advantage of an opportunity (Ritchie & Goeldner, 1994).

This research is therefore aligned with managerial research which focuses on a specific problem for which management needs additional information on which to base decisions. In this case, the need is for managerial research on destination recovery so that future recovery efforts are based on sound and comprehensive data and recommendations. In terms of
destination recovery the management of crisis and disaster includes key themes such as crisis and disaster management planning, coordinating organizations, training, research, recovery planning, policy and product development, crisis communication, allocation of resources (financial, human), organizational change, stakeholders and partnerships, organizational learning, evaluation and feedback. Information and data were gathered using iterative processes involving secondary (documentary), case study and in-depth interviewing.

5.5 Research Methods

This research aimed to build a broadly integrated theoretical model of tourism disaster management to extend the existing theory on tourism disaster management. It has been conducted in three phases: pre field-work, field-work and post field-work. The methods used are outlined in the next four sub sections.

5.5.1 Documentary Sources

Stake (1995, p. 68) argues that reviewing documentary sources is an important part of the case study research, highlighting that it may help to surface some ‘unexpected clues’. Similarly Yin (2013, p. 107) insists that “because of their overall value, documents play an explicit role in any data collection in doing case studies,” stressing their strengths as (i) stable (they can be evaluated as often as necessary); (ii) unobtrusive (were created independently of the case study); and, (iii) exact (contains names and details of events). However, semi-structured interviewing when used along with documentary sources as a form of secondary data does have some limitations. Yin (2013, p. 106) notes that a researcher may presume that a document includes the ‘unmitigated truth,’ however most of the time they reflect the unknown bias of the author. Therefore the researcher should be aware that documentary evidence reflects a communication among other parties attempting to achieve some other objectives. Similarly, the original data may be of poor quality or be modified as a mean of influencing data, in which case the researcher should take care to ensure that the secondary data comes from a reliable source.

The first phase (preliminary stage) involved a critical literature review of disaster studies in tourism research which are deemed to advance the understandings of tourism disaster management in a systematic manner towards disaster mitigation and industry resilience. Three main types of secondary data; documentary, survey and those from multiple sources were used in this research. Documentary secondary data includes books on tourism crisis and disaster management, journal articles, government and industry published reports, statistics,
newspaper articles, press releases and websites were used together with surveys and frameworks carried out and tested by academics in the field. Various crisis management models developed to restore the tourism industry following disasters were studied in detail to evaluate their content, differences and similarities. Thus, a documentary method was employed to build the conceptual framework for tourism disaster management based on the constructs and dimensions derived from the theory. Chapter 3 explained the model and its main components; proactive and reactive strategies, communication, resource management and stakeholder collaboration. In this process a more detailed framework with an integrated approach was developed for tourism disaster management which is applicable to SIDS.

Little has been written specifically on the impact of the Indian Ocean Tsunami of 2004 on Maldives tourism, apart from media reports. Therefore, while in the field, I requested all of the interviewees to give me any important secondary information they could share. In the process I received a lot of government and industry published reports, Standard Operation Procedures, sector disaster plans, statistics, newspaper articles, press releases, and websites and NGO resources focusing upon destination recovery.

5.5.2 Case Study as a Method

The second phase (1st and 2nd field work visits and analysis stage) operationalized and tested the framework by applying it to the Maldives (Small Island Developing State at readiness stage of a disaster), a destination that was recovering following the Indian Ocean Tsunami of 2004. Research case studies are used to gain knowledge of “individual, group, organizational, social, political, and related phenomena” (Yin, 2003, p. 1) in a range of disciplines including tourism and can include a mixture of qualitative and quantitative evidence. A case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident (Yin, 2003). A case study method is the most suited to studying this topic as it provides a comprehensive picture of the event. Jennings (2001) indicates that case studies that are informed by the holistic-inductive paradigm use interviewing, the documentary method and participant observation as the key methods and some of these have been adopted in this research. Thus, this research adopted a case study approach in order to effectively examine the role of each major stakeholder in destination recovery. Yin (2003) presents four types of case study design based on whether the study uses single or multiple cases and the number of units of analysis (Table 10).
Table 10: Basic Types of Design for Case Studies (Yin 2003)

<table>
<thead>
<tr>
<th>Design Type</th>
<th>Single case designs</th>
<th>Multiple case designs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holistic (Single unit of analysis)</td>
<td>Type 1</td>
<td>Type 2</td>
</tr>
<tr>
<td>Embedded (Multiple units of analysis)</td>
<td>Type 3</td>
<td>Type 4</td>
</tr>
</tbody>
</table>

The approach used in this study is a single case (embedded) design; type 3 in Yin (2003)’s categorization. Single case refers to the examination of a single organization, place or event. Single case design in this research hopes to achieve a thorough examination of a destination and its tourism industry recovery following a disaster. The embedded units of analysis are the government and industry stakeholders who contributed to or played some role in recovery. Similar to Hystad and Keller (2008), the emergency organizations and destination management organizations were considered as primary stakeholders as they had an important part to play before and during the disaster together with the tourism businesses and tourism organizations who take the lead after the disaster. Beeton (2005, p.37) outlines some reasons to justify that case study is a “valid methodological tool in tourism research”; (1) it can explain why an innovation worked or failed to work, (2) it has the advantage of hindsight, yet can be relevant in the present and to the future, (3) it can illustrate the complexities of a situation by recognizing more than one contributing factor, (4) it shows the influence of personalities and politics on an issue, (5) the reader may be able to apply it to his/her situation, (6) it can help evaluate alternatives not chosen, and (7) it can utilize information from a wide variety of sources. A case study provides the opportunity to adopt a range of research methods. In this research, qualitative in-depth interviewing is used in combination with an examination of government and industry and media reports to gather information to supplement the case study. Similarly, there are limitations related to case study research. These include the possibility of generalization, bias and important details being lost when there are restrictions around length.

5.5.3 Qualitative Interviewing

Haddow, Bullock, and Coppola (2007, p. 34) state that interviewing local citizens, risk managers, community leaders, academics, non-profit relief agencies, international organizations, and other municipal and private sector staff can provide a wealth of information as they maintain records on past or future potential hazards. In-depth interviewing was chosen as the primary method of data collection in this research. The interview method was felt to be of most use because it had the potential to provide a wealth of insight and information. Denzin and Lincoln (2003) state that a major benefit of data through in-depth
interviews is that it offers the potential to capture a person’s perspective of an event or experience. As Babbie (2004) notes, qualitative interviewing is generally like a conversation with a general plan of inquiry, and a set of topics to be discussed in depth.

In this research, qualitative in-depth interviews were conducted in the field with individual tourism operators, the government, emergency services and private sector agencies responsible for destination marketing to investigate the extent of crisis impact and how they have mitigated and learnt from those impacts. I chose in-depth interviews because “complex systems, processes or experiences are generally best addressed in in-depth interviews” (Lewis, 2003, p.58). The qualitative interviews were undertaken during two field visits to the Maldives. The first field trip was from 2

th April 2011 to 6

th June 2011 and the second trip was from 24

th January 2012 to 15

th February 2012.

5.5.4 Interview Questions and Topics

According to Jennings (2005, p.104), semi-structured interviews are linked to a qualitative research approach, where “the use of semi-structured interviews is associated with the phenomenological, constructivist or interpretive paradigm, which holds an ontology (worldview) that recognizes multiple perspectives in regard to the research process, an epistemological stance that is subjective in nature and a methodology which is predicated on qualitative principles.” Semi-structured interviews are also used in studies of varied and complex information, particularly when the interview subjects range from various levels and backgrounds.

The interviews were semi-structured, conducted in an open-ended, conversational fashion and the range of questions was adjusted to interviewees’ specific roles and occupations. Two sets of questionnaires were developed for this purpose: the first was for tourism and emergency organizations (See Appendix I), and the second was for tourism businesses (See Appendix J). Faulkner and Vikulov (2001) DIRE grid developed by was the basis for the interview structure and topics (Table 11). The grid followed the life cycle approach and has already been tested on how a flood affected tourism in a destination, in the case of the 1998 Katherine floods in Australia. For the community in Katherine, and its tourism industry, the disaster was huge with half of the residents’ homes, the Central Business District and most of the tourism business premises being inundated, and extensively damaged or destroyed. From the tourism industry’s perspective, the flood characterized all the essential ingredients of a disaster (Faulkner and Vikulov (2001)).
Similar to the Katherine floods, the Indian Ocean Tsunami of 2004 was very significant for the tourism industry of Maldives, with direct damage to the tourism infrastructure and other related businesses resulting in loss of revenue from the downturn in tourism arrivals, both in the private sector and Government and the impact on those working directly or indirectly for the industry. The tsunami also fits the same context of a disaster (to that of the Katherine floods) from the tourism industry's perspective in the Maldives, and included all the essential ingredients of a disaster:

- A triggering event (surge and waves that resulted in flooding) which was so significant that it challenged the existing structure, routine operations and survival of tourism businesses and the tourism association
- The tsunami presented tourism businesses and the NTOs with a high threat situation, involving a short decision time and an element of surprise and urgency
- There were perceptions of an inability to cope among those directly affected
- The tsunami represented a turning point in the evolution of the destination

Within the same context, the Maldives was a destination in post-disaster recovery and having passed through the stages identified by Faulkner and Vikulov (2001), and therefore it fits to the context of the framework and the DIRE grid.

This DIRE grid provides a framework for the respondent’s recollection of the sequence of events during the disaster, and their reactions to these events (Faulkner & Vikulov, 2001). Interviews conducted with individual tourism operators, representatives of key agencies associated with destination marketing and emergency services personnel by Faulkner and Vikulov (2001) were designed to: (a) gain insights into how events associated with the disaster unfolded, from the individual respondent’s perspective; (b) develop a chronology of actions taken by individuals and their organizations in response to these events, and the reasons for these actions; (c) establish the extent to which the actions taken were pre-planned and/or a response to the actions of other parties; (d) engage individuals in a post-mortem of the event in order to identify how, with the benefit of hindsight, they may have coped more effectively with the situation; (e) through the post-mortem process, to identify how other parties might have reacted more effectively to the emergency (Faulkner & Vikulov, 2001).

Thus, the DIRE grid was adapted to the needs and context of this research as described above. At the end of each interview the participants were asked to reflect on the lessons that they and/or their organization had learned in relation to recovery to emphasize the way the research was creating knowledge. The first round of interviews was planned practically to
make sure that complete and thorough foundation data were collected whereas later interviews were less structured, allowing greater flexibility in handling different stages of recovery.

During fieldwork, I had to develop some extra questions for specific areas such as insurance companies. This gave me a lot of rich data and different perspectives. The semi-structured interviews allowed the participants to freely express their point of view as much as possible and answer honestly in an informal atmosphere. Being from the same culture, and knowing the social context, I tried to use an informal approach in my interviews, establishing a conversation whilst getting the best out of participant’s responses.
<table>
<thead>
<tr>
<th>PHASE</th>
<th>EVENTS/IMPACTS</th>
<th>REACTION</th>
<th>ACTIONS BY OTHER PARTIES</th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-event</td>
<td>Had you considered beforehand what you might do in the event of a disaster such as a flood?</td>
<td>Had there been disaster planning of any kind within your firm? (If yes, please elaborate).</td>
<td>Or in the broader Katherine community? (If yes, please elaborate).</td>
<td>With the benefit of hindsight, is there anything you or any other party could have done which would have enabled you to cope with the situation more effectively?</td>
</tr>
<tr>
<td>Pre-January 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just before the floods hit Katherine</td>
<td>What happened in the period just before the floods hit Katherine and when it was obvious this was unavoidable?</td>
<td>What did you do to prepare for the event?</td>
<td>Were you acting in response to the advice or actions of other operators or agencies?</td>
<td></td>
</tr>
<tr>
<td>Late January 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At the point when the full impact of the floods had been felt</td>
<td>What were the main impacts of the flood at this stage? Who was at risk and what property damage had occurred?</td>
<td>What action was taken by you and your firm/agency?</td>
<td>What action was taken by other firms and relevant agencies and how did this affect your actions?</td>
<td></td>
</tr>
<tr>
<td>26 - 27 January 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When the short-term emergency needs have been addressed and the task is to restore normal operations as much as possible</td>
<td>What were the main challenges in restoring operations to normal condition?</td>
<td>What action did you and your firm/agency take to restore normal services?</td>
<td>How did the action of other firms and relevant agencies assist or hinder the return to normalcy?</td>
<td></td>
</tr>
<tr>
<td>28 January - early February 1998</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Longer-term recovery: clean-up, post-mortem, self-analysis, healing</td>
<td>What were the main challenges confronting your firm/agency in the longer-term recovery from the floods?</td>
<td>What action has your firm/agency taken to address this recovery?</td>
<td>How have the actions of other firms and relevant agencies assisted or hindered longer-term recovery?</td>
<td></td>
</tr>
<tr>
<td>Mid-February 1998 (&quot;Katherine back on track&quot;)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>Has the floods brought about any permanent change in the environment in which your firm/agency operates?</td>
<td>How has your firm/agency responded to those changes?</td>
<td>Has the reaction of other firms/agencies to the floods influenced permanent adjustments in your firm/agency?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Has the experience of the floods resulted in any permanent changes in your firm/agency’s approach to management and planning?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Have there been any permanent changes in the planning and organisation of the destination as a whole?</td>
<td></td>
</tr>
</tbody>
</table>

Source: Faulkner and Vikulov (2001, p.337)
5.6 Sample Selection

The sampling for qualitative interviews was via purposive or judgmental sampling which is a form of non-probability sampling (Gray, 2007) where participants are purposely selected by the researcher. Lawrence (2007) explains the appropriateness of purposive sampling in three situations. Firstly, when the researcher uses it to select unique cases; and secondly, to select difficult to reach specialized population; and finally, when the researcher wants to identify particular types of cases for in-depth investigation (Lawrence, 2007). The major advantage of purposive sampling is “to ensure that we get at least some information from respondents who are hard to locate and crucial for study” (Gray, 2007, p.105). Another reason for selecting non-probability sampling is because it is “particularly well suited for exploratory studies, where the focus is on the generation of theory and research ideas” (Gray, 2007, p.104).

Veal (2006, p. 284) defines a population as “the total category of subjects which is the focus of attention in a particular research project.” Miles and Huberman (1994, p. 27) state that “Qualitative researchers usually work with small samples of people, nested in their context and studied in-depth unlike qualitative researchers, who aim for larger number of context-stripped cases and seek statistical significance.” I selected 15 government agencies (see Appendix D) and 23 private sector tourism industry operators (see Appendix J) from an initial list of 46, who handled the tsunami recovery efforts in the Maldives and those who were directly and indirectly affected. The private sector sample covers four primary sectors of the Maldivian tourism industry (accommodation providers, activities, tourist services and transport). The list was further checked with the available publications on recovery efforts and feedback and references received from initial interviews. I minimized some organizations such as tour operators due to the difficulty of getting feedback from them for interviews. Further, I removed guest houses from the accommodation providers list because they did not receive any physical damage, being mainly in the capital city and they remained predominantly full due to bookings from resorts and government agencies. Most resorts impacted by the tsunami in 2004 were able to start operations within a year after minor or major renovations although a few resorts took two or more years to totally rebuild. For the purpose of this research, the damaged resorts were organized into three categories: resorts/hotels where slight damage occurred and which were restored (Appendix A); those which received some reconstruction (Appendix B); and, those which were totally reconstructed (Appendix C). The number of resorts selected for survey from each of the three categories were; four from the resorts/hotels which received slight damage, three from those
which undertook some reconstruction and three of those that were totally reconstructed. Snowball sampling was used in a few cases where interviewees referred me to other individuals or agencies. Some participants recommended that I interview particular individuals or organizations whom I had already selected for interview, thus proving the coverage of my original sample. A total of 38 interviews were conducted ranging from 30 minutes to 1 hour (Table 12).

<table>
<thead>
<tr>
<th><strong>Government Agencies</strong></th>
<th><strong>No. of participants</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Tourism and Civil Aviation</td>
<td>2</td>
</tr>
<tr>
<td>National Disaster Management Centre</td>
<td>2</td>
</tr>
<tr>
<td>Ministry Planning, Environment and National Development</td>
<td>1</td>
</tr>
<tr>
<td>Maldives Tourism Promotion Board</td>
<td>1</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>1</td>
</tr>
<tr>
<td>Immigration Department</td>
<td>1</td>
</tr>
<tr>
<td>Airports Authority</td>
<td>1</td>
</tr>
<tr>
<td>Department of Meteorology</td>
<td>1</td>
</tr>
<tr>
<td>Ministry of Fisheries, Agriculture and Marine Research</td>
<td>1</td>
</tr>
<tr>
<td>Ministry of Defence</td>
<td>1</td>
</tr>
<tr>
<td>Coast Guard, Search and Rescue</td>
<td>1</td>
</tr>
<tr>
<td>Maldives Police Services</td>
<td>1</td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>1</td>
</tr>
</tbody>
</table>

**Private Sector (Maldivian Tourism Industry)**

- Maldives Association of Tourism Industry (MATI) 1

**Accommodation Providers**

- Tourist Resorts and Mariners (87) – 21 resorts damaged 10
- Safari Vessels (116) 2

**Activities**

- Dive Centres and Schools (resorts and independent) 1
- Souvenir Shops (resort and independent) 1
- Water Sports Centres (resort and independent) 1

**Tourist Services**

- Tour operators and Travel Agents (local and foreign) 2

**Transport**

- Air Transport Services (seaplanes) 2
- Sea Transports Services (resort, travel agency, independent) 1
- Insurance Companies 2

**Total** 38

### 5.7 Data Analysis

According to Miles and Huberman (1994, p. 10) the richness and holism of well collected qualitative data allows for ‘thick descriptions’ to be analyzed. Lewis, Thornhill, and Saunders (2007) outline four set of processes in qualitative analysis; categorization, unitizing data, recognizing relationships and developing and testing hypotheses to reach conclusions. Miles
and Huberman (1994, p. 10) discuss three stages: data reduction, data display and conclusions. This section summarizes the data analysis procedures followed in this study, in line with Miles and Huberman (1994) three stages.

This research has utilized an interpretivist method to analyze the data. According to Miles and Huberman (1994) phenomenologists are cautious when condensing material from interview transcripts and emphasize gathering a deep understanding and interpretation of meaning of data. As Basit (2003, p. 143) states, “Throughout analysis, researchers attempt to gain a deeper understanding of what they have studied and to continually refine their interpretations.” Furthermore, the analysis and interpretation of qualitative data continues throughout the research and is not a separate self-contained phase (Basit, 2003). In this research the transcripts were carefully studied to make sure a deeper understanding was achieved by following Miles and Huberman (1994) three stages.

According to Miles and Huberman (1994, p. 10), data reduction is “the process of selecting, focusing, simplifying, abstracting and transforming the data that appear in written-up field notes or transcriptions.” This stage allows conclusions to be derived from the research findings, which will contribute to the existing literature in crisis management and address the research questions accordingly. It thus allows conclusions to be drawn and verified from this case study. According to Basit (2003, p. 144), coding or categorizing the data has a significant role in analysis and “codes or categories are tags or labels for allocating units of meaning to the descriptive or inferential information compiled during a study.” Before beginning the analysis, the collected data from the interview transcripts and the documentary sources were read and re-read several times to understand their content. Whilst it was initially coded and reviewed, notes were made of the first impressions of the data. In this research, the data was then displayed “in an organized, compressed assembly of information that permits conclusion drawing and action” (Miles & Huberman, 1994, p. 11).

Yin (1994) proposes that where you have made use of existing knowledge and theory to formulate your research questions and objectives, you should also use the theoretical propositions which helped you to do this as a means to devise a framework to help you to organize and direct data analysis. Miles and Huberman (1994, p. 18) state that “a conceptual framework explains, either graphically or in narrative form, the main things to be studied - the key factors, constructs or variables - and the presumed relationships among them.” The proposed conceptual framework in Chapter 3 was derived from constructs used in the existing theory and study of them. Using Faulkner and Vikulov (2001) the six stages identified in
their TDMF, and the interview schedule as the data collection tool, the data was labeled and organized within each of the following six categories: pre-event, prodromal, emergency, intermediate, long-term recovery and resolution. This was the provisional ‘start list’ of codes prior to fieldwork as suggested by Miles and Huberman (1994).

Veal (2006, p. 211) outlines a range of manual methods of analysis, including that of mechanics where the analysis is completed by hand on hard copy transcripts. This was found to be the best method to use in this research. The emerging themes and the categories established from the analysis of the transcripts were easily grouped and addressed under the six crisis management stages.

The interviews were conducted in English, except for one in Dhivehi (the Maldivian local language). Interviews were digitally recorded with the consent of the participants. After the completion of field-work the interviews were transcribed verbatim, coded and analyzed manually. According to Salanda (2009) in focused coding, most significant initial codes are developed into salient categories. In this research, focused coding was carried out after the initial coding. Transcripts were checked to eliminate less useful categories and smaller categories were combined to form larger themes that connected the different codes. These codes have been used throughout the results Chapters, 6 and 7, and in the discussion chapter.

Participants were identified using alphabetic codes (Government Sector TBEO-A through to O, Private Sector: PS-A through to M and Private Sector: PS-R1 to R10) to maintain confidentiality, whilst each script was coded using numbers to identify the key themes.

5.8 Ethical Considerations

For the most part, issues of ethics focus on establishing safeguards that will protect the rights of participants and include informed consent, protecting participants from harm, and ensuring confidentiality. As a qualitative researcher, there is a need for the researcher to remain attentive throughout the study to the researcher-participant relationship, which is determined by roles, status, and cultural norms (Bloomberg & Volpe, 2008). This research was conducted in accordance with ethical principles of research in social sciences.

An application to Lincoln University Human Ethics Committee for ethical approval of a project involving human participants was completed on 30th November 2010 and submitted and approved before field research commenced in 2011 (Appendix E). Questions and concerns raised by the committee regarding the research were answered and the approval was given on 10th January 2011. Questionnaires for tourism businesses, and tourism organizations,
and emergency organizations, were approved, as were the consent form, research information sheet, telephone script (Appendix F) and invitation letter (Appendix G) to prospective participants. The invitation letter and research information sheet (Appendix H) was sent by email to the selected participants, explaining to them the main purpose of research, and their rights before the face-to-face interviews were carried out. The interviews were held during the two field trips to the Maldives, first trip from 2\textsuperscript{nd} April 2011 to 6\textsuperscript{th} June 2011 (n=26 interviews) and the second trip from 24\textsuperscript{th} Jan 2011 to 15\textsuperscript{th} Feb 2011 (n=12 interviews).

5.9 Limitations

Initially, I proposed a multiple case study involving two SIDS, i.e., Maldives and Samoa, both countries affected by recent tsunami disasters. The Maldives was afflicted with the Indian Ocean tsunami of December 2004 and Samoa by the Pacific Ocean tsunami of October 2009. As anticipated, due to unfamiliarity and lack of connections, difficulties were encountered in contacting and gaining the support of key stakeholders from Samoa. Therefore, it was decided to focus on a single case study of the Maldives.

Due to issues of confidentiality, centralized decision making and lack of co-operation, I was able to complete interviews in only three tourist resort businesses (out of 10) during the first field trip. However, I was able to conduct all of the interviews in Male, with the government sector participants. Resort business owners were contacted and during the second field trip I was able to complete 12 further interviews with tourism businesses with the approval of travel to the resorts. Due to the change in the government in 2008, nearly all the political appointees who handled the tsunami disaster at the strategic level were removed from the government. Therefore, I noticed that some in senior positions were not really aware of the work that had been done in their organizations following the tsunami.

Three participants from both the private sector and the government sector did not want their interviews to be recorded. They were more comfortable to discuss the issues. Due to audio files leaked to the media due to political issues and newly found freedom of speech and free private media, some people unfamiliar with research, feel uncomfortable with recorded interviews. As anticipated a low response rate from the tourism businesses initially posed a serious limitation to the data collection.

Political instability and chaos in the Maldives effected the dates for the fieldwork. Initially I had to delay the first field trip by 6 months due to the earthquakes and the continuing aftershocks in Christchurch and due to the first local council elections in the Maldives from...
Feb-March 2011, which meant that the political and social climate was inappropriate for field research. Ongoing street demonstrations for a month during my field trip further aggravated problems. During my second fieldtrip, the first democratic government was ousted by a police and military coup following a series of mass protests and street demonstrations. This was a huge impediment to the field trips and focus.

5.10 Conclusion

This chapter has outlined the research methods used in this research. It opened with a discussion of the research’s design, outlining that the research is aligned to managerial research which focuses on specific management problems. The managerial research approach used here was informed by the social constructionist epistemological perspective and was carried out in three phases: pre field-work, field-work and post field-work. The first phase refers to the literature review of disaster studies in tourism research which was done to build the conceptual framework for tourism disaster management based on the constructs and dimensions derived from the theory, using documentary methods. The second phase (1st and 2nd field work visits and analysis stage), tested the framework by applying it to the Maldives context. During phase 3 (post field work/conclusion stage), the model was further refined based on findings and research outcomes.

Information and data were gathered using iterative processes involving, secondary (documentary), case study and the main method for data collection in this research was through in-depth qualitative interviews. The sampling for qualitative interviews was selected using purposive or judgmental sampling which is a form of non-probability sampling. The methods used for the analysis of the data followed three stages proposed by Miles and Huberman (1994): data reduction, data display and conclusions. Finally, the analysis of data and use of manual methods of data analysis was addressed before concluding with ethical issues and limitations. The following two chapters present the results extracted from interviews of government agencies and private sector tourism industry respectively.
Chapter 6
RESULTS FROM GOVERNMENT TOURISM AND EMERGENCY ORGANIZATIONS

6.1 Introduction

This chapter presents the results from interviews of 15 government representatives interviewed for the thesis along with evidence from documentary sources collected for the research. The interviews were semi-structured and in-depth. As explained in Chapter 5, the DIRE grid developed by Faulkner and Vikulov (2001) was the basis for the interview structure and topics. This grid provides a framework for the respondent’s recollection of the sequence of events during the disaster, and their reactions to these events (Faulkner & Vikulov, 2001). These questions were then linked to the conceptual framework for tourism crisis and disaster management which was developed using a documentary method based on the constructs and dimensions derived from the theory.

The coded interview results are presented in order of the Grid’s main components; pre-event and prodromal, emergency and intermediate, and long-term recovery and resolution, each in separate sections. These components or stages are explained below and subsequently the results are presented.

Faulkner and Vikulov (2001) explain the life cycle stages as: (1) pre-event; a stage when action can be taken to prevent or mitigate the effects of potential disasters, (2) prodromal; a stage when it is apparent that the disaster is impending, (3) emergency; a stage when the effect of the disaster is felt and action is necessary to protect people and property, (4) intermediate; a point when the short-term needs of people have been addressed and the main focus of activity is to restore services and the community to normal, (5) long-term recovery; continuation of the previous phase but a stage when the items that could not be focused quickly are attended as self-analysis or post-mortem, and finally, (6) resolution stage; a stage when routine is restored or an improved stage is established (Faulkner & Vikulov, 2001).

Drabek and Gee (2000) explain that disaster recovery can be divided into two phases: short-term (restoration) and long-term (reconstruction). Short-term recovery is the restoration of vital life support services and facilities to minimum standards of operation and safety. During short-term recovery, severely damaged buildings are either replaced or removed, water and
sewer repairs are made, and electricity and telephone services returned to normal. Short-term recovery efforts are usually done by each individual component of the tourism industry. The long-term disaster recovery process may continue for a number of years after a disaster. The purpose or goal of long-term disaster recovery is to return life to pre-disaster or improved levels (Drabek & Gee, 2000). Similarly, Drabek and Gee (2000) suggest that long-term recovery may include the complete redevelopment of damaged areas. Long-term recovery provides unique opportunities for adoption and implementation of important disaster mitigation activities, including structural measures. The long-term recovery of a tourism destination after a disaster involves both the physical reconstruction of infrastructure and more importantly, the rebuilding of the tourism destination’s image (Drabek & Gee, 2000).

6.2 Tourism Organizations and Emergency Organizations

The participating government organizations changed over the course of the interviews (during my two field visits); from my initial list as the participants directed me to relevant personnel and I interviewed more than one participant from some agencies. In summary, I interviewed 15 representatives from 12 organizations. NTOs include Ministry of Tourism and Civil Aviation and Maldives Tourism Promotion Board (MTPB). Appendix D provides details of participants from Emergency Organizations (EOs), National Tourism Organizations (NTOs) and other relevant government agencies consulted for the research.

6.3 Pre-event and Prodromal Stage

6.3.1 Potential for Disasters and Probability of Occurring

The first stage of the DIRE Grid includes questions about the pre-event context to establish work that had been done to prevent or mitigate the effects of potential disasters. Four questions that considered whether a proactive approach had been taken by their organizations prior to the Indian Ocean Tsunami of 2004 were asked. The likelihood and likely impact of a tsunami was considered, whilst the development of disaster contingency plans, issue analysis and strategic management strategies are reviewed. The questioned asked were:

- Before the tsunami, had your organization considered what crisis management strategies would be required in the event of such a disaster?
- Could you elaborate on any disaster planning your organization had in place to deal with the tsunami?
- Had your organization conducted any environmental scanning, scenario planning or risk analysis assessments in case of a crisis?
• Did you then develop any strategic plans from your scanning and risk analysis?

All participants from Emergency Organizations (EO) and the National Tourism Organizations (NTOs) reported that they were not prepared for a tsunami and had not considered the probability of one. This was due to there being only a moderate disaster risk scenario in the Maldives, occasionally prone to storms, prolonged dry periods, and heavy rains and strong winds caused by cyclones in the Southern Indian Ocean. Given that the Maldives is a nation of islands and the highest elevation is no more than two meters above sea-level, the country is prone to risks of climate change and sea-level rise associated with the characteristics. However, all the participants specified that the tsunami demonstrated the vulnerability of the nation.

All respondents from EOs and NTOs indicated that there were no institutional structures for disaster management in the Maldives prior to the Indian Ocean tsunami of 2004. Prior to the tsunami a Committee to co-ordinate Natural Disasters existed, however it was merged with the National Commission for Protection of the Environment (NCPE) and in the event of a natural disaster the Ministry of Home Affairs has taken a lead role. Therefore, there were no systems for early warning established at any level. In particular, there were no trained personnel to handle a crisis or a disaster of this scale and magnitude.

Following the tsunami, the Government organized a Ministerial Committee and Task Force to facilitate response and coordination. A National Disaster Management Center (NDMC) was established. The Defense Ministry, Finance Ministry and Ministry of Planning and Development led the emergency response and relief efforts in collaboration with other Departments, UN agencies and other development partners. The NDMC has been the focal point for all response, relief and recovery activities since then.

According to respondent (TBEO-C): “Prior to the tsunami, trainings and scenarios were done for disasters at a smaller scale such as a plane crash in the main airport or an oil spill, but not for a disaster of this scale. Therefore, there were no focal points for information or no emergency operation centers.” Respondent (TBEO-H) stated:

“We don’t have a separate emergency plan; however we have an airport emergency plan and an airport emergency committee which will be activated following any airport emergency.”

All respondents said that there were no documented crisis/disaster management plans covering the risks/hazards to the country prior to the tsunami. Due to the lack of preparedness for such an eventuality, participants from government agencies highlighted the following
issues:

“The systems and facilities for communications between the islands which functioned well prior to tsunami were vulnerable and in the most affected islands they were shut down temporarily while there were no backup systems in place. At the same time there were no evacuation or response plans at any level” (TBEO-D).

“The country was not at all ready for such an event; there were no emergency shelters, emergency equipment, and emergency water supplies. Transportation between the islands was so difficult and slow using the dhonis during the rescue operations” (TBEO-C).

“The public had no idea of what a tsunami was, the school curriculum didn’t have anything other than basic things about a disaster and therefore no awareness was there at all. There were also very few people who were trained to handle this sort of thing and there were many people who didn’t know how to swim” (TBEO-O).

“We didn’t have any plans. Most of the buildings were single storey buildings. For example two hospitals totally collapsed only from Meemu Atoll. We moved our staff to another island to start the health care. Without a plan we were in shock, we didn’t know what to do, whom to communicate, whom to co-ordinate. So the whole day we couldn’t do anything. In the evening the government established the crisis center” (TBEO-G).

