**Travelling in
the Ring of fire:**
Tourism development
in Indonesia's
disaster-prone
environment

Erda Rindrasih

TRAVELLING IN THE RING OF FIRE

Tourism development in Indonesia's disaster-prone environment

Reizen in de ring van vuur
Toerisme ontwikkeling in een rampgevoelige omgeving van Indonesië
(met een samenvatting in het Nederlands)

Pariwisata di Cincin Api
Pengembangan Pariwisata di Lingkungan Rawan Bencana Indonesia
(dengan terjemahan bahasa Indonesia)

Proefschrift

ter verkrijging van de graad van doctor aan de Universiteit Utrecht
op gezag van de rector magnificus, prof.dr. H.R.B.M. Kummeling,
ingevolge het besluit van het college voor promoties
in het openbaar te verdedigen op

woensdag 15 januari 2020 des ochtends te 10.30 uur

door

Lay-out: Ridderprint | www.ridderprint.nl
Printed by: Ridderprint | www.ridderprint.nl
ISBN: ISBN 978-94-6375-738-6

Copyright © 2019. Erda Rindrasih.

Erda Rindrasih

geboren op 5 mei 1982
te Bantul, Indonesië

Promotoren:

Prof. dr. E.B. Zoomers

Prof. dr. T.J.M. Spit

Copromotor:

Dr. P.A. Witte

Dit proefschrift werd mogelijk gemaakt met financiële steun van Indonesisch schenkingsfonds voor onderwijs/*Indonesian Endowment Fund for Education/ Lembaga Pengelola Dana Pendidikan (LPDP)*.

Acknowledgements

At around 5 in the morning on 27 May 2006, a 5.9 magnitude earthquake struck my home city, Yogyakarta, making me leap out of bed. A lot of buildings collapsed, including half of our house. My family – along with my 4-year-old niece – had to abandon the house and sleep in a tent for a couple of weeks. The earthquake not only woke me up from sleep but also awoke in me the awareness that I live in a fragile place that can easily be destroyed by non-human power. I also became aware of something else: although I saw sadness, blood and tears all around me, I also saw the beauty of neighbourliness – working together (*gotong royong*) and helping each other. The earthquake gave me the valuable insight that a disaster is not always only a bad thing.

Having witnessed devastation and the recovery process, I was interested in the study of disasters. As I had a background in tourism research, I decided to do research in both disciplines. However, I understood that my knowledge was very limited, so I decided to pursue a doctoral degree to gain a better understanding of tourism, disasters and development. My motivation was simple: if a disaster strikes again, I wanted to be able to help and to be a person who promotes positive recovery. But motivation is one thing and financial support is another. So my first thank you goes to the Indonesian Endowment Fund for Education (LPDP) for financially supporting my research, rather than the research of one of the other one thousand candidates.

Completing a PhD in a foreign country, language and culture is not easy. In fact, it is sometimes difficult and frustrating, which made my life a bit of a roller coaster ride for five years. My journey was unique; besides learning on academic I have gained more than that. I learnt important lessons about patience, persistence, resilience, perseverance, self-organization, internal strength, new cultures, new ways of life, new communities, and trust in myself. If I take a look back at this five-year period, it was actually a happy time – heart-warming and pleasant. I am very fortunate to have been surrounded by a lot of people who helped me, motivated me and encouraged me during my PhD journey. I should like to express my gratitude to them.

First of all, I would like to convey my sincere appreciation to my supervisors Professor Annelies Zoomers, Professor Tejo Spit and Doctor Patrick Witte. You always provided me with valuable ideas, new insights and compliments on my work. All three of you showed me how to be a critical researcher, find a new idea in the academic debate, and develop logical and rigorous thinking skills. Annelies, you showed me that being critical is important to develop new insights for academia and practice. You taught me to do research and introduced me to many other areas besides tourism to widen my perspective, and your unexpected questions during

the consultation process forced me to think at a higher level. I understand that your role is not easy – especially when you supervise an international student like me. I remember you encouraging me to be confident, by saying, “Indonesia needs you – a disaster and tourism expert.” This motivated me to complete my PhD even though I was in a somewhat difficult personal position: during my PhD life I struggled with pregnancy and then had a new-born baby to take care of. You showed me that finding a balance between family life and work life is important. You always cheered me up when I was tired, sleepy and frustrated and I acted as a new mother and PhD student at the same time. You also showed me that the relationship between supervisor and student is not that of master and slave: it is though they are colleagues. Tejo, you became my supervisor in the second year of my PhD journey and you motivated me to be confident in ‘selling’ my original idea, as I was too shy and humble, and you always carefully checked my writing and give me valuable feedback. I remember you saying: ‘Please be precise!’ I will keep that in my mind – I promise. Patrick, thank you for all time that you spent to help my writing. You patiently answered all my questions (even the stupid ones!). As a young supervisor you have shown me how to be a good supervisor. I really appreciate your detailed corrections and feedback, which significantly improved my writing skills, particularly when it came to putting ideas into words in more structured ways and more clearly. I was very fortunate to work with both you and Annelies.

I should also like to mention Doctor Thomas Hartmann, Doctor Robert Fletcher, Professor Pieter Huijmeijer, Doctor Maggi Leung and Doctor Bouke van Gorp. Thank you all for the discussions and valuable ideas that you provided at the beginning of my PhD project.

I should like to express my gratitude to the members of the dissertation assessment committee, namely professors V.R. van der Duim, T. Beneker, J. Renes, Erwin van der Krabben and Muhammad Baiquni. I am grateful for your interest in my thesis and for taking the time to read the manuscript and provide feedback.

I also sincerely appreciate all the faculty administrators and department secretaries who helped me with all-important documents and practical matters. Geertje, Chris, Wendy, Anita, Karlijne, Marleen, Lotte, Ron and Desiree – thanks for your daily support during my PhD life.

I should also like to thank my friends and research assistants: Hanif, Lissane Zoet, Patrick Vedder, Setya, Binawan, Wawan Icha, Mediansyah, Maya Carlina, Saifullah Idris, Andriansyah, Meidina, Eli, Aura and Rohtri for helping me out during the data collection process in Yogyakarta, Bali and Aceh. Lissane, thank you for translating the ‘summary’ from English into Dutch, and Margot for providing the maps.

I should also like to acknowledge my colleagues at IDS for the valuable discussions in both academic and daily life. Thank you Ari Susanti, Rika Theo, Femke van Noorloos, Kei Otsuki, Murtah Shanon, Guus van Westen, Michelle Lin, Suseno Budidarsono, Iwan Suharyanto, Muchahid, Kebede Manjour, Inne Cottyn, Dinu Abdella, Filipe Mateo, Lucy, Vince, Ruud, Jil and Romi. Special thanks go to Ari Susanti for helping me to adapt to the new environment in Utrecht. I learnt from you how to cook Indonesian dishes: you are a really good chef! Rika Theo, thank you for the discussions and chats (both the serious discussions and the silly jokes!). I felt more motivated when I saw you being both a new mother and a PhD candidate. And thank you for being my paranymph!

I thank two special friends in the department that I was very close to during the last four years: Xiaolin Zang and Xing Su (Summer). Xiaolin – my office mate in the Van Unnik Building and in Vening Meinesz – thank you for the many talks and discussions we had. I hope you have a happy family and a successful career. Summer, my paranymph, since I knew you were working on a tourism subject, we became close and had many, many discussions. You encouraged me and believed that my subject is interesting. When others did not really understand my topic, you helped me to continue writing.

Many thanks to my other former/present PhD colleagues and friends in the department for making these past five years at Utrecht University very enjoyable: Delphine, Jie Gao, Nynke, Marielle Zill, Mathias Koepke, Weifang Wang, Sara McDonalds, Richmond, Lin Zhang, Phuc Nguyen, Zidan Mao, Min Yang, Huaxiong Jiang, Hongbo Chai, and Rong Yang.

I should like to express my appreciation to my Indonesian friends and the Indonesian community in Utrecht and the Netherlands, including PPI (Indonesian Student Associations in Utrecht), Stichting Generasi Baru (SGB), Euromoslim, and Kagama Belanda. I could not mention my friends one by one, but some of them have become very close, including Ari Fiandri-Atika, Supardi-Risda, Gustiandi-Eha, Raymon-Intan, Iwan-Datik, Ahmy-Putri, Andi Yanuardi-Akmila, Ibu Dewi, Desi-Delli, Suci Lestari Yuana, Fauzi-Malia, Tio-Famel, Kartika Pratiwi, Arya-Tyas, Lukman-Arti, Diaz-Evi, Aris Pratomo, Arvie-Ayuk, Novi-Indra, Erwin-Rika, Rina-Albert, Willem-Widya, Subekti Mujasih, Om Richard-Nanda and Rayendra-Rilly. Thank you for all your support and friendships over the last five years.

I should like to thank warmly my sisters, Kenty Rukmini and Nunuk Rayasari. Mbak Kenty, thank you for the time you spent taking care of grandmother, father and mother while I was in the Netherlands. Nunuk, thank you for your support and cheerfulness, which encouraged me to finalize my dissertation. And thank you grandmother Mbah Zainab for all the praying you have done for me. I also extend my

gratitude to my other family members, Uni Henny, Mas Rudy, Andy, Azmi, Mas Dwi, Taufan, and all my lovely nephews and nieces.

I sincerely thank my parents, Bapak Sucipto, Ibuk Siti Mularsih and my parents-in law, Abah Mohd. Nazir and Ibu Nuraini. This work is dedicated to you. You have always loved me unconditionally and your good examples have taught me to work hard for the things that I aspire to achieve. *Bapak Ibuk, Alhamdulillah kulo sampun lulus, maturuwun sanged, meniko kulo aturaken kagem panjenengan, mugi gusti Allah paring piwales ingkang kathah kagem Bapak lan Ibuk.*

Finally, I owe my deepest gratitude to my husband, Erlis Saputra, who was doing a PhD at the same time as me. Mas Erlis, thank you for being my husband and the father of our son. You have been a constant source of support and encouragement during the challenges of PhD life, while at the same time struggling to finish your own dissertation. You always offer a shoulder to lean on, a hand to help, a head to think and a heart to love. I am truly thankful for having you in my life. As for my son, Abidzar, you are the most precious thing in the world and this dissertation is also dedicated to you. You have made me stronger, better and more fulfilled than I could have ever imagined. I love you to the moon and back. May Allah protect you.

Thank you / *terimakasih / dank je wel / matur nuwun!*

Erda Rindrasih
Utrecht, November 2019

This dissertation is inspired by the Holy Quran (Al A'raf :168),

And We divided them throughout the earth into nations. Of them some were righteous, and of them some were otherwise. And We tested them with good [times] and bad (disaster) that perhaps they would return [to obedience].

Table of Contents

Acknowledgement	v
Table of Contents	x
List of tables	xiv
List of figures	xv
Abbreviations	xvi

Chapter 1. Introduction	19
1.1. <i>Setting the scene: tourism development in a context of disasters</i>	20
1.2. <i>Context: tourism development in Indonesia</i>	21
1.3. <i>Relevant literature and core concepts</i>	23
1.3.1. Sustainable tourism	23
1.3.2. Vulnerability and resilience of the tourism industry	24
1.3.3. Recovery and transformation	25
1.3.4. Governance of disaster risk reduction in tourism	26
1.4. <i>Aim and research questions</i>	26
1.5. <i>Analytical framework</i>	28
1.6. <i>Characteristics of the sampled research areas</i>	29
1.7. <i>Data collection</i>	31
1.8. <i>Dissertation structure</i>	35
<i>References</i>	37

Chapter 2. Tourism and Disasters: Impact of Disaster Events on Tourism Development in Indonesia 1998–2016 and Structural Approach Policy Responses	43
2.1. <i>Introduction</i>	44
2.2. <i>Complex systems and spillover effect</i>	45
2.2.1. Disasters in a complex systems understanding of tourism	46
2.2.2. Spillover effect of disasters on the tourism industry	47
2.3. <i>Methods</i>	48
2.3.1. Hypothesis, variables and analysis	48
2.3.2. Case study and data gathering	49
2.4. <i>Crisis events in Indonesia</i>	50
2.4.1. Natural crises	51
2.4.2. Human-induced disasters	52
2.5. <i>Results and Analysis</i>	54
2.5.1. Impact on the performance of the tourism industry	55
2.5.2. Spillover effects	57
2.5.3. Government responses to tourism crises	62

2.6. <i>Discussion</i>	62
2.6.1. Multi-layered disasters and spillover effects	62
2.6.2. Towards a structural approach in policy responses	63
2.7. <i>Conclusion</i>	65
<i>References</i>	67

Chapter 3. Travelling without a helmet: Tourists' Vulnerabilities and Responses to Disasters in Indonesia	73
3.1. <i>Introduction</i>	75
3.2. <i>Tourists' vulnerability, disaster management, and cultural theory</i>	76
3.2.1. Tourists' vulnerability in the context of disaster management	76
3.2.2. Tourists and disaster-related behaviour	78
3.2.3. A cultural theory to understand the behaviour of tourists	79
3.3. <i>Methodology</i>	81
3.4. <i>Findings and discussion</i>	84
3.4.1. Rationalities based on type of disaster	84
3.4.2. Rationalities based on the origin of tourists	87
3.4.3. Response rationalities of tourists	92
3.5. <i>Conclusion</i>	96
<i>References</i>	99

Chapter 4. Under the Volcano: Responses of a Community-Based Tourism Village to the 2010 Eruption of Mount Merapi, Indonesia	103
4.1. <i>Introduction</i>	105
4.2. <i>Community-Based Tourism and Natural Disasters</i>	106
4.2.1. The characteristic of community-based tourism management	106
4.2.2. Recovery, resilience, and transformation post-disaster in CBT	108
4.3. <i>Methodology</i>	111
4.4. <i>Context: Pentingsari and the Merapi Eruption</i>	113
4.5. <i>Finding and Analysis</i>	115
4.5.1. Government responses to the eruption	115
4.5.2. Community Organization's Response during the Emergency	118
4.5.3. Recovery and transformation post-disaster	119
4.6. <i>Discussion</i>	123
4.7. <i>Conclusion</i>	125
<i>References</i>	128

Chapter 5. Life after tsunami: The transformation of a post-tsunami and post-conflict tourist destination; the case of halal tourism, Aceh, Indonesia	132
5.1. <i>Introduction</i>	135
5.2. <i>Conceptual Framework</i>	136
5.2.1. Disaster may open windows of opportunity	136
5.2.2. Tourism destination transformations	137
5.2.3. Tourism destination resilience	138
5.3. <i>Methods</i>	140
5.4. <i>Context: natural disaster, political dispute and peace agreement</i>	141
5.5. <i>The tourism transformation phases in Aceh</i>	143
5.6. <i>Transformation in post-tsunami tourism</i>	147
5.6.1. Destination transformation: halal tourism supply and demand	147
5.6.2. Organisational transformation	149
5.6.3. Human and community transformation	150
5.6.4. Dilemma to current tourism development	151
5.7. <i>Discussion</i>	152
5.8. <i>Conclusion</i>	154
<i>References</i>	156

Chapter 6. Reinventing the post-disaster cultural landscape of heritage tourism in Yogyakarta, Indonesia	163
6.1. <i>Introduction</i>	165
6.2. <i>Conceptual framework</i>	166
6.2.1. Place making and the role of authenticity in heritage tourism	166
6.2.2. Recovery post-disaster and reinventing heritage tourism	168
6.3. <i>Methods</i>	170
6.4. <i>Case study: Kotagede heritage tourism, Yogyakarta, Indonesia</i>	171
6.5. <i>Transformations of Kotagede heritage tourism</i>	172
6.5.1. Human and community: new tourism products; the Kotagede heritage trails	172
6.5.2. Organisational transformation	174
6.5.3. Destination transformation: building and landscape transformation	176
6.6. <i>Challenges in the reinventing process</i>	177
6.6.1. Place making versus authenticity	177
6.6.2. Administrative boundary versus cultural boundary	177
6.6.3. Confusing criteria on heritage products	178
6.6.4. Lack of interest among the younger generation in the cultural aspects of Kotagede	178
6.6.5. Unsustainable programmes	179
6.7. <i>Discussion and conclusion</i>	180
<i>References</i>	182

Chapter 7. Conclusion	185
7.1. <i>Findings of the chapters and main conclusions</i>	187
7.1.1. Tourism is a risky business, but it is more disaster-resilient than expected	187
7.1.2. Tourists and communities have the potential to be more disaster-resilient	188
7.1.3. Disasters can open a window of opportunity	190
7.2. <i>General reflection and implications of the research</i>	191
7.2.1. The need for structural policy responses	191
7.2.2. The need to integrate resilience indicators in sustainable tourism development	192
<i>References</i>	194
<i>Appendix 1</i>	198
<i>Appendix 2</i>	200
<i>Appendix 3</i>	204
<i>Appendix 4</i>	206
<i>SUMMARY</i>	209
<i>SAMENVATTING</i>	213
<i>RINGKASAN</i>	218
<i>CURRICULUM VITAE</i>	223

List of Tables

Table 1.1	Disaster events in Indonesia, 1998–2018	22
Table 1.2	Data collection, chapter, location and explanation	34
Table 1.3	The chapter's distribution and publications	36
Table 2.1	Parameters for assessment framework of the tourism industry performance	49
Table 2.2	Some disaster events in Indonesia	50
Table 2.3	Summary of the spill-over effect on the performance of the tourism industry after five crisis events	59
Table 3.1	Sample distribution	83
Table 3.2	Respondents' reactions to different types of disasters	86
Table 3.3	Responses of domestic tourists to different types of disasters	88
Table 3.4	Responses of foreign tourists to different types of disasters	90
Table 4.1	Key areas of enquiry, research themes, and conceptual framework	111
Table 4.2	Research respondents	112
Table 5.1	Number of tourists visiting Aceh	148
Table 6.1	Aspects of analysis and explanations	171
Table 6.2	Visitors to the Mataram royal cemetery, Kotagede	174

List of Figures

Figure 1.1	Analytical framework	29
Figure 1.2	The map of the study location	30
Figure 2.1	Fluctuation in the total number of tourists arriving at Indonesia's international airports in 1997–2016	55
Figure 2.2	Fluctuation of income from tourism (1998–2015) in USD million	56
Figure 2.3	National hotel occupancy rate (1998–2016)	57
Figure 2.4	Changes in number of inbound tourists entering at Soekarno Hatta, Jakarta airport 1997–2016	60
Figure 2.5	Changes in number of inbound tourists at Denpasar, Bali airport 1997–2016	60
Figure 2.6	Changes in number of inbound tourists at Kualanamu, Medan airport 1997–2016	61
Figure 2.7	Changes in number of inbound tourists at Batam, Riau Island airport 1997–2016	61
Figure 3.1	The disaster lifecycle	77
Figure 3.2	Cultural theory's grid/group scheme with four rationalities	80
Figure 3.3	Map of Bali and Yogyakarta	82
Figure 3.4	Relating dominant answers to rationalities	84
Figure 3.5	Distribution of country of origin for each rationality	89
Figure 4.1	Location of Pentingsari	113
Figure 4.2	Number of domestic and foreign tourist visits to Sleman Regency	114
Figure 4.3	The factors of community resilience in the case study	124
Figure 5.1	Map of Aceh Province, Indonesia	143
Figure 5.2	Tourism development stages of Aceh	144
Figure 6.1.	The analytical framework of the research	169
Figure 6.2	Kotagede Heritage Trails guide map	173

Abbreviations

BKM:	Badan Keswadayaan Masyarakat- Community Empowerment Organization	UURI:	Undang-undang Republik Indonesia – Regulation and Law of Republic of Indonesia
CBT:	Community-based tourism	WCED:	World Commission on Environment and Development
CO ₂ :	Carbon dioxide	WHO :	World Health Organization
CVGHM:	Centre of Volcanology and Geological Hazard Mitigation		
FGD:	Focus group discussion		
GAM:	Gerakan Aceh Merdeka (Aceh independent movement)		
GDP:	Gross domestic product		
ICAIOS:	International Centre for Aceh and Indian Ocean Studies		
IDR:	Indonesian rupiah		
KHT:	Kotagede Heritage Trails		
Mt:	Mount		
NAD:	Nanggroe Aceh Darussalam		
NDMA:	National Disaster Management Agency		
NGO :	Non-governmental organization		
OPKP:	Organisasi Pengelola Kawasan Pusaka – Organization for heritage area management		
Perppu:	Peraturan Pemerintah Pengganti Undang-undang – Government Regulation in Lieu of Acts		
PNPM :	Program Nasional Pemberdayaan Masyarakat – National Program for Community Empowerment)		
RDMA:	Regional Disaster Management Agency		
ROR:	Room occupancy rate		
RQ:	Research question		
SARS:	Severe acute respiratory syndrome		
SDG:	Sustainable Development Goal		
TALC:	Tourist Area Life Cycle		
UK:	United Kingdom		
UNDP:	United Nations Development Programme		
UNESCO:	United Nations Educational, Scientific and Cultural Organization		
UNISDR:	United Nations International Strategy for Disaster Reduction		
UNWTO:	United Nations World Tourism Organization		
USA:	United States of America		
USD:	United States dollar		
UU:	Undang-undang – Laws		

1

Introduction

1.1. Setting the scene: tourism development in a context of disasters

Due to the expansion of transport and communication networks (Bauman, 1998), traveling to distant parts of the world has become easier than ever and the tourism sector has become one of the world's largest economic sectors. According to the United Nations World Tourism Organization (UNWTO), international tourist arrivals increased by 7% in 2017. A total of 1,326 million international tourist arrivals were documented in destinations around the world, some 86 million more than in 2016. Likewise, worldwide tourism receipts reached USD 1,340 billion in 2017, a 4.9% increase over 2016 (UNWTO Tourism Highlight, 2018). Given its high growth potential, tourism is promoted as a tool for development, especially in developing countries. It can make a substantial contribution to the gross domestic product (GDP) through job creation and providing people with new sources for income generation (Castro-Nuño, Molina-Toucedo, & Pablo-Romero, 2013; Dritsakis, 2012; Liu & Wall, 2006). In sub-Saharan Africa, for example, a 10% increase in spending by international tourists is estimated to lead to a 0.4% increase in the GDP per capita income (Fayissa, Nsiah, & Tadasse, 2008).

However, along with the increasing popularity of tourism as a development strategy, it is important to also acknowledge its vulnerability, especially when tourism development takes place in a disaster-prone environment. Tourism is sometimes seen as the cause of environmental degradation (pollution, damage to coral reefs, etc.). At the same time, many tourist destinations are disaster-prone areas and tourists run the risk of unexpected events such as earthquakes, tsunamis or volcanic eruptions. As soon as a destination is struck by a disaster, tourists avoid visiting that destination (Park & Reisinger, 2010; Wang, 2009). To bring tourism back after a disaster, damage needs to be repaired, which is often difficult, especially in the most capital-poor regions.

In other words, tourism might trigger new opportunities for development, but such development must not put people at risk and the tourism sector must be made more resilient. But how can tourists and host communities be kept safe, and how can short- and long-term recovery processes be supported? What is the role of the state, NGOs, businesses and local communities in preventing problems, ensuring recovery and/or directing tourism in a new direction? Tourism development has proven to be a complex matter (Ritchie, Mair, & Walters, 2014), especially in the context of disaster-prone environments. Although it has the potential to contribute to sustainable development and/or achieving the sustainable development goals

(SDGs) (Bakker & Messerli, 2017) – for instance, it is seen as a tool to eradicate poverty (SDG 1) and hunger (SDG 2), while promoting local economic development – it might be accompanied by negative implications. For instance, if tourism development is not well managed, it can have “a negative impact on people, the planet, prosperity and peace” (UNDP, 2017, p. 31). In particular, in disaster-prone areas, tourism development is risky and might exacerbate environmental problems, have undesirable social and cultural impacts, and lead to habitat fragmentation (Choi & Sirakaya, 2006).

1.2. Context: tourism development in Indonesia

Indonesia is an example of a country that is faced with the dilemma of enhancing tourism-based economic development while having to deal with a disaster-prone environment and to be aware of the various risks. Indonesia is a large country with a highly varied tourism industry, but it suffers from various natural disasters. It is in the ‘Ring of Fire’ – a geological term for an area that is frequently hit by earthquakes and volcanic eruptions. The Ring of Fire is also called the Circum-Pacific Belt. This area of intense seismic and volcanic activity stretches from the edge of the Pacific Plate and the smaller plates (e.g. the Philippine Sea Plate) to the Cocos and Nazca Plates that line the edge of the Pacific Ocean. It is a major area in the Pacific Ocean basin where earthquakes, volcanic eruptions and tsunamis occur.

For instance, a series of earthquakes in July–August 2018 caused the deaths of almost 500 people in Lombok. Indonesia's Red Cross reported that a further 7,000 people had been injured and 415,000 were displaced from their houses. Additionally, Mount Agung – a volcano on the island of Bali – erupted multiple times in 2017 and 2018. The alert level was increased on 27 November 2017, forcing more than 40,000 people from 22 villages to evacuate to 270 safer locations nearby. Mt Agung remained active until 3 July 2018, when there was a minor strombolian explosion (a sudden release of volcanic gasses). The Palu earthquake on 28 September 2018 and the Sunda strait tsunami on 22 December 2018 are the latest events.

Despite these disasters, Indonesia is a very important tourist destination offering clear economic benefits for tourists from all over the world. In 2018, nearly 16 million international visitors visited Indonesia, with Bali and Java as the two most popular destinations. The country received over USD 11,166 million from international visitors in 2018, and that figure is growing (Statistics Indonesia, 2019). However, both the country and the tourists have suffered from various types of disaster events. In other words, Indonesia is a prime example of a case where tourism development and disasters are strongly related.

In a period of just 20 years, Indonesia suffered floods, landslides, storms, droughts, forest fires, earthquakes, tsunamis and volcanic eruptions that killed 185,038 people and injured a further 352,893 (National Disaster Management Agency, 2018). Table 1.1 shows the number of natural and non-natural disasters in the period 1998–2018.

Table 1.1. Disaster events in Indonesia, 1998–2018

Type of disaster	Frequency in 20 years	Number of victims		
		Missing persons and confirmed deaths	Injured	Impacted
Flood	8,747	4,946	262,484	28,739,908
Landslide	4,920	2,887	2,818	27,6394
Coastal abrasion	299	81	229	81,123
Storm/hurricane	5,949	425	3,246	314,895
Drought	1,872	2	0	4,014,813
Forest and agriculture fire	641	39	13,853	446,017
Earthquake	249	8,747	59,775	3,147,473
Tsunami	12	167,142	5,689	544,609
Volcanic eruption	97	438	3,546	1,127,758
Terrorism and sabotage	29	331	1,253	4
Total	22,815	185,038	352,893	38,692,994

Source: National Disaster Management Agency (2019)

The government, NGOs and local communities played different roles during the emergency and recovery phases, including reconstruction and reconciliation processes post-disaster. To become more effective in disaster management, the Indonesian state developed a special disaster management law (UURI No 24 year of 2007 – *Penanggulangan Bencana*). The challenge, however, is not only to improve governance during the recovery period, but also to prevent and mitigate the impacts of natural disasters on, for example, tourism development. This is not yet part of the government’s agenda.

The aim of this dissertation is to answer the following research question: “*What are the challenges of tourism development in Indonesia, given the risk of natural disasters and goal of inclusive sustainable development?*” Based on empirical research related to different types of disasters, I will look at the direct and indirect consequences for

tourism development, that is, the ways in which different groups of tourists and host communities react, and the role of institutions in facilitating people (both tourists and host communities) to become less vulnerable and more resilient. This study is important for countries that are in disaster-prone areas and want to promote tourism, even though some of the findings will be specific to Indonesia.

Given the aim of my dissertation – providing a better understanding of tourism development in disaster-prone environments – in my analyses I use a number of concepts and debates, including sustainable development, vulnerability and resilience, recovery and transformation, and risk governance. The following section provides an overview of relevant literature in these fields, followed by the aim and research question, analytical framework, the methodology and the structure of this dissertation.

1.3. Relevant literature and core concepts

1.3.1. Sustainable tourism

Many studies have been carried out into sustainable tourism in the context of developing countries (Hall, 2000; Pigram & Wahab, 2005; Saarinen, 2006; Saufi, O'Brien, & Wilkins, 2014; Schianetz & Kavanagh, 2008; Scott, McBoyle, Minogue, & Mills, 2006; Sharpley, 2000; Simpson, 2009; Sirima, 2013; Tao & Wall, 2009; Tosun, 2001). This literature shows that tourism has different forms that, depending on the characteristics and the context, have particular impacts. The impact also varies according to the type of tourism (the consequences of adventure or beach tourism are very different from those of other types of tourism, such as heritage or halal tourism).

Sustainable development has its origins in the environmentalism that came to prominence in the 1970s. It has been defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987:43). Sustainable development has since been translated into strategies and monitoring indicators to ensure the long-term balance of ecological, economic and social development goals. The World Tourism Organisation (WTO, 2005) defines sustainable tourism as “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities.” Likewise, sustainable tourism is also defined as all types of tourism (conventional or alternative forms) that are compatible with or contribute to sustainable development (Liu, 2003).

What many studies make clear, however, is that real 'sustainable' tourism is hard to achieve. Tourism has been reported to impact and increase environmental, social, cultural, economic and political problems in destinations and systems. For example, air traffic is responsible for 13% of the CO₂ emissions associated with global transport, with tourism accounting for at least half of this (6.5%) (Gössling, 2000). This has led to a need for alternative and more environment- and host-friendly practices in development, planning and policies (Saarinen, 2006).

1.3.2. Vulnerability and resilience of the tourism industry

Tourism studies have identified vulnerability through, for example, the exploration of socioeconomic and environmental shocks (Sharpley, 2005), political unrest and terrorist attacks (Mansfeld & Pizam, 2006), diseases such as foot and mouth disease, SARS, bird flu and swine flu (Ritchie, Dorrell, Miller, & Miller, 2004), and natural hazards and global environmental change (Becken & Hay, 2007; Ciaccio & Michael, 2007; Meheux & Parker, 2006). Vulnerability exists when one does not have an alternative or option due to the unequal distribution of power and resources (Birkmann, 2006). Moreover, the low ability to anticipate, withstand and recover from crises is related to access and entitlement to socio-political, economic and environmental resources and power systems that influence access (Pelling, 2003). Adger and Brown (2009) state that three interconnected dimensions – namely exposure, sensitivity and system adaptiveness – determine vulnerability. In the context of tourism, people working in the tourism industry as their main livelihood can be vulnerable, especially in disaster-prone areas. Therefore, the ability to deal with these problems is linked to the degree of resilience of a tourist destination.

The term 'resilience' has been applied to a wide range of contexts. The concept allows a coherent interpretation of the interrelation of human and environmental processes. Although it was developed under the ecological systems model, resilience has been explored in a range of anthropogenic and geographical contexts, including tourism. The United Nations International Strategy for Disaster Reduction (UNISDR, 2009, p.24) defined resilience as the ability of a system, community or society exposed to hazards to resist, absorb, accommodate and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Several tourism scholars have used the resilience theory introduced by Holling (1973) as the framework to analyse tourism resilience. The root of Holling's theory of resilience is the social-ecological system. The theory emphasizes the basic principle that systems do not evolve linearly but according to a cycle or loop. The cycle consists of different phases, with different characteristics in each phase. The length

of the phases depends on the speed of recovery and is influenced by the adaptive capacity of the systems.

In the context of tourism, theories about resilience have been applied to several types of research. For instance, Lepp (2008) used resilience theories to identify residents' attitudes to tourism villages in Uganda. Correia (2009) implemented resilience theory to assess tourism resilience in a protected area. In Australia, McDonalds (2009) framed tourism development in the city of Perth using resilience theory. Stevenson, Airey, & Miller (2009) applied resilience theory to call for a reappraisal of tourism policymaking. Furthermore, Calgaro and Cochrane (2009) used both resilience and vulnerability concepts to analyse tourism recovery in Thailand and Sri Lanka after the 2004 tsunami.

1.3.3. Recovery and transformation

Recovery basically means 'getting back to normal', but 'normal' – especially in disaster-prone areas – is not absolute. Butler (1980) presented the idea of the tourism area life cycle (TALC), which suggests an approach to understand the transformation and evolution of tourist areas. According to this framework, a destination follows a common pattern that is largely determined by tourism demand. The TALC model divides tourist destination development into different stages, ranging from exploration to decline or rejuvenation. Carrying capacity is the central element of this destination development model: when the carrying capacity of a tourist destination is exceeded, it causes transformation of the physical, social, economic and environmental landscape (McCartney, 2013). Thus, carrying capacity is understood as the driving factor in the lifecycle stages of a tourist destination (Butler, 2006). The simplicity of this model allows an understanding of the transformation of tourist destinations, especially in the involvement stage initiated by the local community (Hamzah & Hampton, 2013). However, this approach does not explicitly include disasters as a disturbance in the tourism area lifecycle.

In the recovery process following such disturbances, the dynamics of the local community and the wider tourism system may lead to transformations of tourism in both positive and negative ways (Ritchie, 2009). Birkmann et al. (2010) assert that disasters could in this context also be windows of opportunity for affected regions, opening up new possibilities for, among other things, renewed ways of tourism development. Kates, Travis, & Wilbanks (2012) state that disasters reveal extreme differences in the way societies, communities and individuals manage their lives and cope with and respond to adversity. For instance, some societies have been able to handle the impact of disasters and create changes using the disaster as a trigger and catalyst (Kates et al., 2012). In a policy context, major disasters can

drive changes via influential policy actors and institutional change (Birkland, Herabat, Little, & Wallace (2006); McSweeney & Coomes, 2011). The windows of opportunity created by disaster events can lead to the transformation of the tourism industry and the improvement of its performance.

1.3.4. Governance of disaster risk reduction in tourism

In governing the crises resulting from a disaster in a tourist destination, the role of the tourism organization and management has been important, especially in dealing with the external factors of the operating environment and their potential impact on the destination or organization. Although economic crises or physical incidents may not be frequent, tourism managers and destinations should expect to encounter them at some point in their lifecycle and should be prepared to do so (Ritchie, 2009). The coordination, control and allocation of resources to deal with disasters are vital in understanding the governance processes in the tourism industry. Stakeholders have their own interests and if their interests have been adequately considered, the likely result is significant returns for tourism in the long term (Sautter & Leisen, 1999).

Disaster management in the tourism industry involves different types of actors. For instance, Perry (1991) discusses a sectoral classification that defines the various actors involved in disaster management, namely the public sector (the most relevant and responsible actor, at different scales/levels of government), private industry (including all economic sectors) and volunteer agencies (i.e. Red Cross and NGOs). From the perspective of sustainable tourism development, Byrd (2007) states that the current visitors, the future visitors, the current host community and the future host community are also stakeholders.

1.4. Aim and research questions

As mentioned, the aim of this dissertation is to contribute to a better understanding of tourism development in a disaster-prone environment. The main research question is:

What are the challenges of tourism development in Indonesia, given the risk of natural disasters and the goal of inclusive sustainable development?

Three specific research questions have been formulated:

RQ 1: What are the consequences of different types of disasters for the arrival of tourists in space and time? How vulnerable are tourism flows to disasters?

This question seeks to reveal the long-term performance of tourism development between 1998 and 2016 and to understand the secondary impact of several disaster events in Indonesia on the performance of the tourism industry. 'Secondary impacts' are consequences that "extend beyond the people directly affected by the original hazard event or report" (Kasperson, Golding & Tuler, 1992). This enables an understanding of the impact of single events in one province or district on the performance of the tourism industry of a whole country (bigger subsystem). The secondary impact can also be understood as both the positive and the negative spill-over effects on other regions. It employs several indicators to measure the performance, such as number of tourist visits, income generated from tourism and hotel room occupancy rate.

RQ 2: How capable are tourists and host communities of dealing with the risks and consequences of different types of disasters and how do they respond? How resilient are people?

Understanding tourists' responses to disasters is important because their behaviour assessment could be the basis of disaster management strategies and tourism development. This is relevant since tourists are one of the most vulnerable groups during a disaster. Thus, this question assesses tourists' responses during natural disasters in tourist destinations by exploring tourists' behavioural responses and actions in different real or hypothetical disaster situations, including earthquakes, tsunamis, storms, volcanic eruptions and floods.

In addition to the tourists themselves, also the responses of host communities are investigated. In the context of resilience and the post-disaster recovery of a tourist destination, the discussion on community-based tourism (CBT) dealing with natural disasters is relatively new, because most attention has been paid to private entrepreneurship in cities and government-based tourism management. Additionally, tourism recovery studies are mostly focused on marketing strategies for recovery and encouraging tourists to come back. In contrast, there is only limited discussion of product and institutional coping strategies. Thus, this research question also seeks to address local community responses to disasters, focusing particularly on the recovery process.

RQ 3: Focusing on the post-disaster period, what are the characteristics of the recovery process and what transformations have taken place; and how inclusive and sustainable are the results?

Transformations can happen in the tourism area post-disaster, in both a positive and a negative way. For an area that was not a tourist destination, a disaster may open

a window of opportunity for better tourism development. This research question therefore explores how disasters can provide opportunities in the context of tourism development by leading to post-disaster transformations.

In this research, I distinguish between five types of stakeholders:

- 1 The government, which plays crucial roles in ‘setting the stage’ (rules and regulations) and providing policy support (Schneider, 1995 in Ritchie, 2010).
- 2 Tourists, who play an active role in choosing their tourism destination and show different patterns in how they respond during the emergency, depending on their culture and the availability of information etc.
- 3 Host communities, which play an essential role in responding to disaster situations, also during the period of recovery and long-term transformations.
- 4 The business sector (hotels, banks, etc.), which plays a role in taking up challenges and/or being willing or unwilling to invest in reconstruction.
- 5 NGOs, which play important roles as facilitators and/or in campaigning.

1.5. Analytical framework

This dissertation focuses on tourism development in disaster-prone environments, paying particular attention to, respectively, the macro-level impact of disasters on tourism performance (RQ 1); the meso- and micro-level resilience of tourists and communities to deal with the consequences and their ability to recover (RQ 2); and the spatial and temporal outcomes in terms of recovery and transformation (RQ 3). Figure 1.1 shows the analytical framework of the research and the position of the topics in the chapters of this dissertation.

More specifically, the link between tourism and disasters is analysed at three levels. First, at the macro level, I assess the relationship between tourism and disaster on the basis of a statistical analysis using three indicators: number of tourists, national income from tourism and hotel room occupancy rate. Furthermore, a spill-over effect analysis is performed to elaborate on the impact of disasters on the flow of tourists. This analysis answers the first research question, namely “What are the consequences of different types of disasters to the arrival of tourists in space and time? How vulnerable are tourism flows to disasters?” (RQ1). The second level focuses on the responses of tourists and communities during emergencies arising from different types of disasters: volcanic eruptions (Mt Merapi), the 2004 tsunami in Aceh (2004) and the 2006 earthquake in Yogyakarta. This part answers the question “How capable are tourists and host communities of dealing with the

Figure 1.1. Analytical framework

risks and consequences of different types of disasters and how do they respond? How resilient are people?” (RQ2). Finally, the third level comprises a spatial and a temporal assessment of long-term recovery and transformation processes following disasters. It asks the question “Focusing on the post-disaster period, what are the characteristics of the recovery process and what transformations have taken place; how inclusive and sustainable are the results?” (RQ3).