However, after the tsunami, all of these organizations have developed specific sector crisis/disaster management plans. Five organizations out of the twelve provided these documents to the researcher (Table 13). Some of these documents were drafts and Standard Operating Procedures developed by them after the Indian Ocean Tsunami and other recent health scares. A closer look at these documents has revealed that they have not been updated and have been drafts since they were developed.

Table 13: Disaster Management Plans Developed by Government agencies

<table>
<thead>
<tr>
<th>Document</th>
<th>Agency</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster Management Plan Tourism Sector (Draft)</td>
<td>Ministry of Tourism</td>
<td>August 2005</td>
</tr>
<tr>
<td>Tsunami Response Standard Operational Procedures for Health Sector in the Maldives</td>
<td>Ministry of Health</td>
<td>Not known</td>
</tr>
<tr>
<td>National Influenza Pandemic Preparedness Plan</td>
<td>Ministry of Health and Ministry of Fisheries, Agriculture and Marine Resources</td>
<td>Dec 2005</td>
</tr>
</tbody>
</table>
6.3.2 Pro-Active Planning Measures

The second stage of the DIRE Grid includes assessing any proactive or direct measures taken to prevent or mitigate effects of potential disasters by the authorities. Four questions that ascertained whether any proactive approaches were followed in their organizations prior to the Indian Ocean Tsunami of 2004 were asked of the 15 interviewees. The questions asked were:

- Before the tsunami hitting the country, had your organization received any warning?
- What did you do to prepare for the event?
- Do you have a documented crisis/risk management plan which covers major risks/hazards?
- Were you acting in response to the advice or actions of other departments or agencies?

The participants indicated that none of them had a procedure for crisis/disaster management or a documented crisis/risk management plan in place prior to the tsunami. They also indicated that none of them had been warned of the incident from any authorities, therefore strategies could not be implemented to deal with the onset until the emergency phase. Participants became aware of the tsunami only when the waves hit the islands and from news reports from the media. As results indicated, in the absence of early warnings, no procedures were followed until the emergency phase. Reactive measures were taken by the institutions which included preliminary assessment of casualties, rescuing and evacuations, emergency accommodation and food supplies, crisis communication strategies and assessment of overall damage sustained. NTOs were mainly concerned with tourist and staff causalities, information dissemination, preparing short term crisis management plans based on stakeholder consultations. One participant added:

“We didn’t know it was a tsunami. The waves came instantly and the whole airport was flooded. We then closed the airport and then when things got settled we did the cleaning process. The people then needed to leave” (TBEO-H).
Once again these findings are similar to previous research conducted on crisis and disaster management focused on tourism recovery (Armstrong & Ritchie, 2008; Faulkner & Vikulov, 2001; Miller & Ritchie, 2003). These reactive crisis/disaster management strategies are thought to be connected with large scale natural disasters or crises which are usually beyond the capabilities of the usual contingency plans in organizations. The absence of contingency plans and proactive strategies makes it difficult to evaluate how effectively institutions have implemented them. However, the size and scale of the Asian Tsunami of 2004 was unpredictable and beyond any emergency measures or even contingency plans in any of the countries affected, including the case study country.

6.3.3 Environmental Scanning, Risk Analysis and Disaster Contingency Plans

A number of researchers in the area of crisis and disaster management (Faulkner & Vikulov, 2001; Henderson, 2007; Ritchie, 2009) emphasize the significance of crisis contingency plans for crisis management preparedness. However, none of the participants interviewed had developed a crisis/disaster management plan prior to the event. Results from the case study indicated that these institutions have developed specific crisis/disaster management plans within the period 2005-2009, mostly as a reactive measure. Plans that were implemented addressed the issues on an ad hoc and reactive basis rather than proactive basis. Similarly, the participants were asked about any recent external environmental analysis that includes SWOT analysis or monitoring of any potential risks and impacts. From the responses received it was evident that few measures have been taken in spite of the draft plans that have been prepared as a reactive measure to the isolated tsunami event.

It is evident from the research that in the absence of effective sector disaster management plans (tourism, heath, education, agriculture, defense, airport, etc.) the organizations under the specific sectors had no procedures or management plans to implement. For example, in the absence of an effective tourism sector disaster management plan, tourism businesses including resorts, safari boats, guest houses and picnic islands, had not prepared effective emergency procedures for disasters. Another issue identified in the research was the absence of risk assessments done for any specific sector interests. For example, even the first disaster risk profile of the Maldives was first done only after the Asian tsunami. One participant added:

“Before the tsunami we were prepared for heavy rains, strong winds and tidal waves. Now we are prepared for other hazards. We are continuously working with a lot of parties to improve our response to a tsunami hazard” (TBEO-J).
“In the weather we give early warning for bad weather; strong winds and thunder storms and incase of earthquakes; earthquake warning and tsunami warning. Also for the marine hazards; tidal wave and swell wave warnings” (TBEO-J).

6.3.4 Warning Systems in Place

As discussed in the previous section, no early or prior warnings were provided to any NTOs and there were no early warning systems developed prior to the Asian tsunami. All participants from EOs highlighted that during the post-tsunami stage, equipment for an Early Warning System was procured and installed in the Department of Meteorology and staff were trained in the use of the new equipment. A national Early Warning System (EWS) was developed and the plan had color codes for the four stages and a warning dissemination protocol was developed. Research findings showed that there were many challenges for developing warning systems. One reason was due to the lack of trained human resources and local capacity in the destination due to being a small country. The second reason was that an EWS had to be implemented through partnership with all the ministries and information dissemination to the islands had to be addressed. According to participant (TBEO-J):

“Similar to other countries in the region, we also didn’t know about the tsunami and we didn’t give any warnings to the public. When tsunami washed ashore we gave news bulletin on television. It was too late and people hadn’t received any warnings and so no precautions were taken.”

6.4 Emergency and Intermediate-Phase

6.4.1 Crisis Response and Communication Strategies Implemented

The third stage of the DIRE Grid includes the authorities’ direct response when the disaster hit and the emergency procedures that were implemented. This includes the rescue and evacuations undertaken, emergency accommodation and food supplies, crisis communication strategies followed and co-ordination with other authorities. The questions asked were:

- What was the main impact of the tsunami at this stage? Who was at risk and what property damage had occurred?
- What actions were taken by you and your organization?
- What action was taken by other organizations and relevant agencies and how did they affect your actions?

The Ministry of Tourism (MOT) and Maldives Tourism Promotion Board (MTPB) were the
two main National Tourism Organizations during the time of the Asian Tsunami of 2004. Soon after the tsunami struck the islands, the employees of the MOT and MTPB gathered at the MOT and set up a unit consisting of staff of MOT and MTPB to monitor the situation in the resorts. According to participant (TBEO-C):

“We were having close co-ordination with the ministerial committee but we did not go and sit there. We operated from the ministry, because the Minister also decided that it would be best interest for us to work in the ministry since all the data were here. We had to communicate with the resorts with whatever the resources and means available and also we have to find out other kinds of details like the telephone numbers, and the names of resorts, the names of foreign counter parts, occupancy of the resorts.”

All participants from the tourism organizations indicated that the main objective at the emergency stage was to conduct a preliminary assessment of tourist and staff casualties and overall damage sustained by the resorts. As there was a near total communication breakdown, MOT gave very high priority to disseminating information as to the status of tourists, staff, and the resort. This was done in an attempt to reduce the confusion and stabilize the situation. The information about what had happened, together with required actions from the stakeholders, were updated on the www.visitmaldives.com website and circulated by fax and e-mail. A circular was also sent to safari operators, requesting them to report damage and details of any casualties.

Following the circular, MOT started a series of consultations with the industry to learn how to best address the crisis situation. Another important step taken by MOT at this stage was liaison with diplomatic representatives. A letter explaining the situation of the tourism industry of the Maldives was sent to embassies, high commissions and consulates of all the concerned governments of the main tourism source markets (mainly Italy, United Kingdom, Germany, Japan, France, Switzerland and China) as many of them had issued travel bans and travel advisories. Similarly, the letter was also sent to the travel industry. Some of these letters were followed up with a telephone call by senior officials from the respective government authorities. As a result of such co-ordination from 29th December 2004, travel bans were slowly relaxed by the respective foreign offices of major markets.

6.4.2 Crisis Control Mechanisms Implemented

According to all the respondents from the tourism organizations, the second main task they undertook during the crisis was providing assistance in evacuations. They gathered and
disseminated data on the status of customers, employees and other structural damage to the resorts’ buildings and premises. The information was gathered and disseminated through the internet, TV, radio, telephone, fax, e-mail and through communication systems in boats and island offices in nearby inhabited islands. The preliminary assessment was completed in 18 hours with delay due primarily to communication breakdown, including the mobile phone network.

With regard to providing assistance in evacuations, the MOT and the MTPB task force played a central role in facilitating evacuations, search and rescue and rescue in association with the NDMC and Coast Guard Division of the Ministry of Defense and National Security. A special help desk for MOT was established to assist tourists who were distressed at Male’ International Airport on 28th December 2004. This desk offered free telephone calls to relatives. In addition, the use of the cyber cafés was also arranged free of charge. The task force played a crucial role in providing customer service and relief to the tourists at the Male’ International Airport. The task force was also involved in other aspects, such as body repatriations and liaising with tour operators, travel agents and hospitals. Similarly, the Department of Immigration and Emigration coordinated the airport response along with the other stakeholder during the emergency.

“Many tourists wanted to go back immediately, but their passports were lost or damaged. We issued travel documents to them based on identification data after verifying with their respective tourist establishment” (TBEO-H).

“Tourist establishments sent lists of tourists in advance with their departure dates to prepare their travel documents. Our setup at the airport assisted the tourists and coordinated with embassies and consular agencies” (TBEO-H).

All respondents from tourism organizations indicated that the main constraints for the immediate response were damage to the telecommunication network, inadequate ‘facilities’ for evacuation and message distortion. One participant added:

“In 2004 we were lucky that we restored the telecommunications network to the fullest capability within 2-3 weeks. We restored the initial network in less than 10 days even while half of the country’s network was affected. The reason for such early restoration was that we didn’t have a major effect to the capital in terms of the telecommunications infrastructure, but in the remote islands it was damaged” (TBEO-N).

Similarly, respondents from tourism organizations highlighted the major strengths as
solidarity and support from the industry, together with the teamwork of public and private sector stakeholders, particularly the Maldives Association of Tourism Industries (MATI).

“We co-ordinate with them (MATI) very closely in situations like this and whenever we need regulations to be implemented in the tourism industry we always come up with our draft plans and regulations and we talk to them” (TBEO-C).

6.4.3 Short-Term Challenges to the Organization and Restoration

The intermediate stage is the fourth component of DIRE grid. This stage includes the recovery phase and short-term restoration activities. The purpose was to clarify the challenges faced, which were both internal and external to the agencies interviewed, including stakeholder collaboration. The questions asked were:

- What were the main challenges in restoring operations to normal conditions?
- What action did you and your organization take to restore normal services?
- How did the action of other firms and relevant agencies assist or hinder the return to normality?

Once the crisis stabilized, at least to an extent (having accounted for the tourist and staff numbers and their status), the focus of the activities was placed on recovery. This period usually takes up to 1 or 3 months. According to all of the participants from tourism organizations the most concerning issue with regard to the recovery, particularly in terms of tourist arrivals, was the issuing of travel bans or restrictive travel advisories by the main source markets to the Maldives. For this reason, special consideration was given to measures to ease adverse travel advisories. However, in the light of the way the region was portrayed in the media, coupled with the ‘devastated Maldives’ image create by the other authorities themselves, this was a very difficult issue for MOT to handle.

“Next step was to promote the destination. We brought journalists, news channels and all the important magazines from traditional markets to the Maldives to show our products and to give the message that that Maldives is safe. However, until April 2005, we didn’t see any growth in the markets and bookings started to come only after that” (TBEO-F).

Respondents from tourism organizations indicated that the crisis unit consisting of MOT and MTPB gave a number of interviews to foreign and local media, explaining the situation in the tourism sector of the Maldives during the first week after the tsunami. They included Aljazeera, the Asian Wall Street Journal, Ashahi Shimbun and Czech TV. In addition,
together with the MTPB office in Frankfurt, the MTPB’s PR agent in Germany also gave a number of interviews in German to the German media. Respondents from tourism organizations provided copies of press releases and recovery marketing campaigns during the recovery phase.

Table 14 shows the list of documents provided by participants from MOT and MTPB to the researcher. They were used to cross check and analyze the responses given by the participants on their actions during response and recovery phases of the disaster.

Table 14 : List of Press Releases and Recovery Marketing Campaigns from MTPB and MOT

<table>
<thead>
<tr>
<th>Document</th>
<th>Agency</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press release</td>
<td>Ministry of Tourism</td>
<td>27th Dec 2004</td>
</tr>
<tr>
<td>Press release</td>
<td>Ministry of Tourism</td>
<td>29th Dec 2004</td>
</tr>
<tr>
<td>Press release</td>
<td>Maldives Tourism Promotion Board</td>
<td>05th Jan 2005</td>
</tr>
<tr>
<td>Press release</td>
<td>Maldives Tourism Promotion Board</td>
<td>09th Jan 2005</td>
</tr>
<tr>
<td>Action Plan of Post-tsunami Marketing Campaign</td>
<td>Ministry of Tourism</td>
<td>09th Jan 2005</td>
</tr>
<tr>
<td>Minister’s Statement</td>
<td>Ministry of Tourism</td>
<td>11th Jan 2004</td>
</tr>
<tr>
<td>Post Tsunami Recovery Marketing Campaign – A Summary Proposal</td>
<td>Maldives Tourism Promotion Board</td>
<td>25th Jan 2005</td>
</tr>
</tbody>
</table>

Participants from tourism organizations highlighted that following the ‘government to government’ telephone calls and the visits of officials from various governments (within the first two weeks) to the Maldives; their observance of the ‘system’ that was in place at the MOT to manage the tsunami-disaster; their observance of the national infrastructures and the tourism facilities and services that were intact; and the fact that Internally Displaced Population (IDPs) had been accounted for and have ascertained their safety and security, eventually led to a growing level of confidence and foreign offices to ease travel bans.

Respondents from both MOT and MTPB said that their officials visited the damaged resorts to complete preliminary assessments. They estimated the initial cost of reconstruction at US$100 million, and the business loss to total at least US$250 million. At this stage, thirty percent of the bed capacity was out of operation. Once the assessments were completed and travel advisories were lifted, the focus was placed on the marketing campaign. Participants from tourism organizations indicated that a series of meetings were held between industry stakeholders and a team of volunteers between 1st Jan 2005 to 17th January 2005, who were assigned the task of the compiling a post-tsunami marketing campaign which was later approved by the Tourism Promotion Advisory Council (TPAC). The main objective of the
campaign was to reduce cancellation rates (Figure 9) and encourage new bookings. The campaign included a series of steps and activities (MOT, 2005):

- An official letter, indicating that the Maldives tourism industry is functioning, to be sent to all concerned.
- FAM trips for media from all major markets: who could air/publish reports immediately or as soon as possible:
  - TV – national and international
  - National newspapers, magazines.
  - Tour operators’ inspection teams
  - Foreign Governments /International organizations’ inspection teams.
- Coverage of the ‘status’ of the tourism industry on local media, particularly on television and radio.
- Interviewing arriving and departing guests
- Monitoring and writing on internet discussion forums
- Resort ‘operating status’ to be uploaded by the resort, and link to be provided by the MTPB site
- Make a ‘short’ documentary of ‘post-tsunami tourism industry’ to be distributed to concerned parties
- FAM trips for the industry (Tour operators/travel agents from major markets)
- Road shows (promotional workshops) in major markets
- Advertising on international television and other media
- Visits of high level delegations to meet operators and concerned government authorities of major markets
- Banner at the airport thanking the tourists for coming
- E-Newsletter to be distributed every second month by MTPB
- Affiliate ‘destination promotion’ with major tour operators and airlines
- Service providers to include a ‘value added’ dimension to their product, at their own discretion
- To continue using “Maldives: The Sunny Side of Life” as the promotional slogan, instead of using a new slogan.
Figure 9: Tsunami Effect on Tourist Arrival/Departure Numbers (Source: Ministry of Tourism, Statistics Section 2005)

The key activities of the promotional campaign were implemented parallel to the main activities of the MTPB’s 2005 Marketing Plan and required additional budgets and financial resources. The campaign budget was initially US$ 1,445,000.00 (MTPB, 2005).

“The budget for the year was Mrf 40 million. Ministry of Finance organized another Mrf 40 million and we started using the funds in 2005. In fact, it went up to Mrf 90 million. We used this budget during 2005 to 2007. The main focus was to create confidence in markets and show media that Maldives was safe to visit and we tried not to talk about tsunami. We did road shows in all the major markets in all major cities and communicated with the tour operators and also we participated in all major travel exhibitions” (TBEO-F).

The main activities of the marketing campaign (MTPB, 2005) are shown in Table 15.

Table 15: Key Activities and Details Provided in the 2005 Recovery Marketing Campaign by MTPB

<table>
<thead>
<tr>
<th>Key activity</th>
<th>Details</th>
</tr>
</thead>
</table>

113
<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV advertising</td>
<td>Run destination advertisements on international and national television to stimulate demand (CNN, BBC and some national channels of the major source markets). To start in late January 2005.</td>
</tr>
<tr>
<td>Newspaper, internet magazine and billboard advertising</td>
<td>Run destination advertisements in major newspapers of source markets: Italy, United Kingdom, Germany, Japan, France and Switzerland. Specialty ‘lifestyle’ and ‘tourism related’ magazines. Popular travel websites. Key location ‘billboard’ style advertising in major markets. Some of these advertising to be done as affiliate advertising with other industry stakeholders: tour operators and airlines.</td>
</tr>
<tr>
<td>Worldwide media coverage</td>
<td>Bring media groups from major markets, and prominent ‘media channels’ to produce and air/publish reports about the Maldives (in relation to the tsunami) with a strong focus on the tourism industry. This has been continuing and is planned to be continued until the ‘consumers’ of the world is fully aware that the tourism industry of the Maldives is functioning well. This program is/will be conducted with direct logistical support from the tour operators, airlines, resort operators, and local transport providers. As the media groups that were here in the first few weeks following the tsunami focused on the ‘affect’, the future groups would focus on the reconstruction, and recovery, particularly of the tourism industry.</td>
</tr>
<tr>
<td>Travel industry familiarization trips</td>
<td>Arrange ‘group familiarization trips’ for agents of major tour operators in major markets to be conducted in partnership with major operators, airlines, and resorts.</td>
</tr>
<tr>
<td>Producing a documentary video of the Maldives with a tourism focus</td>
<td>To give a visual representation of the post-tsunami Maldives, at workshops, press conferences, and other relevant occasions to be distributed to the industry.</td>
</tr>
</tbody>
</table>
Road shows at main markets across Europe and Asia

Road shows, workshops to be conducted in major markets in Europe and Asia. This is to be initiated in mid-April, and program details to be planned based on the ‘market response’ of the coming weeks.

Visit of high level-delegation

A delegation compromising of key government and industry people to visit major markets in a ‘public relation enhancement program’. The delegation is also to hold press conferences.

Source: MTPB (2005)

Respondents from MOT noted a range of measures were taken as an immediate relief to the industry. In order to ease the financial burden to the resorts it was decided to defer the lease rents of the first quarter to be paid in the next three quarters, waiving of lease rent payments during the time the beds are not in operation, for the repairs/reconstruction and import duty exemption for the construction materials brought in for repairs/reconstruction.

“When we received the details of the damage, it showed a huge loss for the industry. So what the government did for them was to give them some financial concessions. Government deferred the rent of the first quarter to be paid in next three quarters; those resorts which were hit and who became unoperational, the government deferred their rent payment for one year. Of course there will be no bed tax because there were no guests as the resorts weren’t used” (TBEO-C).

Respondents from MOT and MTPB noted that post tsunami destination recovery activities were successful due to the support and contribution of all the private sector tourism industry stakeholders. This reflected positively in improved visitor arrivals.

6.4.4 Challenges Faced by Emergency Organizations

At the national level, the picture was more serious with the largest disaster ever faced by the Maldives. One participant from the emergency organizations explained the challenges in the following manner:

“The biggest challenge was, we never expected such a disaster to face Maldives, and there was no evacuation plan, no emergency SOP’s, no guidelines, no shelters, there was nothing has been formed during that time. So each and every decision that had been taken by the
government was a challenge” (TBEO-D).

Another participant identified it as total chaos:

“It was chaos that day, there was no actual plan or mechanism to help or to provide any of the emergency medical assistance. There were sufficient volunteers already to help but since there was no mechanism or procedure to help everybody was just running here and there” (TBEO-C).

A call center was established in a school in the capital city Male’. Several people came with relief items to volunteer. People from the most affected atolls were brought to the capital as Internally Displaced Persons (IDPs) until their homes could be repaired. Communities in the affected islands were mainly involved in the search and rescue efforts along with members of the armed forces who were dispatched soon after the tsunami to provide immediate relief. Twenty six people were missing and 82 bodies were found. Participants from emergency organizations identified numerous management issues at the time of response. Due to the lack of coordinated assessment at the emergency stage it was not clear what relief assistance was required by whom. As one participant stated:

“First of all, the dispatch of the emergency funds which actually came with guidelines saying that this much of money will be given to these families. But just when few islands were finished, the teams were facing such difficulty because the island offices and the island community itself couldn’t actually identify or say that this is not a family who was not affected by tsunami and how they could identify, there was no identification procedure, how they would differ from flooded, so what they have taken was if the house has been affected with salt water they would get this much and if anything has been lost or the wall or a room has been damaged this much or if the house has been totally destroyed this much” (TBEO-D).

Similarly, participants indicated that island task forces that were created had no terms of reference and there was no particular responsible authority for psycho-social support. When it came to the dispatch of relief items there were not enough vessels that could hold heavy loads of food, supplies and essential equipment. Liaison with aircraft operators was poor and all these management issues led to a slow response to the affected communities during the emergency phase.

6.4.5 Challenges Faced in Managing Foreign Aid

According to the participants from emergency organizations, during the first few weeks of the
tsunami, many international donor agencies arrived in the Maldives. The country was not ready to manage such a large numbers of international aid agencies in the absence of procedures for dealing with such. Likewise, the participants from emergency organizations noted that very little co-ordination took place, due to confusion between the line ministries, the donors and the ministerial committee formed to handle the tsunami disaster (National Disaster Management Committee). This led to some major inconsistencies and conflicts in the information collected by the government and aid agencies leading to big mismatches in terms of demand and supply in some areas.

“We received a lot of aid. But those were not used. For example, we received 14 tons of plaster of Paris from one government. But we didn’t need it. Most were already expired. We received a lot of medicines. Our practitioners didn’t know how to use them. Some were in their own languages. We were unable to manage those aids. We had no plan to even distribute these things” (TBEO-G).

The respondents from emergency organizations highlighted that there was no proper co-ordination between the international and individual donor agencies when they made these initial damage assessments leading to repetition in the surveys and unfulfilled promises which the community carries until today as grievances. Similarly, costs of transportation increased sharply with the demands for relief goods, materials and all of the personnel. In the absence of a mechanism and a framework for all stakeholders to work together, government authorities worked separately from the international aid agencies who worked through local Non-Governmental Organizations (NGOs).

According to Shabau (2007) Maldivian farmers expressed disappointment with the aid given by the government and foreign donors in efforts to regenerate their livelihood following the tsunami. While they appreciated the aid, they also complained that assistance towards recouping their genuine losses was very limited and aid had been of little use in the regeneration of farming. Furthermore, planting materials, fertilizers and pesticides distributed by the government had generated false hopes among the general farming communities and there was particular disappointment when most crops became diseased due to the poor quality of planting materials. Likewise farmers faced difficulty in adapting to the new fertilizers and pesticides (Shabau, 2007).

Shabau (2007) outlined the medium and long-term needs identified by farmers for recovery of their agricultural activities. He stated those needs as; the need for good quality planting materials, and improved availability of tools, fertilizers and pesticides on their islands,
training programmes on crop management and assistance in marketing produce (Shabau, 2007). Considering the susceptibility of Maldives to natural disasters he made suggestions for improving and continuing agricultural activities and building farmer’s capacity to cope with future natural disasters.

### 6.4.6 Lack of Consultation with the Community

The respondents from emergency organizations also indicated a lack of community involvement and consultation in the early stages. For example, the affected communities were not involved during the process of making damage assessments and therefore, particular needs of segments of society such as the elderly, pregnant or feeding mothers, and the disabled were not properly addressed. Similarly, the NDMC organization structure did not include or provide any role for local NGOs to operate. At the same time, the distribution of various aid and relief goods to affected communities were mainly handled by the island offices and army personnel without any participation from NGOs. In the absence of a proper communication process there were many communication break-downs between the affected communities and the responsible government authorities leading to suspicion, gossip and rumors which resulted in resistance in some communities.

Immediately after the tsunami, the inhabited islands which were badly hit were evacuated and there were large displacements of inhabitants resulting in indirect impact to their livelihoods. Similarly, some resorts were evacuated and closed for the short-term resulting in lower occupancy and business performance subject to low visitor arrivals to the destination. Severely hit resorts were totally flooded resulting in a loss of power and massive damage to their infrastructure, water and food supplies and severe damage to guest and staff accommodation structures and furnishings. Some of the severely hit resorts received less damage to their reception area, restaurants and front office facilities but suffered considerable structural damage to their accommodation infrastructure, both to water bungalows/ beach side accommodation and utilities. Details of these issues will be discussed in the following chapter.

As reported earlier, the government’s immediate concern was to provide temporary housing for the Internally Displaced Population (IDPs). Donor agencies helped the government by providing finance and skilled people during this process. One of the challenges in the local response was the limited presence of UN agencies prior to the Asian Tsunami (UNICEF, UNDP, UNFPA and WHO had a small office). There were no bilateral donor offices, no local Red Cross/Crescent society, only one INGO (Voluntary Services Overseas) present, and there
was a very small local Non-Governmental Organization sector. Once the scale of the disaster became apparent, the NDMC was established and the Minister of Defense was appointed as the Chief Coordinator for the inter-ministerial committee formed under the NDMC.

People from less damaged islands accommodated homeless while the Island Development Committees were active in coordinating all these activities. According to participant (TBEO-C):

“One of the principal tasks undertaken by the inter-ministerial committee was to speed up the joint needs assessments with the Asian Development Bank, World Bank and United Nations. All the Ministries were also temporarily relocated in the NDMC to work round the clock, which of course created a huge back log of their routine responsibilities. Then responsibilities of the NDMC were structured into various units for better performance and to improve donor confidence and trust.”

6.4.7 Civil-Military Coordination

As for the civil-military coordination, the National Defense Force and the Coast Guard worked with other government agencies. According to EO participants from the Coast Guard and the Military these organizations formulated a Joint Operations Centre immediately after the tsunami, concentrating primarily on search and rescue tasks and logistics coordination. They completed a preliminary assessment on the conditions of the islands within 48 hours, where they used coast guard vessels and assistance from private sector resources. Simultaneously they organized (rice, flour, sugar) and water for immediate distribution from the stocks of the State Trading Organization. They also formed a logistics center in the Male’ International Airport to handle all assistance. Additionally, they organized medical and tourist evacuation. At the same time, they were involved in erecting temporary tents shelters for the affected population.

“Within a week we were able to establish seven forward coordinating centers that served for twenty one Atolls across the country. We were monitoring the assistance activities and forwarding the goods and supplies received to the affected and storing them properly” (TBEO-L).

Foreign military forces provided much assistance to the Maldives. The Pakistani naval ship that was already present on the day of the tsunami assisted in relocating people to less affected islands and evacuated tourists and locals to Male’ and to the airport. The Indian Government sent three naval vessels along with two additional coast guard vessels and two
aircraft to assist the operations. Meanwhile the French and Bangladeshi governments dispatched one vessel each and the United States Navy sent two vessels with helicopters to assist in the search and rescue operations. The British Navy also joined the State Electric Company to repair generators and powerhouses.

6.4.8 Relief Food and Health Issues

The United Nations World Food Program dispatched 2,000 metric tons of food that included rice, pulses, vegetable oil and sugar within 48 hours on 28th December 2004 followed by a similar shipment in January 2005. The military assisted in food distribution with the help of other government agencies. While the home and gardens were destroyed in many islands, people also lost most of their livelihoods in tourism and fishing. There was also disruption to the everyday food import and distribution in the islands. Therefore, when the relief food was distributed, it had to be distributed to all people regardless of whether they were tsunami victims or not. Need assessment determined the most vulnerable.

The tsunami also damaged the health infrastructure in the Maldives. According to the EO participant from the Health Sector, medical centers and hospitals that were affected lost some or all of their equipment and x-ray machines. Computers, printed records and health records were lost. Similarly, most of the expatriate doctors from closer neighboring countries like Sri Lanka and India who also experienced the tsunami wanted to return to their families and those on leave did not return to duty. Nearly 45 medical centers had to be closed due to damage:

“In Meemu Atoll Regional Hospital all equipment, including scanning, x-ray, operation theater and laboratory were totally washed away. The second hospital was G.A. Villingili. The equipment was subsequently purchased with aid from German Red Cross” (TBEO-G).

The World Health Organization (WHO) provided basic medical supplies that were sufficient for three months. The United Nations Children’s Fund (UNICEF) helped in training 60 community health workers, while the United Nations Population Fund (UNFPA) assisted in caring for pregnant women, children and other vulnerable populations. The Ministry of Health and organizations that assisted in the health sector achieved good results in containing diarrhea and mumps in Internally Displaced Populations (IDPs) settlements. Similarly, they also started routine health services to ensure early recovery of the health system and to protect vulnerable populations from diseases.
6.5 Long-Term Recovery and Resolution (1-5 years)

6.5.1 Long-Term Recovery Planning

Long-term recovery is the fifth stage in the DIRE Grid. This stage includes the initial recovery stage and the long-term challenges in the tourism and emergency organizations. The participants were asked:

- What were the main challenges confronting your organization in the long-term recovery from the tsunami?
- What actions were taken by your organization to address this recovery?
- How have the actions of other agencies assisted or hindered longer-term recovery?

As observed earlier, the National Tourism Organizations in the Maldives (MOT and MTPB) worked alongside the private sector tourism industry during the short, medium and long-term recovery phases of the industry. In February 2005, a Maldives Tourism Recovery Strategy was developed by an expert led by the Maldives Association for Tourism Industries (MATI) in consultation with the Government of Maldives. The following short (1 to 3 months), medium (3 to 12 months) and long (1 to 5 years) term objectives were proposed in the report (Maldives Tourism Recovery Strategy, 2005). The short term objective was to return to pre-tsunami levels of bed occupancy within three months, the medium term was to achieve positive growth in all markets with a market share of more than one percent and, the long term objective was to protect the reputation of the Maldives as a relaxation, recreation and rejuvenation destination. Meanwhile, the Maldives Government Tsunami Impact and Recovery Report (Joint Needs Assessment World Bank-Asian Development Bank, and United Nations System, Annex 8-Tourism) in February 8, 2005 again formulated short and long-term strategies for tourism industry recovery. These documents served as a guideline for the government and the private sector to follow during the recovery as well as a reference point in determining a budget for the marketing and public relations initiatives:

“As I have said before, immediately after the tsunami, our occupancy dropped drastically. Then the government gave a very big budget for marketing. The Tourism Promotion Board and everybody was involved and put a big effort for promotional works and they did a lot of consultations with the industry participants and I would say that it was their hard work that paid off and we came back very soon within one year” (TBEO-C).

Tourist arrivals to the Maldives have increased an average of 8% per year from 2000 to 2005. The decline in arrivals in 2005 was due to the tsunami as many resorts temporarily closed
their operations. However, by December 2005 tourist arrivals began to rise and by mid-2006, arrivals had reached pre-tsunami levels (Figure 10).

![Figure 10: Tourist Arrivals by Month, 2001-2006 (Source: Department of Immigration and Emigration 2005, 2006)](image)

The average annual occupancy rate of the Maldives was mostly above 60% during 2000-2004. As seen in Figure 11, monthly occupancy rates have remained 50% except for the month of June which is the low season in the Maldives. The tsunami caused a dramatic decline in occupancy in January 2005.
Tourist bed nights and occupancy rate have been steadily increasing since 2001. As seen in Figure 12 below, the decline in bed nights and occupancy rate in 2005 is due to the tsunami which affected the whole region.