1.6. Characteristics of the sampled research areas

The empirical case study was conducted in several tourist destinations in Indonesia, namely the Special Region of Yogyakarta, Bali Province and Aceh Province (Figure 1.2). These regions have been impacted by disasters and they represent the various tourism forms, such as heritage tourism, community-based tourism, halal tourism and mass tourism.

Figure 1.2. The map of the study location

Three provinces in Indonesia were studied in the present research:

1. The Special Region of Yogyakarta

In 2018, the Special Region of Yogyakarta, Java, had a population of 3,631,015 people. Yogyakarta's economy is mainly supported by tourism and education. Statistics Indonesia (2019) reported that in 2018 there were 3.7 million domestic visitors and 368,198 international visitors staying in star rated hotels. Yogyakarta was selected as a case study area because it has a strong dependence on tourism and is in a disaster-prone area. There have been several disasters in Yogyakarta. For example, in 2006, Yogyakarta was hit by a 5.5 magnitude earthquake that killed more than 5,000 people, and in 2010 Mt Merapi erupted, killing hundreds of inhabitants.

2. Nanggroe Aceh Darussalam (Aceh)

Aceh was selected as a case study area because it suffered from one of the biggest natural disasters ever recorded, namely the 2004 tsunami, which killed almost 200,000 people in Asia and Africa. In addition, political disputes in Aceh (i.e. 30 years of armed insurgency against Jakarta rule) have left the tourism sector poorly

developed, but tourism is reviving following the signing of a peace agreement in 2005. In this, the introduction of Sharia law and the subsequent development of a specific form of tourism – that is, halal tourism – is playing an important role. Analysing the dynamic of new forms of tourism development in Aceh will help to understand the process of recovery and transformation that is taking place in this post-disaster area.

3. The Province of Bali

Bali is Indonesia's most important tourist destination, contributing almost 30% of the country's total income from tourism. It is home to more than 4 million people and in 2018 it was visited by over 6 million foreign tourists (Statistics Indonesia, 2019). Bali was selected because it is an example of mass tourism and is the most visited island destination in Indonesia – despite being in a disaster-prone area due to its proximity to the active Mt Agung volcano and the consequent tsunami risk. According to Bali's Regional Disaster Management Agency (RDMA), the island's geological characteristics make it prone to natural disasters, such as tsunamis, volcanic eruptions, storms and earthquakes. In addition, several terrorism acts injured tourists and residents in 2002 and 2005, leading to a high awareness of possible future threats.

1.7. Data collection

I used mixed methods for the data collection for the various chapters of this dissertation, including quantitative and qualitative methods for primary data collection, in addition to secondary data analysis, desk research and internet research (see Table 1.2 for a summary).

1. Secondary data collection

Secondary data were collected from the National Disaster Management Agency of Indonesia, Statistics Indonesia, and the Ministry of Tourism. Several research centres were visited to find documents related to the research, such as the Centre for Tourism Studies (Universitas Gadjah Mada), Centre for Disaster Studies (Universitas Gadjah Mada), Faculty of Tourism Studies (University of Udayana Bali) and the International Centre for Aceh and Indian Ocean Studies (ICAIOS). Statistics Indonesia has released publications of census data at the provincial and the regency level, such as Yogyakarta (*Yogyakarta dalam Angka*), Nanggroe Aceh Darussalam (*Aceh dalam Angka*) and Bali (*Bali dalam Angka*). This research also used data published by Statistics Indonesia on number of tourists, number of hotels, room occupancy

rate and income generated from tourism activities. The national tourism data was collected from the official website of the Ministry of Tourism that provides data from the passenger exit survey, the Immigration Office, mobile positioning data and hotel surveys.

2. In-depth interviews

In-depth interviews were held in Yogyakarta, Bali and Aceh to gather data for Chapters 3, 4, 5 and 6.

For Chapter 3, in-depth interviews were held in Yogyakarta and Bali. They were focused on the comments and responses of the government regarding disaster-related issues in the tourism industry and tourists' behaviour. Representatives of the following agencies were interviewed: Bali and Yogyakarta Province Tourism Board, the Meteorology, Climatology and Geophysical Agency (MCGA), and the Bali and Yogyakarta Regional Disaster Management Agency (RDMA).

For Chapter 4, in-depth interviews were held with representatives of the community of Pentingsari, the government of Sleman Regency and Yogyakarta Province. Respondents were selected in the categories of community and local government (tourism board and disaster agency). A total of 33 respondents were interviewed; 23 of them were Pentingsari villagers or government officials from the Sleman Tourism Board, Magelang and Yogyakarta Province, Agriculture Fishery and Forestry Board, or Regional Disaster Management Agency (RDMA).

For Chapter 5, in-depth interviews were held in Banda Aceh and Sabang, Province of Nanggroe Aceh Darussalam (NAD). The informants included government agencies (Aceh Tourism Board, Regional Disaster Relief Agency of Aceh, and Agency for Regional Development of Aceh Province), the International Centre for Aceh and Indian Ocean Studies (ICAIOS), University of Syiah Kuala and the community of Nusa Gampong village tourism. In addition, 20 hotel owners and eight restaurant owners were also interviewed.

For Chapter 6, in-depth interviews were held with the community of Kotagede heritage site in Yogyakarta and the related agencies. Two phases of interviews were conducted. The first phase was in 2011/12, when the first author identified and observed the most important stakeholder groups, and also participated in several projects related to the economic recovery process and map-making exercises in preparation for future disasters. The second phase was in 2019, when the authors re-interviewed the organizations and residents working in the tourism industry in Kotagede to investigate the changes and transformations since the 2006 earthquake. Key informant interviews were held with the representatives of six organizations working on heritage conservation and tourism in Kotagede – namely Yayasan Kanthil,

Forum Joglo, Pusat Studi Dokumentasi (PUSDOK) Kotagede and BKM PNPM Mandiri Pariwisata, OPKP (organisasi pengelola kawasan pusaka) and Jogja Heritage Society – and with the local sub-district government. Resident interviews were held with the owners of 10 *joglo* houses (traditional vernacular houses), Kotagede tour guides and silver crafters. The community members were asked about their experiences during the 13 years of the recovery process since the 2006 earthquake and their stories of reinventing Kotagede as a heritage tourism location.

3. Survey

A structured survey was conducted among tourists visiting Bali and Yogyakarta to gather data on their perspectives on and responses to hypothetical disasters. The surveys were conducted at popular tourist sites, such as beaches, cafés, tourism villages and temples, including Kuta Beach, Seminyak Beach, Ulu Watu Beach, Candi Borobudur, Candi Prambanan, Prowirotaman and Malioboro Street. A total of 537 respondents completed the survey; there were 295 respondents (55%) in Bali and 242 (45%) in Yogyakarta.

4. Focus group discussions

Two focus group discussions (FGDs) were held in Nanggroe Aceh Darussalam province to learn the responses of actors who worked in Aceh following the 2004 tsunami. FGDs were conducted in two rounds, with tour guides and tour providers, respectively. The tour providers were directors of agencies that sell tourism packages to tourists. The first FGD was performed with 15 active and legal tour guides in Aceh, the second with five tour providers in Aceh. Both FGDs lasted for about two hours and were conducted in the respondents' native language, as I am fluent in Indonesian.

The participants were first asked to describe the tourism situation during the conflict, reconstruction and post-peace agreement eras; they were free to describe the tourism product and market, and the challenges they faced. They were then asked to describe the current situation of tourism development and how the tourist guiding process is operated (e.g. what challenges there had been during the development of tourism, and how halal tourism had emerged). Finally, the respondents were asked about their vision and mission regarding the development of tourism in Aceh, and about possible future challenges.

Table 1.2. Data collection, chapter, location and explanation

Data collection	Chapter	Location	Explanation
Secondary data collection	2	-	Data were obtained from the official website of Statistics Indonesia http://bps.go.id . The data covered trends and number of tourists, hotel room occupancy rates and national income resulting from tourism activities.
In-depth interviews	3	Bali and Yogyakarta	Interviews were held with the Bali and Yogyakarta Province Tourism Board, the Meteorology, Climatology and Geophysical Agency (MCGA), and the Bali and Yogyakarta Regional Disaster Management Agency (RDMA).
	4	Yogyakarta	A total of 33 respondents were interviewed; of them, 23 were Pentingsari villagers or government officials from the Sleman Tourism Board, Magelang and Yogyakarta Province, Agriculture Fishery and Forestry Board, or Regional Disaster Management Agency (RDMA).
	5	Nanggroe Aceh Darussalam	In-depth interviews were held in the village of Nusa Gampong Aceh with six members of village tourism community organizations. Separate meetings were held with representatives of the Disaster Prevention Board, the Aceh Tourism Board, Aceh's Board of Regional Planning and Development and ICAIOS. In addition, 20 hotel owners and eight restaurant owners were also interviewed.
	6	Yogyakarta	Key informant interviews were held with the representatives of six organizations working on heritage conservation and tourism in Kotagede – namely Yayasan Kanthil, Forum Joglo, Pusat Studi Dokumentasi (Pusdok) Kotagede and BKM PNPM Mandiri Pariwisata, OPKP (<i>organisasi pengelola kawasan pusaka</i>) and Jogja Heritage Society – and with the local subdistrict government. Resident interviews were held with the owners of 10 traditional joglo houses, Kotagede tour guides and silver crafters.

Structured survey	3	Bali and Yogyakarta	A structured survey was conducted among tourists in Bali, including Kuta Beach, Seminyak Beach, Nusa Lembangan Beach and Tanah Lot Beach. The same survey was also conducted in Yogyakarta at several tourist sites, such as Prambanan temple, Borobudur temple, Viavia café, Universitas Gadjah Mada, Malioboro street and Keraton Yogyakarta. A total of 537 responses were collected.
Focus group discussions	5	Nanggroe Aceh Darussalam	Two focus group discussions were conducted with 15 tour guides and five tour providers in Banda Aceh, Nanggroe Aceh Darussalam.

1.8. Dissertation structure

This dissertation is structured according to the following three themes (i.e. following the structure of the three research questions), which are covered in five chapters (i.e. Chapters 2–6).

1. *Impact of disasters on tourism performance*

The impact of disaster events on tourism industry performance is covered in Chapter 2. The first research question is answered by investigating secondary data provided by Statistics Indonesia covering the period 1998–2016. The outcomes reveal the different effects of each type of disaster, and there is a possibility of spill-over effects in different areas post-disaster.

2. *Responses of tourists and community to the possibility of disasters*

The tourists' behavioural responses and actions in different hypothetical disaster situations, including earthquakes, floods, storms, tsunamis and volcanic eruptions, are discussed in Chapter 3. This chapter argues the importance of the cultural perspective in understanding the dynamics of tourists' behaviour in crisis management.

The responses of a community-based tourism destination to disaster events are explored in Chapter 4, which discusses a non-popular community-based tourism village post-Merapi volcanic eruption in 2010. The natural disaster has been a trigger for small communities to change their perspective on disasters and tourism. Pentingsari Village Tourism in Sleman Regency Indonesia was selected as a case study.

3. Recovery of the destination post-disaster

Chapter 5 focuses mainly on the post-reconstruction period and the period of organized emergency assistance. It highlights the development stages and their characteristics, and specifically seeks to address the question how tourism development has been transformed in post-tsunami Aceh and whether the transformation has led to resilient tourism development approaches. Since the dynamic in Aceh is very complex, the points of analysis focus on the tourism development phases that are influenced by the political situation and the dynamic of reconstruction, which led to community and organization initiatives to develop innovation referred to as halal tourism.

Chapter 6 emphasizes the process of recovery post-disaster for a heritage tourism-based destination, namely Kotagede, Yogyakarta, which was struck by a 5.6 magnitude earthquake in 2006. The past 13 years of the reinventing process provides an understanding of dynamics and challenges in this process.

To conclude, Table 1.3 presents the titles of the chapters and publications that have been developed as part of the present research.

Table 1.3. The chapter's distribution and publications

Chapter	Title	Publications
Chapter 1	Introduction	-
Chapter 2	Tourism and Disasters: Impact of disaster events on tourism development in Indonesia 1998-2016 and structural approach policy responses	Published in: <i>Journal of Service Science and Management</i> , 2019, 12, 93-115
Chapter 3	Travelling without a helmet: tourists' vulnerabilities and responses to disasters in Indonesia	Published in: <i>Disasters</i> , Volume 42, Issue 4 October 2018 – Pages 782-803
Chapter 4	Under the volcano: responses of community-based tourism village in the 2010 eruption of Mt Merapi, Indonesia	Published in: <i>Sustainability</i> 2018, 10(5), 1620; https://doi.org/10.3390/su10051620
Chapter 5	After tsunami: The transformation of tourist destination post-tsunami and post-conflict, the case of Aceh, Indonesia	Published in: <i>International Development Planning Review (IDPR)</i> https://doi.org/10.3828/idpr.2019.15
Chapter 6	Reinventing the post-disaster cultural landscape of heritage tourism in Yogyakarta, Indonesia	Under review of <i>Journal of Heritage Tourism</i>
Chapter 7	Conclusion	-

References

Adger, W. N., & Brown, K. (2009). Vulnerability and resilience to environmental change: Ecological and social perspectives. *A Companion to Environmental Geography*, 109-122.

Bakker, M., & Messerli, H. R. (2017). Inclusive growth versus pro-poor growth: Implications for tourism development. *Tourism and Hospitality Research*, 17(4), 384-391.

Bauman, Z. (1998). *Globalization: The human consequences*. Columbia University Press.

Becken, S., & Hay, J. E. (2007). *Tourism and climate change risks and opportunities*. Channel view publication. Toronto.

Birkland, T. A., Herabat, P., Little, R. G., & Wallace, W. A. (2006). The impact of the December 2004 Indian ocean tsunami on tourism in Thailand. *Earthquake Spectra*, 22(S3), 889-900.

Birkmann, J., (2006). *Measuring vulnerability to natural hazards: Towards disaster resilient societies*. United Nations University. Tokyo.

Birkmann, J., Buckle, P., Jaeger, J., Pelling, M., Setiadi, N., Garschagen, & M., Kropp, J. (2010). Extreme events and disasters: A window of opportunity for change? Analysis of organizational, institutional and political changes, formal and informal responses after mega-disasters. *Natural Hazards*, 55(3), 637-655.

Butler, R. W. (1980). The concept of a tourist area cycle of evolution: Implications for management of resources. *The Canadian Geographer/Le Géographe Canadien*, 24(1), 5-12.

Butler, R. W. (2006). *The tourism area life cycle: Conceptual and theoretical issues*. Channel view Publications. Bristol.

Byrd, E. T. (2007). Stakeholders in sustainable tourism development and their roles: Applying stakeholder theory to sustainable tourism development. *Tourism Review*, 62(2), 6-13.

Calgaro, E., & Cochrane, J. (2009). *Comparative destination vulnerability assessment for Thailand and Sri Lanka: Sustainable recovery and resilience building in the tsunami affected region*. Stockholm Environment Institute.

Castro-Nuño, M., Molina-Toucedo, J. A., & Pablo-Romero, M. P. (2013). Tourism and GDP: A meta-analysis of panel data studies. *Journal of Travel Research*, 52(6), 745-758.

Choi, H. C., & Sirakaya, E. (2006). Sustainability indicators for managing community tourism. *Tourism Management*, 27(6), 1274-1289.

Cioccio, L., & Michael, E. J. (2007). Hazard or disaster: Tourism management for the inevitable in northeast Victoria. *Tourism Management*, 28(1), 1-11.

Correia, F. (2009). Parks, People and Processes: Rethinking Sustainable Tourism in Protected Areas through Complexity Approaches. *PhD Thesis unpublished*. Leeds Metropolitan University. West Yorkshire.

Dritsakis, N. (2012). Tourism development and economic growth in seven Mediterranean countries: A panel data approach. *Tourism Economics*, 18(4), 801-816.

Fayissa, B., Nissah, C., & Tadasse, B., (2008). Impact of tourism on economics and development in Africa. *Tourism Economics*. Vol 14, Issue 4, page 807-818.

- Gössling, S. (2000). Sustainable tourism development in developing countries: Some aspects of energy use. *Journal of Sustainable Tourism*, 8(5), 410-425.
- Hall, D. R. (2000). Tourism as sustainable development? the Albanian experience of 'transition'. *International Journal of Tourism Research*, 2(1), 31-46.
- Hamzah, A., & Hampton, M. P. (2013). Resilience and non-linear change in island tourism. *Tourism Geographies*, 15(1), 43-67.
- Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics*, 4(1), 1-23.
- Kasperson, R. E., Golding, D., & Tuler, S. (1992). Social distrust as a factor in siting hazardous facilities and communicating risks. *Journal of Social Issues*, 48(4), 161-187.
- Kates, R. W., Travis, W. R., & Wilbanks, T. J. (2012). Transformational adaptation when incremental adaptations to climate change are insufficient. *Proceedings of the National Academy of Sciences*, 109(19), 7156-7161.
- Lepp, A. (2008). Attitudes towards initial tourism development in a community with no prior tourism experience: The case of Bigodi, Uganda. *Journal of Sustainable Tourism*, 16(1), 5-22.
- Liu, Z. (2003). Sustainable tourism development: A critique. *Journal of Sustainable Tourism*, 11(6), 459-475.
- Liu, A., & Wall, G. (2006). Planning tourism employment: a developing country perspective. *Tourism Management*, 27(1), 159-170.
- Mansfeld, Y., & Pizam, A. (2006). *Tourism, security and safety*. Routledge.
- McCartney, G. (2013). *Introduction to tourism management: An Asian perspective*. McGraw-Hill Education Asia.
- McDonalds, J.R. (2009). Complexity Science: An Alternative World View for Understanding Sustainable Tourism Development. *Journal of Sustainable Tourism* 17(4): 455-471.
- McSweeney, K., & Coomes, O. T. (2011). Climate-related disaster opens a window of opportunity for rural poor in north-eastern Honduras. *Proceedings of the National Academy of Sciences of the United States of America*, 108(13), 5203-5208.
- Meheux, K., & Parker, E. (2006). Tourist sector perceptions of natural hazards in Vanuatu and the implications for a small island developing state. *Tourism Management*, 27(1), 69-85.
- National Disaster Management Agency/NDMA. (2018). Data jumlah kejadian bencana. Retrieved from www.dibi.bnpb.go.id. Last accessed 1 November 2019.
- Park, K., & Reisinger, Y. (2010). Differences in the perceived influence of natural disasters and travel risk on international travel. *Tourism Geographies*, 12(1), 1-24.
- Pelling, M. (2003). *Natural disaster and development in a globalizing world*. Routledge.
- Perry, R. W. (1991). Managing disaster response operations. *Emergency management: Principles and practice for local government*, 201-223.
- Pigram, J. J., & Wahab, S. (2005). *Tourism, development and growth: The challenge of sustainability*. Routledge.
- Ritchie, B. W. (2009). *Crisis and disaster management for tourism*. Channel View Publications. Bristol.
- Ritchie, B. W., Dorrell, H., Miller, D., & Miller, G. A. (2004). Crisis communication and recovery for the tourism industry: Lessons from the 2001 foot and mouth disease outbreak in the United Kingdom. *Journal of Travel & Tourism Marketing*, 15(2-3), 199-216.
- Ritchie, Mair, J., & Walters, G. (2014). Tourism crises and disasters. *The Wiley Blackwell Companion to Tourism*, 611-622.
- Saarinen, J. (2006). Traditions of sustainability in tourism studies. *Annals of Tourism Research*, 33(4), 1121-1140.
- Saufi, A., O'Brien, D., & Wilkins, H. (2014). Inhibitors to host community participation in sustainable tourism development in developing countries. *Journal of Sustainable Tourism*, 22(5), 801-820.
- Sautter, E. T., & Leisen, B. (1999). Managing stakeholders: A tourism planning model. *Annals of Tourism Research*, 26(2), 312-328.
- Schianetz, K., & Kavanagh, L. (2008). Sustainability indicators for tourism destinations: A complex adaptive systems approach using systemic indicator systems. *Journal of Sustainable Tourism*, 16(6), 601-628.
- Scott, D., McBoyle, G., Minogue, A., & Mills, B. (2006). Climate change and the sustainability of ski-based tourism in eastern North America: A reassessment. *Journal of Sustainable Tourism*, 14(4), 376-398.
- Sharpley, R. (2000). Tourism and sustainable development: Exploring the theoretical divide. *Journal of Sustainable Tourism*, 8(1), 1-19.
- Sharpley, R. (2005). The tsunami and tourism: A comment. *Current Issues in Tourism*, 8(4), 344-349.
- Simpson, M. C. (2009). An integrated approach to assess the impacts of tourism on community development and sustainable livelihoods. *Community Development Journal*, 44(2), 186-208.
- Sirima, A. (2013). Tourism and sustainability: Development, globalization and new tourism in the third world. *Journal of Sustainable Tourism*, 21(8), 1251-1253.
- Statistics Indonesia, (2019). Jumlah Kunjungan Wisman Menurut Kebangsaan dan Bulan Kedatangan Tahun 2017 – 2019 (*Number of international visitors categorized by nationality and months from 2017 – 2019*). Retrieved from www.bps.go.id. Last accessed at 28 July, 2019.
- Stevenson, N., Airey, D., & Miller, G. (2009). Complexity theory and tourism policy research. *International Journal of Tourism Policy*, 2(3), 206-220.
- Tao, T. C., & Wall, G. (2009). Tourism as a sustainable livelihood strategy. *Tourism Management*, 30(1), 90-98.
- Tosun, C. (2001). Challenges of sustainable tourism development in the developing world: The case of turkey. *Tourism Management*, 22(3), 289-303.