As for other EOs some of them reported that they improved and upgraded their systems and infrastructure. One participant reported:
“We were mostly in the information providing part and we were collaborating with international agencies. We worked and established a good network so that we could give future warnings. We collaborated with WMO and through their assistance we upgraded our telecommunications infrastructure to global telecommunications system. We have US Radar service and now we are able to upgrade that” (TBEO-J). The participant further added;

“We started public awareness programs on weather, earthquakes and tsunamis in 2005. UNDP and NDMC were working on the DDR. We continued this till 2008 and we faced budgetary difficulties following the economic crisis. Therefore, we conducted many programs through foreign aid” (TBEO-J).

6.5.2 Disaster Management Plan for the Tourism Sector

It was obvious that there were many remaining challenges and more needed to be done to regain market confidence. The Ministry of Tourism initiated a review in May 2005 in tandem with the Maldives Tourism Promotion Board (MTPB), the private sector Maldives Association of Tourism Industry (MATI), and the World Tourism Organization (WTO). The purpose of the meetings was to review the whole disaster in light of the challenges and actions taken. Its primary goal was to raise awareness about the need to develop a Disaster Management Plan for the tourism industry. Based on the results of the areas highlighted by 150 participants from the tourism industry and the stakeholders, MOT was able to develop a Disaster Management Plan for the Tourism Sector with the help of the United Nations Development Program (UNDP Recovery Support Programme for the Maldives, 2005).

The Disaster Management Plan for the Tourism Sector suggested a results-based framework for disaster management planning that was based on strategic objectives, results and tasks that considered the unique geography, tourism industry environment and its significance to the economy of the country. In the development of the procedures and actions to be followed before, during and after a strike from a dangerous event, it also considers: vulnerability arising from the unique geography and fragile physical form, low elevation, increasingly unpredictable global weather patterns, monsoon weather, and long distance tropical storm impacts, and the possibility of earthquakes and tsunamis.

Participants from NTOs indicated that the government assisted greatly in the rebuilding efforts even though repair, renovation and reconstruction were private sector led. As discussed earlier, some financial concessions were provided to affected resorts and the industry in order to ease the financial burden to the companies due to loss of income during
the first six months. The government also helped within the process to raise finance for renovation and reconstruction.

“We did so, and we received financial assistance from some foreign organizations, and that was distributed to the industry, distributed in the sense that they had to apply with the plan. We received aid, (not like a loan which needs to be repaid) and there was another as loan assistance with small interest that needed to be repaid in the long term” (TBEO-C).

Participants from NTOs also stated that one of the challenges was the realization that even man-made disasters need to be included in the Disaster Management Plan and that it was a main concern for the recovery of the industry in improving tourism safety and crisis management capacities. According to one participant

“Actually the challenge for them is to be prepared for any such kind of incidents. It might not be a natural thing, there can be other incidents and other disasters that can occur on a tourist establishment, we have had accidents like dive accidents, snorkeling accidents, drowning, a few fire accidents, and few food-borne accidents but there were no casualties in any food-borne incidents. But anyway it is in the best interest of the industry that they are fully prepared for any kind of disaster like that” (TBEO-D).

Participants from NTOs stated that the Tourism Ministry worked very closely with the other agencies and assisted the ministry’s role rather than hindering it. According to another participant:

“No, it did not hinder, actually it was of assistance, good co-operation we had from the whole industry. In fact, we call and mark the day of the tsunami as the “Day of Unity”, a day when everybody kept aside their differences and came to the other person’s assistance and helped everybody. We helped each other and we had strong unity between all the people in all the departments” (TBEO-B).

6.5.3 Changes to Operating Environments of Organizations

Resolution is the sixth stage in the DIRE grid. Resolution is a stage when routine is restored or an improved stage is established. The participants were asked:

- Has the tsunami brought any permanent changes in the environment in which your organization operates?
- How has your organization responded to those changes?
• Has the experience of the tsunami resulted in any permanent changes in your organization’s approach to management and planning?
• Have there been any permanent changes in planning and organization of the destination as a whole?

According to participants from NTOs, the tsunami led them to realize numerous areas of improvement in terms of awareness and preparedness for disaster situations. Therefore, when they prepared the Third Tourism Master Plan (TTMP) in 2007 they emphasized the need to establish a Tourism Emergency Operation Centre (TEOC) to react effectively to any tourism crisis/disaster that may affect the whole industry with the participation of NDMC and all other significant government authorities. TEOC was established for this purpose within the MOT. However, the Tourism Crisis Management Unit which was envisaged in the TTMP did not eventuate:

“Yes after the tsunami what we actually wanted is to have a separate unit whereby people will be specialized, and they will be providing assistance and provide consultation to the resorts for making their disaster management plans and testing of their disaster management plans, like conducting of drills. This is one thing that we need in the tourism ministry itself. We had been planning to establish this unit this year but due to the budgetary difficulties we didn’t receive budget for that. Hopefully, we will have for the next year or the coming years; there would be a special unit to take care of crisis” (TBEO-C).

According to participants from NTOs, all of the resorts have established a Disaster Response Team (DRT), however the efficiency and effectiveness of DRTs has not been tested. DRTs have not been developed in other tourism activities such as live-aboard safari vessels and guest houses. Regular crisis management simulation exercises are not conducted in tourist resorts along with other stakeholders. During 2010 some safety incidents and security issues have prompted discussions with the Maldives Police Services (MPS) and Maldives National Defense Force (MNDF). One incident involved some unauthorized locals entering a resort island during early morning in a burglary attempt and confrontation with employees, which led to one of them drowning. The second was a diving incident where a Russian tourist died and two Maldivian diving instructors were hospitalized. In this incident eight other divers had to be treated for carbon monoxide poisoning from their tanks provided by the live aboard (Safari Boat).

The NDMC has prepared a Strategic National Action Plan (SNAP) for disasters and risk reductions in 2011. This broad strategic action plan addressed many issues that may occur if a
disaster unfolds and provides details of the mitigation measures to prevent disasters. Due to water related accidents, during 2010-2011, MOT has developed procedures for tourist resorts to make lifeguards available during swimming hours, building watchtowers for observation, and erecting cautionary notices about swimming conditions for tourists. NTO participants agree that some changes have taken place since the tsunami, as noted by one participant:

“Yes there are. As I have said earlier, before the tsunami people had not even had a plan for crisis or a disaster. But now we have become more aware and people want to have their disaster management plans and face disasters with the confidence that they will handle it well. So this is the kind of awareness that came with the tsunami.” (TBEO-C)

In the national context the emergency organizations concentrated on short and long-term recovery processes in their respective fields. As indicated at the beginning, the institutional framework for disaster management was formed in 2004 with a national institution for disaster management. Subsequently a policy for disaster management was developed to address the need for an overall disaster management policy, integrated with other sector policies. Disaster Risk Reduction (DRR) was incorporated into the Seventh National Development Plan in 2006. In 2007 the Maldives’ government established the first National Adaptation Programme of Action (NAPA) which was developed to communicate the most urgent and immediate adaptation needs of the Maldives to climate change in terms of the United Nations Framework Convention on Climate Change (UNFCCC). Similarly, Risk Reduction measures were incorporated into the Environmental Impact Assessment process. As indicated above, DRR measures were included under the TTMP. Subsequently, DRR measures have been addressed in the Health Master Plan 2006-2015.

One of the concerns raised by the all the EOs and NTOs is the early warning alerts. The Meteorology Department has purchased and installed equipment for Early Warning System (EWS). One participant reported:

“After the tsunami we started to develop an early warning system. Since the tsunami is not a common feature, we preferred to go for a multi-hazard early warning system. UNDP assisted us in implementing the same.” (TBEO-J).

They have enhanced the capacities for forecasting and prediction, along with training of their employees in use of this new equipment. A national EWS plan has been developed which includes color codes for various stages of alert and warning dissemination protocols. However, there are challenges in implementing EWS. One is the lack of trained employees.
The other issue is that such an EWS requires collaboration and partnerships with all of the line ministries and government agencies, which is still not required by law. Subsequently, the Telecom Policy 2006-2010 envisaged to formulate an emergency telecommunications procedure, ensure existing telecommunication and broadcasting networks cover messages given through EWS, facilitate priority calling and national roaming in existing mobile networks to be used in a disaster, established a satellite based personal communication system to reach all inhabited islands by end of 2007 and finally established an electronic public warning system at an island level by end of 2009. One participant reported:

“We have acquired a number of pieces of equipment, such as weather radar, satellite receiving equipment, broad band seismometers and automatic weather stations. We installed automatic weather stations in 23 islands and they send all data automatically. We can guarantee to the public that if any earthquake occurs in the world or in our region, we will be able to give an early warning.” (TBEO-J)

As discussed earlier, the EOs from the Heath Sector indicated that The Health Master Plan 2006-2015 identifies policy direction and goals for national disaster preparedness at all levels of the Health Sector. Similarly EOs from the education sector indicated that a policy framework on Safe Schools has been prepared, which includes appointment of School Safety Committees, minimum standards for infrastructure and reconvening of “Every Child Swims” program which would be extended to teachers. Similarly, their long-term activities included; conducting awareness campaigns, and integrating the disaster prevention in the education curriculum, preparing teaching materials with help from foreign organizations, and planning mock drills. One participant also added:

“We learned a lot of things. We are working with one of the concerns to establish a safe hospital concept. But this needs money. Most of our buildings are still not safe for any kind of disaster including flooding. This year we have started to establish the safe hospital concept to prevent flooding in new buildings.” (TBEO-G)

The Government sector has conducted research with the help of UNDP to develop a disaster risk profile in the Maldives. It includes a multi hazard risk index for each island. A detailed risk assessment of the proposed nine islands selected for population consolidation has also been completed. However, integrating the risk concerns into development plans of the islands and finding cost effective solutions for improving safety is a very big challenge, as is securing funds for mitigation measures for the islands.
6.5.4 Strategies Implemented and Changes Made to Crisis Management Prevention and Planning Tools by NTOs

In the Tourism Master Plan review for the period 2007-2011, MOT (2012) and the interview results reported here provide details of strategies followed by the NTOs and their progress in three areas:

- Introduction of emergency evacuation, transport and communication infrastructure for resorts (Table 16).

- Strengthen the preparedness of the tourism industry to resort-specific crisis and industry-wide disaster situations (Table 17).

- Strengthen surveillance and security for the safety of all tourists (Table 18).

| Table 16: Actions Introduced for Emergency Evacuation, Transport and Communication Infrastructure for Resorts (Source: Ministry of Tourism) |
|---|---|
| No | Actions | Status/ Completion Date |
| 1 | Conduct an audit to establish the emergency evacuation and communication infrastructure capacity | Completed 2007 |
| 2 | Integrate resorts into the National Disaster Management Centre evacuation plan 2007- 2008 | Completed 2007- 2008 |

| Table 17: Actions to Strengthen the Preparedness of the Tourism Industry to Resort-Specific Crisis and Industry-Wide Disaster Situations (Source: Ministry of Tourism) |
|---|---|
| No | Actions | Status/ Completion Date |
| 1 | Establish a Tourism Emergency Operation Centre (TEOC) to respond effectively to any industry-wide disaster, with National Disaster Management Centre and all other relevant authorities | Completed 2008 |
| 2 | Establish the Tourism Crisis Management Unit to study and collaboratively implement policies, procedures and programs required to maintain high level safety standards and responsiveness to crisis and emergencies in the sector | Incomplete since 2008 |
| 3 | Establish Disaster Response Team (DRT) at Resorts and other tourism related establishments | Completed 2008-2009 |
In partnership with MNDF, Police, Health Facilities and other stakeholders, develop a program of regular crisis management simulation exercises at resorts and at all tourism-related establishments

Planned for 2011, incomplete

Table 18: Actions to Strengthen Surveillance and Security for the Safety of all Tourists
(Source: Ministry of Tourism)

<table>
<thead>
<tr>
<th>No</th>
<th>Actions</th>
<th>Status/ Completion date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conduct public awareness regarding the indispensability of maintaining national safety, security and public law and order to tourism development</td>
<td>Incomplete since 2008</td>
</tr>
<tr>
<td>2</td>
<td>Create an annual forum for national security stakeholders and tourism industry to discuss and identify safety and security issues that relate to tourism industry</td>
<td>Completed, 2007</td>
</tr>
<tr>
<td>3</td>
<td>Require hiring, on-going training and certification of security staff at resorts and tourism-related establishments</td>
<td>Guideline implemented 2008-2009</td>
</tr>
<tr>
<td>4</td>
<td>Regulate safety and security audits and simulation exercises at all resorts and other tourist establishments</td>
<td>On-going since 2008</td>
</tr>
</tbody>
</table>

6.5.5 Strategies Implemented and Changes Made to Crisis Management Prevention and Planning Tools by EOs

In the national context, the emergency organizations concentrated on short and long-term recovery processes in their respective fields. Following the Indian Ocean Tsunami 2004, the Government acted quickly and established a Ministerial Committee and Task Force. On the same day, the National Disaster Management Centre (NDMC) was formed to assist response and coordination. The Ministry of Defence, Ministry of Finance and the Ministry of Planning and Development directed relief efforts and the emergency response in collaboration with other government ministries and departments, various United Nations agencies and other development partners in and out of the Maldives. Throughout the tsunami response, relief and recovery activities, NDMC remained the primary driver. The group was divided into two departments:

- National Disaster Relief Coordination Unit which was responsible for temporary shelter, repair of damaged homes, provision of relief assistance, logistical support, reconstruction and rehabilitation of social infrastructure; and
- National Economic Recovery and Reconstruction Programme, which was responsible for the planning and coordinating the redevelopment programme to revitalize those islands
most affected. It was also charged with developing programmes and projects to revive the overall economy. This was carried out by two units – the National Economic Recovery Unit and Transport and Logistics Unit.

Much emphasis has been given to developing broader disaster management competence in the Maldives. Survey participants from the governmental agencies have highlighted the following disaster response and preparedness planning and mitigation activities:

**Early Warning Systems**
- Developed systems to integrate national warning systems at Department of Meteorology with regional systems

**Emergency Response**
- Established emergency operations centre and developed standard operating procedures in emergencies at island level

**Preparedness Planning**
- Developed vulnerability and risk assessment at island levels
- Identified possible evacuation sites, emergency shelters-cum-community building on raised ground
- List of vulnerable persons prepared
- Developed plans for safeguarding lifeline facilities, storage of critical supplies
- Developed an inventory of skills and persons available as volunteers

**Emergency Response**
- Established emergency operations centre and developed standard operating procedures in emergencies at island level

**Capacity Building**
- Government officials directly linked to reconstruction and rehabilitation efforts were trained
- Capacity building and training was implemented for fisher associations, women committees and youth groups, and also the development of community-level volunteer Disaster Preparedness and Response Teams to disseminate early warning alerts and organize the first response.

The telecommunications network in the Maldives faced a devastating impact. In the aftermath of the tsunami however, mitigation measures were taken to minimize such an impact. One participant reported:
“Today we are much more prepared to overcome or to restore the network than we were at 2004. One simple example is that any new building that we fabricate today for telecommunication infrastructure is designed in such a way that there is enough space in the lower area for water to flow so that minimal damage will incur. I do not mean that we can 100% prevent.” (TBEO-N)

“I would say we are more prepared for an event like 2004. We didn’t have the satellite communication restoration telephones and we have our competitors now. Our network is more diversified now. All these things are in place now. In 2004, we didn’t have such back up plans.” (TBEO-N)

6.5.6 Safe Island Programme

Another important program identified by the survey respondents is the Safe Island Programme (SIP) which was launched by Ministry of Planning and National Development in January 2005, soon after the tsunami, which concentrated on regional development and population consolidation. Participants indicated that the tsunami created a need for enhanced environmental mitigation measures and adaptation interventions in some of the islands evacuated. One of the objectives of SIP was to redesign the physical development features of islands, including wider environmental protection zones, creating elevated areas for vertical evacuation in the event of floods and facilitate easy access in emergencies.

Another reason was to consolidate the population to larger islands which are protected from natural disasters and more economic in terms of public investments in utilities, infrastructure, housing, and services. Similarly these islands have quicker access to air, coastal protection, and sufficient space for subsequent population growth, potential for expansion, proximity to other islands, a viable economy and access to social services. Seven islands were chosen for development on the basis of selected criteria which included island size, potential for reclamation or connection, strategic location and size of the population. These islands act as host islands for isolated communities living in islands within closer proximity with less developmental potential.

Brown (2005) reported that due to strong island identities, it had previously proven difficult to consolidate population in the Maldives. However, since the tsunami displaced entire
communities and destroyed infrastructure on many islands, people agreed to relocate. Brown (2005) noted that however even those who moved willingly had to make huge adjustments in order to adapt to their new home. This was in addition to the trauma they had experienced during the original disaster. According to MPND (2005) the resettlement and relocation of populations was planned to be totally demand-driven and voluntary.

6.5.7 United Nations Development Program

As per the respondents’ reports, the United Nations and United Nations Development Program have actively helped in strengthening the public sector capacities with a variety of assessments and training exercises through many competent organizations such as:

- The assessment of the early warning systems of the Maldives - Asian Disaster Reduction Centre (ADRC) - Japan
- Disaster and risk vulnerability profile of the Maldives-Risk Management Solutions - India

Another significant finding was that during the recovery period several disaster management training workshops were held for senior government officials in 2005 with the funding received through UNDP. Besides these, ten senior government officials were sent for a study visit to India and Bangladesh in 2005 to learn about disaster management policy development, institutional mechanisms and disaster management capacity development which proved to be useful for strengthening national governmental capacities during the recovery period. There is also evidence in the research that the UNDP assisted government organizations through their Disaster Risk Management Programme (See Table 19: Key Projects under Disaster Risk Reduction by UNDP in Maldives) with the objective of enabling communities to manage adverse effects of natural disasters through strengthening their institutional and technical capacity at all levels.

Table 19: Key Projects Under Disaster Risk Reduction by UNDP in Maldives (Source: UNDP, Maldives)

<table>
<thead>
<tr>
<th>UNDP Disaster Risk Reduction Projects</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed Island Risk Assessment in the Maldives, 2007- 2010</td>
<td>This is an offshoot of the findings of “Developing a Disaster Risk Profile for the Maldives (2006)” which provided the vulnerability ranking of over 1,000 islands in the Maldives. The project aims to provide an in-depth disaster risk assessment for the most 10 vulnerable islands identified by the Profile (2006)</td>
</tr>
<tr>
<td>Project Title</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cost Benefit Study of Risk Mitigation Measures in 3 Islands, 2009</td>
<td>This is an offshoot of the preliminary findings of “Detailed Island Risk Assessment in the Maldives”. The study aims to provide the cost performances of 3 types of risk mitigation measures in 3 islands for policy makers.</td>
</tr>
<tr>
<td>Strengthening National and Local Capacities for Effective Early Warning Dissemination and Response, 2008-2010</td>
<td>This project aims to strengthen end-to-end early warning system for tsunami and other hazards. Key deliverables will be early warning Standard Operation Procedures (SOPs) for government stakeholders and early warning response plans at targeted islands.</td>
</tr>
<tr>
<td>Disaster Risk Reduction and Disaster Management in Schools, 2009-2010</td>
<td>This project aims to support the government in integrating DRR into the school curriculum and co-curricular activities. Expected key outputs will include a Maldivian Guide for School Emergency Operation Plan (SEOP), and a text books for grade 1-9 students.</td>
</tr>
<tr>
<td>Disaster Management and Environment for Sustainable Development, 2009-2010</td>
<td>The objective of this project is to support the government in integrating DRR in the National Building Code and Compliance Documents. Expected outputs will be 2nd edition of Maldivian National Building Code, Compliance Documents and roadmap to strengthen the implementation of National Building Code and Compliance Documents.</td>
</tr>
<tr>
<td>Construction of Multi-Purpose Safe Shelter Building in Mali, 2008-2009</td>
<td>The project aims to provide the island community with vertical evacuation for around 1,000 residents at the time of natural disasters such as tsunamis and flooding. This multi-purpose building will also be used for community and commercial activities during normal times.</td>
</tr>
<tr>
<td>Establishing Life Cycle Management (LCM) System of Vessel Safe Shelters in the Maldives, 2010-2012</td>
<td>The project aims to achieve both safe and economical harbors to protect vessels, and people’s livelihood, from storms and sea swells. The project will produce two key outputs; LCM guideline for harbors and a management database.</td>
</tr>
</tbody>
</table>

Besides UNDP, the current study found that the Red Cross and Red Crescent Movement in the Maldives assisted in recovery efforts. The IFRC led the process of forming a national Maldivian Red Crescent Society in association with the Maldivian Government and various members from civil society. The Maldivian Red Crescent Society would become an important local partner in relation to enhancing capacities and reducing vulnerabilities before, during and after disasters. However, this study does not focus on the NGO role in recovery efforts.
6.5.8 Disaster Risk Reduction (DRR)

The research results also indicated that the government Disaster Risk Reduction (DRR) Programme was incorporated into the Seventh National Development Plan in 2006. The following year, the Maldives developed the first National Adaptation Programme of Action (NAPA) which was developed to communicate the most urgent and immediate adaptation needs of the Maldives to climate change in terms of the United Nations Framework Convention on Climate Change (UNFCCC). Similarly, Risk Reduction measures where incorporated in the Environmental Impact Assessment process, while DRR measures were included under the Third Tourism Master plan and Health Master Plan 2006-2015.

Table 20 summarizes the extent to which the government sector has performed in relation to the Maldives tsunami against the DIRE Grid. All the line ministries worked closely in coordination with each other during the various phases of the disaster, within the framework created by the government soon after the tsunami. Ministry of Tourism in particular worked with MTPB very closely during response, short and long-term recovery activities. It was found that the government sector started developing prevention and planning tools such as; sector specific disaster management plans and SOPs together with disaster risk reduction measures such as, early warning and effective communication systems.
Table 20: Summary Evaluation of the Extent to which the Government Sector has Performed in Relation to the Maldives Tsunami Against the DIRE

<table>
<thead>
<tr>
<th>Organization</th>
<th>Pre-event</th>
<th>Prodromal</th>
<th>Emergency</th>
<th>Intermediate</th>
<th>Long-term (Recovery)</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic actions and implementation by National Tourism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizations and Emergency Organizations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Develop, document and communicate</td>
<td>• Warning systems</td>
<td>• Rescue/evacuation procedures</td>
<td>• Restoration</td>
<td>• Actions taken for recovery and</td>
<td>• Changes to operating environment</td>
<td></td>
</tr>
<tr>
<td>Disaster Management plans</td>
<td>• Activate communication mechanisms</td>
<td>• Control over crisis communication</td>
<td>• Media communication strategy</td>
<td>challenges</td>
<td>• Effectiveness of strategies and</td>
<td></td>
</tr>
<tr>
<td>• Assessment of disasters and probability of occurring</td>
<td>• Communicate objectives of</td>
<td>• Appointing a spokesperson</td>
<td>• Changes to the organizational</td>
<td>• De-briefing with employees</td>
<td>• response</td>
<td></td>
</tr>
<tr>
<td>• Develop disaster contingency plans</td>
<td>contingency plans</td>
<td>• Collaboration with</td>
<td>structure/personnel</td>
<td>• Restoration of business and consumer</td>
<td>• Changes brought to Crisis/</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>internal/external stakeholders</td>
<td>• Collaboration</td>
<td>confidence</td>
<td>disaster prevention and planning tools</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Action taken to minimize impacts</td>
<td>• Resource Management (e.g., changes in</td>
<td>• Collaborating with relevant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>leadership styles, financial, employee</td>
<td>stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>empowerment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Tourism and Civil Aviation</td>
<td>No plans and not prepared for a</td>
<td>No warning systems has been in place</td>
<td>Emergency response initiated</td>
<td>Short-term restoration</td>
<td>Attempt to return to pre-disaster</td>
<td>Tourism Disaster Management Plan developed</td>
</tr>
<tr>
<td>and Civil Aviation</td>
<td>natural disaster</td>
<td>to be activated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry Planning, Environment and National Development</td>
<td>Not prepared for a natural</td>
<td>Not prepared</td>
<td>Co-ordination of the ministerial committee</td>
<td>Co-ordination and short-term disaster</td>
<td>Co-ordination and long-term disaster</td>
<td>Disaster preparedness and disaster risk reduction in policies</td>
</tr>
<tr>
<td>and National Development</td>
<td>disaster</td>
<td></td>
<td></td>
<td>management</td>
<td>recovery</td>
<td></td>
</tr>
<tr>
<td>Maldives Tourism Promotion Board</td>
<td>Not prepared for a natural</td>
<td>Not prepared</td>
<td>Co-ordinated with MOT for response</td>
<td>Co-ordinated with MOT for short-term</td>
<td>Co-ordinated with Ministry in formulation of long-term destination recovery plans</td>
<td>Crisis Management Plans developed</td>
</tr>
<tr>
<td></td>
<td>disaster</td>
<td></td>
<td></td>
<td>restoration of the industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>Not prepared for a</td>
<td>Not prepared</td>
<td>Co-ordinated with the</td>
<td>Co-ordinated with local</td>
<td>Co-ordinated with</td>
<td>Tsunami response</td>
</tr>
<tr>
<td></td>
<td>natural disaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td>Pre-event</td>
<td>Prodromal</td>
<td>Emergency</td>
<td>Intermediate</td>
<td>Long-term (Recovery)</td>
<td>Resolution</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Immigration</td>
<td>Not prepared for a</td>
<td>Not prepared</td>
<td>authorities and island communities</td>
<td>and foreign agencies for assessments, relief and minimizing outbreak of any disease</td>
<td>NDMC and other ministries throughout the recovery on health facilities</td>
<td>plans for Health Sector. Strategic plan for health sector on emergencies</td>
</tr>
<tr>
<td>Department</td>
<td>a natural disaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airports</td>
<td>Not prepared for a</td>
<td>No warning systems</td>
<td>Worked in co-ordination with the Airports Authority , Foreign Ministry and Airline Sector</td>
<td>Assisted with local and foreign agencies to send in the affected tourists back through the charters</td>
<td>Attempt to return to pre-disaster</td>
<td>Airport Emergency Plans reviewed and SOPs followed</td>
</tr>
<tr>
<td>Authority</td>
<td>a natural disaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Meteorology</td>
<td></td>
<td>No warning systems established to alert on earth quakes greater than 7.0</td>
<td>Worked with the authorities in providing emergency information after the tsunami</td>
<td>Assisted with local and foreign agencies to send information</td>
<td>Meteorological, oceanographic and seismic hazard monitoring networks established</td>
<td>Doppler Weather Radar installed. Multi-Hazard Early Warning System is operational, advisory and timely warnings are issued for extreme events and disseminate to focal points via mobile network and to citizens through media</td>
</tr>
<tr>
<td>Ministry of Fisheries, Agriculture and Marine Research</td>
<td></td>
<td>No warning systems</td>
<td>Co-ordinated with the authorities and island communities</td>
<td>Co-ordinated with local and foreign agencies for damage assessments, relief to farmers and fisherman</td>
<td>Attempt to return to pre-disaster level through help of agencies through providence of basic planting materials,</td>
<td>The Ministry, in co-ordination with UN, UNEP, FAO, focused on facilities and programs for building farmers and</td>
</tr>
<tr>
<td>Organization</td>
<td>Pre-event</td>
<td>Prodromal</td>
<td>Emergency</td>
<td>Intermediate</td>
<td>Long-term (Recovery)</td>
<td>Resolution</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ministry of Defense / Coast Guard,</td>
<td>Not prepared for a tsunami</td>
<td>No warning systems were there</td>
<td>Co-ordinated with Government and island</td>
<td>Co-ordinated the whole restoration effort with the government and provided</td>
<td>Worked and co-ordinated the whole NDMC operation, maintenance of records of Internally Displaced People and the programs, records, co-ordinated with all government ministries and foreign partners</td>
<td>Developed a Draft National Plan for Disaster Management, and Mitigation, Draft Disaster Management Bill, development of competence in search and rescue and salvage operations, assistance to civil authorities during crisis situations</td>
</tr>
<tr>
<td>Search and Rescue</td>
<td></td>
<td></td>
<td>communities in response</td>
<td>affected island communities, evacuation of civilians and tourists to close by</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>islands, airport and to capital island</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Education</td>
<td>Not prepared for a tsunami</td>
<td>No warning systems developed</td>
<td>Co-ordinated with Government and island</td>
<td>Co-ordinated with government and foreign agencies for short-term restoration</td>
<td>Co-ordinated with NDMC and Government authorities throughout the recovery on educational facilities</td>
<td>MOE worked with UNESCO and local agencies to prepare a disaster preparedness policy for the schools. Guide for “School Emergency Operations Plan, Maldives” (First Edition), Standard Operational Procedures on Flu Pandemics and Standard Operational Procedures for Early Warning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>communities in response</td>
<td>of the affected schools and educational facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.6 Conclusion

This chapter summarized results that were obtained from interviews of representatives from 12 government agencies. The interviews were semi-structured and in-depth. The Disaster Incident Response Evaluation Grid (DIRE) developed by Faulkner and Vikulov (2001) was the basis for the interview structure and topics that were discussed in the chapter. This grid provides a framework for the respondent’s recollection of the sequence of events during the disaster, and their reactions to these events (Faulkner & Vikulov, 2001). Table 20 summarizes the extent to which government sector has performed in relation to the Maldives tsunami against the DIRE Grid. It was found that only some considerations in this framework were implemented. The next chapter outlines the research findings from the interviews from Private Sector Tourism Industry in the Maldives.
7.1 Introduction

This chapter presents the results from interviews of 23 private-sector operators. The interviews were semi-structured and in-depth. As explained in Chapter 5, the Disaster Incident Response Evaluation Grid (DIRE) developed by Faulkner and Vikulov (2001) was the basis for the interview structure and topics. This grid provides a framework for each respondent’s recollection of the sequence of events during the disaster, and their reactions to these events (Faulkner & Vikulov, 2001).

The questions asked were examined in relation to the conceptual framework for tourism crisis and disaster management which was developed using a documentary method based on the constructs and dimensions derived from the theory. Similar to the government sector, the coded interview results are presented in the order of the grid’s main components; pre-event and prodromal under one section, emergency and intermediate in one section and long-term recovery and resolution in another section. These components and the disaster recovery stages; short-term/restoration and long-term/reconstruction have been explained in section 6.1. Below I provide the background to the impact of the tsunami on the private sector of the tourism industry.

7.2 Impact of the Indian Ocean Tsunami of 2004 on the Private Sector of the Tourism Industry

The impact from the tsunami was significant for the tourism sector. Three tourists died and some were seriously injured. Twenty one out of 87 resorts were significantly damaged and had to be closed. Most of the 21 resorts were able to resume operations within a year after minor or major renovations although a few resorts took two or more years to totally rebuild.

The resort islands and the inhabited islands suffered similar physical damage from the sheer force of the tsunami. The loss of lives was much higher on inhabited islands (82 died). On the 26th of December 2004, there were 170000 tourists, along with 17000 staff members, on resorts islands, but surprisingly, only three fatalities occurred on these islands. Had the tsunami waves struck the Maldives during the night or early morning on the 24th December 2004, many tourists would have been trapped in their rooms. The low tides in December and
the fact that it coincided with breakfast time in most resorts prevented a greater disaster. The island resorts which received the greatest damage were located either on the eastern side of the respective atolls, had very small reefs to protect them or were closer to the deep waters which exposed them to the destructive force of the tsunami.

Those resorts renovated after the tsunami were totally flooded, leading to massive damage to the infrastructure supporting services and power generation. The Maldives’ tourist resort approach and strategy is based on a one-island-one resort concept which requires the resorts to generate their own electricity through diesel generated power houses and produce their own water through desalination plants. The resorts are mostly surrounded by other inhabited islands from where most of the local staff are recruited from.

Totally reconstructed island resorts suffered infrastructure loss and also damage to all of the stored food supplies, water stocks, furnishings and accommodation structures. At 9.15am on 26th December 2004, most of the 17,000 tourists in the Maldives were having breakfast after a festive night. Very few tourists were in their rooms, with tourists engaged in sailing excursions, diving, fishing or other off-resort activities, like island-hopping.

For the purpose of this research, the damaged resorts were organized into three categories: resorts/hotels where slight damage occurred and which were restored (Appendix A); those which received some reconstruction (Appendix B); and, those which were totally reconstructed (Appendix C). The details of damage to the selected resorts (for interviews) are also provided in appendices A, B, and C. The number of resorts selected for survey from each of the three categories are; four from the resorts/hotels which received slight damage, three from those which undertook some reconstruction and three of those that were totally reconstructed. Figure 13 shows the locations of the private sector participants.
Figure 13: Location of Private Sector Participants

Figure removed, subject to copyright
Appendix A describes those resorts which required some renovation and reconstruction. Seven resorts, out of an overall 21 resorts that were closed down soon after the tsunami, were quickly renovated and repaired. These resorts were made operational after repairs to their basic utilities and services, before the end of February 2005. Officials from the Ministry of Tourism visited to observe the extent of the damage and the suitability of the facilities that were restored for immediate reopening.

Appendix B describes the damage sustained by the resorts that were closed soon after the tsunami for major renovation activities and some reconstruction. Nine of the 21 resorts remained closed for a period of between four months and one year. The three resorts where interviews were conducted had sustained major damage to the beach front guest rooms, jetties, walk-ways and water bungalows. Pipelines for major utilities were also affected to the extent that they needed full replacement.

Appendix C outlines the damage sustained by resorts closed due to severe damage to infrastructure and which could not be renovated or restored quickly. Five of the 21 closed resorts remained closed for a period of approximately one and a half years. The damage to these three resorts (selected for interviews) was so severe that they had to be closed for total reconstruction.

Table 21 shows the list of businesses consulted for interviews, in order to understand the impact of the tsunami on tourism businesses and the private sector tourism industry, in the Maldives. Similar to the previous interviews with tourism organizations and emergency organizations, the DIRE grid developed by Faulkner and Vikulov (2001) was the basis for the interview structure and topics for the private sector establishments in the tourism industry. Faulkner and Vikulov (2001) used the DIRE grid to study impacts of the disaster on tourism activities and responses within the tourism sector in 1998 Australia Day flood at Katherine. Similarly, the researcher’s aim was to validate the composite record of events, conduct a post-mortem of the event and identify the ways in which the flood triggered changes in tourism management and marketing in the area, and fulfills the objectives of this research as explained in sections 1.3 and 5.5.1.
Table 21: List of Private Sector Participants Interviewed

<table>
<thead>
<tr>
<th>Private Sector (Maldivian Tourism Industry)</th>
<th>No: of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maldives Association of Tourism Industry (MATI)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Accommodation providers</strong></td>
<td></td>
</tr>
<tr>
<td>Tourist Resorts and Marinas (89 in 2004) – 21 resorts damaged</td>
<td>10</td>
</tr>
<tr>
<td>Safari Vessels (116)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td></td>
</tr>
<tr>
<td>Dive Centers and Schools (from resort)</td>
<td>1</td>
</tr>
<tr>
<td>Souvenir Shops (independent from resort)</td>
<td>1</td>
</tr>
<tr>
<td>Water Sports Centers (from resort)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Tourist Services</strong></td>
<td></td>
</tr>
<tr>
<td>Tour Operators and Travel Agents (local and foreign)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td></td>
</tr>
<tr>
<td>Air Transport Services (seaplane services)</td>
<td>2</td>
</tr>
<tr>
<td>Sea Transport Services (travel agency, independent)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td></td>
</tr>
<tr>
<td>Insurance Companies</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23</td>
</tr>
</tbody>
</table>

7.3 Pre-Event and Prodromal Stage

7.3.1 Preparedness for Disasters

The private sector tourism industry participants were asked questions about the pre-event context to establish work that had been done to prevent or mitigate the effects of potential disasters. The questions asked were:

- Before the tsunami, had your company considered what crisis management strategies would be required in the event of such a disaster?
- Could you elaborate on any disaster/emergency planning your company had in place to deal with the tsunami?
- Had your company conducted any environmental scanning, scenario planning or risk analysis assessments in case of a crisis?
- Did you then develop any strategic plans from your scanning and risk analysis?

The interviews indicated that the private sector tourism industry did not receive any early warnings and neither did they have any disaster management plans. There was no destination-wide plan as well. Therefore, the tourism sector operators were not able to cope with the situation effectively. However, headcounts were taken, tourists were looked after and every
effort was made to make ensure tourists did not panic about the situation. Expect for one foreign owned resort business receiving information from their management through satellite phone, none of the other businesses received any instructions immediately after the tsunami hit. Except for the resorts badly affected, the businesses interviewed did not request any tour operators to take the tourists.

In general, the tourist resorts and other private sector participants interviewed had different individual experiences, however none of the participants interviewed indicated any prior warning, and therefore none of the resorts had any time to prepare for an eventuality such as a tsunami disaster. According to one participant:

“We never had any warning, in fact that was a Sunday and we were having our morning briefing here in the meeting room. And one of our staff members was working in the beach with catamarans and saw that the water level was rising. He did not know what it was, that time in December as a Maldivian he knew that water level will not come up. So realized that something unusual was happening. So he quickly came on the island and informed the people”. (PS-R1)

The interviews indicate that the private sector had no plans to cope with such a disaster, or any guidelines for crisis management within their businesses and therefore were vulnerable. As a result of excessive media reporting the resorts experienced a significant downturn in international tourist arrivals. Emergency response plans were only for fires as per the Tourism Ministry’s safety requirements of having fire equipment in tourist resort buildings and safari vessels and annual monitoring of the same through the Fire Services Division of Maldives National Defense Force. According to one participant:

“Even before tsunami we did have an emergency response plan for fire, because fires were occurring every now and then, we had a complete procedure to follow in case we have a fire.” (PS-R3)

**7.3.2 Pro-Active Planning Measures**

Participants were asked about proactive or direct measures taken to prevent or mitigate effects of potential disasters by their businesses operations. The questions asked were:

- Before the tsunami hit the country, had your company received any warning?
- What did you do to prepare for the event?
• Do you have a documented crisis/risk management plan for your business that covers major risks/hazards?
• Were you acting in response to the advice of any other division; your head office or government authorities?

All private sector participants from the tourism industry indicated that they were not aware of any emergency response plans for the sector at the national level. Similarly they did not have any plans for severe weather or storm surges. However, one participant noted the environmental risk associated with beach erosion:

“Beach erosion is a common issue we are having and we have our own yearly plan to do that. And we continue working on the beach erosion issues and we control and minimize it. Otherwise we don’t have any other plan, because we don’t have any disasters here in the Maldives, we didn’t experience anything like that.” (PS-R1)

In the absence of formal/written emergency response plans, private sector establishments reacted to the disaster in very different ways. As one of the participants:

“We went around the island and we informed everyone that we want to make a headcount, so we asked all the guests to gather near the specialty restaurant and that’s where we counted that everyone was here because we also had diving trips out and when they came back we also collected everyone and the manager that time tried to keep the situation at an ease, not that anyone panics”. (PS-R5):

However, all interviewees indicated that most of the tourists booked during that period left the country due to panic, even from the islands that operated normally. This was due primarily to their respective governments instructing them to leave through travel advisories. All participants agreed that tourists started panicking after TV services resumed, when they realized what had happened. Even though the Maldives was not greatly affected the media coverage was focused on casualties in Bangladesh, India, and Sri Lanka and of course the devastation in Indonesia and Thailand. One participant stated:

“That’s when it started to become hard for us because until then as I said no one knew anything and no one knew exactly what had happened and the guests were very calm. But for strange reason the moment when they realized what happened and the moment when they realized there were flights coming to Maldives to take out guests they got very aggressive.” (PS-R5)
As discussed above, power houses were flooded and some of the resorts could not access their computer systems to generate any guest lists to make even a head count. The resorts badly affected needed to evacuate as soon as they could, even if they had food stocks and water that could last for a few days. They were not able to produce any water through the desalination plants and the guests had to wash in the sea. All resorts were able to make contact with the Ministry of Tourism the day after the tsunami.

Tourist evacuations from the severely affected resorts were carried out using the resorts’ own dhonis (Maldivian name for motorized boats), the Coast Guard vessels and the Pakistani Naval Ship, which was visiting Maldives during that time. The British Tour Operators were the first ones to evacuate their clients in charter flights, followed by the German and Austrian tour operators who reacted more slowly. However, after observing the situation on 29th December 2004, they also started to send their charter flights to the Maldives to remove them. The resorts did not force any of their tour operators to evacuate the clients. One participant stated:

“*But it was up to them. It was their decision whether they wanted to stay or whether they wanted to go. So the tour operator didn’t force them where as the English Tour Operators they did take their guests out. They didn’t want any guests to stay here.*”  (PS-R3)

The tour operators and the resorts could not properly communicate with the airport during the first few days after the tsunami which led to delays in booking seats for passengers on these charter flights. As indicated above, the resorts which received less damage did try to inform customers of the situation, by explaining the circumstances, however most wanted to leave. In severely affected resorts, the guests had to be kept in the reception area, and the kitchens were in such a bad state local islanders cooked for their guests. Resorts concentrated on taking the injured, and people in need first to the airport. One resort chartered a flight to transport customers. In some cases, resorts were unable to even communicate with their respective tour operators, media sources and the concerned families of their clients who were worried about their loved ones. One participant indicated:

“*We had to deal with the media in all our major markets. We were not in a position to issue reassuring messages because we lacked information and the phone system was completely down for the first two days, no real information was available. In some cases it took as long as four days to restore the telephone services.*”  (PS-T1)
7.3.3 Environmental Scanning, Risk Analysis and Disaster Contingency Plans

Gurtner (2007) argues that tourism related crisis or risk management requires considerable investment of resources from tourism businesses. Using crisis management case studies from Bali and Phuket he explains that the effects of the tsunami in Thailand could have been reduced through enhanced stakeholder awareness, competent knowledge of appropriate preparation and responses. Similar to the Maldives, Southern Thailand also had no regional or destination level crisis management plan in place. As highlighted earlier, companies need to invest in time and money and other resources to create contingency plans. Even if the resorts in the Maldives could bear the cost of preparing these plans, there was no legal requirement to have them prior to the tsunami. As highlighted by the respondents from the NTOs, MOT has not been able to go ahead with recommendations provided in the sector disaster management plan and tourism master plans due to budgetary constraints.

Having risk management and business resilience plans has not been a legal requirement, even after the tsunami. The MOT published disaster management plan guidelines for tourism vessels, tourist guest houses/hotels and tourist resorts in their website on 5th December 2013. In December 2013, local media reported response and recovery training for one resort through NDMC assistance, who called upon other tourism enterprises to participate in the future. Resort safety and environment management plans developed prior to resort development for legal requirements do not include risk management frameworks and disaster management components. One participant noted that:

“Honestly speaking, I would say that people working in the tourism operations aren’t trained and prepared. They do not conduct any drills as well.” (PS-S1)

For small tourism businesses in the Maldives, developing contingency plans will be difficult since they lack capital. Even though none of the businesses interviewed highlighted this fact, they stressed on lack of skills and trained people in this area and without such resources it is unlikely that they will have the competency to develop crisis management planning. In his article about crisis management models and their applicability to small scale businesses, Cushnahan (2004) examined the small island of Gili Air in Indonesia. He found that all 43 small businesses had no crisis management plans or trained personnel and therefore the responses to the crisis was ad hoc and unsystematic. Tourism business owners and managers did not assemble crisis management teams and overall they had no access to funds or credit facilities, and had to deal the crisis in a piecemeal fashion (Cushnahan, 2004). Most of the
tourism destinations in the developing world affected by the Boxing Day tsunami, including the Maldives, had similar stories.

## 7.4 Emergency and Intermediate-Phase

### 7.4.1 Crisis Response and Communication Strategies Implemented

The third stage of the DIRE Grid includes the direct response used by the operators during the disaster. The questions asked were:

- What were the main impacts of the tsunami at this stage?
- Who was at risk and what property damage had occurred?
- What actions were taken by you and your organization?
- What action was taken by other organizations and relevant agencies and how did it affect your actions?

As indicated in section 7.2, four of the resorts/hotels which received minimum damage, three of those which received some reconstruction and three of those totally reconstructed were selected for interviews. One participant from a less damaged operation reported:

> “At that moment I was at the reception at the front desk and the water came into the reception and furniture started floating. We had rattan furniture at that time and it was floating and the lights went off, we had disconnection of electricity. We had damage in a way that can be restored very easily. We had some damages to the buildings which were located above the water such as the Moodhu Bar and the Water Villas. Not so much of the land Villas. There were few land villas in the eastern side that were damaged, the glass doors were broken and of course water came inside and with the salt water we had quite some damage afterwards. I think compared to other islands we were not hit as bad.” (PS-R9)

Another participant from the same category of damage added:

> “We were very fortunate; the damage that happened to this island compared to what happened to the Maldives, we believe was not significant damage at all. However, our jetty floated and drifted away. Of course we didn’t let it go, we held it back, we tied it back and later we put it back on the jetty and fixed it. There weren’t any damages to the guest rooms. There was a bit of water in the courtyard of villas, and a bit of damage happened to the plants only, no structural damages occurred.” (PS-R8)

A participant from a totally reconstructed resort operation reported:
“When the tsunami came, we had about 210 guests and near about 180 employees in-house. I was in my room in the staff quarters when someone came and informed me to leave immediately. I tried to open the door but couldn’t do it so I broke the glass window, injuring my hand in the process while the door next to me burst in with the force of the waves that was about 5 feet high that flooded the island for about 5 minutes. If I stayed in I would have drowned.” (PS-R10)

“The ground was muddled with coral that came from the sea. Towards the eastern side of the island the beach shrubs and the trees were turned backward onto the island. Near to about 15 meters of sand was stripped off from the beach. A beach berm of near to about 1 meter was present on the same side of the island with broken corals burying the roots of shrubs and trees that were nearly 5 meters inland from the ocean. Extensive damages occurred to the property and infrastructure damaging almost all the guest rooms, equipment and jetty.” (PS-R10)

On the day of the tsunami, air transport services were severely disrupted and Male’ International Airport was extensively damaged. Several pieces of navigational equipment and back-up systems were damaged due to the tsunami. According to all participants the airport was in chaos and confusion. Waves of heights up to 2.5 to 3 meters washed across the runway and entered the main terminal buildings. The terminal was bursting with passengers, as it was one of the busiest days of the season. Some large commercial aircraft had already landed and one small aircraft was about to land when the waves rushed in. Another three sea planes landed on the oncoming waves and received extensive damage to their aircrafts. Soon after the tsunami waves subsided, the air transport services agreed to open the runway by clearing stretches of coral and debris. They were able to open after 10 hours to welcome streams of tourists who were evacuated from the resorts.

The biggest issue was communication, as the country’s mobile telecommunication system collapsed. Resorts that had satellite phones could not establish any contact with any responsible authority. The resort boats equipped with two-way radios were used to communicate between resorts and islands; however they could not reach anyone at the Coast Guard of the Maldives National Defense Force or emergency services at the airport. Some of the resorts operated by international chains had satellite phones and were able to receive instructions and advice through their overseas offices. As one participant indicated:

“The first day was a disaster in terms of telephone communication. One or two calls could be made when you try for an hour or two. If you are lucky you get a line and you talk for few
minutes and then it’s gone. The first day and the following night was a disaster. But the second day 27th December, we were able to communicate normally on the mobile phones within Male’ Atoll and to Male’, but still we weren’t able to contact to other local islands which were far away to Male’. But the tourism area was covered. And we were able to communicate on the telephone and were able to send some emails.” (PS-R1)

According to all participants interviewed in private sector, another significant challenge was the collapse of communication systems. No communication took place between them and NTOs and EOs, and tour operators who were sending the tourists to the airport. As discussed earlier, the airport did not have the capacity to handle thousands of tourists in shock who required special care. The airport could not even provide blankets for the tourists and they had to sleep on bare ground. When the airport resumed services, confusion ensued when the airlines had to allocate seats for the passengers. Some tourists were taken to guest-house accommodation in Male’. One participant representing the private sector noted:

“At the early stages we were trying to help the resorts and people in general with their immediate needs. We dispatched fresh water, food and clothing. The main problem was water. The water table was affected by salt water and likely polluted. We supplied medicines and we were lucky we prevented disease. In general we helped in repatriation of the tourists and in providing immediate relief operations in the airport such as food, shelter and clothing to the people who have lost everything.” (PS-N1)

Another participant noted:

“We had four resorts. We hadn’t received damage to the infrastructure since the water came to an extent and didn’t damage the property. But some areas around one of the island were eroded badly. Most panicking thing was there was no communication. One of our resorts was in R. Atoll and it was so much of a concern for us. There was no satellite phones to communicate until one of the other resorts shared their phone with us the following day. We then contacted the resort to learn they were alright.” (PS-R7)

Little damage was sustained by water transport operators who ferry visitors between the airport and Male’ and between the airport and the island resorts. Although the two seaplane operators based at the international airport suffered the loss of some ground level maintenance/operational equipment, terminal building furnishings and mooring pontoon decking, their aircraft fleets suffered limited damage. One air transport operator for example, had three aircraft of out of thirteen out of service for two weeks. However, both the sea plane
operators were almost immediately running a continual series of relief flights to the inhabited and resort islands. While the air transport operators and airport services restored the operations, they had to deal with the charter flights that came to pick up the traumatized tourists. This was followed by the cancellation of charter flights and other regular scheduled flights, following the reduced arrivals. Despite the chaos and the confusion, three air transport operators in the country mobilized all of their resources and time in assisting the government and private sector establishments to evacuate the injured and affected tourists and locals. The breakdown in communication gave way to negative speculation and inflated rumors about access to the country.

7.4.2 Crisis Control Mechanisms Implemented

The intermediate stage is the fourth component of DIRE Grid and includes the recovery phase and short-term restoration activities. The questions asked of the participants were:

- What were the main challenges in restoring operations to normal conditions?
- What action did you and your business take to restore normal services?
- How did the actions of other firms and relevant agencies assist or hinder the return to normality?

The resorts did not have specific assembly points identified for emergencies, nor procedures for them. The only procedure they followed was for fire emergencies. It was a challenge as the Maldives did not have high grounds where guests could go for safety and such assembly points should be well marked and equipped with all relief food, water, medical items, communication systems and life-jackets. Another major challenge was restoring utilities and ensuring generators were positioned on high ground. Communicating with the media and the tour operators was another key challenge for the resorts as they lacked trained media personnel and they had to ensure a correct picture of the events were given in an area already under a lot of media attention and speculation. One participant noted:

“It took seven days for the communication to be restored properly to the region. There was the disconnection of the whole telecommunication system.” (PS-R7)

Another participant reported:

“The whole country was in panic. The country wasn’t prepared. We did our best. We had many challenges. There were lots of issues. While we were travelling by sea, so many logs floating around made the travel very dangerous and difficult. In fact one of our boats got hit
by a floating log in the middle of the night and broke down.” (PS-R8)

At the time of the tsunami, there was no Red Cross/Red Crescent Society or any international organizations that could help in the relief. United Nations agencies at that time had no focus on disasters. Few Non-Governmental Organizations (NGOs) were listed and community based associations that operated, lacked capacity and skills in disaster management. Despite these circumstances, the tourism industry worked very closely with the island communities in the absence of any disaster preparedness at a local level. There were instances when the islanders prepared food for the clients. Similarly, the resorts also helped the island communities, as one participant noted:

“We helped two islands with food supplies, which are rice, wheat flour and water. Every day I remember they came with boats and water tanks to fill drinking water into it because they didn’t have anything.” (PS-R6)

Another participant mentioned that:

“Yes, because we were prepared for New Year around 280 people in-house so at that time I think we had roughly 200 people here and we had really enough of supplies and we were also able to generate our own drinking water. We even supplied local islands with drinking water, as they didn’t have them anymore.” (PS-R4)

Resort management and the other tourism industry businesses mobilized all of their employees in relief operations and preliminary damage assessments. The management committees worked tirelessly to ensure the safety and well-being of the tourists and the employees at resorts. There was panic during the first few hours after the tsunami. However, all participants noted that tourists responded well at first because they were not sure of what had happened. Most tourists did observe the water drawing back and the waves hitting the islands and the subsequent emptiness of the reef for a short time.

Tourists were asked to stay out of the water and arrangements were made for them to stay in the reception area. Employees in less damaged businesses worked in teams in relief operations and cleaning up guest rooms, staff quarters and restaurants. One participant mentioned:

“Electrical engineers were trying to stabilize the situation back with the generators, housekeeping team was cleaning the guest areas, Food and Beverage team was cleaning all the internal areas, and here in the Front Office we were trying to distribute the information
and keep the information flow and make sure the information is given to the guests appropriately.” (PS-R6)

7.4.3 Short-Term Challenges to the Organization

For the tour operators, the greatest challenge during the tsunami was the breakdown of the communication systems. All participants indicated that they were not able to communicate with the resorts to check on the well-being of their tourists. They had no information to provide to families and friends of the tourists. They could not activate their crisis communication plans and give reassuring messages in the absence of proper information. The media sources from the respective tourist generating markets were constantly contacting them throughout the 2-4 days of communication breakdown. No information was available during this period until telecommunications were restored. As one participant stated:

“Collapse of the national telecommunications system was the main issue we faced during the tsunami. We weren’t able to contact the resorts to find out about the condition of our clients. We had a lot of pressure from families and relatives of the clients to know about the safety of their loved ones and we simply had no information.” (PS-T2)

All participants indicated that they worked supportively and gave assistance to the authorities and the businesses in a situation when there was much panic among tourists and employees. While those resorts which were closer to the Male’ International Airport evacuated their guests, the airport itself was not prepared to handle a major catastrophe. There were no relief arrangements for the evacuated clients and many had to sleep and rest on the floor, even without a blanket. Resorts in distant areas faced transportation issues in the absence of appropriate transport. Dhonis, essentially used for off-resort guest activities, such as excursions and island-hopping, had to be used for evacuation, even though they were not suitable for an evacuation in uncertain weather conditions. Available modes of transport such as speedboats, usually able to carry 15 passengers, were damaged in most resorts. Most tourists left the resorts and the safari boats, and headed towards the airport. While these were the on-ground realities for tour operators, they faced numerous other challenges. One participant reported:

“The biggest challenge was logistics since the islands were scattered and to get ferries with appropriate numbers. Our largest resort had 430 guests who wanted to leave. We had our own fleet of speed boats and we couldn’t get any from the country as all were occupied. We even helped defense force to reach that atoll.” (PS-R7)
“The local MP came to the resort and we set-up a connection with the authorities. We had a satellite radio and we were able to communicate through helping them. We provided our boats to take people. We didn’t have first aid services developed to that extent however, we sent food and water.” (PS-R7)

As discussed in section 7.2, different businesses reacted in different ways depending on the severity of the damage and the circumstances during the emergency and the intermediate phase. Resorts, in particular, had to wait for a long time to get mobile phone coverage and had to travel to nearby inhabited islands to get a signal to communicate with their Head Offices in Male’ and other places abroad. Those resorts which received severe damage were evacuated by the Coast Guard, with the help of air transport providers, while a Pakistani Naval Vessel assisted in evacuating guests from severely affected resorts.

Soon after the tsunami, 26 incoming charter flights were cancelled. Most of the guests panicked and almost everyone went home. All participants from the resorts, travel agencies and safari boats interviewed stated that almost 50% of their arriving guests cancelled their reservations, resulting in a 50% decrease in revenue for the period. All participants from the tourism industry indicated that the Ministry of Tourism (MOT) and the Maldivian Tourism Promotion Board (MTPB) worked closely with them during the response and recovery stages. They disseminated information on the status of the tourists, employees, and resorts to all their respective stakeholders.

The MOT and MTPB updated the respective governments of source markets and travel agents on the situation. Businesses focused on facilitating a smooth departure for all tourists who wished to leave their resorts and safari vessels. Information was disseminated to all concerned by the MOT and the MTPB that even though the Maldives was hit by the tsunami, Maldives’ tourist industry was open for ‘business as usual’, but with a reduced bed capacity.

According to all of the participants, the authorities’ actions assisted in returning to normalcy. By the end of the 1st week of January, the travel trade at large was convinced that the Maldives tourism industry was in operation. However, consumer perception of the Maldives was greatly ‘tarnished’ by the continuous negative media coverage of the disaster. In coordination with the private sector, the Ministry of Tourism and the MTPB encouraged foreign governments who had initially imposed ‘travel bans’ to the Maldives to relax the bans. As a result, from 29th December 2004, travel bans were slowly lifted by the respective foreign offices of major markets. However, the continuous media coverage of the ‘Indian Ocean’ tsunami, which unfortunately did not exclude the Maldives, appeared to have
confused tourists at large. For tourists to come back to the Maldives, a sustained ‘special promotional campaign’ was needed.

All participants from the private sector agreed that the government and industry stakeholders collaborated in the recovery program, instituted by the MOT and the MTPB, along with the industry association: Maldives Association for Tourism Industries (MATI). The private sector collaborated and provided assistance to the government sector. Participant noted that:

“We had numerous meetings with MTPB and MOT to understand the immediate, medium and long-term needs following the tsunami. We identified things that we could do to assist the recovery. We assisted the government in terms of their marketing needs.” (PS-N1)

Another participant reported:

“The resort came back to normal operations within two weeks with no huge business loss. Basically we didn’t receive much damage. The decline in arrivals picked up within two months. Our biggest markets were British, French and Italian. We recovered because of these markets that didn’t stop sending their tourists. Media has played a part. Government efforts to change the perception helped.” (PS-R8)

MATI, representing the private sector tourism industry, worked along with the MOT, MTPB and other regional tourism associations like PATA. According to the MATI, they assessed the situation in the tourism industry soon after establishment of telephone communication on the 27th December 2004. Officially MATI used information from the MTPB website for press releases to concerned industry stakeholders. MATI communicated with PATA Headquarters, assuring stakeholders that while some Maldivian resorts were not operational at the time, most of them were back to normal and looking forward to hosting New Year vacations. Similarly, MATI went on international media channels, such as the BBC, and invited their media teams to visit the Maldives to see for themselves. At the same time, PATA press releases promoted island tourism in the Maldives; the environment profile of islands, floods and negligibility of risks such as electrical accidents, water contamination, diseases and epidemics unlike other destinations. As one participant explained:

“We worked very closely with the tour operators and airlines to seek ways to reviving the industry. We worked with international media and the local media and through internet as well, putting on a lot of pictures showing the daily lives of the tourists in the resorts.” (PS-N1)
Considerable work was done by the MATI. During the week after the tsunami, MATI organized a visit for a 29 member Italian Press delegation followed by meetings with key airlines operating to Maldives. At the same time, they consulted with the MOT and the MTPB to discuss the necessary steps to revive the Asian markets to the Maldives and highlighted the importance of providing accurate information needed by tour operators, water safety, food safety, utilities and other environmental damage due to the tsunami. According to one interviewee, MATI assisted in media visits which were intended to assess and report the situation to their countries: the Maldives secured support from airlines to provide seats for media personnel and resorts to provide complimentary tours. Similarly, MATI coordinated various crisis marketing proposals that emphasized increasing visitation, public awareness, brand identification and revenue. Likewise, MATI succeeded in lobbying the government to revert to the Maldives signature slogan “Maldives; The Sunny Side of Life” and support to revive Asian markets.

According to the MATI respondent, as part of the Tourism Recovery Project, launched by MATI following the tsunami, the organization hired marketing consultant Professor Jack Carlsen to assess the impact of the tsunami on the Maldives tourism industry with a view to securing funding for an intensive marketing campaign to revive the industry. The final report was a tourism market recovery strategy for the Maldives, which integrated short, medium and long-term marketing strategies.

7.5 Long-Term Recovery and Resolution (1-5 years)

7.5.1 Co-Ordination with External Stakeholders for Long-Term Recovery

Long-term recovery is the fifth stage in the DIRE Grid and includes the initial recovery stage and the long-term challenges faced by the private sector tourism industry operators. The participants were asked:

- What were the main challenges confronting your business in the long-term recovery from the tsunami?
- What actions were taken by your business to address this recovery?
- How have the actions of other agencies assisted or hindered longer-term recovery?

The recovery of Maldives tourism following the 2004 Tsunami is an example of crisis management in action. Economic recovery of the Maldives depended on the recovery of the tourism industry. The government responded by giving immediate relief to the industry by deferring the lease rent for all tourist resorts from the first quarter of year 2005 for nine
months, waiving the lease rent for the period required for the repair work, giving an import
duty exemption for this period and extension of 12 months for the resorts that were closed for
renovation. The government gave US$1.5 million to MTPB for initiatives to stop
cancellations and joint marketing and promotions through a special market recovery
campaign. The outcome of these marketing actions during 2005 will be discussed later.

International aid organizations and donor agencies also responded positively during the
recovery stage resulting in recovery of the country and also the tourism industry. Professor
Jack Carlsen’s Maldives Tourism Recovery Strategy, was implemented. Grants for the
tsunami emergency assistance program in 2005 included US$21.8 million from the Asian
Development Bank (ADB). Similarly, a US$50 million loan was given by the European
Investment Bank to develop tourism and support infrastructure in the Maldives. One
participant reported:

“We helped the resorts to rebuild. Not only rebuilding the market confidence but also in terms
of physical infrastructure and rebuilding of the resorts. We sought aid and assistance from
overseas such as from European Investment Bank, we brought them here and opened credit
lines for the resorts. We brought in International Monetary Fund who assisted in terms of the
resorts’ understanding the concept of insurance.” (PS-N1)

Another Participant further highlighted:

“Most resorts were not adequately covered; some were not insured at all. International
Monetary Fund helped us by sending experts and run forums for the tourism industry
operators to understand the concept of insurance and how we have to be prepared for loss of
property and loss of business in the context of a natural disaster.” (PS-N1)

“In general the main actions we took were; providing assistance in seeking finance for
reconstruction of resorts, building of markets and market confidence, working with tour
operators to win and revive the businesses back and better protection of the industry assets
from a natural disaster.” (PS-N1)

In association with a team of scientists from Marine Science Group, University of Bologna,
Italy, MATI conducted the first scientific survey to determine damage to coral reefs. This
survey found that Northern Male’ Atoll reefs received less damage, whereas the Southern
Male’ Atoll showed considerable damage. The Australian Agency for International
Development (AusAID) further assisted in investigating the effects of the tsunami on coral
reefs and bait fish populations in the Maldives. A team of experts from various research
institutions across Australia concluded that the islands, beaches and coral reef flats received minimal damage. The government focus was on cleaning the inhabited and uninhabited islands which were close to the resorts to prevent pollution due to waste created by the tsunami damaging the coral reefs and beaches that attract the tourists. As one participant reported:

“One of the biggest fears was the damage to the coral reefs. We did a survey through hiring a team from a university in Italy and conducted a survey on some of the reef spots. The results were shared with the government and also published. Most of the reefs were intact and the marine life was not disturbed much.” (PS-N1)

Most activities in resort operations focused on repair and restoration. The main focus was providing important life support services and facilities to a minimum standard of operation and safety. Tourism businesses placed less emphasis on developing emergency preparedness plans at this stage. However, all the participants interviewed from tourism businesses did mention purchasing satellite telecommunication systems and adequate life-jackets for the islands. During this period, the Maldives Meteorological Service was linked with the US Geological Service to ensure early warnings and alerts were noted and passed onto radio and television networks for early dissemination.

Though these activities were implemented, chaos followed when new earthquakes occurred on the coast of Sumatra on the 28th March 2005. The telecommunication system collapsed once again and the public and even tourism businesses received very slow instructions from the authorities. Fortunately, it was a false alert. The Maldives National Defense Force/Coast Guard initiated some training programs targeted at the resorts, as it would be impossible to assist any individual resort during a nationwide emergency. This was seen as the most practical and immediate preparedness measure.

7.5.2 Challenges for Long-Term Recovery

Many challenges remained for the long term recovery. As indicated above, the communications hardware with backup systems were installed both in the resorts and their respective Male’ offices in the capital. In addition, satellite phones, mobile phones and radio systems were installed. There was also the need to fix devices on higher ground with spare batteries and train employees in how to use them. Tourism businesses communicated their press statements and situation reports through their websites and through email. Overseas brands with Corporate PR and Communication Departments sent specialists to handle the
situation in the Maldives. The information and messages sent to stakeholders were closely checked against information released by the MTPB and the MOT.

Restoring visitor confidence was another significant task for which they worked alongside resorts and regulatory authorities. Based on their recommendations, the government took several actions. The tourism industry promoted itself through various media channels with the message that the islands were still a safe place to visit. The national telecommunications company installed satellite communication systems at key areas within the country as back-up communication systems. The Ministry of Defense and National Security came up with a preliminary disaster management plan to activate in the case of another major disaster. As a reactive measure, tour operators assisted in organizing familiarization trips, road-shows and a television advertising campaign along with the MOT and MTPB for journalists and travel agents.