United Nations International Strategy for Disaster Reduction/UNISDR. (2009). *Terminology on disaster risk reduction*. UNISDR. Geneva.

United Nations Development Programmes/UNDP. (2017). *Tourism and the Sustainable Development Goals Journey to 2030*. Retrieved from <https://www.e-unwto.org/doi/book/10.18111/9789284419401> at 2 November 2019.

United Nations World Tourism Organization/UNWTO. (2018). *UNWTO Tourism Highlights, 2018 Edition*, UNWTO, Madrid, DOI: <https://doi.org/10.18111/9789284419876>

Wang, Y. (2009). The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, 30(1), 75-82.

WCED (World Commission on Environment and Development). (1987). *Our Common Future*. Oxford University Press. Oxford

World Tourism Organization. (2005). *Making Tourism More Sustainable – A Guide for Policy Makers*, UNEP and UNWTO, 2005, pp. 11-12. Last accessed on 26 March 2019.

2

Tourism and Disasters: Impact of Disaster Events on Tourism Development in Indonesia 1998-2016 and Structural Approach Policy Responses

This chapter is published as Rindrasih, E., Witte, A., Spit, T., and Zoomers, A. (2019). Tourism and Disasters: Impact of disaster events on tourism development in Indonesia 1998–2016 and structural approach policy responses. *Journal of Service Science and Management*. 12. 93 – 115.

Abstract

Over the last two decades, disaster events have affected tourist destinations in many countries around the world. Although disasters have attracted considerable attention in academia, little attention has been paid to the impacts of recurring disasters on the multiyear performance of the tourism industry in a specific country. This study discusses the relationship between the performance of the tourism industry and disaster events and examines the spillover effects of disasters on the tourism sector in Indonesia. It also highlights the Indonesian policy responses in tourism following multiple disasters. The study analyses the multiyear (1998–2016) performance of the tourism industry using the parameters number of inbound tourists, national/regional income from tourism, and hotel room occupancy rates. Secondary data were collected from several sources, including legal documents, Indonesia's tourism statistics, media outlets and newspapers articles. The results show that during the past 18 years, disasters have affected the performance of the tourism industry differently in terms of the scale of destruction, the location of disasters and the type of disasters (human vs. nature induced). The spillover effect between provinces has also been captured from the data. Overall, this chapter argues that in dealing with multiple disasters over long periods of time, the continuation of regular tourism activities needs a structural approach in terms of policy responses.

Keywords: impact, disaster, tourism, spillover, structural approach

2.1. Introduction

Over the last two decades, many disasters have affected tourist destinations around the world. Events such as terrorist attacks and Hurricane Katrina in the USA, the severe acute respiratory syndrome (SARS) epidemic in Asian countries, the outbreak of foot and mouth disease in the UK, and the Indian Ocean tsunami had an extensive adverse impact on international tourism (Page, Yeoman, Munro, Connell, & Walker, 2006). Since the tourism industry is an economic activity that is mostly influenced by the image of the destination, negative images of a destination affect the performance of the tourism industry. Despite such disasters, the tourism industry is continuing to grow both locally and globally and is a major source of economic development in many countries.

Some scholars view tourism from a complex systems approach (Scott & Laws, 2006). To study the impact of disaster on the performance of the tourism industry, it is essential to define and conceptualize the interactions in the tourism system (Scott & Laws, 2006). Moreover, it is important to examine the effects of each disaster event on the performance of the tourism industry to better explore the relationship between disasters and tourism. According to Faulkner (2001:136): "... relatively little systematic research has been carried out on disaster phenomena in tourism, the impacts of such events on the tourism industry and the responses of industry and relevant government agencies to cope with these impacts." In other words, the relation between the nature of disasters (both single and recurring events) and the long-term impacts on the performance of the tourism industry could benefit from more structural and systematic analyses and subsequent policy responses.

Research on the impact of disasters on the performance of the tourism industry is relatively new. Although some studies have shown the impacts of disasters on tourism, the studies were often based on single event impacts, relatively small areas and single destinations. For instance, hurricanes (e.g. Higgins, 2005), flooding and tsunamis (e.g. Calgaro & Lloyd, 2008; Cheung & Law, 2006), earthquakes (e.g. Huang & Min, 2002), volcanic eruptions (e.g. Carlino et al., 2008) and bushfires (e.g. Armstrong & Ritchie, 2008). In addition, some studies focussed on non-natural disaster events, for example, foot and mouth disease in the UK (e.g. Rodway-Dyer & Shaw, 2005) or SARS in Asia (e.g. Au, Ramasamy, & Yeung, (2005).

This aim of the present research was to understand the secondary impact of several disaster events in Indonesia on the performance of the tourism industry in 1998–2016. 'Secondary' impact refers to consequences that "extend beyond the people directly affected by the original hazard event or report" (Kasperson, Golding,

& Tuler, 1992). This opens up the possibility to understand the impact of single events in one particular province or district on the performance of the tourism industry of a whole country (bigger subsystem). Secondary impact can also be understood as both the positive and the negative spillover effects on other regions. Thus, the following research questions were addressed: 1) what is the impact of long-term multi-disaster events on the performance of the tourism industry in Indonesia, and 2) how does the government deal with this?

The following section discusses the conceptual framework on disasters in a complex systems understanding of tourism and related spillover effects. Section 3 explains the methodology of the research. Section 4 presents the results of the research, which include an inventory of the large-scale disaster events in Indonesia from 1998 to 2016 and a discussion of the impacts of these disaster events on the performance of the tourism industry, the spillover effects and the government's responses. Section 5 discusses the findings. Finally, section 6 presents the conclusion and a recommendation for further research.

2.2. Complex systems and spillover effect

2.2.1. Disasters in a complex systems understanding of tourism

Since tourism is often affected by external events beyond the control of individuals or destinations, many scholars consider tourism an open system. However, the majority of tourism crisis management frameworks consist of an orderly, linear sequence of steps. Therefore, the impact of crises has not been subject to an in-depth examination that starts by acknowledging the tourism industry as a complex system (Laws et al., 2007; Scott and Laws, 2006; Scott et al., 2007). A simple, linear relationship and causal chain have limited ability to explain complex phenomena in physical and social sciences (including tourism), whereas a systems thinking approach can be applied to understand the complexity of tourism (Hall, 2008).

A complex systems understanding of tourism has been claimed to be a better approach to answering questions about the components, the type of interaction and the type of system (Faulkner and Valerio, 2003). This view is also discernible in later studies (e.g. Baggio, 2013; Haugland et al., 2011), where authors agree that each tourist destination has different types of systems, actors, characteristics and behaviours. Thus, in understanding the relationship between tourism destinations and disaster events, a complex systems understanding could be seen as apposite to describe the social, economic and environmental dynamics of the tourism industry.

In the literature, the words 'crisis' and 'disaster' have been often used interchangeably. Faulkner (2001) defines a crisis as a self-inflicted event caused by problems, such as inept management structures and practices or a failure to adapt to changes. A disaster has a different meaning: it refers to a situation in which an enterprise (or a group of enterprises) is confronted with sudden unpredictable and catastrophic changes over which it has little control (Faulkner, 2001).

Many authors have attempted to understand crises by examining their characteristics, lifecycles, anatomies, complexities and natures. Beeton (2001) defines crises based on the level of severity, while Coombs (2014) defines the range of crises in organizations based on scale, namely small-scale organizational issues (e.g. staff illness), malevolence and large-scale issues (e.g. earthquakes, floods, terrorist incidents and fires). Parson (1996) suggests three types of crises based on the nature of their occurrence: immediate crises, where there is little or no warning and organizations are unable to research the problem or prepare a plan before the crisis occurs; emerging crises, which are slow to develop and therefore organizational intervention may be able to avert them; and sustained crises, which may last for weeks, months or even years. These types of crises have similarities in the need for intervention to stimulate recovery and the drive to implement some structural changes after recovery.

Disasters may impact the tourism subsystem differently, which can be measured based on the scale of events and the capability of the system to deal with the events depending on the nature of the crises. This means that there is an interconnection between tourism subsystems in which one subsystem will be affected by disruptions in other subsystems. In tourism, the secondary impact of disaster on the industry has mostly been measured using the spillover effect on other regions and the impact after some period of time, rather than the direct impacts.

2.2.2. Spillover effect of disasters on the tourism industry

Spillover effects are mostly discussed in economic terms that explain both positive and negative externalities resulting from economic activity or processes that affect any element not directly associated with the activity (Yang & Wong, 2012). In tourism studies, spillover effects are translated into the indirect or intentional effect of tourism flows on other regions that positively or negatively impact the performance of other regions. Some non-tourism scholars have also highlighted the spillover effects by using econometric analysis (e.g. Drakos and Kutan, 2003; Goorochurn and Hanley, 2005; Neumayer, 2004). Yang and Wong (2012) argue that some interpretations of spillover effects in previous studies are vague and that there is no consensus on the definition of such effects.

The majority of studies on crises and disasters in the tourism industry focus on a single crisis or disaster in one geographic location (Pforr, 2009), and by doing so overlook the spillover effect (Ritchie, Crotts, Zehrer, & Volsky (2013). Nevertheless, Ritchie et al. (2013, p. 15) state: “Data at this level, i.e. a particular crisis in one geographical location, may mask micro differences and may not provide any insights into the spillover effects or redistribution of demand.” From a geographical perspective, spillover effects can be regarded as a spatial interaction among destinations in terms of tourism flows. However, some studies (e.g. Gil-Pareja, Llorca-Vivero and Martinez-Serrano, 2007; Khadaroo and Seetanah, 2008) focus only on a spatial interaction model between origin and destination without considering the neighbouring regions. This chapter highlights the spillover effects of a disaster event in one province on other provinces to cover the geographical perspective of complex systems in the tourism industry. A hypothesis, variables and analysis in specific case study area were developed to meet the aims of the study.

2.3. Methods

2.3.1. Hypothesis, variables and analysis

Following a complex systems approach (e.g. Scott and Laws, 2006), disaster events in a tourist destination are assumed to impact the performance of the tourism industry in that country. The present research applied three statistical indicators as variables to analyse the performance of the tourism industry: number of inbound tourists, hotel's room occupancy rate and income from tourism. Number of inbound tourists and room occupancy rate reflect the tourism demand (Coshal, 2000). The room occupancy rate was applied as a parameter in this research to measure the year on year growth or decline in overnight stays in all types of accommodation (Dupeyras & MacCallum, 2013). The indicator ‘income from tourism’ was used to get a better overview of the performance of Indonesian tourism. This indicator has also been used to measure competitiveness in tourism (World Economic Forum, 2017). Table 2.1 presents the parameters of the assessment. They are either increasing or decreasing, and their dynamic was assessed to establish the tendency and possible relation with the events of the disaster at the time of analysis.

Table 2.1. Parameters for assessment framework of the tourism industry performance

Parameters of analysis	Explanation
Number of foreign tourists (inbound tourists)	The number of visitors from other countries entering Indonesia by air, water and land. Indonesia has 93 gateways: 65 harbours, 24 international airports and 4 border crossings. The major airports are Soekarno-Hatta (Jakarta), Ngurah Rai (Bali), Polonia (Medan) and Sekupang (Batam).
Hotel occupancy rate	The average percentage of occupancy for hotels with a star rating and hotels without a star rating
Income from tourism	The total amount of money earned from tourism activities

Source: Author's framework

In addition to assessing the impact of disaster events on the performance of Indonesia's tourism industry, the present research also examined the government's general policy towards the problems that may arise due to disasters. The policy data were gathered by examining published government documents.

2.3.2. Case study and data gathering

Although there are good practices of using primary data in tourism research, secondary data are also widely used (Ritchie et al., 2013). In secondary data analysis, the researcher has not participated in the planning of the data collection or the actual collecting. Secondary data are usually gathered from published materials, such as statistical data, journal articles, websites, records or reports (Church, 2002). Saunders, Lewis, & Thornhill, (2000) state that secondary data can be regarded as a suitable data source for tourism research because it is considered reliable and valid and can be used to address the research question.

Three government-based boards – namely the National Disaster Management Agency of Indonesia, Statistics Indonesia Board, and the Ministry of Tourism – provided the secondary statistics data for this analysis. The disaster events data were collected from the National Disaster Management Agency of Indonesia and various news media. Statistics Indonesia Board also provided data on inbound tourists and the hotel occupancy rate from a regular survey. Hence, the data on income from tourism were gathered from the tourism statistics of the Ministry of Tourism. Inbound tourists data are gathered from arrival and departure cards (A/D cards) at the Immigration General Directorate. In addition, the room occupancy rate was formulated in the form of a comparison between the number of rooms occupied by tourists and the total number of available hotel rooms. The accommodation statistics were gathered from the Tourism Statistics sub-directorate of Statistics Indonesia. Data were obtained from a reliable resource database that allows for an objective

assessment of the performance of the tourism industry, because all Indonesian provinces use the standard methods. Due to the availability of the secondary data, the time frame of the data was 1998–2016.

2.4. Crisis events in Indonesia

Over the last two decades, Indonesia has experienced a lot of disasters and crises that threatened economic performance, including tourism (Table 2.2). The 1997 economic crisis led to the downfall of the Suharto regime – the longest presidential regime in Indonesian history (30 years) – and the start of the political transformation era. The shift in the political regime also changed the way Indonesia manages the country, especially regarding the tourism industry and disaster management. The most devastating natural disaster the 2004 Indian Ocean tsunami – challenged the economic situation, which had almost been restored in the post-political transition from centralized to decentralized government. The following paragraphs describe some of the most significant crises and disaster events that have happened in Indonesia over the past two decades. They are categorized into natural crises and non-natural (i.e. human-induced) crises.

Table 2.2. Some disaster events in Indonesia

Natural crises	India Ocean tsunami, Aceh (2004) Yogyakarta earthquake (2006) Merapi eruption, Central Java and Yogyakarta (2010) Kelud eruption (2014) Mentawai and Nias earthquake and tsunami (2010) Jakarta floods (2013)
Non-natural crises	Terrorist attack, Bali (2002 and 2005) SARS outbreak (2003) Political unrest/separatist movement and rebellion Transport incidents

Source: Authors

2.4.1. Natural crises

Indonesia is highly prone to natural disasters because it is located in ‘the ring of fire’ – an area of intense seismic and volcanic activity stretching from the edge of the Pacific Plate and the smaller plates (e.g. the Philippine Sea Plate) to the Cocos and Nazca Plates that line the edge of the Pacific Ocean. In recent years, Indonesia has been subject to numerous natural disasters, which are increasing in terms of both frequency and number of victims. Several of the biggest disasters reported by the Disaster Management Agency of Indonesia include the following.

(1) India Ocean tsunami, Aceh (2004)

This tsunami is recorded as the most devastating disaster to befall Indonesia in over 100 years. A magnitude 9.0 of earthquake was recorded by the Pacific Tsunami Warning Center and a magnitude 9.1 earthquake was registered by the United States Geological Survey. The epicentre of the earthquake was 30 km deep in the Indian Ocean, about 160 km north of Simeulue Island. After the tsunami, the Indonesian Minister of Health reported that 220,000 Indonesians had been killed. The tsunami devastated Aceh Province, the west coasts of Malaysia and Thailand, the east coasts of India and Sri Lanka, and the east coast of Africa. Among the victims were 9,000 foreign visitors, mostly Europeans.

(2) Yogyakarta earthquake (2006)

A 5.9 magnitude earthquake hit Yogyakarta in May 2006, killing more than 6,324 people. The earthquake also struck the regencies of Klaten, Banyumas, Semarang and Blora in the neighbouring province of Central Java. Major infrastructures and facilities were affected, including Adi Sutjipto International Airport, which had to be closed because of a crack in the runway and a broken-down communication system. The earthquake was associated with a 2.61% fall in the number of foreign visitors to Indonesia in the following year. The occupancy rate of star rated hotels in Yogyakarta also dropped.

(3) Merapi eruption in Central Java and Yogyakarta (2010)

In November 2010, 43 volcanic eruptions from Merapi were recorded in what was said to be the largest and most powerful series of eruptions ever recorded. Ashes fell as far as 13 km away and the explosion was heard 20 km from the crater. The eruption caused extensive damage and forced residents to flee down the mountain to safety. The physical infrastructure was damaged, including farmland and water installations. The direct losses amounted to 350 fatalities, 277 injured and 410,388 evacuated, as well as damaged infrastructure, houses, livestock and agricultural areas (Mei & Lavigne, 2012). In monetary terms, the loss was reported as amounting to about USD 430 billion, of which 39% was related to settlements, 13% to water and irrigation, 43% to agriculture and 12% to industry and small to medium-sized enterprises. Tourism in Sleman Regency and the whole province of Yogyakarta was impacted by this event (Rindrasi, 2018). The most imperative determinant was the closing of Adi Sutjipto airport in Yogyakarta for two weeks and the consequent cancellation of 2,467 flights.

(4) Kelud eruption (2014)

In February 2014, Kelud volcano in East Java Province erupted. Volcanic material was spread up to 200 km from the crater, disturbing the social and economic activities of East Java Province and surrounding regencies; for instance, a loss of over USD 1.2 million was reported by the apple agro-tourism sector in Batu Regency, East Java. The eruption also disturbed flights due to the bad visibility caused by volcanic ash. Ground transport was also disrupted due to the blanket of ash making the roads slippery.

(5) Mentawai and Nias earthquake and tsunami (2010)

This magnitude 7.7 earthquake occurred in October 2010 on the coast of Sumatra about 240 km west of Bengkulu. The United States Geological Survey reported the epicentre to be at a depth of 206 km. The earthquake triggered a tsunami that destroyed the infrastructures in the district of Mentawai, West Sumatra. The total loss was reported to amount to about USD 1.3 million.