Tour operators stated that more government participation in marketing and destination promotion was needed. They were concerned with establishing back-up communication systems in individual resorts, which would facilitate proper exchange of information from reliable sources or focal points during the crisis. They also advocated creating safe areas and evacuation plans in resorts along with training staff members, in airports, resorts and safari boats, to handle emergencies. Tour operators suggested upgrading the airport services and facilities while improving means of transport during evacuations. They also suggested that regulatory authorities establish with crisis/disaster management plans for each resort and formulate maritime safety regulations.

There were many challenges for the long-term recovery of the air transport services. All participants highlighted the need to keep the airport functioning well during a disaster. Another challenge was the need to keep the run-way protected and other navigational equipment on higher ground. The airport needed to have back-up communication systems, emergency relief items, food, water, medicine, blankets and first-aid supplies along with a good emergency management plan. Similarly, the development of these services in domestic airports, together with an efficient ferry transportation system among the islands, can be very helpful during an emergency. One of the reasons for the chaos and confusion in the airport was the lack of an emergency response plan which should be well integrated with the national disaster management plan and tourism disaster management plan. Such a plan should involve scenario exercises and the training of relevant staff.

Travel agents in the Maldives usually represent foreign tour operators and safari boat
operators. All of the participants indicated that communication breakdown was the greatest challenge during the short-term recovery. Caught between the foreign tour operators and the resorts, they were liable for thousands of clients in the resorts, safari boats and guesthouses they represent. Being in the Maldives they were unable to communicate with any of their clients and update families on their well-being. As indicated earlier, the chaos occurred when the resorts and safari boats moved their clients to the airport and relief centers in Male’ and to other islands. They completely lost track of their clients and where they had been sent.

Another challenge was the inadequate number of airline seats to allocate to those evacuated to the airport. When communication was established, their clients were brought to relief centers in schools and guest houses until they could be sent home. During this period, some clients were overcharged for temporary accommodation and this tarnished the image of the travel agents. The Immigration Department and Ministry of Tourism assisted the tourists who lost their passports in flying back quickly and in keeping proper records and passport copies. However, communication breakdown and poor response resulted in negative travel advisories from many countries.

Travel agents operating safari boats were not affected to the same extent as the resorts. Some participants interviewed did not even notice the swells. However, their clients were also asked to leave as most of the countries issued travel advisories warning against traveling to the Maldives. Another major challenge for the travel agents was dealing with the influx of communication and arguments between the tour operators, resorts and other tourism businesses regarding the catastrophic cover in travel insurance policies. Similar to the tour operators, they expected more government support and fiscal measures to help them speed up the tourism flow to the country. They also wanted government assistance in educating them on the insurance industry and developing regulatory and safety standards for safari boats.

While most resorts were busy restoring their operations to normal conditions, one of the resorts interviewed took a very positive initiative to help the community recover in a totally damaged island, which had lost all its support facilities, utilities and services. According to one participant

“We had our Head Office in Singapore and also in Bangkok and both the offices were calling and giving instruction to us. The main instruction was to check the sort of damages we had here and they found out that we didn’t have any damage compared to other parts of the country and the instruction was to go and help other people. We adopted one island in Meemu Atoll and we did everything from A to Z together with United Nations Development
This project included the rebuild and repair of 77 houses on Naalaafushi Island, in association with the United Nations Development Program (UNDP), in their Adopt-an-Island program. This partnership program and donor assistance attracted potential donors and even private sector to support specific recovery projects such as rebuilding homes, harbors or restoring livelihoods or damaged water and sanitation systems in the islands. The resort helped financially and also by sending their staff and skilled project management team, while the UNDP supplied the construction materials. The resort further helped in giving a teaching scholarship as a sustainable support to the island and employing people from the island to help them regain their lives. Similarly, the resort also provided desalination plants to Meedhu Island and assisted women to regain their lives through micro enterprise grants which enabled them to start make and sell crafts and other trades. Participant added:

“Of course when the occupancy has gone down we had a lot of employees who did not have much work to do on the island. Therefore, our company president instructed us to utilize all the employees to assist the community in the Maldives. He emphasized that no employee should be terminated, all employees need to be paid and to use them to assist the community in the Maldives and all the employees assisted us.” (PS-R3)

“Yes, we had people from the corporate office coming here. But their concentration was not on the property; their concentration was on the nation. And they joined the management team and assisted the local island to build all the houses; they were not involved in the resort as there wasn’t such damage.” (PS-R3)

Another resort which was totally devastated took the initiative to help its employees. Employees from this resort showed strong resilience during the relief and emergency phase. It was a very emotional time for the employees. Many of them had families in the islands that were hugely damaged and families displaced either permanently or temporarily. Since it would take a substantial period of time to rebuild the resort, nearly 200 employees were sent aboard for training, which not only gave them exposure and training in another country but also provided a stable income during the period of wage loss. Each of them returned with new personal and professional experience gained from working in hotels and resorts in locations ranging from Dallas, Pam Beach, Washington D.C., Provence, Hampshire, Hong Kong, Shanghai, Tokyo and Singapore.

One participant noted that:
“A lot of uncertainty in the region particularly in India and Sri Lanka, prompted the staff from these countries to go back to check on their families. Local staff wanted to leave as well temporarily. It was difficult to encourage them to stay. We gave one month leave to foreign and local staff who wished to see their family.” (PS-R7)

Another participant added:

“Actually it was arranged in a way that staff who wanted stayed back on the island, to help reconstruction and those that wanted to leave went for an extended annual leave. For those who stayed back we paid a 125% of their salary and for those who left we paid 75%.” (PS-R4)

Thus, post-tsunami, there were some issues related to temporary unemployment, but most businesses retained their staff up to the re-opening of their businesses, after their repairs and reconstructions had been completed.

### 7.5.3 Lessons Learned

Resolution is the sixth stage in the DIRE Grid. Resolution is the stage when routine is restored or an improved stage is established. The participants were asked:

- Has the tsunami brought any permanent changes in the environment in which your business operated?
- How has your organization responded to those changes?
- Has the experience of the tsunami resulted in any permanent changes in your company’s approach to management and planning?
- What would you say about readiness of your business for a potential disaster (tropical storm, fire, flood, power failure)?

Except for one, all of the participants from the private sector tourism industry indicated that the tsunami was an ‘eye opener,’ creating awareness of the devastation and extent of the impact of a natural disaster, which was new to the Maldives. The private sector tourism industry learned many lessons from the tsunami disaster - the most important being systematically following restoration and recovery practices and developing preparedness to face large scale tourism crisis/disasters. One participant noted:

“We had only a basic fire plan before the tsunami. Emergency preparedness plans were not there at all that time. But after the tsunami we developed the preparedness plans. We attended
many seminars and we got a lot of ideas to develop our own disaster management plans”.

“We raised our water bungalows structures to two feet when we constructed them again. We didn’t raise or change the designs of power houses, desalination plants, sewerage plants and other utilities.” (PS-R7)

Another participant observed:

“We are more prepared for a disaster than before. Now we have disaster assembly points, satellite phones and we do conduct drills in every three months.” (PS-R6)

One participant disagreed:

“There is no disaster plan as far as I understand. Yesterday there was a gust of wind 47 miles and in few seconds many boats collided and this alone shows how ready we are. If a tsunami comes it would be much more ferocious. The safari operators have not conducted any risk assessment/management plans in case of a disaster.” (PS-W2)

An interview with one of the biggest insurance companies in the Maldives showed that the issue of insurance has been highlighted in the aftermath of the tsunami. Participants stated that their insurance policies covered for physical structural, furnishings, fittings and equipment damage. Larger international brand resorts associated with stronger local companies were covered for both physical damage and business interruption losses. Conversely, smaller local companies operating just one or two businesses discovered that their policies were inadequate. As one participant noted:

“Some of the local resort operators considered business interruption insurance as excessive and unnecessary as it was available for only six months period. Longer periods were more expensive and less usual. After the tsunami and consequently with the seminars and education of the operators they started exploring their insurance cover.” (PS-I1)

The resort operators reported that they conducted damage inventories themselves and were checked by international auditing firms operating in the country. One participant stated:

“We had to write down in detail what was destroyed to the insurance. I remember we claimed the mattresses being soaked in salt water and everything, where the insurance said that for 100, they will replace 50 pieces and all that. Not that they were completely new but they were 4 years old. I remember that we had to do a big inventory of what was here, which room was damaged, and we had to take pictures of the damage and yes we had to report that in detail to
Evidence from the resort operators and the insurance companies showed that the insurance companies appraised all of the claims sent to them. Given the unusual circumstances of the tsunami, the insurance companies were reasonably flexible with their assessments and claims were settled in time to assist the rebuilding that followed, and deal with cash flow issues. Most of the 21 resorts that were closed were operated by major international and the local groups who already possessed the financial and operational strength to rebuild from their own resources and insurance cover. The five resorts that opened before February 2005 and were the least damaged were smaller resort operators who were more financially vulnerable. The resorts that took longer to rebuild were international brands that had their own capacity to rebuild and resume their operations.

Another important finding was the private sector in the tourism industry developing their associations during the year 2006. These included the Diving Association of Maldives (DAM), a NGO developed to serve the interests of diving businesses, and the Maldives Association of Travel Agents and Tour Operators (MATATO) representing more than 50 travel agents and tour operators in the Maldives. MATATO is a NGO formed with the mission to enable travel and tourism industry of the Maldives to work together using unity, empowerment and co-operation.

Similar to the findings in Chapter 6, Table 22 summarizes the extent to which the private sector has performed in relation to the Maldives tsunami against the DIRE Grid. It was found that among the private sector tourism industry participants, MATI and the tourism resort operators responded well to the disaster despite the lack of a crisis management plans and a tourism disaster management plan. The operators ensured the safety of the tourists and the employees and supported the government sector. Similarly, as the representative tourism industry association, MATI took reactive measures and coordinated with the government during the emergency and intermediate stages. During the intermediate stage they assisted with the short-term tourism industry restoration and marketing activities, while in long-term they supported the government in formulating tourism market recovery strategies and seeking support from the tourism industry.
Table 22: Summarizes the Extent to which Private Sector has Performed in Relation to the Maldives Tsunami against the DIRE Grid

|--------------|--------------|--------------|--------------|-----------------|-------------------------|--------------|
| **Strategic Actions and Implementation by Private Sector Tourism Industry** | • Develop, document and communicate Disaster Management plans  
• Assessment of disasters and probability of occurring  
• Develop disaster contingency plans | • Warning systems  
• Activate communication mechanisms  
• Communicate objectives of contingency plans | • Rescue/evacuation procedures  
• Control over crisis communication  
• Appointing a spokesperson  
• Collaboration with internal/external stakeholders  
• Action taken to minimize impacts | • Restoration  
• Media communication strategy  
• Changes to the organizational structure/personnel  
• Collaboration stakeholders  
• Resource Management (e.g., changes in leadership styles, financial, employee empowerment) | • Actions taken for recovery and challenges  
• De-briefing with employees  
• Restoration of business and consumer confidence  
• Collaborating with relevant stakeholders | • Changes to operating environment  
• Effectiveness of strategies and response  
• Changes brought to Crisis/ disaster prevention and planning tools |
| **Maldives Association of Tourism Industry (MATI)** | No plans and not prepared for a natural disaster  
No warning systems has been in place to be activated so that industry partners can be informed | Emergency response initiated in co-ordination with MNDF/Coast Guard and Ministerial Committee | Short-term industry restoration and marketing activities were done in co-ordination with Maldives Tourism Promotion Board (MTPB), Ministry of Tourism (MOT) and regional tourism association - PATA | Attempt to return to pre-disaster tourist levels through implementation of Tourism Recovery Plan developed by consultant hired by MATI (Maldives Association for Tourism Industry) | Followed the Maldives Tourism Market Recovery Strategy |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourist Resorts / 10 resorts damaged</td>
<td>None of the resorts was prepared for a natural disaster/ tsunami</td>
<td>None of the resorts had any warning systems, contingency plans for a natural disaster</td>
<td>Emergency response initiated, head counts were taken in all resorts, they established communication and provided up to date information to MOT and local/ foreign tour operators upon availability of communications</td>
<td>All resorts co-ordinated with MOT, MATI and , Maldives National Defence Force and the Coast Guard for relief and evacuation where needed</td>
<td>All resorts assisted in the long-term disaster recovery in association with MATI, MOT and Maldives Tourism Promotion Board and supported the Market Recovery Strategy developed for the industry</td>
<td>All resorts reopened and developed individual Crisis/ Disaster Management Plans, more safety and emergency response trainings were provided to staff</td>
</tr>
<tr>
<td>Insurance companies / 2</td>
<td>Insurance policies covered for physical structural, furnishings, fittings and equipment damage / Not prepared for a tsunami business interruption cover. Flood cover was there.</td>
<td>No warning systems</td>
<td>Co-ordinated with the authorities and resort operators/ businesses (MATI)</td>
<td>Worked in co-ordination with the MOT and the resort operators/businesses</td>
<td>Worked along with World Bank/IFC, MOT and tourism businesses (MATI). All operators financial value of claims were appraised, settlements were made to assist the rebuild and cash flow difficulties</td>
<td>Created awareness, informed and assisted companies with their insurance options</td>
</tr>
<tr>
<td>Safari Vessels / 2</td>
<td>Not prepared for a natural disaster</td>
<td>No warning systems has been in place</td>
<td>Co-ordinated with MOT for response</td>
<td>Worked with MOT for short-term restoration of the safari vessel</td>
<td>Co-ordinated with Ministry in formulation of long-term plans</td>
<td>Crisis/Safety Management Plans developed</td>
</tr>
<tr>
<td>Dive Centers and Schools (from resort) - 1</td>
<td>Not prepared for a natural disaster</td>
<td>No warning systems</td>
<td>Co-ordinated with the authorities and resort community</td>
<td>Assisted MOT and the resort for short-term restoration of the dive school/business</td>
<td>Co-ordinated with resort managements and others throughout the recovery of business to pre-tsunami</td>
<td>Crisis/ Safety Management Plans developed</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>--------------------------------------</td>
<td>-------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Souvenir Shops (independent from resort) 1</td>
<td>Not prepared for a natural disaster</td>
<td>No warning systems</td>
<td>Co-ordinated with MOT for response</td>
<td>Worked in co-ordination with the MOT and the resorts</td>
<td>Attempt to return to pre-disaster level of business</td>
<td>Emergency Plans developed</td>
</tr>
<tr>
<td>Water Sports Centers (from resort) 1</td>
<td>Not prepared for a natural disaster</td>
<td>No warning systems</td>
<td>Co-ordinated with the authorities and resort community</td>
<td>Assisted MOT and the resort for short-term restoration of the dive school/business</td>
<td>Co-ordinated with resort management and others throughout the recovery of the business to pre-tsunami levels</td>
<td>Crisis/ Safety Management Plans developed</td>
</tr>
<tr>
<td>Tour operators and travel agents (1 local and 1 foreign)</td>
<td>Not prepared for a tsunami</td>
<td>No warning systems established</td>
<td>Co-ordinated with MOT for response</td>
<td>Worked with the authorities and businesses for providing emergency information, attempted to provide the same to affected families. While assisting in short-term destination marketing efforts and bringing in the media and tourists in.</td>
<td>Worked with MOT, MTPB and MATI for long-term market recovery efforts and developing confidence in the destination.</td>
<td>Crisis Management Plans reviewed and updated.</td>
</tr>
</tbody>
</table>
7.6 Conclusion

This chapter presented the results that were obtained from interviews of representatives from private-sector tourism establishments. The interviews were semi-structured and in-depth. The Disaster Incident Response Evaluation Grid (DIRE) developed by Faulkner and Vikulov (2001) was the basis for the interview structure and topics that were discussed. This grid provides a framework for the respondent’s recollection of the sequence of events during the disaster, and their reactions to these events (Faulkner and Vikulov, 2001). The next chapter presents a detailed discussion of the results of these research findings provided in Chapters 6 and 7.
Chapter 8

DISCUSSION

8.1 Introduction

This chapter discusses the research findings from Chapters 6 and 7 in relation to the framework (Figure 5) that has been proposed for this study (Chapter 3) which is modified and built on the Tourism Disaster Management Framework (TDMF) of Faulkner and Vikulov (2001). The key components of the framework are the links between the proactive approach and reactive approach. The proactive approach includes steps taken for prevention and awareness. Reactive strategies integrate four components: crisis communication, management of resources, collaboration with stakeholders and resolution.

The proposed framework has been tested in the case of the Maldives, a Small Island Developing State in the Indian Ocean, which was hit by the Indian Ocean Tsunami of 2004. In the two empirical Chapters, 6 and 7, the researcher interviewed representatives from the government and the tourism sectors in order to identify, consistent with the framework, what they did in terms of proactive planning prior to the tsunami, how they responded to the tsunami (consistent or not with that planning) and what they have implemented for future disasters.

This chapter discusses each specific component of the framework and findings in relation to these from the case study destination, examining both the government and tourism industry separately. Finally, the chapter compares the case study findings with the conceptual framework and concludes with a discussion on potential alterations to improve it. Ultimately the robustness of the framework is evaluated via this discussion.

8.2 Government Context

8.2.1 Proactive Approach - Prevention and Proactive Planning

The first part of the proposed framework for tourism disaster planning and management suggested prevention and proactive planning steps. This is based on the pre-event phase outlined by Faulkner and Vikulov (2001)’s Tourism Disaster Management Framework. The pre-event phase suggests actions that can be taken to prevent or mitigate effects of potential disasters.
Interview findings from the National Tourism Organizations (NTOs) and Emergency Organizations (EOs) indicated that there were no institutional structures in the Maldives government sector for crisis and disaster management, early warning systems or even trained personnel to handle a crisis or a disaster of the scale encountered. As highlighted, this was due to the moderate risk scenario in the Maldives and the greater focus on sea-level rise and climate change phenomena than effective crisis and disaster management planning generally.

Research findings show that NTOs and EOs had no procedure for crisis or disaster management, or even a documented crisis/disaster management plan prior to the tsunami. This is also evident in some related studies that investigated the level of crisis/disaster preparedness of tourism related institutions elsewhere (de Sausmarez, 2005; Faulkner & Vikulov, 2001; Miller & Ritchie, 2003; Prideaux, 2004). According to interviewees, the chaos outlined in the results arose due to a lack of awareness of the potential risks and prevention and proactive strategies prior to the tsunami and indicates therefore that the government sector should have had disaster management policies and an appropriate regulatory framework in place.

The empirical findings indicate that the TOs and EOs have considered developing crisis management plans and risk assessments in the immediate aftermath of the disaster. Specifically, NTOs have developed crisis management plans while the EOs have come up with an overall disaster management plan and sector specific disaster management plans. Prior to the tsunami, the Maldives had no specific disaster management policy, however the tsunami changed the perspectives of the nation towards disaster management policies. For example, a disaster management framework for the tourism industry and school emergency preparedness guidelines were developed to establish a system of precaution, which included safety measures as well as relief in case of disaster. The policies were designed to provide institutional framework that including polices, contingency plans and response plans.

These were also evident when Faulkner and Vikulov (2001) applied their Tourism Disaster Management Framework to the Katherine Floods case (1998). The Maldives case study provides evidence to support the inclusion of this step in an integrated framework for tourism disaster planning and management.

8.2.2 Reactive Approach – Communication

Post-disaster activities related to response and recovery are termed reactive approaches. The communication step in the integrated framework focuses on the short-term crisis
communication strategy for the media and the internet, communication leadership and developing a public relations plan. This is partly based on the prodromal stage in Faulkner and Vikulov (2001)’s Tourism Disaster Management Framework. The prodromal stage is when it is apparent that a crisis/disaster is about to happen.

From all the interviews, it was found that early warning of an impending disaster were not provided to any NTOs in the case study destination prior to the tsunami. The problem was further aggravated by the communication breakdown and it took several hours to establish contact with affected inhabited islands, tourist resorts and businesses. Participants from EOs noted that equipment for an Early Warning System has now been procured and installed in the Department of Meteorology and staff have been trained in the use of the equipment. A national Early Warning System has been developed to issue warnings and create awareness about earthquakes/tsunami and other extreme weather events. From the interviews it was found that the Maldives has established systems to particularly monitor seismic events and resulting tsunamis since the 2004 devastation. Two seismometers have been installed in two regions of the Maldives apart from the tide gates which monitor the sea level and all systems are connected to global and regional networks. In addition, the Department of Meteorology is connected to the Tsunami Warning Centres established in the region by the Intergovernmental Oceanographic Committee.

One of the post tsunami government initiatives in the Maldives was the Telecommunications Policy of 2006-2010. The initiatives followed under this policy included: the formulation of an emergency telecommunications plan; enhancing existing telecommunication and broadcasting networks to carry early warning messages; facilitation of priority calling and national roaming in the existing mobile networks to be used in the event of disasters or national emergencies; establishing a satellite based personal communication system to reach all inhabited islands by the end of 2007 and implementing electronic public warning systems at island level by 2009 (Maldives Telecommunications Policy, 2006 2010). The results support the integrated framework for tourism disaster planning and management, where one of the roles for the government during the emergency situation is to establish and monitor communication systems.

All participants emphasized the importance of communication and the need to take control of communications through media management. The case study found a need for a communication strategy (for the media and the internet) which incorporated public relations activities and several interviewees highlighted the importance of communication leadership
through a spokesperson or a centralized communication command center for delivering consistent updated messages.

8.2.3 Reactive Approach – Management of Resources

The emergency stage is when the effect of the disaster is felt and action is necessary to protect people and property. During times of acute emergency, short-term recovery certain tasks such as rehabilitation, repatriation, and redevelopment of physical and human assets are crucial (Faulkner & Vikulov, 2001). Therefore, in the proposed framework, this step has been included as resource management with a focus on financial, human and marketing resource elements.

The first step in the resource management component focuses on financial resources. It includes: conducting damage audits, establishing monitoring systems, cleaning up and restoration, and minimizing of expenses. The case study provides strong evidence to support the inclusion of this step in the proposed framework, as it identifies the need to redeploy and generate financial resources to assist in response and recovery. Though reactive, there is evidence in the research that the government made a swift and coordinated response with a relief and rehabilitation operation in tandem with the support of UN agencies, NGOs and other development and military institutions. Decisions to evacuate more severely affected islands and tourist resorts were based on preliminary assessments with the aim to control the impact of the crisis on tourists and citizens generally. This was followed up by establishing monitoring systems, sector focused damage audits, clean up and restoration operations that were implemented with the help of financial institutions and donors.

As seen in the Maldives case, needs assessments were carried out by international partners and donors who determined their own response and financing needs focusing on the entire tsunami affected region. They also assisted the government to come up with the Tsunami Impact and Recovery Report, which was a joint needs assessment conducted with the World Bank, Asian Development Bank and the UN system. The document detailed the physical damage, human suffering caused by the tsunami, the recovery strategy, and financing needs with detailed annexes discussing the impact of the tsunami on all economic sectors in the country (World Bank, 2005). Similarly, early recovery needs assessments were developed by the United Nations by the request of the Government of Samoa following the tsunami of September 2009 (MOF, 2009). This reaffirms the need for this step in the framework.

Case study findings indicate that monitoring and coordinating systems were strengthened for
greater accountability and transparency soon after the tsunami. The Maldivian government established the Tsunami Relief and Reconstruction Fund (TRRF) with a monitoring board that would expend funds for relief, recovery, and reconstruction work to address objectives developed by the Government and donors. This fund was administered by the Government Accounting Bureau of the Ministry of Finance and Treasury, as per international accounting standards with proper internal and external audits and controls. The financial management systems and processes were established in line with the requirements of the International Financial Institutions.

The second step in the resource management component of the framework includes: human resource management issues such as employee empowerment, payroll cost reduction, unpaid leave, staff education, and job sharing. There is evidence from the research showing greater flexibility and coordination between NTOs, EOs and the private sector, which can be seen as a step away from the regular Standard Operating Procedures (SOPs) of the government. Results also indicate that officials in the NTOs were more empowered. There was no need for payroll cost reduction or job sharing in the government sector. Many volunteers filled the labor shortages, while many international development partners provided human resources to fill the knowledge gap.

Inadequate human resources and a lack of capacity in the government sector and in local organizations led to many challenges in the redevelopment and reconstruction process. A lack of vigilant decision makers at a strategic level meant a failure to identify gaps and critical needs of the people during the initial damage assessments. Likewise, a lack of technical expertise in local organizations meant that they were unable to assist international donors, agencies and governments in disaster relief and reconstruction. Developing capacity in the government sector, local organizations and communities is therefore an important need for effective disaster management. Therefore, a human resource management component is suggested in the framework.

The third step in the resource management component of the framework focuses on market recovery. This includes: crisis recovery marketing campaign, perception change campaign, diversifying of markets, value added packages, and providing discounts and incentives. This component is in line with the intermediate stage in the TDMF, where the short-term needs of people have been addressed and the main focus of activity is restoring utilities/services and the community to normal operations (Faulkner & Vikulov, 2001). Recovery involves an efficient media communication strategy, alongside restoration of basic services and
monitoring and damage audits/assessments previously discussed.

Hall (2002) argues that the media plays a central role in rebuilding the image and restoring confidence in a destination or organization. They have the ability to effect public opinion and can help speed up the recovery process (Ritchie, 2004, p. 676). Media communication strategies are therefore crucial for curbing negative images. The case study found that tourist arrivals to the Maldives decreased after the tsunami by - 70.3% in January 2005, with an occupancy rate of 32.6% of the existing bed capacity. However, government efforts to recover the situation resulted in a 73.7% rise in occupancy and 83,880 tourists visiting the country by March 2005 (Development, 2005). The NTOs in the Maldives worked very closely with the international media to change negative perceptions. This case study and other literature has shown that the government sector worked with international universities and regional tourism organizations to formulate the Maldives Tourism Recovery Strategy (implemented in February 2005).

Evidence from the case study (Chapter 6) demonstrates that overall the tourism industry in the Maldives conducted an effective recovery marketing campaign. Stakeholders used various communication tools to aid the recovery of the industry and destination. The case study therefore provides evidence to support the inclusion of a market recovery strategy as an integral component in the framework.

8.2.4 Reactive Approach – Collaboration with Stakeholders

Working with internal and external stakeholders is vital in a tourism disaster. Due to the fragmented nature of the tourism industry, a diverse range of stakeholders are involved in a tourism disaster situation. Ritchie (2004) argues that the relationship between internal stakeholders (business units, staff, managers and shareholders) and external stakeholders (other agencies and organizations, general public, media, tourists) is critical due to their interrelationships, dependence upon one another in developing strategies to deal with crises and disasters and the fact that these plans are usually integrated. Cooperation and partnerships are required between public and private sector organizations, departments, emergency units, media interests and other relevant stakeholders.

There is evidence in the results (Chapter 6, section 6.4) that NTOs in the Maldives took stakeholder collaboration seriously. This collaboration has facilitated industry discussions which helped to develop preliminary post-tsunami marketing campaign guidelines and activities before they received international and regional assistance to follow best practices in
tourism recovery strategies. Similarly, after damage assessments were completed and the travel advisories were lifted, the government was able to concentrate on marketing strategies and recovery with the insights and advice they received from industry stakeholders.

The World Bank (2005) for example, provided short and long term recommendations for the principal economic sectors including tourism. They decided to ease the financial burden on tourism establishments through waiving lease rent payments during the off operation times (for repair and construction), and instituting import duty exemptions on construction materials. Its most significant move was its decision was to defer lease rent from the first quarter (these were to be paid in the next three quarters). Collaboration enabled rebuilding efforts and provided a much needed cash flow during a time of shortfall. Evidence from Chapter 6 indicates that the government helped resorts to raise finance for renovation and reconstruction through international donors and lending organizations.

The integrated framework also suggests that the government sector provided relief to the industry in the form of tax cuts, temporary assistance and other incentives and financial support that would facilitate long-term rebuilding. The integrated framework has a component for stakeholder collaboration that highlights the important role of internal and external stakeholders and the need for them to engage with one another in order to effectively resolve crises and disasters.

Furthermore, the case study provides evidence (see Chapter 6, section 6.4) of stakeholder consultations that occurred, the efforts put into communication with stakeholders, and the importance of empowering stakeholders through consultation and collaboration. New partnerships were also established (with universities) and old ones were strengthened (MOT, MTPB and MATI). The case study provides evidence to support the inclusion of stakeholder collaboration as an integral part of the framework.

8.2.5 Reactive Approach – Resolution and Feedback

The resolution and feedback step in the proposed framework includes the resolution and restoration of the destination or organizations to the pre-crisis situation, reinvestment strategies, resourcing and the concept of crises and disasters as agents of change. A crisis provides an opportunity for further planning, analyzing what went wrong and taking further action. Therefore, while the recovery takes place, it is also the time to assess what happened, or what is commonly called a period of “self-analysis” (Santana, 2004). The case study supports the inclusion of this step in the framework. The swift action from NTOs in
determining the nature and extent of damage, communicating with the media and facilitating assistance to restart tourism business operations aided destination recovery. Aiding resorts to carry on with their renovations or reconstructions through industry support and finance greatly helped the recovery process. From the results it is clear that NTOs in the Maldives recognized areas for improvement in terms of awareness and preparedness for disaster situations. The Third Tourism Master Plan (TTMP) 2007 emphasized the need to establish a Tourism Emergency Operation Centre (TEOC) to react effectively to any tourism crisis/disaster along with other EOs. TEOC was then established for this purpose within the MOT.

Sadly, the Tourism Crisis Management Unit which was envisaged in the TTMP did not materialize due to budgetary difficulties, even at the time of the interviews. Individual resorts have established varying levels of action plans should a disaster occur. This was due to the MOT emphasizing the needs for such. It was found that prior to the tsunami, the emergency procedures developed for safety and security measures were mainly focused on fire incidents as they were required to be in place before the MOT issues an operating license. Moreover many key government strategies envisaged in the TTMP (see Chapter 6, section 6.5.4), have not been completed, raising the question of whether there has been any learning at all.

In the absence of a monitoring system in the MOT, there is no way of determining the effectiveness of disaster/crisis plans implemented by the tourism sector. Results (see Chapter 6, section 6.5.4) indicated that regular crisis management simulation exercises were not conducted in tourist establishments. According to MOT (2011) technical assistance required for carrying out such activities needs to be sourced in association with the Maldives National Defense Force (MNDF), the Maldives Police Service (MPS) and health service experts and providers. Another observation from the results is that the MOT is taking a reactive approach to crisis incidents rather than a proactive approach. This may be due to the absence of a specific crisis management unit as envisaged in the TTMP.

In the EO context, an institutional structure was first established for relief and response operations under the NDMC post tsunami. This could be considered as learning in the government context. Results show the relief and recovery operations were reasonably relevant and effective, considering the logistical and technical difficulties. NDMC is now serving as the national platform for coordinating multi sectorial disaster risk reduction activities. Furthermore, as envisaged in the Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation 2010-2020, the NDMC is now responsible for formulating
and implementing awareness raising programs on DRR for Climate Change Adaptation.

A lack of experience and capacity in the line ministries was supplemented by bringing in competent individual from abroad and through systematic strengthening of public sector capacities. Results (see Chapter 6, section 6.5.7) identified many projects conducted under the disaster risk reduction program by the UNDP between 2007-2012, which focused on managing adverse impacts and developing institutional capacities to fill the knowledge gaps in the public and developmental sectors. Through the National Recovery and Reconstruction Plan (2005), the government sector set objectives and priorities for recovery and reconstruction with a focus on investment programs. This helped the government to streamline aid received from donors and to identify funding gaps.

The case study provides evidence (see Chapter 6, sections 6.5.3, 6.5.4 and 6.5.5) of the disaster as an agent of change. The Indian Ocean tsunami of 2004 resulted in opportunities for rebuilding and changes to the way things were done. The tsunami created the need for developing enhanced environmental mitigation measures and adaptation interventions in some of the islands evacuated. The government initiated a Safe Island Program (SIP) aimed at population consolidation and regional development. The SIP helped to redesign the physical development features of islands, including wider environmental protection zones, creating elevated areas for vertical evacuation in the event of floods and facilitating easy access in emergencies. In this context, the Safe Islands will provide the necessary infrastructure to adapt to climate change and be better prepared for natural disasters through stronger coastal protection measures, emergency supplies, an appropriate harbor and more reliable communication systems. The Safe Islands would also be able to assist neighboring islands in an event of a disaster. The government was able to reconstruct two Safe Islands with the assistance of international donors, though their target was to complete seven such projects. A number of regulatory changes were introduced to environmental resource management in the years that followed the tsunami, though not immediately after the disaster.