(6) Flooding in Jakarta (2013)

Flooding poses a serious threat to the performance of Indonesia's tourism industry due to its impact on transport and travel activities. One of the areas that has been most impacted by flooding is Jakarta, because it is located in the coastal area (Caljouw et al., 2005; Steinberg, 2007). Furthermore, land-use change and urbanization over the past half century have exacerbated the problem (Firman, 2009). The population of Jakarta increased from 2.7 million in 1960 to 9.9 million in 2014 (Statistics Indonesia, 2016). In February 2007, a flood killed 58 people and the direct economic losses amounted to USD 453 million (Steinberg, 2007). In 2013, flooding killed 47 people. Jakarta, the capital of Indonesia, has an important function in the tourism industry as a hub of international flights and tourist mobility flows.

2.4.2. Human-induced disasters

(1) Terrorist attacks, Bali (2002 and 2005)

Terrorist attacks are now one of the major external threats to international travel and tourism, and the issue requires increased attention (O'Connor et al., 2008). In October 2002, a nightclub in the Kuta Beach district of Bali was bombed. The explosion killed 190 people, including 88 Australian and 30 British tourists. Bali is one of the world's most popular international tourist destinations. Tourism plays a major role in the economic development and reinforcement of Bali, because the island lacks oil, natural gas and large-scale manufacturing industries, and agricultural yields are low.

Moreover, this event threw an international spotlight on the Indonesian government, since the country's economy will to a certain extent be determined by the success of the government in arresting the perpetrators and eliminating terrorist cells. Furthermore, the action and lawsuit will convince other governments that security conditions have been improved and that therefore travel advisory warnings can be lifted (Prideaux et al., 2003). Indonesia has suffered more terrorist attacks than any other country in Southeast Asia. One explosion happened in Kuta (2002) and two occurred in Jimbaran (2005); the latter explosions killed 23 people and injured 196.

(2) SARS outbreak (2003)

SARS outbreaks are considered a human-induced disaster (Jennex, 2012). The first case of SARS was diagnosed in Guangdong Province, China. Due to SARS, the tourism and travel industry in China was severely disrupted. In Indonesia the number of tourists from China and surrounding areas dropped due to the warning given by their own governments. Many countries, including Indonesia, responded to the SARS epidemic by issuing travel warnings. According to the World Health Organization (WHO, 2005), 774 of the 8,096 people who contracted SARS died as a result. The Asian Development Bank estimated the cost to regional economies to be approximately USD 60 billion. Inter- and intra-regional tourism fell by 50–70% and many businesses associated with travel and tourism collapsed (WHO, 2005). In Indonesia, there were only two minor outbreaks of SARS and no deaths were reported. The vulnerability of tourism to disasters and crises was highlighted in this era.

(3) Political unrest/separatist movement and rebellion

For 29 years Indonesia was threatened by a separatist movement, *Gerakan Aceh Merdeka* (GAM), in the Aceh region that was demanding independence. GAM received a lot of attention from both the Indonesian government and the national media. Almost every week the media reported a violent incident in Aceh. In 2005, a peace agreement was signed in Helsinki, Finland, between the Indonesian government and GAM. This led to a new phase of development in Aceh. In addition, the political instability that impacted the tourism development was also shown by the 1998 chaos, which forced President Soeharto from power after more than 30 years.

(4) Transport accidents

Accidents are acknowledged to be a major cause of mortality and morbidity among travellers both in developing countries (Stewart et al., 2016) and in Europe (EU report, 2005). Following an aviation accident, the majority of customers will avoid using the same services in the future (Wang, 2009). Five major aviation accidents have

impacted the Indonesian tourism industry, namely those involving Lion Air (2004, 26 deaths), Mandala Airlines (2005, 141 deaths), Adam Air (2007, 102 deaths), Garuda Airline (2007, 22 deaths) and Air Asia (2014, 162 deaths). These events generated significant and continuing adverse publicity in both national and international media.

The image of accidents, destruction, instability and disease made the promotion of Indonesian tourism a challenging task for marketers. Not only natural disasters but also human-induced crises resulting from political tension and terrorism have impacted the performance of tourism activities and its pattern in contributing to the economic development of Indonesia. We studied both the direct impacts (section 5.1) and the secondary impacts, namely the spillover effects (section 5.2).

2.5. Results and Analysis

2.5.1. Impact on the performance of the tourism industry

Indonesian tourism has benefited a lot from its neighbouring countries, especially Malaysia, Singapore and Australia, the top three countries for the Indonesian tourism market. In addition, the high and sustained growth of Asian economies has led to a shift away from the traditional European and US-based consumer market to inter-regional travel in Asia, especially between such countries as Indonesia, Japan, Singapore, Malaysia, Hong Kong, Korea and China.

According to Statistics Indonesia, although the number of international tourist arrivals increased from five million in 2000 to 12 million in 2016, arrivals declined compared to the previous year by 11% in 1998, 2% in 2002, 11% in 2003, 6% in 2005 and 3% in 2006. The decline in 1998 was a result of political turmoil, as there were serious riots in several Indonesian cities where the majority of citizens demanded that Suharto step down as president. Then a 9% growth was recorded from 1998 to 2001. However, in 2003 there was another fall, largely attributable to the SARS outbreak. Growth from 2003 to 2004 was about 19%, but it dropped again in 2006 as a result of the terrorist attacks in Bali (2005) and the earthquake in Yogyakarta (2006). Following this, there was a steady increase in the number of international tourist arrivals until 2014. Figure 2.1 shows the fluctuation in the total number of inbound tourists in Indonesia.

Figure 2.1. Fluctuation in the total number of tourists arriving at Indonesia's international airports in 1997–2016

Source: Statistics Indonesia, 2018

The performance of the tourism industry can also be measured based on its impact on the economy, and especially on the tourism industry's share in the gross domestic product. The most income is generated from Malaysian tourists (about USD 1,024 million in 2013), followed by Chinese tourists (about USD 754 million) and Australian tourists (about USD 750 million). According to Statistics Indonesia, from 1998 to 2015 the income from tourism increased by 182%, namely from USD 4,331 million to USD 12,225 million. However, the income fluctuated annually. Particularly in 2001 (B in fig. 2.2), 2003 (B in fig.2.2), 2005 (C in fig.2.2) and 2009 (D in fig.2.2) the fall in income was significant overall pattern, however, is largely similar to the previous graph except in 2009, possibly influenced by the presidential election and the global economic crisis. Figure 2.2 shows the fluctuation in income from tourism between 1998 and 2015.

Figure 2.2 Fluctuation of income from tourism (1998–2015) in USD million
Source: Statistics Indonesia, 2018

Unsurprisingly, the change in the number of inbound tourists was significantly related to changes in income, as the test of the relationship between inbound tourists and income resulted in a significant positive correlation ($R^2 = 0.989$ $p < 0.001$).

In the tourism industry, lodging is an important element in terms of visibility and it accounts for one third of tourists' direct spending (Davidson, Timo, & Wang, 2010; Sharpley, 2000). The number of rooms and beds in Indonesia increased from 2000 to 2016 at an average rate of 8% per year, as a result of the increasing number of hotels. Figure 2.3 shows the national hotel occupancy rate for hotels with and without a star rating between 1998 and 2016.

We thus found different impacts resulting from human-induced and natural disasters, with different intensities and consequences. In the case of the 2002 terrorist attacks, the statistical data revealed falls in all indicators mentioned above. In addition to the number of inbound tourists, the entire country's income from tourism was also impacted, as was the hotel occupancy rate. It is to these types of secondary impacts that we now turn.

Figure 2.3. National hotel occupancy rate (1998–2016)
Source: Statistics Indonesia, 2018

2.5.2. Spillover effects

When a disaster or crisis affects neighbouring regions in a positive or a negative way, it is labelled as a 'spillover effect'. The statistical data in this chapter reflect this effect. A positive spillover effect occurs when neighbouring regions benefit from a disaster in a certain area, because tourists tend to avoid the dangerous area and visit a destination that offers better safety and security (Ritchie et al., 2013). Moreover, a negative spillover effect can occur for the same reason if people see that another part of the region may not be safe for tourism activities.

Table 2.3 shows the spillover effect of one disaster on other regions using the indicators room occupancy rate of hotels with a star rating (ROR), number of international tourists (ΣIT) and regional gross domestic product of the hotel and restaurant sector (RGDP). It also provides the data on the year of event (t) and one year after the event ($t+1$). A positive spillover effect can be seen in the case of the terrorist attack in Bali ($t = 2002$), when Bali suffered a 10.7 % fall in room occupancy rate, Yogyakarta experienced a 1.5% increase and Aceh a 38.42% increase, the number of tourists visiting Bali dropped by 5%, and the number visiting Yogyakarta increased

by 5%. In the case of the earthquake in Yogyakarta, Yogyakarta experienced a 24% fall in the number of tourists while Aceh saw a 161% increase. A negative spillover effect can also be seen from the table: when Yogyakarta had an earthquake, the number of tourists visiting Bali fell by 11%.

Examining the GDP of the trade, hotel and restaurant sectors at the provincial level reveals an interesting detail. The terrorist attack in 2002 and the tsunami in Aceh only impacted the GDP of the affected province, and did not affect the growth of GDP in other regions. The GDP of the trade, hotel and restaurant sectors in Bali fell 0.1% after the terrorist attack in 2002, and after the tsunami the GDP of the trade hotel, and restaurant sectors in Aceh fell by 3%. Hence, other regions seem to experience a positive spillover effect on their GDP resulting from increased products and services in hotels and restaurants.

Figures 2.4 to 2.7 show the changes in the number of tourists arriving at the four main airports (i.e. Soekarno Hatta, Denpasar, Kualanamu and Batam Island). For example, in 1998 and 1999, the number of inbound tourists arriving at Jakarta airport dropped significantly (by 39% in 1998 and 7% in 1999). However, at the same time Batam airport reported a 5–6% increase in the number of foreign tourists compared to the previous year. This supports the hypothesis that tourists tend to avoid the possibility of conflicts and problems (as mentioned, there were serious riots in Jakarta in 1998–99). Similar impacts of political uncertainty can be seen in the data for 2009, when the presidential election was held: there was a 3% drop in the number of inbound tourist entering via Jakarta and Batam, whereas numbers increased at Kualanamu and Denpasar. The other case of spillover concerns the post-terrorist attack period in Bali: tourists tended to avoid landing in Bali, Jakarta, Medan and other airports as shown in Figure 2.4 to 2.7, whereas Batam Island airport saw a 17% increase in the number of inbound tourists.

Table 2.3. Summary of the spillover effect on the performance of the tourism industry after five crisis events

Cases	Year (t)	Spillover effect on Yogyakarta (%)					
		(ROR) ^t	(ROR) ^{t+1}	(Σ IT) ^t	(Σ IT) ^{t+1}	(GDP) ^t	(GDP) ^{t+1}
Terrorist attack, Bali	2002	1.5	12.35	7	20	1.9	259
Tsunami, Aceh	2004	- 1.7	- 5.6	8	0	5.8	5.0
Terrorist attack, Bali	2005	- 5.6	0.7	0	-24	5.0	3.6
Earthquake, Yogyakarta	2006	0.7	5	-24	32	3.6	5.1
Merapi eruption, Yogyakarta	2010	- 4.5	7.5	10	11	9.4	13.7
Year (t)		Spillover effect on Bali (%)					
		(ROR) ^t	(ROR) ^{t+1}	(Σ IT) ^t	(Σ IT) ^{t+1}	(GDP) ^t	(GDP) ^{t+1}
Terrorist attack, Bali	2002	- 10.7	- 3.7	-5.0	-23	- 0.1	5.1
Tsunami, Aceh	2004	-1.8	-2.9	48	-4	4.6	6.3
Terrorist attack, Bali	2005	-2.9	-5.4	-4.0	-11	6.3	5.1
Earthquake, Yogyakarta	2006	-5.4	21.98	-11	32	5.1	7.6
Merapi eruption, Yogyakarta	2010	-1.9	0.7	8	10	6.4	8.7
Year (t)		Spillover effect on Aceh (%)					
		(ROR) ^t	(ROR) ^{t+1}	(Σ IT) ^t	(Σ IT) ^{t+1}	(GDP) ^t	(GDP) ^{t+1}
Terrorist attack, Bali	2002	38.42	-11.5	-30	- 46	18	530
Tsunami, Aceh	2004	1.3	-2.5	-97.69	5218	- 3	12
Terrorist attack, Bali	2005	-2.5	22	5218	161	12	2
Earthquake, Yogyakarta	2006	22	-7.4	161	20	2	2
Merapi eruption, Yogyakarta	2010	-2.7	-1.2	11	36	6	7

Source: Authors' analysis

Figure 2.4. Changes in number of inbound tourists entering at Soekarno Hatta, Jakarta airport 1997–2016

Source: Statistics Indonesia, 2018

Figure 2.5. Changes in number of inbound tourists at Denpasar Bali airport 1997–2016

Source: Statistics Indonesia, 2018

Figure 2.6. Changes in number of inbound tourists at Kualanamu, Medan airport 1997–2016

Source: Statistics Indonesia, 2018

Figure 2.7. Changes in number of inbound tourists at Batam, Riau Island airport 1997–2016

Source: Statistics Indonesia, 2018

2.5.3. Government responses to tourism crises

The Indonesian government started to pay attention to tourism development in 1969 through the establishment of the Directorate General for Ministry of Transportation. This ministry developed a five-yearly development plan (PELITA/Pembangunan Lima Tahun). The aim was to increase the number of tourist arrivals by 10–13% per year from 1967 to 1999. However, in 1998 the economic crisis influenced the political stability, which led to the decreasing performance of the tourism industry. After the economic crisis, the reformation era was characterized by political transformation, namely from centralization to decentralization. In this era, many regions wanted to develop tourism as their source of income; as a result, tourism competition between regions has increased rather than decreased (Rindrasih, 2015).

At the regional level, regional governments have been instructed to do their regional tourism planning and development under the umbrella of the Ministry of Culture and Tourism. The aim is to build cooperation between different levels of government, business sectors and communities. The local government should plan certain aspects, namely tourists, transport, tourism products, services and facilities, and tourism destination information. Some national programmes have been launched, such as the National Strategic Tourism Area and the Master Plan for Acceleration and Expansion of Indonesia's Economic Development 2011–2025. These two programmes focus on increasing the number of tourists, which increases the national or regional income, while overlooking the aspect of crisis management.

The government's response to the impact of disasters on tourism shows a general lack of preparatory actions; instead, it is based on responsive actions. The Disaster Board focuses on keeping people safe during a disaster rather than preparing for a worst-case scenario by developing a comprehensive planning and recovery strategy. The Tourism Board at the provincial level has also shown poor planning for disaster mitigation in tourist destinations.

2.6. Discussion

2.6.1. Multi-layered disasters and spillover effects

The results of the analysis show that each disaster in Indonesia, whether natural or human-induced, is on a different scale and has a different impact on the performance of the tourism industry. Although it is possible that there are other factors of importance in the complex system of tourism, there are some general remarks we can make on the basis of our findings. First, during the past two decades, disasters have usually had a multi-layered character that impacted the performance of the

tourism according to the scale of destruction, the location of the disaster and the type of disaster (human-induced vs. nature-induced). These factors influence the magnitude of the impact on the tourism industry and also the recovery speed (i.e. how long it takes to return to a 'normal' state).

Second, secondary impacts (i.e. spillover effects) are indicated by the benefits gained by other provinces due to the decreased performance of the tourism industry in an area affected by a disaster. In the whole nation, spillover effects may not be clearly seen, but data on arrivals at each international airport reveal an interesting fluctuation. This fluctuation at the provincial level shows that spillover effects have occurred due to disruptions in other tourist destinations. In the following section, based on these two insights, this chapter discusses governmental policy responses that could be structurally enacted in dealing with multi-layered disasters.

2.6.2. Towards a structural approach in policy responses

This study proposes a structural approach in policy responses to disasters in the tourism industry. The challenges of recovery in tourism post-disaster that can be observed are the lack of a clear definition of crisis vs. disaster, poor determination of actor responsibilities, and a general lack of mitigation, preparation and recovery strategies to comprehensively deal with the impact. A structural approach includes the implementation of programmes to change the conditions in which people live or the community processes that catalyse social and political change (Gupta, Parkhurst, Ogden, Aggleton, & Mahal, 2008). The aim of such policies is to change the conditions in all economic, social, political, organizational, environmental, and human capital aspects related to tourism development and disasters.

A structural approach policy response is important for the tourism industry during crises, because the programmes that have been conducted by the Indonesian tourism stakeholders did not take into account the automatic stabilizers that dampen the fluctuation in income from tourism. The programmes were sporadic, fragmented and reactive, and lacked a shared objective for the whole nation. Moreover, this study found that the policy does not play a role in changing rules and procedures to facilitate the acceleration of investment in the tourism industry to make it safer and ready for disasters, because it is only implemented for particular sectors.

In a structural policy approach, disasters should not damage the drivers of the long-term growth of tourism, but should be used as a springboard to accelerate a structural shift towards a stronger, more resilient and sustainable tourism development. In mainstream disaster preparation, the implementation of a structural policy approach must recognize that context matters, namely that each disaster requires its own, individual coping strategy. To implement a structural policy

approach, the social, political, economic and environmental factors influencing both vulnerability and risk must be identified.

First, the economic condition of the country affects the speed of recovery. Bankruptcies and business failures have been observed post-disaster in the tourism industry. Disaster can have a detrimental effect on the creation of new, innovative tourism business when access to financing dries up. Financial support increases the possibility to reconstruct and build the recovery programme in image building as well as infrastructure rebuilding, for example, financial support for small or medium-sized enterprises, support for hotel and restaurant recovery, and destination promotion. In one hit, tourism can collapse without financial support from other agencies. In this respect, the government plays a pivotal role in terms of both direct financial package loans and a policy incentive for financial institutions (e.g. banks) to support the recovery.

Second, in the political context, a structural approach policy opens space for the political aspect to also work for recovery. Spillover effects that happen after a disaster have two sides to them, one positive and one negative. If the spillover effect occurs in another province, the benefit of tourism income remains in the country, but if the spillover effect occurs abroad, it reduces the revenue from tourism and other countries benefit. This is illustrated by the case of the 2002 Bali bombings: Thailand and New Zealand became more popular among Australian tourists as an alternative to Bali. Therefore, strengthening the communication between countries is important to build stability for recovery post-disaster.

Third, social and political stability in the country may increase the speed of recovery. Recovery will be achieved if the situation is conducive to innovation. The terrorist attacks in 2002 and 2005 made tourists stay away from Bali. Moreover, it was not the renovation of hotels and restaurants in Bali that made tourism return to normal, but news in the media about how the Indonesian police were working to catch the perpetrators. Tourism recovery required the strengthening of structural policies for anti-terrorism (i.e. anti-terrorism law UU No.15/2003), rather than short-term relief, such as promoting alternative destinations or offering discounts.

Fourth, as regards policy and organizational structure, a disaster may provide an opportunity to reflect on the mission and vision of the policy and to reform the policy to make it more comprehensive, structured and inclusive. Disaster raises hard new questions and provides options for all stakeholders; however, it also provides an opportunity to strengthen the medium- and long-term potential of the tourism industry. The government can introduce new policy measures that stimulate innovation to tackle the tourism downturn. Some policies may increase the cost in the short term, but most are likely to create benefit in the longer term.

Finally, the aspect of human resources and development requires attention in order to cope with the tourism crisis resulting from the disaster event. In the event of a long, large-scale disaster, many companies may lay off employees, which leads to a high number of unemployed – which is another social and economic problem that triggers yet another problem. Education and training during a crisis is important as part of a structural policy in tourism that can help displaced workers find new job opportunities and can thus support the process of restructuring.

2.7. Conclusion

Increasing numbers of disasters and crises have stimulated research on the impact of such events on the performance of the tourism industry. Nevertheless, studies on the impact of disasters on the tourism industry have presented disasters as single events over a short period of time. Moreover, the majority of the research has neglected the mapping of events over time. There is a need to address in a more systematic way the complex challenges and spillover effects of crises on other destinations, and to compare disaster impacts on the performance of the tourism industry.