Scenario planning and risk analysis was carried out in the Detailed Island Risk Assessments (DIRAM) done for 10 islands during 2008. Based on this work, a cost benefit study of risk mitigation measures in three islands was conducted in 2009 with the aim of understanding the cost performance of three types of risk mitigation measures for policy makers. This can be considered as a form of learning. In this study a detailed review of the SIP was conducted and three significant principles emerged: (a) widespread consultation and participation in decision-making must be undertaken, with special emphasis upon improving the engagement
of stakeholders at island level; (b) human activities that damage the natural environment must be minimised and (c) the SIP must be integral to all development policy and planning and not an optional extra (UNDP, 2009). Further principles highlighted (UNDP, 2009) were:

1. A multi-hazard approach should be adopted, as this will be best suited to reduce disaster and climate risk.
2. Decentralized responsibility and budgets for adaptation and DRR should be used to help respond to specific local needs and bolster local participation.
3. Ensure that the most vulnerable groups are targeted, with particular attention to gender impacts and the provision of appropriate adaptation measures that build the resilience of both men and women.
4. Capacity building should be a central strategy, with a particular focus on key stakeholders at both national and island level.
5. Public private partnerships for risk reduction should be sought.
6. Reduce existing vulnerabilities to current climate events as an entry point regarding adaptation to climate change and ensure that building climate resilience in the Maldives is not completely dominated by tackling sea level rise alone.

The research also proposed development of a SIP Framework. It was proposed that three steps were required to develop the SIP framework into national policy, and these are described in greater detail in turn: (a) develop a national level SIP strategy/policy; (b) develop a short list of potential safe Islands; and (c) select safe islands and develop island-specific SIP strategies and implementation plans (UNDP, 2009). There is no research published to indicate whether these steps were followed.

8.3 The Private Sector Tourism Context

This section discusses the research findings in Chapter 7 in light of the integrated framework for tourism planning and management.

8.3.1 Proactive Approach - Prevention and Proactive Planning

Similar to NTOs and EOs, the private sector tourism industry in the Maldives received no warnings prior to the tsunami. Tourism businesses themselves had no preparedness plans or guidelines on crisis management. Severely affected businesses went into temporary “chaos,” as stated by Fink (1986). Due the absence of preparedness plans, contingency plans and a lack of effective communication, there was much confusion. Tourism businesses therefore, must constantly examine threats in the internal and external environments; identifying risks in the
environment. They should develop disaster management plans and the disaster management toolkit should always be reviewed and revised after each crisis.

After the February 2011 earthquake in Christchurch, New Zealand the government strengthened the crisis management capability in organizations through educating businesses on effective crisis management, risk management, business continuity and resilience concepts. A separate website has been developed to help educate businesses (http://www.resilientbusiness.co.nz). The website is equipped with tools that businesses can use to adopt effective resilience strategies. In 2013, after much research, the Queensland state government in Australia also developed a guide to assist tourism businesses to prepare, respond and recover from a crisis. These prevention and proactive planning tools can be used effectively by small and large tourism businesses in any country.

In the Maldives, the tsunami highlighted insurance problems within the tourism industry. In particular, businesses were not aware of what their policies covered. The government intervened to provide technical assistance in relation to insurance policies and worked with insurance companies to educate businesses. They also helped to streamline the responses to specific insurance issues. For these reasons, developing capability to deal proactively with disasters is an important step in the proposed model. Evidence in the case study affirms the need for this step in the framework.

### 8.3.2 Reactive Approach – Communication

The importance of crisis communication, crisis leadership and public relations has been discussed earlier in relation to the government. Results from the case study indicate that due to communication system breakdown, tourism businesses could not contact authorities, concerned tour operators, travel agents and families. Tourist evacuations from severely affected resorts were carried out soon after communication was established with government authorities and other stakeholders. Chaos created by travel advisories and the frightening media reports led to many tourists leaving in panic.

The participants from tourism businesses all emphasized that every effort was made to communicate details of the disaster to NTOs and EOs and to their respective head offices in the Maldives and abroad. MATI, from the industry side, took a very proactive role in collecting updates from all tourism businesses and sending them to NTOs which ensured a consistency of information. Tourism businesses used the same circulars and media information sheets provided by the NOTs. This control process (Ritchie, 2004) assisted in providing
consistent and correct information.

Research indicates that tourism businesses have now installed satellite phones and are connected with the early warning messaging system established in the country. One tourist business reported that they are connected to two international companies for early warning messaging on weather, tsunamis, airport emergencies and political instability. These case study findings establish the need to have early warning systems, crisis communication and control strategies in tourism businesses. These findings provide evidence to include this step in the framework.

8.3.3 Reactive Approach – Management of Resources

In exploring how resources were managed during response and recovery stages of the disaster, the various reactive actions taken by the stakeholders (private sector) during short-term (response) and long-term (reconstruction) were examined. In short-term recovery, the researcher focused on how quickly the tourism businesses restored their vital life support services and facilities to a minimum required standard of operation and safety. Tourism businesses reactively responded to ensure safety of tourists, employees and other members of the community. The results also indicated that management took steps to restore facilities that could be brought to operation to ensure speedy recovery from the disaster (Chapter 7, section 7.4.2 and 7.4.3). Tourism businesses worked closely with NTOs to ensure tourists received consistent messages in the media and assisted in their recovery marketing campaigns. Another step taken by businesses was the initiation of the insurance claims process by making preliminary damage assessments and accounting for the losses.

As discussed earlier, tourism businesses also received support from the government sector to deal with the sudden cancellation and reduced revenue through a deferral of lease payments for all tourist resorts for the first quarter of 2005 closed for nine months. This was extended for another 12 months for resorts closed for renovation. An additional US$2 million was also provided for a special market recovery campaign. Results demonstrate that much of what has been suggested by Faulkner (2001) for the intermediate stage was implemented by tourism businesses (Chapter 7, section 7.4.2). Faulkner (2001) suggests the key areas are: securing facilities in order to minimize visitor and employee hardship, the protection of property; provision of emergency accommodation and food supplies for visitors and staff; rescue and evacuation procedures for visitors and staff; provision of medical assistance and informing and communicating with relevant elements of the tourism sector as the main tasks during this stage. In line with this, the conceptual framework proposed reactive actions under the
resource management component and when applied to the case it complies with them.

The most important resource for the tourism businesses are their employees. Employees have families in other local islands that were likely to have been affected by the disaster. This research demonstrates that the short-term needs of the tourists were met through organized employee teams. In all of these resorts, employees set aside their fears and came to the aid of all tourists. The reservations and front office teams assisted management teams in disseminating information to customers and other relevant authorities, food and beverage teams concentrated on making sure all customers were fed, housekeeping teams on restoring accommodation for the customers, while the employees from utilities and services departments concentrated on restoring and repairing resorts’ power, telephone, water, sewers and other utilities.

Findings indicates that the managers in the resorts and other tourism businesses provided guidance and empowerment to their employees and they were given the option to either stay on the payroll to help with the recovery or to take time off to deal with their immediate family needs (Chapter 7, section 7.4.3). As discussed earlier, one lesser impacted resort sent most of its employees to assist in community recovery. Similarly, one severely impacted resort sent their employees abroad for training while the resort was rebuilt. These findings support the need to have the human resource management component in the conceptual framework, outlining the required reactive strategies at intermediate and recovery stages.

Market recovery has been identified as an important component of the framework. Recovery of the tourism industry is a key factor for economic recovery in tourism dependent economies. From the interviews it was found that the tourism businesses (mainly represented by MATI) worked closely with the MOT and the MTPB, both during the response and recovery stages. In the absence of crisis management plans, the tourism businesses interviewed did little on their own for marketing and promotion except for heavy discounting. This is also evident in the results of previous research studies (Hystad & Keller, 2008) where businesses have assumed that it was the responsibility of the DMOs to undertake marketing or promotion activities after a disaster. All tourism businesses interviewed facilitated trips made by the MOT, media representatives and the travel trade. The head offices of the respective tourism businesses in the capital island also participated in industry discussions which resulted in preliminary post-tsunami marketing campaign guidelines and activities. Similarly, they all attended meetings held for countering the negative travel advisories and other short-term recovery initiatives.

Tourist resorts operated by international brands used their PR departments to implement crisis
management and market recovery strategies. Some locally owned tourism businesses interviewed offered heavy discounts to tour operators and guests for their room rates or value additions such as free upgrades and extra nights until their occupancy rates picked up. The case study shows evidence that overall the tourism businesses followed market recovery strategies in the reactive scenario. Therefore the case study provides evidence to support the inclusion of market recovery strategy as an integral component in the framework (Chapter 7, section 7.4.3).

8.3.4 Reactive Approach – Collaboration with Various Stakeholders

Working with internal and external stakeholders is necessary to resolve crises and disasters in tourism. According to Beirman (2003) a vital element in any successful tourism recovery campaign is the formation and implementation of a recovery alliance between the major tourism stakeholders. As discussed earlier (Chapter 2, section 2.6), the need and the importance of such an alliance became more obvious with the sudden drop in occupancy and the cancellations of room bookings soon after the emergency and during the intermediate stages. Therefore, the conceptual framework suggests collaboration between various stakeholders as an important component in the reactive approach. Previous sections (Chapter 7, sections 7.4.2, 7.4.3) examined some of those stakeholders that tourism businesses collaborated with during the short-term recovery stage in the Maldives. A diverse range of stakeholders were involved in the destination response and recovery efforts which included: guests, staff and their families, travel agents, tour operators, NTOs, EOs and head offices of foreign owned businesses.

One of the most important steps taken by all the businesses interviewed was the provision of special care to tourists. This was done as the businesses had to regain the trust and confidence of tourists so that they would continue to support the destination. Research indicates that travel assistance was provided to tourists who were trying to leave the destination as soon as possible after the tsunami (Chapter 7, section 7.4.). In doing so they continued to provide timely information on transport and travel arrangements, thus to giving the message to the tourists that they were safe, cared for and respected. Similarly, businesses reported that no employees were made redundant as a direct result of the tsunami from these businesses. Employees were given the option to take leave or to work in other resorts or businesses that belonged to the same company to prevent a period of wage loss.

From the research findings it was established that consultations with both internal and external stakeholders continued throughout the long-term recovery process as well. There is
evidence of ongoing dialogue and co-operation between the private sector and the government sector (Chapter 7, section 7.5 - 7.5.1). The suggested integrated framework therefore recommends the private sector proactively liaise and support the government sector in implementing their policies and regulations in this area. Further, the framework suggests joint strategic rebuilding processes. Hence, as the framework suggests, any actions or strategies for disaster management in tourism must integrate private and public sector efforts.

8.3.5 Reactive Approach – Resolution and Feedback

Faulkner and Vikulov (2001) and Ritchie (2004) define resolution as a stage where routine is restored and a new or improved state is established. Many researchers highlight the need for proactive steps prior to a crisis/disaster and include the role of learning in crisis preparedness (de Sausmarez, 2007; Gurtner, 2007; Miller & Ritchie, 2003; Prideaux & Laws, 2007; Ritchie, 2004; Santana, 2004) arguing that the end result of a crisis should be learning. Learning is thus an integral component in this framework.

The private sector tourism businesses interviewed reported that disaster management plans have been prepared by themselves based on the guidelines provided by MOT. However, there was no evidence of reviewing those plans by any technical parties apart from MOT. As noted earlier, there was also no evidence of business recovery risk assessment plans developed for tourism businesses. Although business managers did not report on insurance, due to the work being mainly handled by their head offices, it was evident from the interviews with insurance companies that some changes have been made to their policies. Research shows that replacement values stated in insurance policies were undervalued, with insurance caps, limits and other clauses that limited the amount of payment received by them. At the same time, business interruption only covered losses when the business was not in operation and there were no provisions for cash flow losses due to market conditions and decline in visitor arrivals. There is evidence that insurance policies were reviewed to address these issues. Besides these, NTOs report systematic safety and security audits and simulation exercises at all tourist establishments since 2008.

Long-term recovery provides unique opportunities for the adoption and implementation of important disaster mitigation activities, including structural measures. However, there is no evidence in the research that shows any changes being made in the tourism law, particularly in regards to facilities location, disaster resilient construction or building contents. Equally there is no evidence of a review of building codes and land use regulations, examining tourist resorts or the development of safe islands for tourists. However, numerous changes have been
made in the Environmental Impact Assessment guidelines and other environmental protection regulations since the 2004 Indian Ocean tsunami.

Knowledge about disasters can be gained only by de-briefing to update and change the current strategies (Evans & Elphick, 2005; Hystad & Keller, 2008). Therefore, tourism businesses need to develop crisis management strategies so that they will be competent to review and change as they learn by experience. In particular, executives and managers must drive policy development and regularly review the veracity of such plans (Pforr & Hosie, 2008). None of the tourism businesses interviewed had an official crisis/risk management unit at a local or corporate level. At the time of the Indian Ocean tsunami of 2004 however, the majority of businesses interviewed only had a contingency plan developed for fire since the tourism legislation required one.

Even though each crisis is different, the impact on the tourism industry are predictable and can be learned, as observed by Prideaux et al. (2008) “one way to build a learning frame that can be used to educate managers who have to respond to crises is to record the responses to crisis situations as case studies.” Individual disaster management plans developed on the instruction of the MOT should be ‘living’ documents. Roles must be clearly defined and responsibilities described in detail. In the absence of strategies it is also suggested that de-briefings be held between all staff members during all stages of the disaster and that records be kept for staff to review the strategies and decisions made. Experience and knowledge alone cannot be considered a reliable indicator, as it cannot be relied on because of staff turnover. It is therefore necessary to keep some form of formal records for future staff members to refer to and learn from.

According to Pforr and Hosie (2008) effective preparation to monitor, manage and respond to crises can be seen in the emerging trend to utilize appropriate learning technology. Such trends include videoconferencing, learning content management systems, the use of digital storage technologies and online learning (Pforr & Hosie, 2008). These kinds of training resources can be utilized to build human resources to improve individual, group and organizational effectiveness. Crisis management needs to be integrated into the strategic planning process of businesses. It is surprising that the businesses interviewed do not include crisis planning as an integral component of their business plan, despite the fact that crises can threaten the very foundations of any given businesses.

Based on the discussion of findings in this chapter it is clear that the framework used for analysis has the potential for further refinement. In the following section the lessons learned
here and more recent literature are used as the context for undertaking this reconsideration.

8.4 Revisiting the Framework

This section compares the case study findings in relation to the conceptual framework. It outlines the main constructs in the redeveloped framework that includes; prevention and proactive planning, emergency and immediate response, crisis and disaster communication, resource management, business recovery, collaboration with various stakeholders and resolution. It explains the changes and additions required for a refined framework which involve mainly: the prevention and planning component, emergency and immediate response component, business recovery component and the review component.

Overall, the post-disaster tourism crisis recovery case study supports the components in the conceptual framework. Simultaneously, the case study contributed new insights needing incorporation into the redeveloped framework. Table 23 summarizes the case study findings and the lessons learned in relation to the conceptual framework presented in Chapter 4.

Table 23: Case Study Findings and Lessons Learned

<table>
<thead>
<tr>
<th>Crisis stages</th>
<th>Case Study Findings</th>
<th>Lessons Learned</th>
</tr>
</thead>
</table>
| Pre-Event    | - No proactive planning and risk assessments  
- No master plan for destination disaster management or for tourism industry  
- No separate agency fully responsible for overall management  
- No SOP’s to manage disasters | - There should be an overall disaster management plan and a tourism industry disaster management plan |
| Prodromal    | - No early warning system was there  
- No knowledge of a tsunami and no procedures for response  
- No crisis communication plans  
- No planning for tourism response and recovery teams, only emergency procedures for fire and other health and safety issues  
- Dependence on government emergency organizations for relief | - Need for the early warning system and the crisis communication procedures  
- Policy priority for disaster management and policy development  
- Need to have clear procedures and crisis management teams to act during the relief and response phase |
| Emergency    | - Chaos and confused decision making  
- Lack of proper coordination between the government sector, private sector and the communities  
- No NGO networks to help  
- No communication and media management plans | - Could not take advantage of lead-time, casualties and fatalities could have been reduced  
- Media should be disseminating information on time with a crisis PR plan and leadership (spokesperson)  
- Coordination between the emergency organizations and the tourism sector is essential  
- Line of authority should be clear in emergency situation |
The table above summarizes key findings from the field based empirical evaluation of the proposed framework. The findings of the case study outlined above demonstrate that prior to the tsunami, at the pre-event stage of the crisis, there were no proactive measures (i.e., overall disaster management plans or even sector specific disaster management plans). Similarly, there were no early warning systems in place and therefore the businesses and the island communities were not in a state of preparedness during the prodromal stage. During the emergency stage the situation became chaotic in the absence of crisis control strategies such as early information for saving lives, crisis PR plan, and crisis leadership. Poor coordination between the government and the private sector also contributed to the confusion.
The findings also demonstrate that during the intermediate stage there were issues related to logistics, telecommunications, recovery marketing and a lack of skilled human resources and skills. During long-term recovery the government sector collaborated and empowered stakeholders through dialogue and the provision of financial assistance. Likewise, during the resolution stage of the crisis the restoration of facilities enabled businesses to start operating again. However, the main lessons learned concerned the need to have effective disaster management plans and institutions, and the need to have crisis management integrated to the strategic planning process in businesses. Table 24 outlines the lessons learnt together with the actual steps taken to implement new plans/approaches.

**Table 24 : Lessons Learnt Together with the Actual Steps Taken to Implement New Plans or Approaches**

<table>
<thead>
<tr>
<th>Post-Tsunami Lessons Learned</th>
<th>Steps Taken to Implement New Plans/Approaches During Post-Tsunami Stage</th>
</tr>
</thead>
</table>
| - There should be an overall disaster management plan and a tourism industry disaster management plan | - Setting up of NDMC soon after the tsunami  
- Formulation of disaster management policy and sector disaster management plans and SOPs. (e.g., Page 109-110, table 13) |
| - Need for the early warning system and the crisis communication procedures  
- Policy priority for disaster management and policy development  
- Need to have clear procedures and crisis management teams to act during the relief and response phase | - Equipment for EWS procured and installed and Department of Meteorology trained to use the equipment  
- A national EWS plan developed and integrated with regional systems  
- Colour codes for various stages of alert and warning dissemination protocols developed  
- Crisis communication will be initiated by Department of Meteorology where they will issue warnings to the general public to make them aware  
- Under the 3rd Tourism Master Plan established TEOC, disaster response teams in tourist resorts and establishments and developed Disaster Plans and conducted regular drills |
| - Could not take advantage of lead-time, casualties and fatalities could have been reduced  
- Media should be disseminating information on time with a crisis PR plan and leadership (spokesperson)  
- Coordination between the emergency organizations and the tourism sector is essential  
- Line of authority should be clear in emergency situation | - NDMC acts as a coordinating and technical agency in all disaster and relief activities and their structure helped to ensure transparency and accountability  
- Coordination between the government sector, private sector and the communities in case of the an early warning to evacuate people to safe buildings  
- UNDP, Maldives Red Crescent and other NGOs working together |
| - Emergency organizations need to respond in a coordinated manner  
- Importance and formulation of crisis and disaster management plans in all sectors  
- Need for capacity building in the public and private sectors and the communities  
- Importance of identifying demand and supply for relief items and a system for | - NDMC as focal point brings together the different ministries and non-governmental institutions and is responsible for implementation and coordination of activities among the various actors  
- Formulation of disaster management policy and sector disaster management plans and SOPs. (e.g., Page 109-110, table 13).  
- Sectoral initiatives include; the policy direction |
for national disaster preparedness at all levels of the Health Master Plan for 2006-2015, the inclusion of Disaster Mitigation in the Tourism Master Plan, the development of a Disaster Management Plan for Tourism, the policy guidelines of the Education sector on safety for children, and the Telecommunications Emergency Communications Plan of the Government

- Lack of experience and capacity in the line ministries supplemented by competencies from abroad and through systematic strengthening of public sector capacities and human resource development
- Vulnerability and risk assessment at island level and detailed island risks assessments done for 10 islands
- Community preparedness plans developed in islands and disaster management task forces instituted with training on basic emergency response

- Need to identify the stakeholders and review and discuss crisis/disaster management requirements and sector needs
- Need to keep the important stakeholders on board, understand and collaborate during the times of crisis
- Establishment of new partnerships (universities) and strengthening of the existing relationships between key (tourism) stakeholders
- Government’s quick action to identify and collaborate with internal and external stakeholders for recovery includes; initial marketing plan development and consultations carried out in January 2005 and those outlined in table 15, page 119-120
- Empowerment of stakeholders through consultation and collaboration on Post-Tsunami Review Workshops and Seminar in May 2005 where all stakeholders were consulted
- Government sector help for the businesses for rebuilding and cash flow shortfalls that includes; help in sourcing finance for rebuilding, temporary tax cuts, waiving of lease rent during off operation times and import duty exemption on construction materials

- Need for an overall disaster management plan that covers common types of natural and man-made disasters
- Need for enhanced environmental mitigation measures and adaptation interventions
- Need for scenario planning and risk analysis
- Need for having effective disaster management institutions for implementing integrated approaches
- Importance of crisis /disaster management units, business recovery plans, crisis plans integrated to strategic planning process, learning through case studies and technologies
- Restoration of the facilities and quickly opening up of the tourism businesses (after renovation and reconstruction) and the support infrastructure speeded up recovery of the destination
- Recognition of areas for improvement and incorporating it in to planning regime in NTOs
- Institutional structure changed in Eos
- Introduction of emergency evacuation, transport and communication infrastructure for resorts (Table 16, page 135-136)
- Strengthen the preparedness of the tourism industry to resort-specific crisis and industry-wide disaster situations (Table 17, page 135-136)
- Strengthen surveillance and security for the safety of all tourists (Table 18, page 135-136)
- Development of Safe island concept did not materialize except in two islands

Table 25 outlines the changes and revisions made to the conceptual framework. These changes are discussed in more detail in the following sections: prevention and planning
component (section 8.4.1), emergency and immediate response component (section 8.4.2), business recovery component (section 8.4.5) and in the review component (8.4.7).

Table 25: Changes and revisions to the conceptual framework

<table>
<thead>
<tr>
<th>TDMF Key Components</th>
<th>Thesis Framework Key Components</th>
<th>Revised Key Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Event</td>
<td>Prevention</td>
<td>- The prevention component has been further developed and revised as prevention and proactive planning. - Under proactive planning a tourism industry crisis and disaster management plan needs to be formulated and implemented based on risk analysis, scenario analysis and contingency analysis. - The tourism industry needs to focus on an ‘all hazards approach’.</td>
</tr>
<tr>
<td>Prodromal</td>
<td>Communication</td>
<td>- Emergency actions component has been further developed and revised as emergency and immediate response. - TEOC needs to be activated. NTOs, EOs and the private sector tourism industry with the community need to work in defined roles to minimize the damage to the industry.</td>
</tr>
<tr>
<td>Emergency</td>
<td>Resource Management</td>
<td>- Business recovery component has been added - Businesses in SIDS need to introduce business continuity programs and emergency preparedness, provide financial assistance, training seminars and workshops.</td>
</tr>
<tr>
<td>Intermediate</td>
<td></td>
<td>- Resolution and feedback component has been further developed and revised as review in the redeveloped framework. - Systematic analysis of previous disasters and crises is required for developing a comprehensive scenario based crisis management plans in SIDS, they need to review policies and make crisis management part of their strategic plans.</td>
</tr>
<tr>
<td>Long-Term (Recovery)</td>
<td>Stakeholders and Partnerships</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>Resolution and feedback</td>
<td></td>
</tr>
</tbody>
</table>

Based on the comparison between the conceptual framework and the case study findings, the integrated framework for tourism disaster planning and management have been redeveloped (Figure 14). The new framework integrates several components from Faulkner and Vikulov’s
Tourism Disaster Management Framework (TDMF). The framework also provides details on required emergency actions from the government sector and private sector as provided in Faulkner and Vikulov’s (2001) TDMF, but it basically focuses on tourism industry responsibilities. The new framework focuses on strategies that the NTOs and other tourism organizations should be pursuing in a proactive approach to manage disasters that can affect tourism.
Figure 14: Integrated Framework for Tourism Disaster Planning and Management
One similarity between the revised new framework, the conceptual framework used in the thesis and Faulkner and Vikulov (2001) TDMF is the use of the anatomy of a crisis and disaster cycle. The case study has focused on the stages to make distinctions between the activities and the strategies followed in preparing for, responding to and recovering from a crisis and disaster. The focus of this case study is on post-disaster recovery that includes short and long term actions. These are the same stages identified in the intermediate response, long-term recovery and resolution in the disaster cycle.

8.4.1 Prevention and Proactive Planning

Important components suggested in the revised framework for the proactive approach are prevention and proactive planning steps. The proactive approach involves identification of the risk and grounding on the risk identified through activities of mitigation, preparedness and partial response in the phases of prediction and warning. This requires formulation and implementation of a tourism industry crisis and disaster management plan. Such a plan needs a risk and hazard analysis component to be undertaken and planning based on scenarios and contingencies. The tourism industry also needs to be focused on an ‘all hazards approach’ rather than just on single or specific crises and disasters. Guidelines for some specific disasters can also be written down with how they will be activated along with clear lines of communication. The importance of such an approach has been highlighted in several resources (e.g., Tourism Risk Management, An Authoritative Guide to Managing Crises in Tourism, 2006 and more recently, Crisis Essentials Guide for tourism businesses and Crisis Communications Handbook for Regional and Local Tourism Organizations developed by Tourism Victoria, 2013).

In addition to the disaster management plan, NTOs in tourism destinations should establish an emergency coordinating committee or a Tourism Emergency Operations Center (TEOC) (as envisaged in the Disaster Management Plan for Tourism Sector (2005) of the Maldives), which will serve as the government’s focal point for the industry in the event of a crisis. Such a committee should comprise a panel of policy makers from all allied agencies and should reflect an all industry approach so that all of them can contribute in the event of a crises or a disaster. Such a committee should not duplicate the functions of the main agency for disaster management in a destination but complement and shall be tourism sector specific. The TEOC shall also collaborate with other agencies to undertake systematic training for crisis/disaster management, through seminars, courses simulations and role-play. The technical support program conducted by NDMC to enhance disaster preparedness in Maldives tourism sector is
an example of an integrated program (see for example Enhancing Disaster Management in the Tourism Sector of Maldives, 2014).

Integration of tourism and emergency management is very important. The process of developing an integrative approach to tourism and emergency services starts with a bilateral assessment of how emergency management services can assist the tourism industry and how tourism businesses can assist and enhance emergency management capability (Beirman, 2011). According to Becken and Hughey (2013), creating such a link is important in places that rely heavily on tourism and are prone to natural disasters. Based on a case study of Northland region in New Zealand, Becken and Hughey (2013), proposed a template for integrating tourism into disaster management. SIDS such as the Maldives, could use this as an example to enhance systematic disaster management.

### 8.4.2 Emergency and Immediate Response

Based on the experience derived from the case study of the Maldives, the framework has been further developed with the addition of an emergency and immediate response component. If a crisis or a disaster takes place, how to minimize damage to industry must be the most immediate issue for both NTOs and the private sector tourism industry. The preliminary actions which are conducted in the immediate aftermath of a crisis or a disaster should be on controlling the damage to the lives and property.

The TOEC should be activated by the government as quickly as possible. It should be then followed by the mobilization of all available resources at the national level to rescue and evacuate people. This would involve the deployment of rescue and emergency teams, including defense forces and getting assistance from local communities, to evacuate tourists, staff and local residents from the affected places to safe spaces. The tourists will be provided relief and subsequently they will leave the destination through the systematic actions of the stakeholders. Local residents and the employees can be transferred to live in temporary accommodations and relief centers.

During this stage, NTOs need to implement an open and transparent communication strategy. NTOs need to use media sources, such as the national television, radio channels and a centralized website which is linked to the TEOC and tourism sector crisis and disaster management plan. By timely releasing and updating information, potential visitors can cancel their visits to affected areas and suspend their activities at the tourist destination to avoid more unwanted causalities. Similarly, through these mechanisms local communities can get instant
updates on what actions need to be taken or what is being done to assist victims so that more voluntary and organized rescue efforts could be carried out. The Government of Maldives decision to adopt the Japanese system of terrestrial digital broadcasting (ISDB-T) in 2014 is an example, since it has resilience against disasters by means of an in-built emergency warning broadcast system (Haveeru Online, 2014).

8.4.3 Crises/Disaster Communication

A crisis communication plan could be incorporated into the overall tourism disaster management plan and the disaster management plans of businesses. A scenario-based crisis communication plan is likely to address common issues that could happen in a crisis situation and would be beneficial for both NTOs and the private sector tourism businesses in quick reaction and implementation. Such a plan could consider the short and long term strategies for crisis communication. However, creating a realistic scenario requires input from hazard scientists. Such a study has been conducted by Robinson, Wilson, Davies, Orchiston, and Thompson (2014) for Te Rihapa Alpine Fault Scenario for a Civil Defence exercise in New Zealand. This is a good example for design and development of such an exercise scenario.

Beirman (2003) recommended series of steps that should be considered by destinations recovering from a tsunami. Carlsen (2006) adapted these steps after consultation with key tourism industry (MATI members) and government officials. Table 26 lists the short, medium and long-term strategies outlined by Carlsen (2006).

Table 26: Tourism Recovery Strategies Identified by Carlsen (2005)

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Tourism recovery strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Short-term (ST) – To achieve positive growth rates in month on month arrivals between March and May 2006</td>
<td>ST1: Stop cancellations due to tsunami</td>
</tr>
<tr>
<td></td>
<td>ST2: Assess market sentiments in major markets</td>
</tr>
<tr>
<td></td>
<td>ST3: Establish media monitoring services in major markets</td>
</tr>
<tr>
<td></td>
<td>ST4: Develop primary and solidarity messages</td>
</tr>
<tr>
<td></td>
<td>ST5: Reduce risk and uncertainty</td>
</tr>
<tr>
<td></td>
<td>ST6: Implement value-adding strategies</td>
</tr>
<tr>
<td></td>
<td>ST7: Begin summer promotions in Europe, Asian and Oceania markets and surfing segment</td>
</tr>
<tr>
<td></td>
<td>ST8: Obtain funding for Recovery Marketing Strategy Implementation</td>
</tr>
<tr>
<td></td>
<td>ST9: Analyse Market Response and trends</td>
</tr>
<tr>
<td>- Medium term (MT) – To achieve positive growth in all major markets</td>
<td>MT1: Monitor market trends – source markets and market sentiments/intentions and devise a marketing communications plan.</td>
</tr>
<tr>
<td></td>
<td>MT2: Consider re-branding the Maldives</td>
</tr>
<tr>
<td></td>
<td>MT3: Reinvigorate marketing efforts for MICE tourism and large group Bookings</td>
</tr>
<tr>
<td></td>
<td>MT4: Revise Maldives marketing strategies for 2006</td>
</tr>
<tr>
<td></td>
<td>MT5: Consolidate new partnerships and alliances</td>
</tr>
<tr>
<td>MT6:</td>
<td>Develop destination audit and yield management capabilities</td>
</tr>
<tr>
<td>MT7:</td>
<td>Create image enhancement through strategic public relations</td>
</tr>
<tr>
<td>MT8:</td>
<td>Develop crisis management capabilities</td>
</tr>
<tr>
<td>MT9:</td>
<td>Plan for commemorative occasions, dedications, memorials and acknowledgements</td>
</tr>
<tr>
<td>MT10:</td>
<td>Review, revise and reflect – learn the lessons</td>
</tr>
</tbody>
</table>

- **Long term (LT)** – To protect the reputation of Maldives as a relaxation, recreation and rejuvenation destination through integrated research, planning, training and education

| LT1: | Develop and formalise more inclusive private-public sector partnerships and alliances |
| LT2: | Review existing markets and target new markets as well as market segments. |
| LT3: | Focus on yield, not numbers |
| LT4: | Implement systems at MATI for monitoring the state of the tourism industry through annual destination and market audits. |
| LT5: | Develop systems of communication and cooperation between stakeholders |
| LT6: | Implement improved education and training |

Source: Carlsen (2005)

Carlsen (2006) recommendations for the Maldives Tourism Recovery Strategy (2005) on short-term actions for establishing media monitoring services and developing primary and solidarity messages are good models for other destinations. Such strategies will counter negative and inaccurate messages about the destination and provide clear instructions on media management, which is critical during a crisis or a disaster. Similarly a single spokesperson should be appointed to the TEOC to manage all communications with the media and the stakeholders. Consistent internet communication through the centralized website (linked with the TEOC) and emails are necessary. Furthermore, recovery marketing strategies and image enhancements in the medium to long-term can be strengthened by using a strategic public relations plan.