The present research assessed the impact of different human-induced and natural disasters on the performance of the tourism industry in Indonesia over time (1998–2016) using the parameters inbound tourists, income from tourism activities and hotel occupancy rates. Using secondary data, this study has provided a better understanding of the impact of disasters and crises on the tourism industry as a whole, as well as a comparison between natural disasters and human-induced disasters, and between regions in affected areas.

Two reflections can be drawn from this study's results. First, human-induced disasters have a more negative impact on the destination and the recovery process compared to natural disasters. In contrast, some natural disasters attract media attention, leading to new tourism development in the affected area. What happened in Bali in 2002 was the most destructive event for tourism in both Bali itself and at the national level. Compared to natural disaster events, such as tsunamis and earthquakes, this human-induced disaster presented a significant challenge, as it was difficult to convey a positive image of Bali after the attacks (Henderson, 2003). The results support Sonmez (1998:417), who wrote, "The threat of danger that accompanies terrorism or political turmoil tends to intimidate potential tourists more severely than any natural or human-caused disaster". Buigut, Braendle, & Sajeewani, (2017) also studied the impact of terrorism and found that it significantly decreases tourism demand. Moreover, Drakos and Kutan (2003) found that terrorism has the most immediate and strongest effects on tourism.

Second, disasters and crises impact neighbouring regions in both positive and negative ways. The statistical data presented in this chapter revealed positive spillover effects when neighbouring provinces benefitted from disasters in another area, because tourists tend to avoid dangerous areas and visit alternative destinations that are safer and more secure. This finding supports the conclusions of previous research that only studied spillover effects in cases of single disasters; for instance, research by Yang and Wong (2012) confirmed the existence of spillover effects in tourism flows for both foreign and domestic tourists after the SARS outbreak, as well as a statement from (Ritchie, Crotts, Zehred & Volsky, 2013) on the existence of spillover effects in the accommodation sector.

Finally, tourism is a complex system that is strongly related to external and internal factors, implying that a single system approach fails to understand the multi-layered nature of the impacts. By understanding tourism from a complex systems approach, national destination management may provide alternatives to anticipate spillover effects when disasters happen in a certain area. The government could take a leading role in defining and implementing programmes aimed at structural change in affected regions. This study proposes a structural approach in policy responses that covers all dimensions of tourism and disaster recovery. Furthermore, the analysis of governmental responses to such disaster appears to be an important area that requires further research.

References

- Armstrong, E. K., & Ritchie, B. W. (2008). The heart recovery marketing campaign: Destination recovery after a major bushfire in Australia's national capital. *Journal of Travel & Tourism Marketing*, 23(2-4), 175-189.
- Au, A. K., Ramasamy, B., & Yeung, M. C. (2005). The effects of SARS on the Hong Kong tourism industry: An empirical evaluation. *Asia Pacific Journal of Tourism Research*, 10(1), 85-95.
- Baggio, R. (2013). Studying complex tourism systems: A novel approach based on networks derived from a time series. arXiv Preprint arXiv:1302.5909.
- Beeton, S. (2001). Horseback tourism in Victoria, Australia: Cooperative, proactive crisis management. *Current Issues in Tourism*, 4(5), 422-439.
- Buigt, S., Braendle, U., & Sajeewani, D. (2017). Terrorism and travel advisory effects on international tourism. *Asia Pacific Journal of Tourism Research*, 22(10), 991-1004.
- Calgaro, E., & Lloyd, K. (2008). Sun, sea, sand and tsunami: Examining disaster vulnerability in the tourism community of Khao Lak, Thailand. *Singapore Journal of Tropical Geography*, 29(3), 288-306.
- Caljouw, M., Nas, P. J., & Pratiwo, M. (2005). Flooding in Jakarta: Towards a blue city with improved water management. *Bijdragen tot de Taal-, Land- en Volkenkunde/Journal of the Humanities and Social Sciences of Southeast Asia*, 161(4), 454-484.
- Carlino, S., Somma, R., & Mayberry, G. (2008). Volcanic risk perception of young people in the urban areas of Vesuvius: Comparisons with other volcanic areas and implications for emergency management. *Journal of Volcanology and Geothermal Research*, 172(3), 229-243.
- Cheung, C., & Law, R. (2006). How can hotel guests be protected during the occurrence of a tsunami? *Asia Pacific Journal of Tourism Research*, 11(3), 289-295.
- Church, R. M. (2002). The effective use of secondary data. *Learning and Motivation*, 33(1), 32-45.
- Coombs, W. T. (2014). *Ongoing crisis communication: Planning, managing, and responding*. Sage Publications.
- Coshall, J. T. (2000). Spectral analysis of overseas tourists' expenditures in the United Kingdom. *Journal of Travel Research*, 38(3), 292-298.
- Davidson, M. C., Timo, N., & Wang, Y. (2010). How much does labour turnover cost? A case study of Australian four- and five-star hotels. *International Journal of Contemporary Hospitality Management*, 22(4), 451-466.
- Drakos, K., & Kutun, A. M. (2003). Regional effects of terrorism on tourism in three Mediterranean countries. *Journal of Conflict Resolution*, 47(5), 621-641.
- Dupeyras, A., & MacCallum, N. (2013). *Indicators for measuring competitiveness in tourism: A Guidance Document*. OECD Tourism Papers. 2013/02. OECD Publishing, Paris.

- EU Report. (2005). Scope and patterns of tourist injuries in the European Union. *International Journal of Injury Control and Safety Promotion* 12(1): 57-61.
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135-147.
- Faulkner, B., & Valerio, P. (2003). An integrative approach to tourism demand forecasting. *Progressing Tourism Research*, 9, 166.
- Firman, T. (2009). The continuity and change in mega-urbanization in Indonesia: A survey of Jakarta-Bandung region (JBR) development. *Habitat International*, 33(4), 327-339.
- Gil-Pareja, S., Llorca-Vivero, R., & Martínez-Serrano, J. A. (2007). The impact of embassies and consulates on tourism. *Tourism Management*, 28(2), 355-360.
- Gooroochurn, N., & Hanley, A. (2005). Spillover effects in long haul visitors between two regions. *Regional Studies*, 39(6), 727-738.
- Gupta, G. R., Parkhurst, J. O., Ogden, J. A., Aggleton, P., & Mahal, A. (2008). Structural approaches to HIV prevention. *The Lancet*, 372(9640), 764-775.
- Hall, C. M. (2008). *Tourism planning: Policies, processes and relationships*. Pearson Education.
- Haugland, S. A., Ness, H., Grønseth, B., & Aarstad, J. (2011). Development of tourism destinations: An integrated multilevel perspective. *Annals of Tourism Research*, 38(1), 268-290.
- Henderson, J. C. (2003). Terrorism and tourism: Managing the consequences of the Bali bombings. *Journal of Travel & Tourism Marketing*, 15(1), 41-58.
- Higgins, B. A. (2005). The storms of summer: Lessons learned in the aftermath of the hurricanes of '04. *Cornell Hotel and Restaurant Administration Quarterly*, 46(1), 40-46.
- Huang, J., & Min, J. C. (2002). Earthquake devastation and recovery in tourism: The Taiwan case. *Tourism Management*, 23(2), 145-154.
- Jennex, M. (2012). *Managing crises and disasters with emerging technologies: Advancements*. Advancements IGI Global.
- Kasperson, R. E., Golding, D., & Tuler, S. (1992). Social distrust as a factor in siting hazardous facilities and communicating risks. *Journal of Social Issues*, 48(4), 161-187.
- Khadaroo, J., & Seetanah, B. (2007). Transport infrastructure and tourism development. *Annals of Tourism Research*, 34(4), 1021-1032.
- Laws, E., Prideaux, and K. Chon. (2007). "Crisis Management in Tourism: Challenges for Managers and Researchers". In *Crisis Management in Tourism*, edited by E. Laws, B. Prideaux, and K. Chon. Oxfordshire: CABI, pp. 1-392.
- Mei, E. T. W., & Lavigne, F. (2012). Influence of the institutional and socio-economic context for responding to disasters: Case study of the 1994 and 2006 eruptions of the Merapi volcano, Indonesia. *Geological Society, London, Special Publications*, 361(1), 171-186.
- Neumayer, E. (2004). The impact of political violence on tourism: Dynamic cross-national estimation. *Journal of Conflict Resolution*, 48(2), 259-281.
- O'Connor, N., Stafford, M. R., & Gallagher, G. (2008). The impact of global terrorism on Ireland's tourism industry: An industry perspective. *Tourism and Hospitality Research*, 8(4), 351-363.
- Page, S., Yeoman, I., Munro, C., Connell, J., & Walker, L. (2006). A case study of best practice - Visit Scotland's prepared response to an influenza pandemic. *Tourism Management*, 27(3), 361-393.
- Parsons, W. (1996). Crisis management. *Career Development International*, 1(5), 26-28.
- Pförr, C. (2009). Crisis management in tourism: A review of the emergent literature. *Crisis management in the tourism industry: Beating the odds* (pp. 37-52). Ashgate.
- Prideaux, B., Laws, E., & Faulkner, B. (2003). Events in Indonesia: Exploring the limits to formal tourism trends forecasting methods in complex crisis situations. *Tourism Management*, 24(4), 475-487.
- Rindrasih, E. (2015). Tourism and disaster: the review of government policy toward the impact of natural disaster on tourism industry performance. *ASEAN Journal on Hospitality and Tourism*, 14(1), 24-34.
- Rindrasih, E. (2018). Under the volcano: Responses of a community-based tourism village to the 2010 eruption of Mount Merapi, Indonesia. *Sustainability*, 10(5), 1620.
- Ritchie, B. W. (2009). *Crisis and disaster management for tourism*. Channel View Publications Bristol.
- Ritchie, B. W., Crotts, J. C., Zehrer, A., & Volsky, G. T. (2013). Understanding the effects of a tourism crisis: The impact of the BP oil spill on regional lodging demand. *Journal of Travel Research*, 53 (1) 12-25.
- Rodway-Dyer, S., & Shaw, G. (2005). The effects of the foot-and-mouth outbreak on visitor behaviour: The case of Dartmoor national park, South-west England. *Journal of Sustainable Tourism*, 13(1), 63-81.
- Saunders, M., Lewis, P., & Thornhill, A. (2000). Collecting primary data through observation. M.L Saunders, *Research Methods for Business Students*, 218-236.
- Scott, N., & Laws, E. (2006). Tourism crises and disasters: Enhancing understanding of system effects. *Journal of Travel & Tourism Marketing*, 19(2-3), 149-158.
- Scott, N.E. Laws, and B. Prideaux. (2007). Tourism crises and marketing recovery strategy. *Journal of Travel and Tourism Marketing*, 23 (2/3/4):1-13.
- Sharpley, R. (2000). The influence of the accommodation sector on tourism development: Lessons from Cyprus. *International Journal of Hospitality Management*, 19(3), 275-293.
- Statistics Indonesia. (2016). *Jakarta in figures*. Statistic Agency of Indonesia. Jakarta.
- Statistics Indonesia. (2018). *Statistic Dasar Pariwisata*. Retrieved from <https://www.bps.go.id/subject/16/pariwisata.html#subjekViewTab3>, last accessed 11 June 2018.
- Steinberg, F. (2007). Jakarta: Environmental problems and sustainability. *Habitat International*, 31(3-4), 354-365.

- Stewart, B. T., Yankson, I. K., Afukaar, F., Medina, M. C. H., Cuong, P. V., & Mock, C. (2016). Road traffic and other unintentional injuries among travelers to developing countries. *Medical Clinics*, 100(2), 331-343.
- Sönmez, S. F., & Graefe, A. R. (1998). Determining future travel behavior from past travel experience and perceptions of risk and safety. *Journal of Travel Research*, 37(2), 171-177.
- World Economic Forum. (2017). *The travel and tourism competitiveness report 2017*. Ed by Crotti R & Misrahi T. Retrieved from <https://www.weforum.org/reports/the-travel-tourism-competitiveness-report-2017>. Last accessed at 11 June 2018.
- World Health Organization. (2005). *Global health improvement and WHO: shaping the future*. Retrieved from http://www.who.int/whr/2003/media_centre/lee_article/en/index2.html, last accessed 11 June 2018.
- Wang, Y. S. (2009). The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, 30(1), 75-82.
- Yang, Y., & Wong, K. K. (2012). A spatial econometric approach to model spillover effects in tourism flows. *Journal of Travel Research*, 51(6), 768-778.

3

Travelling without a helmet: Tourists' Vulnerabilities and Responses to Disasters in Indonesia

This chapter is published as Rindrasih, E., Hartmann, T., Witte, P., Spit, T., and Zoomers, A. (2018). Travelling without a helmet: Tourist's vulnerabilities and responses to disasters in Indonesia. *Disasters*. Volume 42, page 782 – 803.

Abstract

Tourists are particularly vulnerable when natural disasters occur in regions that they are visiting. It is assumed that they lack awareness and understanding of the actions that they need to take in such circumstances. This study examines the responses of tourists in times of disaster, building on empirical data collected through large-scale surveys conducted in Bali and Yogyakarta, Indonesia, in 2015. Both are important tourist destinations in the country that have suffered major disasters in recent years. The different types of responses to these events are framed using a grid/group analysis stemming from cultural theory. The study resulted in three key findings: (i) current disaster management planning largely follows a single rationale; (ii) tourists are not a homogeneous group, but rather a complex, diverse, and dynamic body of stakeholders; and (iii) the focus of disaster management planning should shift from a single rationale to a polyrational methodology. Disaster managers need to consider, therefore, these different aspects in the context of preparedness.

Keywords: behaviour, cultural theory, disaster management, disasters, responses, tourists

3.1. Introduction

The tsunamis in the Indian Ocean and off Tōhoku, Japan, on 26 December 2004 and 11 March 2011, respectively, are just two examples of natural disasters that have affected tourist destinations severely over the past decade. These cases, which claimed the lives of many tourists, highlight the vulnerability of visitors to hazard-prone areas. Tourism is one of the largest industrial sectors in the world in terms of employment and revenue, and it faces great tests in coping with the consequences of disasters, particularly in developing strategies to ensure the safety of tourists (Cioccio and Michael, 2007).

There is general agreement within academia that currently no technique is available to prevent effectively a disaster from occurring. The best that one can do is cope with its negative impacts (Muskat, Nakanishi, and Blackman, 2014). Natural disaster management is a complex field because many different actors from myriad different organizations have to cooperate under great pressure with respect to time (Lauras, Trupitl, and Bénaben, 2015). The situation is even more complicated when natural disasters happen in tourist destinations, where visitors lack an awareness of the dangers and an understanding of the specifics known to local residents (Phillips and Morrow, 2007). Problems include those stemming from a poor command of the local language and a dearth of knowledge of safe places. It is difficult for tourists to be familiar with such disaster-related information because they comprise a dynamic group that is constantly moving and changing. As a result, the integration of disaster management into the usual operations of civic governance and the coordination of disaster response across actors are recognized as central challenges to increasing disaster resilience in tourist destinations (United Nations Office for Disaster Risk Reduction, 2013).

Notwithstanding the risk that devastating natural and man-made disasters can pose to tourism, some disaster management strategies include measures pertaining to preparedness, mitigation, emergency, and recovery (Cassedy, 1991; Ghaderi, Som, and Henderson, 2012). A study by Drabek (1992) of tourism industry enterprises in the United States revealed that although there was a high degree of preparation among tourism executives, disaster management strategies were not well documented and thus poorly communicated to tourists. Research has focused to date on tourists' decision-making in selecting a destination, such as how disasters affect future travel plans. There has been very little consideration of their reactions to safety issues during a disaster, and even less of their diverse behavioural responses to such an event. From the standpoint of tourism management, tourists' responses have been studied mainly to develop strategic ways of tempting them to

visit (Sirakaya and Woodside, 2005). By contrast, from the perspective of disaster management planning, tourists' responses and behaviour have been scrutinized less well, especially in comparison to the responses and behaviour of local residents (see, for example, Paton and Johnston, 2006; Campiranon and Scott, 2007).

This study aims to fill this gap by exploring tourists' behavioural responses and actions in different (hypothetical) disaster situations, including earthquakes, floods, storms, tsunamis, and volcanic eruptions. Indonesia was selected as a case study area because it is located in the 'Ring of Fire', where the frequency and intensity of natural disasters increase annually. Two research questions are at the centre of the discussion:

- How do tourists perceive the risk of a natural hazard at their destination during a visit and what are their responses to such a possibility?
- What recommendations can be made to the disaster risk reduction programme in light of the complexity of tourists' responses?

The next section examines the importance of the preparedness phase in disaster management and draws attention to the role of tourists as stakeholders. The third section analyses the level of knowledge of tourist vulnerability and behavioural responses and introduces the rationalities of cultural theory. The fourth section outlines the methodology and the fifth section presents the results of the research. The final section presents the practical and theoretical implications of the study.

3.2. Tourists' vulnerability, disaster management, and cultural theory

3.2.1. Tourists' vulnerability in the context of disaster management

Tourists' safety and satisfaction influence the success of tourism destinations. Disaster preparedness is not only about providing safety as a human right, therefore, as outlined in Article 3 of the Universal Declaration of Human Rights (United Nations General Assembly, 1948), but also about safeguarding the socioeconomic performance of a region's tourism sector. The link between the image of a location and the loyalty of tourists shows that impression is a large determinant of satisfaction (Abdullah, Al-Nasser, and Husain, 2000; Kandampully and Suhartanto, 2000; Cai, Wu, and Bai, 2003; O'Leary and Deegan, 2005). The protection of tourists is an essential and important issue inside and outside of destinations.

Disaster management is a circular cycle, with no clear start or end point (see Figure 3.1). The US National Response Framework (United States Department of

Homeland Security, 2013) illustrates that the disaster lifecycle is composed of five variables: prevention; preparedness; response; recovery; and mitigation (United States Department of Homeland Security, 2015). Furthermore, an intervention at any point will influence the entire cycle, implying that each phase has a bearing on the next one. *Prevention* is about measures to stop an event from occurring, such as the use of advanced meteorological detection technology. *Preparedness* is about the responsibility of individuals, families, and community members to anticipate a disaster by increasing awareness, which would guide preparations in terms of provisions and supplies of food, medicine, shelter, and water. Aside from the tangible element of preparedness, the intangible elements, that is, awareness, knowledge, perception, and response, also have to be emphasized. The area that garners the most attention is *response* because it is unique and different vis-à-vis scale, scope, and the area, people, and government affected. *Recovery* is about returning to normal conditions, as things were before the disaster. Sometimes the process takes months or even years, depending on the level of destruction. *Mitigation* involves an assessment of the lessons learned, to plan better for future disasters.

Figure 3.1. The disaster lifecycle

Source: authors' illustration adapted from US Department of Homeland Security (2015).

Disaster management includes the planning and decision-making processes of an organization with a view to managing its risks and its responses to and recovery from crises. Social scientists have studied the human aspects of disaster management. Variables such as leadership style and personality have been assessed extensively, whereas individual or group differences in cultures, and rationalities as influential factors, have been underexplored (Bernhardsdóttir, 2015). Understanding the effect

of human interaction on crisis management in the tourism sphere is more complex than in other industrial sectors because tourists are dynamic in time and geography. They are also a diverse and plural group that bring with them their own culture. In-depth understanding of this fact is key to reducing risks in hazard-prone areas (Jang, Wang, Paton, & Tsai, (2015).

Disaster management faces several challenges. Campiranon and Scott (2007) and Ritchie (2009) refer to the determinants of disaster management in tourism destinations, including cultural differences concerning, *inter alia*, avoidance of uncertainty, decision-making, long- or short-term orientation, power, and resources such as planning infrastructure and tourism organization. Kelman et al. (2008) underline the role of tourists in disaster risk reduction education, drawing on the case of the Indian Ocean tsunami. This means that disaster management requires the active involvement of tourists themselves. A new theory of disaster management needs to be developed that takes account of their vulnerability and behavioural responses.

3.2.2. Tourists and disaster-related behaviour

Studies of tourists' behaviour during a disaster are rare and relatively new (Ritchie, 2009). Đeri, Plavša, and Čerović (2007) looked at tourist behaviour with respect to decision-making and an unpredictable situation such as a disaster. They found that all age ranges between 26 and 35 and 56 and 65 years consider factors such as economic instability and terrorist action prior to travel. In contrast, Hunter-Jones, Jeffs, and Smith (2008) discovered that the threat of a natural disaster has little impact on backpackers' decision to travel: 'natural disasters were considered unpredictable, uncommon and not worth worrying about' (Hunter-Jones, Jeffs and Smith, 2008, p. 246). Moreover, Van Hoving, Wallis, Docrat, & De Vries, (2010) investigated the existence of new form of tourism activities in Haiti following the earthquake in 2010, as reported by a medical disaster team on duty in the area. Their research showed that, in some cases, a disaster will not discourage people from visiting after a lengthy period of recovery.

Most studies of the relationship between tourist behaviour and disasters have been conducted with a view to finding out about behaviour in the wake of the event and understanding the resilience of victims. Only a small number have been carried out with the intention of predicting behaviour in order to improve preparation, especially with regard to tourists.

There is a need for cross-cultural research on disasters. Cross-cultural studies of disaster behaviour in a time of emergency are needed to comprehend the mobility pattern of people with respect to safety. The culture approach has an important role to play in determining the behaviour of affected people.

Quantarelli (1979) initiated a conceptual framework to systematize cross-cultural studies of disasters, but almost all of the comparative works that have followed his cross-cultural approach have tended to focus on recovery strategies in different context (Kearns, 2011). Kasdan (2016) revealed a relationship between the socio-cultural context and disaster risk, such as correlations with levels of individualism, self-expression, and secular-rational values. In addition, Phillips and Morrow (2007) underline that travellers are part of a community that often lacks an awareness of particular danger and an understanding comprehension of specifics known to locals. An understanding of tourists' behaviour may play a pivotal role in preparedness for disasters, particularly different behaviours depending on the origin and type of disaster.

3.2.3. A cultural theory to understand the behaviour of tourists

The theory of polyrationality, or cultural theory, was first called grid/group typology and was introduced by Douglas (1978), and subsequently developed by Ellis and Thompson (1997) (see also Douglas and Wildavsky, 1983; Thompson, 1997; Lockhart, 1999). It assumes that, in every social situation, two basic dimensions of sociality determine the behaviour of actors, namely grid and group. 'Grid' indicates the extent to which an actor functions within an externally imposed structure (that is, rules or regulations); a high grid refers to heteronomy, whereas a weak grid refers to self-determination. 'Group' indicates the extent to which an actor behaves as part of a defined group. A high group dimension means a group-bounded action, whereas a low group dimension means that an actor is ego-focused. These two dimensions are independent of each other, so a scheme composed of four distinct types of rationalities (sometimes called cultures, social solidarities, or ways of life)¹ emerges from them: egalitarianism; fatalism; hierarchism; and individualism (see Figure 3.2).

The term rationality means that all four responses are rational on their own, although they contradict each other. Cultural theory predicts that these four rationalities will always materialize in every social situation and are in a constant state of tension with one another (Ellis and Thompson, 1997; Bernhardsdóttir, 2015).

Each rationality has its own way of dealing with a situation, related to the grid and group dimension and to its perception of the world. The latter usually is depicted as a ball in a landscape. The ball represents the world, whereas the landscape represents its behavioural characteristics (Thompson, Ellis, and Wildavsky, 1990). A diagram of the ball and the landscape is used to explain the characteristics of each rationality below, as derived from cultural theory literature (Thompson et al., 1990; Hartmann, 2012).

¹ The term rationality is preferred here as it avoids misinterpretation with respect to cultural contexts in tourist destinations.

Figure 3.2. Cultural theory's grid/group scheme with four rationalities

Source: Hartmann (2012).

Egalitarianism visualizes the world on top of the hill in an unstable equilibrium. At this stage, any action – even with a low risk – is perceived as dangerous because it threatens the equilibrium. This rationality prefers self-determined and group-oriented actions. Consequently, egalitarianism types tend to work collaboratively to fulfil objectives. For them, output is more imperative than process. They prefer to make community, democracy, equality, and moral responsibility the basis for actions.

Similar to egalitarianism, *hierarchy* perceives the world as a threat. However, the ball in the landscape is not in an unstable equilibrium and there is some room for management. As long as the ball stays on top of the envisaged hill, everything is fine. Beyond these boundaries, the world is different owing to its fragile state. In this position, the rational response is to figure out the scope of the balance and to establish procedures and rules to keep the ball (that is, the world) on top. This correlates with the high grid (externally determined) of this rationality. Hierarchy types prefer clear structures within defined boundaries.

Individualism views the world as being in a quite stable equilibrium. Accordingly, trial and error is a possible mode of governance, and there is no inherent need to act as a group. Instead, self-determination and individual liberty are important. Some failures can be a trigger for future improvement. Individualism types are free of the obligations presented by bureaucracy and rules. They move liberally without a need to collaborate with other people inside or outside of the group. This rational response to the world is best understood by picturing a market-driven libertarian society, in which bravery, performance, and risk-taking behaviour pays off.

Fatalism believes the world to be too complex, so any reaction is difficult to predict. Fatalism is based on the idea that the world cannot be managed. Instead, fate, fortune, or luck determines outcomes. Fatalism, which typically is depicted by a ball in a flat landscape, is categorized as passive rationality where people mostly act alone, without asking to collaborate with the group.

These four rationalities provide a system of plausible rationalities, rather than demonstrably and empirically true rationalities (Dake, 1992; Hartmann, 2012). Like most social theories, cultural theory uses generalizations and simplifications to understand complexity and pluralism. The four rationalities make it possible to comprehend different rational ways of responding in various situations.

This study assumes that the responses of tourists can be distinguished using the four rationalities of fatalism, egalitarianism, hierarchy, and individualism. To analyse their behaviour in a time of disaster a methodology is required that encompasses the phenomena adequately.

3.3. Methodology

Indonesia was selected as the study area owing to its high frequency of natural disasters. The country ranks 12th among the top 35 countries with high mortality risks owing to multiple hazards. Approximately 40% of the total number of inhabitants is prone to relatively high vulnerability indices, such as vulnerability to earthquakes (10 deaths per 1 million inhabitants per year) and tsunamis (8 deaths per 1 million inhabitants per year). What is more, average annual economic losses are close to USD 250 million and slightly more than USD 440 million due to earthquakes and forest fires, respectively (United Nations Office for Disaster Risk Reduction, 2010). Lessons learned from the Indonesia case study regarding loss and risk could be applied to other regions.

Bali and Yogyakarta were chosen as the data collection sites because these two provinces have been promoting the tourism sector as their main economic driver, while at the same time being threatened by similar crises caused by natural disasters (see Figure 3.3). According to Widjaja (2015), natural hazards in Indonesia are of two types: geological, such as earthquakes, tsunamis, and volcanic eruptions; and hydrometeorological, such as droughts, floods, forest fires, landslides, and storms. This chapter uses five types of disasters to differentiate between the behaviour of tourists: cyclones; earthquakes; floods; tsunamis; and volcanic eruptions.

Figure 3.3. Map of Bali and Yogyakarta

Source: authors

Individuals were selected for data gathering via quota sampling, as random sampling could not be conducted because it was impossible to delineate the whole population of tourists. To minimize bias, respondents were categorized based on their continent of origin, producing a pool of about 40–60 respondents for each study site. Surveys were done in the low season – one should note the possibility of a different result if the research was performed at a different seasonal time. The sample was gathered at random by considering the dimensions of age, gender, and nationality, with a proportional allocation of tourists in each. The interviews took place at popular spots in the tourist destinations, such as beaches, cafés, and temples. This approach ensured that the research was done under conditions close to a real disaster situation; the tourists were in situ, were engaging in tourism activities, and answered in spontaneous ways.

The questionnaire consisted of two sections: general information; and tourist responses. The general information section included questions on age, education, gender, length of stay, origin, and reason for and time of visit, whereas the tourist response section included questions on the possibility of a natural disaster at the location, such as a cyclone, earthquake, flood, tsunami, or volcanic eruption. An open question was posed about reactions should a disaster occur during a trip to Bali or Yogyakarta. The individual responses were linked using the categorization of rationalities.

The respondents completed 800 questionnaires in total. However, only 537 were answered completely – by 295 respondents (55%) in Bali and 242 (45%) in Yogyakarta. The tourists were not bound geographically since many of them said that they had visited Bali and Yogyakarta during their visit. Indonesian tourists were not included in the Asia category, but they were classified independently as a single category of domestic respondents. Of the 537, 302 (56.2%) were male and 235 (43.8%) were female, 111 (20.7%) were from Europe, 77 (14.3%) were from Asia, 68 (12.7%) were from the Americas, including Central America, and 60 (11.2%) were from Australia. The majority of domestic and foreign respondents were 20–29 years old (49.2%), followed by less than 20 years old (16.9%), 30–39 years old (16%), and more than 40 years old (slightly more than 18%). Most of the domestic and foreign respondents had completed high school education (99.3%), while 0.7% had not. The majority of respondents were first-time visitors to Indonesia: 325 (56.6%). Of the remainder, 28.1% had visited the country more than three times. Table 3.1 shows the sample distribution.

Table 3.1. Sample distribution

Gender	Percentage of respondents	Number of respondents	Age	Percentage of respondents	Number of respondents	Continent	Percentage of respondents	Number of respondents
Male	56.2	302	< 20	16.9	91	Asia ¹	14.3	77
Female	43.8	235	20–29	49.2	264	Africa ²	1.5	8
			30–39	16	86	Americas ³	12.7	68
			40–49	9.1	49	Europe ⁴	20.7	111
			50–59	8.4	45	Australia ⁵	11.2	60
			> 60	0.4	2	Domestic ⁶	39.7	213
Total	100	537		100	537		100	537

Notes:

¹ China, Hong Kong, India, Japan, , Malaysia, Saudi Arabia, Singapore, South Korea, Thailand, and Vietnam.

² Democratic Republic of the Congo, Madagascar, South Africa, Sudan, Tanzania, and Tunisia.

³ Argentina, Brazil, Canada, Chile, Czech Republic, Mexico, Paraguay, Peru, United States, and Uruguay.

⁴ Austria, Belgium, Denmark, Finland, France, Germany, Netherlands, Ireland, Italy, Portugal, Russia, Spain, Sweden, Swiss, Ukraine, and United Kingdom.

⁵ Australia and New Zealand.

⁶ Indonesia.

Source: authors.

This research focuses on the responses of tourists based on the country of origin, education, and gender categorizations. The reactions of foreign and local tourists were analysed in the same way, as they tend to react similarly in emergencies (Pizam and Reichel, 1996).

3.4. Findings and discussion

The results show that although tourists respond to disasters in very different ways, they see them as rational. Interviewees provided responses to questions concerning hypothetical disasters and their answers were grouped and assigned to the four rationalities (see Figure 3.4).

Figure 3.4. Relating dominant answers to rationalities
Source: authors, adapted from Hartmann (2012).

3.4.1. Rationalities based on type of disaster

The responses of tourists varied considerably depending on the type of disaster (see Table 3.2). In the case of a tsunami, the most frequent rationality (72.6%) was individualism, with answers such as 'hide' and 'look for an evacuation route'. Many respondents said that they would run as far as they could from the ocean. The next

most frequent rationality (20.7%) was fatalism, with answers such as 'panic', 'I don't know', 'surrender', and 'pray'.

Similarly, in the case of an earthquake, the most frequent rationality was individualism (65.2%), with answers such as 'look for a table and protect my head' (18.8%) and 'go to an open area' (15.6%). Interviews revealed that while some of the participants had a good understanding of information on past disasters, most of them had no idea how to react should one occur.

In the case of a volcanic eruption, 45.8% said that they would 'run away and evacuate the area'. This was followed by 'I don't know' (16.2%) and 'no answer' (15.5%), indicating that they did not know what they would do if such an event happened at their destination. Responses such as 'take a 'selfie' and 'very exciting' reflect ignorance of the risk in the area being visited. The most common rationality in this category was individualism (55.1%), followed by fatalism (38.5%), egalitarianism (3.7%), and hierarchism (2.6%).

In the case of flooding, the most frequent rationality (64.2%) was individualism, with answers such as 'stay at home', 'run away', 'evacuate', 'find the higher ground', and 'save the things'. The second most dominant rationality (27.4%) was fatalism, with answers such as 'I think that will never happen', 'pray', and 'I don't know, let's just see'. The remainder was divided between egalitarianism (6.3%), with answers such as 'help my friends and family' and 'remove the rubbish resulting from the flood', and hierarchism (2.1%), with answers such as 'follows the instructions of the authorities'.

In the case of a cyclone, the most frequent rationality (55.1%) was individualism, with answers such as 'get in the building', 'escape and evacuate', 'stay indoors', and 'run away.' This was followed by fatalism (38.5%), with answers such as 'it will never happen to me', 'nothing to do', and 'pray'. Some responses reflected ignorance that a hurricane could strike a small island because visitors thought that should an event could happen only on the mainland.

Table 3.2. Respondents' reactions to different types of disasters

Category of disaster	Behavioural responses	Number	Percentage	Examples
Tsunami	Fatalism	111	20.7	Panic, I don't know, surrender, pray
	Hierarchism	14	2.6	Wait for instructions
	Individualism	390	72.6	Hide, look for an evacuation route, find open space, evacuate far away swim
	Egalitarianism	22	4.1	Help other tourists, help the community
Earthquake	Fatalism	146	27.2	I don't know, pray
	Hierarchism	19	3.5	Call the police and seek advice
	Individualism	350	65.2	Get in the water, lay down, go to an evacuation route, escape from the building, go to an open area, look for a table and protect my head
	Egalitarianism	22	4.1	Helps others
Flood	Fatalism	147	27.4	I think that will never happen, pray, I don't know, let's just see
	Hierarchism	11	2.1	Follow the instructions of the authorities
	Individualism	345	64.2	Stay at home, run away, evacuate, find the higher ground, save the things
	Egalitarianism	34	6.3	Help my friends and family, remove the rubbish resulting from the flood
Volcanic eruption	Fatalism	188	35.0	Very exciting, take a selfie, dive into the sea, I don't know what to do, I never think about that, pray
	Hierarchism	20	3.7	Call the police and authorities
	Individualism	305	56.8	Find higher ground, return to my home country, stay inside, run away
	Egalitarianism	24	4.5	Help others

Category of disaster	Behavioural responses	Number	Percentage	Examples
Cyclone	Fatalism	207	38.5	It will never happen, nothing to do, pray
	Hierarchism	14	2.7	Follow instructions on radio and television
	Individualism	296	55.1	Get in the building, escape and evacuate, stay indoors, run away
	Egalitarianism	20	3.7	Help to evacuate people

Source: authors.

Finally, the dominant response to all natural disasters was to protect one's self first. With regard to a cyclone, earthquake, tsunami, and volcanic eruption, the dominant reaction of respondents was linked to individualism, meaning that they would try to secure their own safety. As for flooding, the dominant response was related to fatalism. The fundamental point that can be drawn from the data is that in all types of disasters, there are always four behavioural categories. To prepare tourists better for such events, a planner should thus consider the diversity of behaviour.

3.4.2. Rationalities based on the origin of tourists

The results indicate a different dominant rationality for continent of origin. The study identified two categories: domestic; and foreign. Foreign tourists were further classified into five regions based on their continent of origin, that is, African, American, Asian, Australian and Pacific, and European.

Data from the field (see Table 3.3) reveals that respondents from Indonesia generally opted for individualism in all types of natural disasters. Fatalism came second, followed by egalitarianism. Only a few chose hierarchism, which means that local travellers prefer to take action personally and individually when a disaster strikes an area. Hardly anyone considered contacting the authorities.

Table 3.4 and Figure 3.5 show foreign tourist responses to different types of disasters. The dominant preference of Asian tourists was individualism, such as evacuating the area, finding shelter, and running away. For a cyclone, though, it was fatalism, including not knowing what to do and responding with apathy. Egalitarianism and hierarchism were selected by less than 4% of all respondents.

Tourists from Africa responded in two ways to a tsunami and a flood: 87.5% chose individualism and 12.5% chose fatalism. For an earthquake, 75% would respond on the basis of individualism, whereas 12.5% would respond on the basis of fatalism and egalitarianism in either instance. For cyclones, 62.5% would respond on the basis of fatalism while 37.5% would respond on the basis of individualism.

Table 3.3. Responses of domestic tourists to different types of disasters

Disaster category	Fatalism		Hierarchy		Individualism		Egalitarianism		Total
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	
Tsunami	42	19.72	0	0	153	71.8	18	8.45	213
Earthquake	51	23.94	9	4.23	136	63.8	17	7.98	213
Flood	41	19.25	2	0.94	140	65.7	30	14.08	213
Volcanic eruption	49	23.00	3	1.41	141	66.2	20	9.39	213
Cyclone	55	25.82	1	0.47	139	65.3	18	8.45	213

Source: authors.

Figure 3.5. Distribution of country of origin for each rationality
Source: authors.

American tourists would respond mostly on the basis of individualism in the case of an earthquake (64.7%), tsunami (55.9%), and volcanic eruption (48.5%). They would respond mainly on the basis of fatalism to a cyclone (50.0%) and on the basis of fatalism (47.1%) and individualism (47.1%) to a flood.

Tourists from Europe would respond primarily to a disaster on the basis of individualism, followed by fatalism, hierarchy, and egalitarianism. However, the individualism percentage is higher than that for American, Asian, and Australian tourists, but lower than that for African tourists.

The pattern for Australian and Pacific tourists was similar to that for American tourists: individualism scored highest, followed by fatalism. Egalitarianism was higher for a tsunami than other types of disasters and higher than hierarchy.

Table 3.4. Responses of foreign tourists to different types of disasters

Disaster category	Fatalism		Hierarchy		Individualism		Egalitarianism		Total
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	
Asia									
Tsunami	16	20.78	3	3.90	57	74.03	1	1.30	77
Earthquake	24	31.17	1	1.30	51	66.23	1	1.30	77
Flood	31	40.26	2	2.60	42	54.55	2	2.60	77
Volcanic eruption	39	50.65	1	1.30	36	46.75	1	1.30	77
Cyclone	50	64.94	3	3.90	24	31.17	0	0.00	77
Africa									
Tsunami	1	12.50	0	0.00	7	87.50	0	0.00	8
Earthquake	1	12.50	0	0.00	6	75.00	1	12.50	8
Flood	1	12.50	0	0.00	7	87.50	0	0.00	8
Volcanic eruption	4	50.00	0	0.00	4	50.00	0	0.00	8
Cyclone	5	62.50	0	0.00	3	37.50	0	0.00	8
America									
Tsunami	21	30.88	3	4.41	44	64.71	0	0.00	68
Earthquake	26	38.24	3	4.41	38	55.88	1	1.47	68
Flood	32	47.06	3	4.41	32	47.06	1	1.47	68
Volcanic eruption	29	42.65	5	7.35	33	48.53	1	1.47	68
Europe									
Cyclone	34	50.00	3	4.41	31	45.59	0	0.00	68
Australia and Pacific									
Tsunami	15	13.51	7	6.31	88	79.28	1	0.90	111
Earthquake	23	20.72	2	1.80	84	75.68	2	1.80	111
Flood	24	21.62	3	2.70	83	74.77	1	0.90	111
Volcanic eruption	42	37.84	7	6.31	60	54.05	2	1.80	111
Cyclone	43	38.74	5	4.50	62	55.86	1	0.90	111
Africa									
Tsunami	16	26.67	1	1.67	41	68.33	2	3.33	60
Earthquake	21	35.00	4	6.67	35	58.33	0	0.00	60
Flood	18	30.00	1	1.67	41	68.33	0	0.00	60
Volcanic eruption	25	41.67	4	6.67	31	51.67	0	0.00	60
Cyclone	20	33.33	2	3.33	37	61.67	1	1.67	60

Source: authors.

The findings reveal that tourists from Indonesia would have a more egalitarianism response to a disaster, such as helping a family and the people around them, whereas foreign tourists are more individualistic, particularly those from Africa and Europe. The majority of fatalism and hierarchism responses came from American tourists; the majority of egalitarianism responses came from Asian tourists.

3.4.3. Response rationalities of tourists

Individualistic: run and find the safest place

Individualistic tourists will run and find the safest evacuation site in the event of a disaster. These respondents, which gave answers such as 'find a firm table to hide under' when an earthquake occurs, have a lot of confidence in their own ability to solve problems in an emergency and to look after themselves, without seeking assistance from other people or from the authorities. They will react individually and as soon as possible to diminish a problem. The variety of answers, such as finding a safe and high building in the case of a tsunami, and staying indoors in the case of a cyclone, showed the nature of their intuition, guiding them to take action to survive.

Some respondents would prefer to return to their home country as soon as possible after a disaster. Owing to uncertainty concerning infrastructure and the availability of facilities following a disaster, this preference represents a challenge. Notably, almost all of the infrastructure and facilities in Aceh, Indonesia, were damaged by the Indian Ocean tsunami in 2004, making it difficult for tourists to go home.

Nonetheless, individualistic responses are consistent and rational in themselves, although they might not be in accordance with disaster management plans. It is crucial to understand this fact before reacting to these types of disasters.

Hierarchical: wait for instructions

Hierarchical tourists will stay in place and wait for the authorities to tell them what to do when a disaster occurs. They tend to follow procedures and not to take action without guidance or instructions from the authorities, such as community leaders, police officers, or rescue teams. They believe that institutions will solve their problems.

As non-local residents, the dependency of tourists on local authorities is quite high. The highest incidence in this regard was for a cyclone, followed by a volcanic eruption and an earthquake. Interestingly, in the case of a tsunami, a majority of respondents said that they would take action themselves, rather than waiting for instructions from the authorities. A key reason in this regard appears to be the limited time available for evacuation.

That various tourists generally depend on local authorities means that the government should provide the necessary systems to safeguard them. With respect to a tsunami, for example, the early warning system and signage should meet tourists' needs. Some tourists said that they would not know to where to escape, but that they believe that the local authority would have the necessary evacuation plan in place. Some said that they would use a list of contacts to call the police and ambulance service, while others said that they would turn on the radio and television to obtain information about what to do.

The authorities have put physical signs on several beaches in Bali, such as Kuta, Sanur, and Tanah Lot, to highlight evacuation routes and meeting points in the area, especially in the most popular destinations. A number of signs for tourists are also on display in hotels, with many of them listing the important numbers to call in an emergency. However, some tourists said that only very limited signs and information were available in unclassified hotels.

Hierarchism is therefore a rationality that is highly responsive to disaster management procedures. However, standard operating procedures need to be developed and promoted among tourists, otherwise these types of people will be seriously vulnerable. It is important to recognize that a lot of disaster management preparations only target this group.

Egalitarianism: help others

Tourists who visit an area with a family or a group tend to react in an egalitarian way, showing responsibility for others. A typical response in an emergency would be: 'I will help my family, my friends, and the people around me'. Some tourists said that they would also help to raise funds to aid local people with post-disaster recovery. They would not only think about themselves in such a situation; they would try to survive through collective, rather than individual, action.

Some respondents answered questions from the perspective of being a member of a rescue team, rather than a victim. Their tendency was to think about the safety of others. Responses included: 'I would escape and help people to escape'. The proportion of 'help others' answers ranged from around 2.5–3.7% in all disaster categories, with the lowest being for a cyclone and the highest being for a flood. Helping others reveals interaction between tourists and local residents. Some respondents said that they would help not only friends made while on holiday, but also local residents in surrounding areas.

Helping others can indicate higher social capital. A stronger interrelation between tourists and local residents is important for community resilience and for decreasing

the vulnerability of tourist destinations. While tourists are not bound by responsibility for local residents, the tourism provider has a responsibility to keep tourists safe.

That tourists would help local residents in a disaster is an interesting finding and one that should be explored further, not least because of the type of assistance that tourists can provide. Notably, they tend to have relatively limited knowledge of the destination areas, except for returning visitors, and local community members face different threats and have different needs to them. According to Magis (2010, p. 402), collective action is an important determinant of community resilience, which is defined as the 'existence, development, and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability and surprise'.

Fatalistic: pray, feel sad, panic, and take a picture

Fatalists see nature as complex and unpredictable, and hence their disaster response is ad hoc. This type of tourist is unprepared for a disaster. When asked what they would do in the event of a tsunami, they answered: 'it is difficult to predict and depends on my faith'. This reflects their low awareness of anything that might happen in an emergency, owing to them ignoring the consequences. While a tsunami may not impact on a hotel, there may be some indirect ramifications for a city, such as power cuts and road failures. These tourists believe that a tsunami will not affect them, so precautions are unnecessary.

Several respondents said that they would pray if a disaster occurred during their trip. They said that a natural disaster could not be predicted, but if one were to happen, they would stay put and pray, rather than panic. Many reported that they would 'pray to God'.

Fatalistic tourists do not rely on the government or local authority in these circumstances. They trust in fate as a response to world phenomena, and believe that prayer is the solution to unpredictable happenings, because disasters are unplanned and beyond human control. Praying is seen as a way to minimize the panic and stress. This is part of an individual capacity that can also be a determinant of strength in an emergency.

To understand resilience, according to Smit and Wandel (2006), one needs to change the paradigm from governing seemingly steady community systems to managing the capacity of dynamic communities to cope with, adapt to, and shape change.

Those in charge could reduce panic and stress among tourists by including, for instance, a religious symbol in various languages on an evacuation sign. This idea

has already been taken up by some airlines operating in Indonesia. Lion Air, for instance, inserts a poster in seat pockets on how to pray in five religions.

Another discussion focused on religious beliefs as a way of eliminating panic in an emergency concerns their association with cultural capital, including the interplay of norms as individuals interact with the world system (Magis, 2010). Cultural capital is symbolized by art, beliefs, customs, and language. Those respondents who stated that they 'pray and do *adzan*'² demonstrated a belief in *adzan* as part of their approach to confronting problems. They believe in the power of the call to prayer to create calm and to prevent panic and encourage followers to be calm and contemplative. Furthermore, when they hear the *adzan*, Muslims find peace in their hearts, which may augment their chances of finding evacuation routes and following the instructions of local authorities, thus increasing their chances of survival.

Generally, the reactions of tourists revolved around finding a way to survive and evacuate. However, the number of 'I don't know' and 'I have no idea' answers across all types of disasters pointed to a lack of disaster response knowledge and education. The percentage of those answers in each disaster category was also relatively high (approximately 10–15%). Some tourists said that they did not know what they would do if a disaster happened, since they lacked knowledge of previous disasters in the area. They do not plan for a disaster or expect anything untoward to happen: 'I have no idea' or 'I'll just see and whatever happens, just happens' were common answers. Some respondents also underlined that they did not want to reflect on what might occur. Besides saying 'I don't know', some respondents were pessimistic about the possibility of a natural disaster, believing that the probability was low. As noted, some tourists thought that a hurricane could not happen on the small islands of Indonesia because it only happened on the mainland. A hurricane certainly could strike the whole of Indonesia, of course. In the case of a volcanic eruption, they thought that there was sufficient distance between the mountain and their hotel, meaning that they were probably safe. While it was true in some cases that tourists would be less directly affected, some indirect impacts are possible, such as airports having to close owing to the presence of pyroclastic material that makes flights dangerous.

It is essential; therefore, that disaster management cover all rationalities. No response is irrational or ignorant per se; each one is highly consistent from an internal standpoint and is logical in itself, although irrational from all other perspectives. In addition, disaster management should incorporate all parties that may be affected by a disaster. In residential areas, the parties in question are the community members

² A call to prayer in Islam, usually *adzan*, is issued five times per day.

living there. At tourist destinations, though, the parties are not only local community members, but also foreign visitors.

3.5. Conclusion

The different responses of tourists to disasters should be at the heart of a disaster management strategy, as they are an essential stakeholder group. This research reveals, however, the inhomogeneous nature of tourists' responses to disasters and provides a framework, based on cultural theory, which not only avoids labelling their different responses as irrational, but also helps to structure them. Ultimately this can contribute to more tailored and effective disaster management.

The most crucial points for discussion are, first, that current disaster management planning largely follows a single rationale. Existing plans see tourists as one community and do not consider the foundations of their behaviour. The response scenarios have largely provided solutions for *hierarchical* tourist behaviour – that is, those who tend to wait for the local authorities to provide equipment, facilities, and infrastructure. These people have not considered other rationalities and are travelling without having made any safety preparations – in other words 'without a helmet'. In the study areas, the government had created evacuation routes and erected directional signs and nine tsunami towers close to the beaches of Kedongan, Kuta, Nusa Dua, Peti Tenget, Sanur, Seminyak, Serangan, Seririt, Tanah Lot, and Tanjung Benoa (Hasan, 2006). The Bali provincial government (regional disaster preparedness board) had also established disaster readiness certification for hotels on the island, which provides them with the necessary equipment, infrastructure, and staff training to cope with a disaster (Sukarelawanto, 2014). Several questions remain, though, such as how many people will recognize the infrastructure and how many people will be familiar with the sound of a tsunami tower siren, signalling that they need to evacuate the ocean area. The results of the survey indicate that less than 10% of respondents would follow the instructions of the authorities in an emergency. This finding raises questions about the effectiveness of such expensive investments.

Second, tourists are not a homogeneous group, but rather a complex, diverse, and dynamic body of stakeholders. Four categories of tourists have been identified: those dependent on the local authority (hierarchy); those who act for themselves (individualism); those who do not act and do not know how to act (fatalism); and those who act for other people (egalitarianism). Consequently, there is no single catch-all response for tourists who confront natural hazards. Each tourist thinks that he or she will react differently and has reasons for their behaviour. Future research should explore more of these determining factors, both with regard to the tourism

discipline and to other realms such as psychology. Masten (2001) and Luthar (2015), for instance, note that, in the face of a grave threat or adversity, the ability to continue thinking and planning is important for the resilience of children and adults. This is difficult to apply in relation to planning for tourists, however, owing to their dynamic mobility pattern. Moreover, it could lead researchers to make too many generalizations in interpreting the results of the survey. Nevertheless, this study found that tourists are likely to react in different ways to similar disasters in another area, and may react in similar ways to different types of hazards, increasing the level of complexity, as reactions to every event occur in congruently helpful ways. For instance, people are encouraged to leave a building during an earthquake whereas people are encouraged to remain indoors during a cyclone.

Tourists' behavioural responses can be framed using the four rationalities of cultural theory. Employing the grid/group scheme and the corresponding rationalities helps one to understand the thinking behind tourists' behavioural responses.

Third, the focus of disaster management planning should shift from a single rationale to a polyrational methodology. The four types of responses require that disaster management incorporate approaches not only for hierarchy, but also for egalitarianism, fatalism, and individualism. This essentially requires rethinking contemporary approaches to bring them more in line with polyrational disaster management. According to Masten and Obradovic (2008), macro systems, such as governments, media, and religions, have a functional presence in the expectations, knowledge, hopes, training, and values of the person in the adverse situation. This research extends this argument by adding that the human perspective must be elaborated upon and different responses adopted in order to alter an existing planning paradigm.

Moreover, the human perspective is diverse and polyrational, suggesting that disaster management should shift from focusing only on the tourists who are in the egalitarianism and hierarchy categories and also consider those who are in the fatalism and individualism quadrants. A reasonable approach to tackle the polyrationality of disaster preparedness is to incorporate plans for the egalitarianism, fatalism, and individualism types of tourists. This will necessitate the transfer of attention from only one or two groups and require too an understanding of the rationale behind the behaviour of tourists.

This chapter contends that tourism planners should collaborate with disaster management practitioners to make changes. Yet, considering other kinds of tourist behaviour and not concentrating on just one single rationale may not go down well with tourism planners. Thompson (1997) points out that this suggests a move from single solidarity (neoclassical economics) to two solidarities (new institutional

economics) to four solidarities (cultural theory), so the incorporation of individuals at the micro level becomes more and more of an issue.

This chapter enhances one's understanding of the complex, diverse, dynamic, and unique responses of tourists by reassessing the preparedness phase in the disaster lifecycle (Baker, Cormier, and Cormier, 2014) and disaster management planning for tourism (Ritchie, 2008). All tourists would be better off if they were prepared when they travel – in other words, with their helmets on. Further studies are needed to investigate the individual determining factors of the rationality, such as the country of origin and the number of previous visits to a particular destination, as well as knowledge of hazards among tourists and their preferences when visiting cultural or natural attractions.

References

- Abdullah, M., A.D. Al-Nasser, and N. Husain. (2000). Evaluating functional relationship between image, customer satisfaction and customer loyalty using general maximum entropy. *Total Quality Management*. 11(4–6). pp. 826–829.
- Baker, L., L.A. Cormier, and L. Cormier. (2014). *Disasters and Vulnerable Populations: Evidence-based Practice for the Helping Professions*. Springer Publishing Company, New York, NY.
- Bernhardsdóttir, Á.E. (2015) *Crisis-related Decision-making and the Influence of Culture on the Behavior of Decision Makers: Cross-cultural Behavior in Crisis Preparedness and Response*. Springer International AG, Cham.
- Cai, L.A., B.T. Wu, and B. Bai. (2003). Destination image and loyalty. *Tourism Review International*. 7(3–4). pp. 153–162.
- Campiranon, K. and N. Scott. (2007). Factors influencing crisis management in tourism destinations. In E. Laws, B. Prideaux, and K.S. Chon *Crisis Management in Tourism*. Centre for Agriculture and Biosciences International, London. pp. 142–156.
- Cassedy, K. (1991). *Crisis Management Planning in the Travel and Tourism Industry: A Study of Three Destination Cases and a Crisis Management Planning Manual*. Pacific Asia Travel Association, San Francisco, CA.
- Cioccio, L. and E.J. Michael. (2007). Hazard or disaster: tourism management for the inevitable in Northeast Victoria. *Tourism Management*. 28(1). pp. 1–11.
- Dake, K. (1992). Myths of nature: culture and the social construction of risk. *Journal of Social Issues*. 48(4). pp. 21–37.
- Đeri, L., J. Plavša, and S. Čerović. (2007). Analysis of potential tourists' behaviour in the process of deciding upon a tourist destination based on a survey conducted in Ba-ka region. *Geographica Pannonica*. 11. pp. 70–76.
- Douglas, M. (1978). *Cultural Bias*. Royal Anthropological Institute, London.
- Douglas, M. and A. Wildavsky. (1983). *Risk and Culture: An Essay on the Selection of Technological and Environmental Dangers*. University of California Press, Berkeley, CA.
- Drabek, T.E. (1992). Variations in disaster evacuation behavior: public responses versus private sector executive decision-making processes. *Disasters*. 16(2). pp. 104–118.
- Ellis, R.J. and M. Thompson. (1997). *Culture Matters: Essays in Honor of Aaron Wildavsky*. Westview Press, Boulder, CO.
- Ghaderi, Z., A.P.M. Som, and J.C. Henderson. (2012). Tourism crises and island destinations: experiences in Penang, Malaysia. *Tourism Management Perspectives*. 2–3(April–July). pp. 79–84.
- Hartmann, T. (2012). Wicked problems and clumsy solutions: planning as expectation management. *Planning Theory*. 11(3). pp. 242–256.

- Hasan, R. (2006). Bali Pasang Enam Tower Peringatan Tsunami. *Tempo*. 19 July. <https://nasional.tempo.co/read/80352/bali-pasang-enam-tower-peringatan-tsunami> (last accessed on 26 February 2018).
- Hunter-Jones, P., A. Jeffs, and D. Smith. (2008). Backpacking your way into crisis: an exploratory study into perceived risk and tourist behaviour amongst young people. *Journal of Travel and Tourism Marketing*. 23(2–4). pp. 237–247.
- Jang, L., J. Wang, D. Paton, and N. Tsai. (2015). Cross cultural comparisons between the earthquake preparedness models of Taiwan and New Zealand. *Disasters*. 40(2). pp. 327–345.
- Kandampully, J. and D. Suhartanto. (2000). Customer loyalty in the hotel industry: the role of customer satisfaction and image. *International Journal of Contemporary Hospitality Management*. 12(6). pp. 346–351.
- Kasdan, D.O. (2016). Considering socio-cultural factors of disaster risk management. *Disaster Prevention and Management*. 25(4). pp. 464–477.
- Kearns, C. (2011). Review of comparative emergency management: examining global and regional responses to disasters. *Journal of Homeland Security and Emergency Management*. 8(1). <https://doi.org/10.2202/1547-7355.1969> (last accessed on 26 February 2018).
- Kelman, I., R. Spence, J. Palmer, M. Petal, and K. Saito. (2008). Tourists and disasters: lessons from the 26 December 2004 tsunamis. *Journal of Coastal Conservation*. 12(3). pp. 105–113.
- Lauras, M., S. Trupitil, and F. Bénaben. (2015). Towards a better management of complex emergencies through crisis management meta modelling. *Disasters*. 39(4). pp. 687–714.
- Lockhart, C. (1999). Cultural contributions to explaining institutional form, political change, and rational decisions. *Comparative Political Studies*. 32(7). pp. 862–893.
- Luthar, S.S. (2015). Resilience in development: a synthesis of research across five decades. In D. Cicchetti and D.J. Cohen (eds.) *Developmental Psychopathology*. Second edition. John Wiley and Sons, Inc., Hoboken, NJ. pp. 739–795.
- Magis, K. (2010). Community resilience: an indicator of social sustainability. *Society and Natural Resources*. 23(5). pp. 401–416.
- Masten, A.S. (2001). Ordinary magic: resilience processes in development. *American Psychologist*. 56(3). pp. 227–238.
- Masten, A.S. and J. Obradovic. (2008). Disaster preparation and recovery: lessons from research on resilience in human development. *Ecology and Society*. 13(1). p. 9.
- Muskat, B., H. Nakanishi, and D. Blackman. (2014). Integrating tourism into disaster recovery management. In B. Ritchie and K. Campiranon (eds.) *Tourism Crisis and Disaster Management in the Asia-Pacific*. Centre for Agriculture and Biosciences International, London. pp. 97–115.
- O'Leary, S. and J. Deegan. (2005). Ireland's image as a tourism destination in France: attribute importance and performance. *Journal of Travel Research*. 43(3). pp. 247–256.
- Paton, D. and D. Johnston. (2006). *Disaster Resilience: An Integrated Approach*. Charles C. Thomas Publisher Ltd., Springfield, IL.
- Phillips, B.D. and B.H. Morrow. (2007). Social science research needs: focus on vulnerable populations, forecasting, and warnings. *Natural Hazards Review*. 8(3). pp. 61–68.
- Pizam, A. and A. Reichel. (1996). The effect of nationality on tourist behavior: Israeli tour-guides' perceptions. *Journal of Hospitality and Leisure Marketing*. 4(1). pp. 23–49.
- Quarantelli, E.L. (1979). Some needed cross-cultural studies of emergency time disaster behaviour: a first step. *Disasters*. 3(3). pp. 307–314.
- Ritchie, B. (2008). Tourism disaster planning and management: from response and recovery to reduction and readiness. *Current