Downs (1972) argues that one of the most significant concepts in understanding the relationships between the media and how important certain issues are to consumers is the concept of the ‘issue attention cycle’. Hall (2002) and Petersen (2009) find that the stages of the issue attention cycle well describe travel safety policies and the public opinion of travel safety measures, particularly with respect to security issues and government response to crisis in the wake of September 11, 2001. The issue attention cycle is divided in to five stages: the pre-problem stage; alarmed discovery and euphoric enthusiasm; realizing the cost of significant progress; gradual decline of intense public interest and the post-problem stage (Hall, 2002). These stages can be discussed in relation to the event of Indian Ocean Tsunami of 2004 and its impact to the Maldives tourism industry.

At the pre-problem stage tsunami was not an issue to South Asian region therefore public
consciousness about tsunamis was low in Maldives. In the alarmed discovery and euphoric enthusiasm stage, there was the need to stop cancellations, and the need for management plans and strategies to regain confidence. In the next stage, realizing the cost of significant progress, industry stakeholders worked hard to recover the industry through direct contact with the travel trade and through media representatives. During the stage of gradual decline of intense public interest, the original problem lost its novelty. The businesses and public also realized the challenges, costs and the investments required for recovery. Finally in the post-problem stage, the problem was managed in an orderly way.

Scott et al. (2008) proposed three sub phases to be added to the long-term recovery period of the disaster framework proposed by Faulkner (2001). These phases are: 5A – recovery of damaged infrastructure, 5B – marketing responses and 5C, adaptations to the new system after a disaster. Orchiston and Higham (2014) studied the Christchurch earthquakes using Scott et al. (2008) modified long-term recovery framework (Phase 5) and found that the three phases of tourism recovery were highly relevant in the Christchurch experience.

8.4.4 Resource Management

The management of resources is one of the most significant tasks in response and recovery. As a key participant of tourism recovery, the government must fully participate by taking a leading role during the crisis or disaster recovery through policy making, tourism planning, financial support and even providing skilled human resources should they be required. As seen in the Maldives case, effectively carrying out damage assessments to establish the level and nature of assistance required, taking immediate steps for market recovery and sourcing financial resources for the affected businesses led to industry recovery sooner than anticipated.

Thomas and Zhou (2013) observe that disasters have a major influence on the lives of employees; they are essential for business recovery and employers have an ethical and legal duty to protect their employees along with their businesses. As evident in the Maldives case, the employees participated in the emergency response, clean-up operations and even in the rebuilding of their respective businesses and some even assisted in the community reconstruction. These activities required extraordinary effort from the employees while they went along with months of stress over what was happening around them. While local communities received help from some NGOs and foreign relief and psychosocial support personnel who subsequently arrived, the employees in the tourism businesses, mainly in the tourist resorts, did not receive similar help.
In the longer term, counseling services should be made available for those who suffer and lose their employment, along with any organizational change programs that come along due to restructuring or closure of businesses. Furthermore, employees need to be recognized and rewarded for their contributions. Likewise proper feedback should be provided. Nilakant, Walker, and Rochford (2013) suggest some practical suggestions for organizations in managing employee needs following a crisis or a disaster such as; regularly updating contact lists, having well-rehearsed emergency evacuation plans, up skilling supervisors with interpersonal skills and experience in simulated disasters. This allows organizations to focus on developing employee support systems and a sustainable work environment, ensuring that assistance extends beyond the immediate timeframe of the disaster, and providing employees with practical assistance for their evolving needs (Nilakant et al., 2013).

8.4.5 Business Recovery

The conceptual framework used for the study does not focus on individual business recovery. The case study looked at the destination recovery perspective but, recovery of the private sector businesses is imperative for the overall recovery of the whole destination’s economy. Tourism businesses interviewed were not very aware of business continuity planning and emergency preparedness. This is due to the sudden institutionalization of disaster and emergency management, being introduced for the first time when the NDMC was established. Much literature (Watters, 2014; Hayes, Kotwica & Correia, 2013, p.13-27; Smith, 2005; Williams and Fergusun, 2005; McEntire and Myers, 2004; Blake and Sinclare, 2003) has provided a variety of tools that can be adapted by the businesses to aid their recovery.

One such tool that could be utilized by businesses is the Business Continuity Program (BCP) suggested by Hayes and Kotwica (2013, pp. 13-27) which outlines four pillars of such a program: assessment, preparedness, response and recovery. Assessment includes hazard identification and risk evaluation through a business impact analysis (BIA) and a vendor resiliency questionnaire. Preparedness involves ongoing training and activities that could simulate the events of crisis, goals of the response teams and how they are created, emergency operations center (EOC), and response procedures. Recovery includes keeping records of the business response and damage sustained, along with a corrective action plan to mitigate the effects of a similar crisis in the future (Hayes & Kotwica, 2013, pp. 13-27).

Other tools can be financial assistance, training seminars and workshops. As highlighted tools such as these can be used by businesses to ensure business recovery and continuity (see for example, Tourism Risk Management, An Authoritative Guide to Managing Crises in Tourism,
2006 and more recently, Crisis Essentials Guide for tourism businesses and Crisis Communications Handbook for Regional and Local Tourism Organizations developed by Tourism Victoria, 2013).

NTOs need to produce their own versions or utilize available frameworks. For instance, the Tourism Risk Management, An Authoritative Guide to Managing Crises in Tourism (2006) is prepared by Asia Pacific Economic Cooperation is an essential guide on the processes associated with developing a risk management strategy for tourism destination or business and how to implement and maintain these plans over time. It also provides a practical framework from which both businesses and destinations can apply crisis management strategies for prevention, preparedness, response and recovery. This package also includes workshop training packages designed to provide a platform to stimulate open information exchange and learning (Tourism Risk Management, An Authoritative Guide to Managing Crises in Tourism, 2006). As previously discussed in Section 8.3.1, the New Zealand government has also has been strengthening crisis/risk management and business continuity concepts through the website http://www.resilientbusiness.co.nz) and these tools also can be used by small and large tourism businesses in any country.

8.4.6 Collaboration with Various Stakeholders

The conceptual framework encourages collaboration with internal and external stakeholders to resolve crisis and disasters. This is one of the most significant aspects which was identified in the case study that validates the inclusion of this component in the revised integrated framework for tourism disaster planning and management. Moreover, the case study extended the conceptual framework by identifying the broad consultation of stakeholders that occurred. Communication with stakeholders, the importance of empowerment of stakeholders through consultation and collaboration and the establishment of new partnerships and the strengthening of existing ones were all identified as vital components of disaster management.

8.4.7 Resolution and Feedback

The conceptual framework features a resolution and feedback stage which is similar to long-term recovery and resolution stage in Faulkner’s TDMF. Though it highlights a pre-crisis situation it is not possible to regain that state; rather tourism investments can be redeveloped or reconstructed and thus an improved state can be achieved. Faulkner (2001) notes that, “out of adversity experienced by a community (or individual), beneficial changes often emerge which make the community (or individual) stronger and better able to cope with challenges that confront them in the longer term.” Destinations need to learn from crises and disasters by
evaluating their policies and plans to prevent similar problems in the future and play a proactive rather than reactive role.

A systematic analysis of previous disasters and crises is required for developing a comprehensive scenario based crisis management plan to minimize losses in the future. The outlook for tourism in SIDS is closely linked to the state of the world’s major economies. All adverse events which have had an impact for the tourism industry could be studied by the NTOs. In the case of the Maldives, NTOs could study the effects of both Gulf wars, September 11 terrorist attacks in 2001, SARS in 2003, effects from Indian Ocean tsunami of 2004, Bird flu in 2006 and recession of 2008/2009. These can provide useful insights into the nature, impact and recovery patterns of adverse experiences in the past and recent past. Furthermore, it will help to identify potential indicators that could be monitored to predict and respond to crises, as well as improve the preparedness of the destination and the industry in the face of adverse events via appropriate response mechanisms. Thus, integrating lessons learned onto a new or an existing tourism industry crisis and disaster management plan is a key component in the resolution phase.

In order to ensure tourism development is sustainable there must be qualified personnel and effective emergency response capacity. There must be continuous training for the employees according to their positions. Managers at the strategic level needs to be provided with sufficient resources and training in strategic management in order to ensure the best outcome. Strategic leadership and adequate resources is necessary to ensure motivation is sustained throughout the long recovery process.

Crisises and disasters can be agents of change and provide opportunities for innovation. As evidence in the case study, the local response to the tsunami demonstrated a great deal of system resilience and strong levels of cooperation with the international media. MATI has taken the medium term recommendations in Maldives Tourism Recovery Strategy (2005) seriously and has the opportunity to broaden its tourism base, reinvigorate its marketing efforts and enhance its image as a tourism destination. This is particularly noticeable in the Third Tourism Master Plan (TMTP), which stresses the development of more diversified markets and the distribution of tourism development throughout the islands, with supporting infrastructure development. With the help of substantial amounts of overseas aid and advice from overseas consultants, by 2007 the tourism industry was almost back to pre-tsunami levels.

The Government of Maldives has recognized that in order to effectively manage climate
change risks on the tourism sector in the long-term, it is necessary to integrate climate risk planning and climate change adaptation into the country’s policy instruments across all sectors and levels of government. The major climate hazards to which the tourism resorts are exposed include windstorms, heavy rainfall, extreme temperatures, and draught, sea swells and storm surges. Of these, intensive risks associated with swell waves, heavy rainfall and windstorms can be destructive, due to their frequency and potential for physical damages and erosion of the islands. Since the Indian Ocean tsunami of 2004, the government has initiated projects to enhance the resilience of the Maldives to climate change through integrating the tourism sector and associated communities to national adaptation.

The Tourism Adaptation Project (TAP), “Increasing Climate Change Resilience of Maldives through Adaptation in the Tourism Sector”, is one such project which aims to provide the tourism sector with the policy environment, regulatory guidance, technical skills and knowledge to make sure that climate change related risks can be systematically factored into day-to-day operations. The project which ran from July 2011 to June 2014 aimed to strengthen the capacity of MOT and tourism businesses to recognize the climate risk issues in tourism operations and adopt appropriate measures to address them. The project also established at least 10 new public/private investment partnerships between the Government of Maldives and tourism resorts to showcase the economic and environmental benefits of adaptation in tourism operations and another 10 community-based adaptation projects in tourism associated communities to show how operators and communities can cooperate on joint initiatives to reduce common vulnerabilities (UNDP, 2014). These outcomes can be considered as learning in the context of resolution.

8.5 Summary

This chapter has discussed research findings from Chapters 6 and 7. The discussion was presented in relation to the integrated framework for tourism disaster planning and management which was developed and tested for this study, including considering the six stages of Faulkner and Vikulov’s (2001) Tourism Disaster Management Framework (TDMF).

Overall, the discussion has found that many elements of the integrated framework used for the study can be applied, although some were only minimally supported. The key lessons include the need to be prepared for crises/disasters in tourism and the importance of implementing disaster management planning in the context of proactive planning and reactive planning perspectives. From the experience of tsunami disaster management it was found that the lack of a proactive approach had caused more confusion and chaos.
The final chapter briefly outlines the research outcomes in relation to objectives set for the research. The research’s implications and limitations are discussed, as are recommendations and suggestions for future research.
Chapter 9

CONCLUSIONS AND RECOMMENDATIONS

9.1 Introduction

The research undertaken in this thesis was concerned with understanding the extent to which we can learn from past tourism crises in terms of planning for future disasters. This chapter outlines how the first two research objectives were addressed before discussing the more detailed findings in relation to the third and fourth objectives. A discussion of this research’s implications and limitations is included, as are recommendations and suggestions for future research.

9.2 Objectives of Research

The purpose of this study was to examine and analyze how tourism destinations in SIDS that have suffered from natural disasters recover and plan for future disasters, using the Maldives as an exemplar. The proposition was that from understanding tourism crises and disasters and how destinations have responded and recovered will enable more effective planning for future disasters. The central research questions were:

- What can be learnt from past tourism crises and disasters in terms of planning for future disasters?
- What have the Maldives learnt following their disaster experiences and how is this currently being incorporated into their future preparedness plans?

Consistent with the two research questions, the specific research objectives were:

1. To review previous studies on tourism disaster management and propose an integrated framework for tourism disaster management

2. To analyse the unique characteristics of disaster recovery for the tourism industry, including short and long-term recovery requirements using the impact of the Indian Ocean tsunami of 2004 (Maldives)

3. To explain the roles and importance of key stakeholders in disaster recovery for the tourism industry, and
4. To examine whether the lessons learned from previous disasters have been incorporated into future plans within the tourism disaster management practices.

Chapter 2 addressed the first objective to review the existing studies on tourism disaster management. Based on this review, a conceptual framework with an integrated approach which includes both proactive and reactive strategies was developed in Chapter 3. Chapter 4 discussed the unique challenges in SIDS and placed the challenges of the case study destination in context. Chapter 5 presented the research methodology adopted for this study. Using empirical data collected on-site, Chapters 6 and 7 addressed the second research objective by identifying the short and long term recovery actions implemented by the government and the private sector to support destination response and recovery, within the context of the framework developed in Chapter 3. Based on interviews and documentary data received, these chapters highlighted the various response and recovery issues faced by the stakeholders and their actions and strategies to restore services, facilities that ultimately led to recovery of destination.

Chapter 8 discussed the findings in relation to the framework and concluded that the framework used for analysis has potential for further refinement. Lessons derived from this research and more recent literature establishes the context for undertaking this reconsideration. Thus, a revised and improved framework resulted from the undertaking.

9.3 Strengths and Weakness of the Thesis Framework

The aim of crisis and disaster management frameworks and models is to deliver guidance for planners, policy makers and managers before, during and after a disaster or crises. This is because economic and societal effects of a crises or disaster may be substantial and so a rapid response and recovery from an unfortunate event is highly desirable. As noted in Chapters 2 and 3, models proposed within the tourism crisis and disaster management theory literature have characteristic weaknesses, meaning that they are not appropriate for all crisis and disaster situations.

The initial thesis framework used does not provide detailed prevention and proactive planning strategies; rather it identifies the components of scenario planning, risk analyses and contingency planning and suggests that these are inappropriately placed. Literature on pre-disaster preparedness by academics (Faulkner, 2001; Prideaux, 2003; Ritchie, 2009) affirms that this is an important component of tourism crisis and disaster management. It is argued that when destinations are in a state of readiness it can reduce the impact of a disaster when it
happens (Heath, 1998). Similarly, Ritchie (2009, p. 69) argues that there must be change in attitudes; “it probably will happen so what should we do about it.” He insists that those destinations who take proactive steps to prepare themselves for a crisis or a disaster will be better prepared.

Prevention and proactive planning therefore has been added to the revised framework in Chapter 8. The revised framework consists of emergency plans, warning systems and other activities adopted in advance of a disaster to aid in its management. The literature also recommends the formation of crises management teams and agreement on activation protocols (Faulkner, 2001; Faulkner & Vikulov, 2001) stressing the importance of staff training and organizational culture (Pforr & Hosie, 2008). It also highlights the necessity of stakeholder awareness (Hystad & Keller, 2008). These components have thus been incorporated to the framework.

Another feature of prevention foreground in contemporary tourism crises and disaster management models has been added into the framework under prevention and proactive planning. Specifically, many frameworks propose risk assessment should be undertaken and that on the basis of scenario planning, contingency analysis should be developed in accordance with the situations considered likely to occur. There are many arguments around the unpredictability of tourism crises and disasters which can undermine the potential effectiveness of contingency planning (Blackman & Ritchie, 2008; Miller & Ritchie, 2003; Sharpley, 2005). However, if known or predictable hazards are ignored the destination may face a self-inflicted crisis.

Other recent disasters and crises reveal similar trends. Though impacting primarily on air travel, Iceland’s volcanic ash cloud in April 2010 resulted in unprecedented inconveniences for travelers and huge repercussions for the tourism industry on a global scale. Though criticized, scenario planning needs to be integrated into a contemporary tourism crisis management framework, so that governments, destination organizations and businesses can be prepared for different situations and learn from them. Interestingly, Evans and Elphick (2005) note that contingency planning can lead to complacency where governments, DMOs and businesses may relax in the belief that they are prepared for all possible situations only to be taken by surprise when a crisis or a disaster that was not identified in any scenario occurs, resulting in ‘paralysis’ and inaction.

The initial thesis framework did not place the various components derived from Faulkner’s TDMF in specific stages or phases. Tourism crises and disaster management models in most
of the literature position their frameworks as ‘life-cycle approaches’. The initial data collection questionnaire was based on the Disaster Incident Response Evaluation (DIRE) grid developed by Faulkner and Vikulov (2001) and was the basis for the interview structure and topics. In the revised model, Faulkner’s life-cycle stages have been integrated to further refine it and to place the various components (both proactive and reactive) into this context.

Similarly, there are many arguments against including ‘life-cycle approaches’; as has been shown, crises and disasters often occur without warning and a destination can immediately enter into an ‘emergency’ phase by by-passing the ‘pre-event’ and ‘prodromal’ phase and many require rapid and urgent action. According to Henderson (2003, p. 281) “crises do not always follow the clearly delineated pattern of the theoretical models because of their unpredictability and the speed at which they unfold.” Many tourism crises and disaster management models provide detailed, rigid, step-by-step planning which when tested or applied have proved ineffective. However, the framework proposed places the key disaster management components in a linear approach with less detail, similar to Ritchie’s Tourism Crisis Management Framework (2004), thus allowing for more flexibility. This is done to assist managers and employees to follow the sequence and progress via a stage to stage approach and avoid confusion.

Carlsen and Hughes (2008, p. 147) highlight the inadequacy of a ‘one size fits all’ approach: “Crises and disasters are variable to duration and scale. The flow-on and contagion effects depend very much upon the nature of the disaster (natural or man-made) and the corresponding change in public perception in response to media coverage and crisis communication.” Moreover, as Carlsen and Hughes (2008, p. 268) note “crises by their nature are geographically, demographically and temporally discrete, so that the boundaries of study are not fixed but vary dramatically”, and therefore when researching them, different tools will be required. Evidently, crises and disasters differ in their origins, effects, outcomes and the measures necessary for recovery. They also differ in the amount of time needed for recovery. Zeng, Carter, and De Lacy (2005) observe how crises, such as human epidemics, animal epidemics, destructive weather conditions and other natural disasters, civil strife/violence, war or terrorism all have different effects and recovery times and necessitate different recovery strategies, thus limiting the usefulness of one individual crisis framework for all.

The framework has therefore been proposed with the understanding that there is no one-size-fits-all approach to tourism crises and disaster management. This study has analyzed the
unique characteristics of crises and disaster recovery for the tourism industry in SIDS including short and long-term recovery requirements by using the Indian Ocean tsunami of 2004 as an example for testing the new model. Obviously no country can develop a plan that is sufficient to deal with the scale and impact of the Indian Ocean tsunami of 2004. This is highlighted by Sharpley (2005, p. 345) who wrote: “it is unlikely that any set of guidelines or indeed, any established crisis management procedure could have adequately prepared a destination or region for the catastrophic events unleashed by the massive underwater earthquake off the Sumatran Coast on 26th December 2004.”

In their research on tourism crisis and island destinations, Ghaderi, Mat Som, and Henderson (2012) highlight the need for closer cooperation and coordination amongst the various stakeholders in the tourism industry, both in public and private and well-designed and executed crisis management plans, under the stewardship of official agencies to minimize the risks and mitigate the damaging impacts. Both the initial thesis framework and the revised framework integrate these components. In their paper on the Thai floods of 2011 Ghaderi, Mat Som, and Henderson (2015) outline the core components of a tourism disaster management plan (crisis communication, media, stakeholder cooperation and learning) which basically are similar to the core components of a reactive strategy proposed in the thesis.

9.4 Research Implications

Tourism is the primary economic activity for many SIDS in terms of income generation, employment creation, and foreign exchange earnings with the potential to stimulate the development of other economic and social sectors. The Intergovernmental Panel on Climate Change (IPCC) concluded in 2007 that a sea-level rise resulting from a global temperature increase of 4 degrees Celsius would completely submerge low-lying island states like Tuvalu, Kiribati, and the Maldives (Sem & Moore, 2009). Furthermore, the IPCC has been anticipating the increase of extreme weather events associated with climate change thus making this research relevant and important.

Long-term recovery from natural disaster events has been identified as the least researched component of the disaster cycle (Chang, 2010). A review has found that most literature focuses on immediate relief and disaster risk reduction with less attention on the long-term recovery aspects. By undertaking research on post-disaster tourism crisis recovery in a Small Island Developing State, this research has identified the unique characteristics of disaster recovery for the tourism industry in SIDS, including short and long-term recovery requirements. Furthermore, the research has documented the actions taken by key
stakeholders at a tourism destination and may help other destinations coping with crises and disasters.

Research on tourism crises and disaster recovery has provided some interesting conclusions. When compared to other industries, the recovery of the tourism industry from a disaster is far more complicated. If a disaster destroys one component of a destination’s tourism industry or its infrastructure, others are also affected. Another aspect is that the overall destination recovery in a SIDS depends on tourism recovery. When a destination becomes unavailable to tourists due to a disaster, they can find alternative destinations to visit and the NTOs have the daunting task of dealing with a sudden drop in occupancy. Tourism recovery after a disaster is partly dependent on the successful rebuilding of the destination’s image and must overcome any adverse publicity resulting from the disaster. Thus, tourism recovery can take several years to rebuild and depends on the extent of the physical damages caused by the disaster and the ability of the various components of the tourism industry to restore their operations.

The integrated framework for tourism disaster planning and management is a practical framework that could be applied by NTOs in a SIDS to proactively prepare for a tourism crisis or a disaster and to even revitalize their tourism industry following a crises or a disaster. The actions and strategies undertaken by the NTOs in the Maldives can be used as a reference when dealing with adverse events to the tourism industry. The framework has been developed after reference to a tsunami disaster, however when it is presented it does not explicitly refer to a particular disaster. Therefore, the framework could be applied to both man-made and natural disasters. The framework also integrates the six stages of the disaster life-cycle which ensures that it can be realistically applied to a variety of situations and incorporated with existing disaster response and emergency response activities.

Although the tourism industries in SIDS face serious threats from crises and disasters, experience from recent disasters indicate that few engage in planning for effective disaster management. Such planning entails both proactive and reactive measures so the industry is able to minimize the risk and damage prior to and during the crisis or disaster event and eventually resume operations as efficiently and effectively as possible. Changes have been made to the initially proposed framework to create a more useful tool relevant to SIDS and the wider tourism industry resulting in a more robust final framework. The components added were:

- **A prevention and proactive planning component** - A risk and hazard analysis component to be undertaken and planning based on scenarios and contingencies. The
tourism industry needs to focus on an ‘all hazards approach’ rather than just on single or specific crises and disasters.

- **An emergency and immediate response** component - NTOs, EOs and the private sector tourism industry with the community need to work in defined roles to minimize the damage to the industry.

- A **business recovery** component under resource management- Businesses in SIDS need to introduce business continuity planning and emergency preparedness, provide financial assistance, training seminars and workshops.

- And finally, a **review** component to the new framework- Systematic analysis of previous disasters and crises is required for developing a comprehensive scenario based crisis management plans in SIDS, they need to review policies and make crisis management part of strategic planning.

This research has made various contributions to this field of tourism crisis and disaster management. It has addressed gaps concerning the lack of comprehensive research conducted in crisis and disaster phenomena in tourism as identified by Faulkner (2001), Méheux and Parker (2006), Carlsen and Liburd (2008), Hystad and Keller (2008) and (Ritchie, 2009). Similarly it also addresses the lack of research into tourism crisis and disaster management in SIDS with tourism based economies.

The thesis research further builds on existing studies of tourism crisis and disaster frameworks such as Faulkner and Vikulov (2001), Hystad and Keller (2008) and Ritchie (2009). It contributes an integrated approach to disaster management in tourism through a case study approach as suggested by Ritchie (2004, p. 681) to test the models and concepts surrounding crisis and disaster management in the tourism industry and builds on existing frameworks. The case study has explored various disaster recovery strategies such as crisis communication, recovery marketing, and management of resources, stakeholder collaborations, and learning. The results provide valuable real examples to the field in the area of SIDS.

As highlighted earlier, the main contribution of this research is an integrated approach that could be used as a crisis and disaster management framework for managing tourism crises or disasters in Small Island Developing States (SIDS). It also responds to Carlsen and Liburd’s (2008) research agenda which examines research on managing recovery and restoration, marketing and promotion during and after the crisis, and rebuilding the destination (see
Further, the research expands Ritchie’s work (2004) on understanding stakeholder collaboration and planning in the tourism industry. The analytical case study of stakeholder strategies (short, medium and long term actions) in the recovery of the tourism industry in Maldives, following the Indian Ocean Tsunami of 2004, is an opportunity to test the conceptual framework developed for the study and is a practical outcome for the tourism industry in SIDS.

As argued in the literature review, there is a need for long-term and in-depth studies on tourism recovery following disasters. This research is useful for Destination Management Organizations (DMOs), National Tourism Organizations (NTOs) and industry associations who have an important role in educating the industry and facilitating readiness, response and recovery actions and strategies (Ritchie, 2009). The documented findings will be useful to the Government and the stakeholders in the Maldives. It is hoped that it will support the government in designing appropriate strategies for tourism recovery following induced or imposed catastrophes in the future.

9.5 Limitations

Initially this research was planned as a multiple case with (embedded) design type 4 in Yin (2003)’s categorization, with the aim to achieve replication of a single type of incident in different settings to compare and contrast recovery of the tourism industry in both the Maldives and Samoa following the Indian Ocean Tsunami of 2004 and the Pacific Ocean Tsunami of 2009 respectively. This however, did not materialize due to lack of support from stakeholders as outlined in Chapter 5. Therefore, the research is based upon a single case of recovery, in this case, the Maldives following the Indian Ocean Tsunami of 2004. Similarly, the extent to which the conceptual framework can be tested and revised is limited to this single case study.

This research is focused on the destination level rather than the individual level. It did not examine community level recovery activities and projects. It is also limited in terms of duration and constraints faced while on the two field trips. Political instability and chaos in the Maldives between February 2011 and February 2012, the period when the data was collected, has been discussed in Chapter 5. Due to the change of political appointees after the first democratic elections many officials were new and were not very aware of the responses to the Indian Ocean Tsunami of 2004. A low response rate from the tourism businesses and a lack of cooperation was a serious limitation during the data collection stage.
The tourism industry is sensitive and susceptible to disasters and crises and has been subject to a variety of events, shocks and incidents over the years (Evans & Elphick, 2005, Santana, 2003). According to Faulkner and Vikulov (2001) some destinations experience disasters that have a high probability of recurring. They have the dubious advantage of reviewing and refining their disaster management strategies after each event. However, when proposing their generic framework, Faulkner and Vikulov (2001) also argued that one of the challenges of tourism disaster management is to ensure that destinations develop a degree of preparedness for events that have a low probability of occurring.

It is not possible to formulate plans for each and every type of crisis or disaster, however, as Faulkner and Vikulov (2001) note, being prepared for the unexpected requires a process where a broad spectrum of disaster scenarios are identified and contingency plans are developed to cope with these. Therefore, the integrated framework for tourism disaster planning and management is not a “one size fits all” model. It is based on tourism recovery after the Indian Ocean Tsunami of 2004 in just one country. Notwithstanding these limitations, this empirical research is able to make a number of recommendations applicable to the Maldivian tourism industry and general recommendations to governments and tourism industries elsewhere.

9.6 Recommendations

9.6.1 Recommendations for Governments and Tourism Industries

This research has outlined the need to be prepared for crisis and disaster management in the tourism industry. A tourism destination that has a realistic assessment of the risks and required disaster management strategies and disaster management planning is likely to respond and recover quickly should a crises or a disaster occur. Investigation of previous disasters and crises is required for developing comprehensive scenario based crisis or disaster management plans. NTOs could undertake research on adverse events which have had an impact upon the tourism industry in the past and base their tourism disaster management plans on these findings.

In the planning process, NTOs should learn from past experiences, either local or international. This would help NTOs to develop scenario plans and response strategies for specific issues. A review of disaster management strategies and their outcomes and lessons learned would provide an overview of the weaknesses of the existing plans and an opportunity to improve them.
Effective institutional arrangements are crucial for implementing the integrated approach. Respective governments need to ensure that there is one over all disaster management agency, with a clear line of authority and decision making process, particularly for emergency relief and response. In the tourism context, NTOs or the relevant government departments must have clear policies regarding decision making authority at a national level.

Effective collaboration and communication between stakeholders is crucial at different levels. There must be collaboration between government agencies and private sector organizations that are responsible for utilities and services. This link is very important so that the tourism industry establish plans within realistic time frames for operational recovery. There must be strong lines of communication and collaboration between emergency operations (EOs), NGOs and private sector tourism industry. The EOs can assist by providing planning strategies and employee training.

There must be good relationships with the media during the crisis and disaster phase. The reports of the situation need to be accurate. During the recovery phase, it is necessary to raise the confidence for the region, destination and for reopened businesses. Effective reactive disaster management strategies will incorporate a marketing plan that includes collaboration with local and international media.

The integrated framework for tourism disaster planning and management is an applied framework for disaster response and recovery in a tourism destination. The NTOs and the private sector businesses can learn from the tourism recovery strategies used in the Maldives case study. Managers and team members must be competent to implement of disaster management plans both at national and an individual business level. This could be achieved through short and long-term skills and capacity development projects to increase competency in this area.

EOs, NTOs and the private sector need to develop their capacity and knowledge through attending conferences and seminars. They should also utilize appropriate learning technologies and trends suggested by Pforr and Hosie (2008), discussed in Chapter 8. NTOs need to produce their own tourism crisis/disaster management plans or adopt other available regional frameworks as highlighted earlier. Tourism businesses may develop their own crisis/risk management and business continuity concepts as discussed in Chapter 8, as seen in New Zealand’s response to the Christchurch earthquakes.
9.6.2 Recommendations for the Tourism Industry in the Maldives

The tourism industry is facing increasing rates of disasters, both naturally occurring, such as the 2010 earthquake devastation in Haiti, the 2011 tsunami in Japan, and man-made disasters such as the terrorist attacks in 2008 in Mumbai, India. While many tourism dependent countries like the SIDS recognize that disaster planning is important, such planning is too often neglected in national policies. As a result, many countries are still at a low level of disaster preparedness.

The impact of the Indian Ocean Tsunami of 2004 for the Maldivian tourism industry was severe and the level of preparedness low. The timing of the tsunami coincided with the high tourism season in the Maldives when the resorts were full, resulting in the closure of businesses, cancellations and severely reduced occupancy rates and ultimately revenue. The Maldives had limited resources, technical competence and experience in handling a disaster of this magnitude. However, government sector and private sector efforts and international support, both in terms of aid and technical expertise, has enabled the Maldives to recover.

The following recommendations are made after an investigation of the response and recovery strategies adopted by the Maldivian tourism industry after the Indian Ocean Tsunami of 2004, and after reviewing the current policy regime and activities of the Maldivian tourism industry in the area of disaster risk reduction. They are made with due acknowledgement of the stakeholder efforts.

Currently, only a few of the tourism resorts have environment and safety management plans. Plans were initially developed by some resorts following environmental concerns in the Second Tourism Master Plan of 1995 and due to the requirements of some international financial institutions. These plans need to be developed for all the sectors of tourism industry (resorts, guesthouses, picnic islands, yacht marinas and safari vessels) taking specific care to address climate change adaptation and disaster risk management.

The tourism industry should work with government agencies in achieving the goals established for reducing vulnerabilities in the tourism sector in the National Adaptation Program of Action (NAPA); which includes coastal protection and coastal zone management to protect tourist infrastructure, diversification of tourism products to reduce over dependency on the marine environment and climate change adaptation policy and strategy for tourism. Similarly, all tourism stakeholders need to work together to achieve the objectives outlined in the Strategic National Action Plan for Disaster Risk Reduction and Climate Change
Adaptation 2010-2020 (SNAP). This would help ensure the long-term protection of the expensive tourism infrastructure in the Maldives.

The disaster management plan for tourism sector developed soon after the Indian Ocean Tsunami of 2004, still appears as a draft document, though it resulted in making it mandatory for resorts to have individual disaster management plans, audits of communication infrastructures, emergency evacuation and resorts to be integrated with evacuation plan of National Disaster Management Centre. The plan needs to be further revised and finalized to integrate the strategies identified in NAPA and SNAP.

The Tourism Emergency Operation Center has been established within the MOT but the Crisis Management Unit envisaged in the Third Tourism Master Plan has not been formed. It is therefore recommended that resources be allocated to create this institution within the MOT which will formalize all of the SOPs, mechanisms and guidelines for the industry.

The current work initiated by NDMC with the Maldives National Defense Force along with MOT for enhancing disaster management in the tourism sector of Maldives is notable. These programs are tailored to include both technical training and hands on exercises to ensure that resort management and staff develop an understanding and knowledge of coordinating and controlling chaotic emergency situations due to natural and non-natural hazards (Ministry of Tourism, 2014). It is recommended that these programs be made mandatory rather than voluntary, and that the Crisis Management Unit within the MOT take the responsibility for implementing them.

The Tourism Security Seminar held in 2011, to combat growing national security concerns, by the Ministry of Tourism, Arts and Culture with (Maldives Police Service, Maldives National Defense Force (MNDF), the Maldives Association of Travel Agents and Tour operators (MATATO) and the Maldives Association of Tourism Industry (MATI)) stakeholders was a positive exercise that envisaged a new national security policy. Furthermore, it gained commitment from the industry stakeholders to amend the Maldives Tourism Act to develop and implement a security system that complies with police standards and supports the private security teams that are hired by the resorts. The industry needs to follow up on these recommendations and implement the outcomes in order to make it a part of the tourism disaster management plan.

As highlighted in Chapter 8, employees at all levels in the tourism industry set aside their own fears and concentrated on response and recovery operations during the Indian Ocean Tsunami
of 2004. Having an expectation that staff will handle both business tasks and these new tasks without necessary training is unrealistic. It is recommended that each tourist resort develop core response and welfare teams, particularly for crisis and disasters, and train and certify them according to a national curriculum on emergency preparedness.

A structured volunteer program needs to be introduced in local communities so that the citizens will be trained to assist a resort or a tourism establishment in case of a crisis or a disaster they cannot handle alone. The resorts can work with Island and Atoll Councils in order to find volunteers. Most of the workers are from nearby island communities and the survival of tourism is essential for ensuring their employment and economic recovery as a whole. As seen in the tsunami, where resorts received severe damage, the island communities assisted in providing basic relief. Equally when nearby island communities ran out of food and water, the resorts helped in the same way. Therefore, collaboration between both is essential.

Given the exceptional circumstances, the work done by the tourism sector association, MATI with the EOs and NTOs during the tsunami was very important. However, the tourism industry needs to broaden its involvement in the Tourism Emergency Operations Center (TEOC) and support the government to establish the Results Based Strategic Disaster Management Framework envisaged in the Disaster Management Plan for Tourism Sector (2005). This would complement the NDMC.

The tourism industry also need to work together with the NTOs and other authorities to achieve success in adaptation measures for climate change risks that are being currently studied under the Tourism Adaptation Project.

### 9.7 Suggestions for Further Research

Future research and development of conceptual frameworks or models are required in the area of crisis and disaster management in the tourism industry. All components in the proposed Integrated Framework for Tourism Disaster Planning and Management can be further studied. Similarly, the whole framework could be tested using a case study of another type of crisis or a disaster. Another area of future research could examine the effects of disasters on destination image and the effectiveness of the government strategies to restore market confidence. More research is also required to understand disaster preparedness and organizational learning within the tourism industry in Small Island Developing States.

Further research can be conducted from the tourist perspective, to understand the crisis and
disaster information strategies for different tourist groups and target markets. Similarly, as Larsson and Enander (1997) highlight, social values and norms may have an impact on disaster planning, thus cross-cultural studies could be undertaken to examine these issues. Multidisciplinary researchers from media, communications, education and sociology disciplines can work alongside tourism researchers to explore these topics.

Carlsen and Liburd (2008) propose a research agenda for tourism crisis management where they outline six research categories consisting of: (1) clarification of definitions, concepts and typologies, (2) risk identification and assessment, (3) managing recovery and restoration, (4) marketing and promotion during and after the crisis, (5) rebuilding the destination, and (6) sustainable tourism development from a risk management perspective. In this thesis, categories three, four and five suggested by Carlsen and Liburd (2008) have been explored to an extent. Future research areas of tourism crisis and disaster management are referred to by Carlsen and Liburd (2008) and Ritchie (2009).

9.8 Conclusions

The tourism industry is vulnerable to external shocks, whether they are induced or imposed crises or disasters. The readiness of the industry and its capacity to effectively respond and recover is of critical significance for destinations and the community in which they function. Descriptive and analytical case studies of crises and disasters and development of a body of theoretical and practical knowledge will help ensure that the government and industry continue to play an important role in caring for the safety and security of the tourists while maintaining a viable and sustainable industry for all stakeholders. The Integrated Framework for Tourism Disaster Planning and Management proposed and developed further in this thesis, and the case study examined to test the framework, is a step in that direction.
# Appendix A: Resorts that had Basic Services Restored and Some Repairs

<table>
<thead>
<tr>
<th>Resorts</th>
<th>No. of beds</th>
<th>Operation suspended on</th>
<th>Operation started on</th>
<th>Details of Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resort A</td>
<td>224</td>
<td>27-Dec-04</td>
<td>Jan-05</td>
<td>Mostly damage to furniture and equipment, and erosion. The water level had risen to approximately 3 to 4 ft. during the tsunami. Side of the jetty had risen up due the wave making the supporting pillars rise out of the ground. Staff managed to fix it temporarily. Reception area received minor damages except to computer equipment and A/Cs which were all damaged. The staff canteen had minor damages. Staff quarters received less damage, was brought back to normal. All guest rooms on the island had suffered various extents of damage but some rooms were brought back to a normal. Some rooms had torn off doors and decks. No damage to equipment in the restaurant, display fridges and cold rooms. Some cutlery and grill was damaged.</td>
</tr>
<tr>
<td>Resort B</td>
<td>128</td>
<td>26-Dec-04</td>
<td>Jan-05</td>
<td>All equipment and items brought for water bungalow project was damaged and some carried away. Damage to the foundations laid for water bungalows. Carpentry, swimming pool, water plant damaged. Restaurant and kitchen badly damaged including equipment. 88 beach bungalows affected, furniture, equipment, doors and windows of the guest rooms were badly damaged and the foundation beams of some rooms were exposed. Damage to the power generators. Staff premises received extensive damage mainly to the furniture and equipment.</td>
</tr>
<tr>
<td>Resort C</td>
<td>156</td>
<td>26-Dec-04</td>
<td>Jan-05</td>
<td>Mostly suffered damage to furniture, glass and erosion. Main jetty was severely damaged. Some of the concrete pillars embedded into the sand which supported the jetty had been pulled out of the ground, making the jetty uneven. 82 guestrooms damaged. Damage mostly to doors, furniture and decks. Resort’s spa was severely damaged. Jetty leading to water bungalows collapsed but breaking many pipelines, but only 4 water bungalows were severely affected. Beach bar washed away, power not supplied due to the entire island due to short-circuits, and pumps at the desalination plant got damaged. Decks and walk-ways in public areas got damaged.</td>
</tr>
<tr>
<td>Resort D</td>
<td>96</td>
<td>26-Dec-04</td>
<td>Jan-05</td>
<td>Flood on the whole island, but managed to keep the tourists comfortable, provided meals and accommodation, jetty was damaged and was fixed quickly.</td>
</tr>
</tbody>
</table>
## Appendix B: Renovation Activities Including Some Reconstruction

<table>
<thead>
<tr>
<th>Resorts</th>
<th>No. of beds</th>
<th>Operation suspended on</th>
<th>Operation started on</th>
<th>Details of damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resort E</td>
<td>100</td>
<td>1-Jan-05</td>
<td>Apr-05</td>
<td>Water bungalows were severely damaged to an extent that cannot be occupied unless renovation is done to the entire room and furniture. All pipelines in the island were damaged. There are some damage to few planks in the main jetty. While the kitchen, bar and pool area received some severe damage, sea water damaged the electrical equipment like ovens, cookers, main freezers, fridges.</td>
</tr>
<tr>
<td>Resort F</td>
<td>94</td>
<td>26-Dec-04</td>
<td>Jun-05</td>
<td>Major damage to all the rooms and 40 water villas where all furniture, equipment, door and windows were damaged - major repairs to be done. Three jetties were also damaged. Furniture and equipment were damaged in staff quarters. Items in stores were damaged. All equipment in staff kitchen was damaged. The water bungalow jetty walkways and the supporting stills were badly damaged. All the pipelines for water, sewage, electricity were fully damaged.</td>
</tr>
<tr>
<td>Resort G</td>
<td>250</td>
<td>26-Dec-04</td>
<td>Dec-05</td>
<td>Severe damage to the island, including damage to the furniture, fittings of newly constructed 14 beach bungalow units and equipment in the island. All guests were evacuated to nearby resorts and those guests with minor injuries were sent to Male. Upstairs of staff rooms were functional. Water in tanks, Only one generator was working. Immediate priority was to clean and restore power.</td>
</tr>
</tbody>
</table>
### Appendix C: Totally Reconstructed Resorts

<table>
<thead>
<tr>
<th>Resorts</th>
<th>No. of beds</th>
<th>Operation suspended on</th>
<th>Operation started on</th>
<th>Details of damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resort H</td>
<td>200</td>
<td>26-Dec-04</td>
<td>Sep-06</td>
<td>Severe damage to the equipment, furniture and fitting as high tides brought floods, caused beach erosion, damage to wooden decks of the pool. Water bungalow jetty was damaged and most of the furniture broken, foundation beams of beach bungalows were exposed as the waves went from one side of the island to the other and most of the furniture were broken. A large area of the deck surrounding swimming pool was removed from the beams and moved to the island with the waves. All the furniture and equipment in the public areas and restaurants were damaged.</td>
</tr>
<tr>
<td>Resort I</td>
<td>240</td>
<td>26-Dec-04</td>
<td>Jan-07</td>
<td>Resort had suffered severe damage to almost all structures on the island, including guest rooms, water bungalows, jetties, and staff quarters and supporting facilities. The island also suffered heavy erosion. The water level on the island had risen from 3 to 4 feet above ground during the tsunami. Pillars in the jetty got uneven due to the pillars supporting it sinking or becoming tilted. Walk-ways were damaged. Service jetty was completely damaged. The swimming pool had suffered cracks and severe erosion on the beach side. Items in the main store room were damaged beyond use. A container was lifted off its foundations. Main admin offices in the island received severe damage; there was broken glass and furniture. Electric sockets and equipment in them were damaged, floors were uneven, and doors were broken. All guest rooms received extensive damage, some decks lifted-off and torn-off, walls pulled down, and doors broken. The debris, fixtures, fittings, equipment were found 30-50 feet off the rooms. 6 water bungalows were washed away. Staff quarters got totally damaged.</td>
</tr>
<tr>
<td>Resort J</td>
<td>200</td>
<td>26-Dec-04</td>
<td>May-08</td>
<td>Beach front rooms in the resort were totally damaged, some sidewalls were lost and window units were forced in by the force of the waves. Air conditioning units right above the windows, and the lighting and electrical fixtures were all filled with sea water. The contents from the guestrooms were floating all over the island. The exterior doors in back and front were damaged and torn away. Reception areas, staff quarters and restaurants received extensive damage and contents washed away. A lot of environmental damage happened where there was a coastline retreat of 15 m or more in areas that were not protected by sea walls. Flood water higher than an average person (160-180 cm) inundated the island, water from eastern side and the western sides met in the centre, resulted in significant erosion to the reclaimed beach making deep gullies across the beach. Coral clasts washed over a bern on the surface, trees were buried in corals 20 cm that went up to 20 m into the island.</td>
</tr>
</tbody>
</table>
Appendix D: Profiles of Participants from the Emergency Organizations (EOs), National Tourism Organizations (NTOs) and Other Relevant Government Agencies Consulted for the Research

<table>
<thead>
<tr>
<th>Agency</th>
<th>No. of participants</th>
<th>Role/Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Tourism and Civil Aviation</td>
<td>2</td>
<td>The main government body that regulates tourism activities in the Maldives. Main functions are formulation and implementation of long-term planning and development of tourism in Maldives, formulation and implementation of laws and regulations for tourism facilities and service standards, adoption of sound environmental principles in tourism development and operation. Ministry is also responsible for leasing of land for tourism and registration of all tourism operators and facilities while maintaining and compiling the statistics related to the industry and planning and implementation of human resource development for tourism industry.</td>
</tr>
<tr>
<td>National Disaster Management Centre</td>
<td>2</td>
<td>The government established the National Disaster Management Centre (NDMC) soon after the tsunami to facilitate and coordinate emergency relief, recovery and reconstruction work. The Centre included the following divisions: The National Disaster Relief Coordination Unit (NDRCU); The National Economic Recovery and Reconstruction Program; The Housing and Infrastructure Redevelopment Unit (HIRU); The Transport and Logistics Unit (TLU) and The Tsunami Relief and Reconstruction Fund (TRFF). The NDMC has been very actively involved in the tsunami reconstruction with the mandate of reconstruction plan which included; immediate relief and recovery efforts; reconstruction and rehabilitation (including infrastructure, livelihoods, home, etc.); and future risk mitigation and disaster management. Since February 2012, NDMC has been transferred under the Ministry of Defence and National Security and a new mandate has been given since July 2012 which is based on Disaster Risk Reduction (DRR) system.</td>
</tr>
<tr>
<td>Ministry of Housing and Environment</td>
<td>1</td>
<td>The Ministry of Housing and Environment is a pivotal agency in Maldives. Since 1st May 2012 the Ministry has two broad functions; housing and infrastructure and environment and energy. The institutions operating under the Ministry of Housing and Environment include; Maldives Meteorological Service; Environmental Protection Agency; and Maldives Energy Authority. The Ministry’s main mandate is to formulate; policies related to environment, energy, water and meteorology; formulating regulations and standards needed for the implementation of legislation; protecting the environment of the Maldives, and planning the sustainable development and implementation of all aspects of energy, water and sanitation, and meteorology; and carrying out major activities related to the environment, energy, water and sanitation, sewerage and meteorology. During the tsunami the Ministry of Environment and Construction then focused on assessments on environmental damage, waste and debris management issues in the islands, relocation of affected populations, providence of temporary shelters, implementation of building codes, and identification of safe locations and worked on the programs to regenerate mangroves and shelter belt plantation in the islands. The Ministry mainly worked with</td>
</tr>
<tr>
<td>Maldives Tourism Promotion Board</td>
<td>1</td>
<td>UNEP/OCHA Environmental Unit and number of national and international organizations.</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Maldives Tourism Promotion Board (MTPB), the marketing arm of the Ministry of Tourism (MOT), was created in 1998 with the task to conduct marketing and other promotional activities for Maldives’ tourism industry. MTPB was also formed to reap the benefits from the synergy that exist between domestic and international air transport access and tourism development. Since its inception MTPB led the way for the Maldives to be seen as top luxury brand destination with a successful destination slogan “Maldives…the Sunny Side of Life” until the restructure and corporatization of MTPB in 2010 as The Maldives Marketing and PR Corporation (MMPRC). Core duties and function of MMPRC are tourism awareness and promotion and actively promoting the Maldives as the world’s best holiday beach destination to the tourism industry and consumer target audience(s). During the tsunami MTPB worked very closely with the MOT in destination recovery and marketing to improve the visitation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>1</td>
<td>Ministry of Health (MOH) is responsible for developing and implementing national health policy of the country, public health protection, provision of health services to all the inhabited islands in the Maldives. Health services in the Maldives follow a 5-tier system. The health service delivery system comprises the central level (Indira Gandhi Memorial Hospital –IGMH), regional level (regional hospitals), atoll level (atoll hospitals), sub atoll level (atoll health centres) and island level (health posts and family health sections). They are structured into a referral system, with the hierarchy ascending from the family health workers at the island level to specialist medical practitioners at IGMH. The 5th tier includes MOH, Indira Gandhi Memorial Hospital –IGMH, Department of Medical Services, Department of Public Health, Maldives Food and Drug Authority, National Thalassemia Centre (NTC), and Health Councils. During the tsunami the MOH was mainly on focusing to ensure health case was provided to the needy, assessment of health situation, assessment of water and sanitation situation, collecting epidemic and disease surveillance data. MOH was coordinating with many international and local organizations including mobilization of foreign aid.</td>
</tr>
<tr>
<td>Department of Immigration and Emigration</td>
<td>1</td>
<td>The department is responsible for the immigration control throughout the Maldives. The main functions of the Department are; control and manage the border to ensure the legal entry of the people to the Republic of Maldives; ensure that the foreigners comply with the law and regulations of the country while their stay in the Maldives and provide a secure and trustworthy international identification for Maldivian citizens for their travel to other countries. During the tsunami response the Department liaised and coordinated with other relevant government authorities and foreign consulates top prepare and send the tourists from those countries back home. They also worked closely with the emergency authorities to make the airport operational. Immigration Department is also actively involved in Airport Emergency Plan development.</td>
</tr>
<tr>
<td>Maldives Airports Company Limited (MACL)</td>
<td>1</td>
<td>Maldives Airports Company Limited (MACL) is a government owned company that came through various government departments that were responsible for the operation of Male’ International Airport. On 15th July 2010, the airport was privatized following a concession agreement between GMR Infrastructure Group and Malaysia Airports Berhard (MAHB). After the agreement Air Traffic Control and Aviation security Command was supervised by MACL. Following the change of government on 22nd February 2012, the agreement with GMR-MAHB was cancelled and since 7th December 2012, MACL has been operating the airport. During the tsunami the airport was completely flooded with the wave and some navigational equipment and back-up systems were damaged. However, they worked hard to clear the runway and open the</td>
</tr>
<tr>
<td>Department of Meteorology</td>
<td>1</td>
<td>The National Meteorological Centre (NMC) is the main weather centre for daily forecasts, all kinds of aviation forecasts, marine forecast, weather warnings, earthquakes and tsunami alerts for the Maldives. After the tsunami much has been done for the early warning systems (EWS) by NMC. This includes installation of new EW equipment, capacity building in the NMC for early warnings and public awareness. Along with these NMC also trained other coordinating government agencies.</td>
</tr>
<tr>
<td>Ministry of Fisheries, Agriculture and Marine Research</td>
<td>1</td>
<td>The function of Ministry of Fisheries, Agriculture and Marine Research is; to formulate and implement laws, policies and procedures required for the sustainable development of fisheries and other marine resources, including those relating to reefs and lagoons; formulate and implement policies and strategies necessary for the sustainable development of fisheries, agriculture and marine resources of the Maldives; devise and implement strategies to improve the socio-economic conditions of Maldivians’ involved in fisheries, agriculture and other marine resource sector; and to offer training and extension services to develop the human resource capacity in fisheries and agriculture; and finally to protect and conserve the marine and terrestrial biodiversity of the nation. During the tsunami the Ministry focused on Livelihood Rehabilitation Programs at the same time worked with numerous foreign organizations and aid agencies such as; UNDP, FAO, ADB, IFAD, World Bank, Japan Non-Project Grant Aid and Hotel Plan Limited (Singapore).</td>
</tr>
<tr>
<td>Ministry of Defence</td>
<td>1</td>
<td>The Ministry of Defence is the main organization responsible for the national security of the Maldives. The sections under the Ministry include; Maldives National Defence Force (MNDF), National Disaster Management Centre and Aviation Command. The MNDF comprises Marine Corps, Special Forces, and Corps of the Engineers. Service Corps and the Coasts Guard. During the tsunami MNDF worked along with all the government agencies, particularly with Coast Guard division providing manpower for logistical support, facilitate distribution of relief items and establishing command and control centres throughout the nation.</td>
</tr>
<tr>
<td>Coast Guard Division</td>
<td>2</td>
<td>The Coast Guard Division of the MNDF is assigned the vital role of maintaining surveillance over territorial waters and providing protection from foreign intruders poaching in the EEZ. They are also assigned the responsibility to respond to maritime distress calls, enforce maritime law, search and rescue and salvage operations, armed sea transport of troops and military equipment. They organize annual maritime pollution control exercises as training for such an eventuality. During the tsunami they provided logistical and service support during the response in areas of transportation, distribution of relief aid, search and rescue and debris removal. They also coordinated with other government agencies during the tsunami.</td>
</tr>
</tbody>
</table>
| Ministry of Education | 1 | The Ministry of Education (MOE) formulates and implements educational policies. It controls and administers all Government-aided primary schools, secondary schools, junior colleges and a centralized institute while it registers the private colleges and schools. When the Asian tsunami occurred all schools were closed for annual holidays however, due to the young population (i.e., 40 % of the population under 18 years and a 100,000 students) and since schools play a very important role in small communities the government thought that schools could be an ideal setting for formulating and implementing disaster preparedness policies, dissemination of disaster preparedness information and establishing emergency procedures. MOE worked with UNESCO and local agencies to prepare a disaster preparedness policy for schools which was very important as more than 40% of the total population was under 18 years.
(270,101) is directly engaged in the schools on any given day.
Appendix E: Ethics Approval

Application No: 2010-40 10 January 2011

Title: Post-disaster tourism crisis recovery in SIDS: development and testing of an integrated approach

Applicant: Abdulla Niyaz

The Lincoln University Human Ethics Committee has reviewed the above noted application.

Dear Abdulla

Thank you for your detailed response to the questions which were forwarded to you on the Committee's behalf.

I am satisfied on the Committee's behalf that the issues of concern have been satisfactorily addressed.

I am pleased to give final approval to your project and may I, on behalf of the Committee, wish you success in your research.

Yours sincerely

[Signature]

Professor Grant Cushman
Chair, Human Ethics Committee

cc K Hughey, D Simmons, D Fisher

PLEASE NOTE: The Human Ethics Committee has an audit process in place for applications. Please see 7.3 of the Human Ethics Committee Operating Procedures (ACHE) in the Lincoln University Policies and Procedures Manual for more information.
Appendix F: Research Recruitment Telephone Script

Hello! My name is <Abdulla Niyaz>. I am calling from Lincoln University. I am a post graduate student undertaking a study for a PhD degree. Is this <name of potential participant>?

Did you receive a letter from me giving details about my research study, <“Post-disaster tourism crisis recovery in SIDS: development and testing of an integrated approach”>? I have indicated that I will contact you in two weeks’ time to see if you or any colleague would be interested in participating. Would you be willing to participate?”

If yes,
Are you interested in hearing more about the research and how it will be conducted?

If yes,
Give a brief explanation< benefit of the research and how it will help the organization> and give them an opportunity to ask questions.

Agree on a date and time for the interview
I will be travelling to <Maldives or Samoa> from <date to date> to conduct my research. Could we meet at your <location> on the <date> at <time>.

If he/she indicate as not interested,
Thank you very much for your time. Appreciate your time <good bye>.

If he/she never received the letter or do not recall reading about the research;
May I send you the documents about this research through e-mail?
If he/she say “Yes,”
Thank you! Is this your correct e-mail address (read address)? If you are interested after reading the letter and the Research Information Sheet, please let me know and I will call again to confirm the participation.

Thank you for your time. If you have any questions regarding this research, please contact:

Name of researcher: Abdulla Niyaz

Telephone number (s): 0064-03-3430344/0064-21-02209558

or my supervisor

Full name(s) of supervisor(s): Professor Ken Hughey

Telephone number of supervisor: Phone 0064-03-325 3838 Extension 8728

or my Associate Supervisor,
Full name(s) of supervisor(s): Professor David G. Simmons
Telephone number of supervisor: Phone +64 3 325 3820 Extension 8416
Appendix G: Invitation Letter

Invitation to take part in doctoral research project

Post-disaster tourism crisis recovery in Small Island Developing States: development and testing of an integrated approach

My name is Abdulla Niyaz. I am a student at Lincoln University, Canterbury, New Zealand enrolled for a Doctor of Philosophy degree in the Faculty of Environment, Society and Design.

As part of my doctoral research I am trying to develop an integrated approach for tourism disaster recovery in SIDS. My main area of interest is natural disasters and my research is based on a multiple case study of Maldives struck by the Indian Ocean tsunami of 2004 and Samoa, struck by the Pacific Ocean tsunami of 2009.

I wish to interview various stakeholders involved in the destination recovery efforts. I have identified that your business/organization has been actively involved in the process. I would greatly appreciate it, if you (or any other members of your organization that you may consider appropriate), would take part in this research. This research has been approved by the Lincoln University Human Ethics Committee.

I will contact you by phone to follow-up this letter during the next two weeks to discuss more about this research project and to find out whether you or a colleague would be willing to participate.

Thank you very much for your time and help.

Yours sincerely,

[Signature]

Abdulla Niyaz
PhD Student
Appendix H: Research Information Sheet

Information Sheet

You are invited to participate as a subject in a project entitled: "Post-disaster tourism crisis recovery in SIDS: development and testing of an integrated approach". The aim of this study is to examine and analyse how tourism destinations that have suffered from natural disasters recover and plan for possible future disasters, using the Maldives and Samoa as exemplars.

Your participation in this project will involve participating in an interview with the researcher. This would take around 60 minutes to 2 hours depending on the role you have taken during the response and recovery stages of the disaster. As a follow-up to this activity, you may be asked to complete a questionnaire which I will send by email. Both the interviews and the questionnaires would cover the following areas:

Pre-event: preparedness, existing disaster management plan or emergency response plan in place.

Proximal (when disaster is imminent); preparations for the disaster, activation of the plans.

Emergency; what actions were taken in response to the disaster.

Intermediate (when short-term needs are addressed and main focus is restoring community and services to normal); main challenges, actions taken by your business, e.g., closure of business, staffing issues, damage assessments, dealing with media, recovery planning, how dealing with external stakeholders assisted or hindered restoration activities.

Long-term recovery and resolution (continuation of clean-up, post-mortem, permanent change); main challenges including more larger tasks than the intermediate, e.g., securing finances and loans, marketing plans, activities from clean-up to reopening, stakeholder collaboration and staffing issues, lessons learned and any permanent changes.

I would like to audio record the interview but this would only be done with your consent and could be turned off at anytime. Further, if you are uncomfortable answering any of the questions because of the nature of the questions being asked you can terminate the interview at anytime. In addition, if you have said something which you would not want to be used by the research, you can withdraw that particular part of the interview from use in the research.

The results of the project may be published, but you may be assured that in this investigation the identity of participants will not be made public without your consent. To ensure anonymity and confidentiality the following steps will be taken. While conducting the research, all the relevant documentation that includes audio and computer files will be kept at a secure location with access restricted only to me and my supervisors. After completion of the research, the data will be stored for six years in Lincoln University and destroyed as per the university procedures. The data will be analysed and presented in a doctoral research thesis, presented in seminars and conferences and may be circulated to the research community in academic publications. In doing the above, results will be presented in general terms. I will not identify individual names or organizations and if required I will only mention specific groups.

Land
The project is being carried out by Abdulla Niyaz who can be contacted at home phone 0064-03-3430344, Mobile 0064 2102209558 and in Maldives 00960-7775049, E mail: Abdulla.niyaz@lincolnuni.ac.nz. I will be pleased to discuss any concerns you have about participation in the project.

Thank you for your time. If you have any questions regarding this research you may contact my supervisor, Professor Ken Hughey who can be contacted at phone 0064-03-325 3828 Extension 8728, Email: Ken.Hughey@lincoln.ac.nz or my Associate Supervisor, Professor David G. Simmons who can be contacted at Phone +64 3 325 3820 Extension 8416, E mail David.Simmons@lincoln.ac.nz.

The project has been reviewed and approved by Lincoln University Human Ethics Committee.

Professor Ken Hughey
Supervisor

Abdulla Niyaz
PhD Student
Appendix I: Questions and Interview Topics for Tourism and Emergency Organizations

<table>
<thead>
<tr>
<th>Faulkner’s Phases in DIRE grid</th>
<th>Framework Stage</th>
<th>Questions and Interview Topics for Tourism and Emergency Organizations</th>
</tr>
</thead>
</table>
| Pre-event                      | Reduction, proactive approach            | - Before the tsunami, had your organization considered what crisis management strategies would be required in the event of such a disaster?  
- Could you elaborate on any disaster planning your organization had in place to deal with the Tsunami?  
- Had your organization conducted any environmental scanning, scenario planning or risk analysis assessments in case of a crisis?  
- Did you then develop any strategic plans from your scanning and risk analysis? |
| Prodromal                      | Warning phase, readiness, proactive approach | - Before the tsunami hitting the country, had your organization received any warning?  
- What did you do to prepare for the event?  
- Do you have a documented crisis/risk management plan which covers major risks/hazards?  
- Were you acting in response to the advice or actions of other departments or agencies? |
| Emergency                      | Event phase, actions taken as response, reactive approach | - What were the main impacts of the tsunami at this stage? Who was at risk and what property damage had occurred?  
- What actions were taken by you and your organization?  
- What action was taken by other organizations and relevant agencies and how did affect your actions? |
| Intermediate                   | Event phase, actions taken as response, reactive approach | - What were the main challenges in restoring operations to normal conditions?  
- What action did you and your organization take to restore normal services?  
- How the action of other firms and relevant agencies did assisted or hindered the return to normality? |
| Long-term recovery             | Recovery and resolution stage, reactive approach | - What were the main challenges confronting your organization in the long-term recovery from the tsunami?  
- What actions were taken by your organization to address this recover?  
- How have the actions of other agencies assisted or hindered longer-term recovery? |
| Resolution                     | Recovery and resolution stage, reactive approach | - Have the tsunami brought any permanent changes in the environment in which your organization operates?  
- How have your organization responded to those changes?  
- Have the experience of the tsunami resulted in any permanent changes in your organizations approach to management and planning?  
- Have there been any permanent changes in planning and organization of the destination as a whole? |
### Appendix J: Questions and Interview Topics for Tourism Businesses

<table>
<thead>
<tr>
<th>Faulkner’s Phases in DIRE grid</th>
<th>Framework stage</th>
<th>Questions and Interview Topics for Private Sector Tourism Industry Businesses</th>
</tr>
</thead>
</table>
| **Pre-event**                | Reduction, pro-active approach | • Before the tsunami, had your company considered what crisis management strategies would be required in the event of such a disaster?  
• Could you elaborate on any disaster/emergency planning your company had in place to deal with the tsunami?  
• Had your company conducted any environmental scanning, scenario planning or risk analysis assessments in case of a crisis?  
• Did you then develop any strategic plans from your scanning and risk analysis? |
| **Prodromal**                | Warning phase, readiness, pro-active approach | • Before the tsunami hitting the country, had your company received any warning?  
• What did you do to prepare for the event?  
• Do you have a documented crisis/risk management plan for your business that covers major risks/hazards?  
• Were you acting in response to the advice of any other division; your head office or government authorities? |
| **Emergency**               | Event phase, actions taken as response, reactive approach | • What were the main impacts of the tsunami at this stage?  
• Who was at risk and what property damage had occurred?  
• What actions were taken by you and your organization?  
• What action was taken by other organizations and relevant agencies and how did affect your actions? |
| **Intermediate**            | Event phase, actions taken as response, reactive approach | • What were the main challenges in restoring operations to normal conditions?  
• What action did you and your business take to restore normal services?  
• How the action of other firms and relevant agencies did assisted or hindered the return to normality? |
| **Long-term recovery**      | Recovery and resolution stage, reactive approach | • What were the main challenges confronting your business in the long-term recovery from the tsunami?  
• What actions were taken by your business to address this recovery?  
• How have the actions of other agencies assisted or hindered longer-term recovery? |
| **Resolution**              | Recovery and resolution stage, reactive approach | • Have the tsunami brought any permanent changes in the environment in which your business operated?  
• How have your organization responded to those changes?  
• Have the experience of the tsunami resulted in any permanent changes in your company’s’ approach to management and planning?  
• What would you say about readiness of your business for a potential disaster (tropical storm, fire, flood, power failure?) |
References


doi:http://dx.doi.org/10.1016/j.tourman.2003.09.004


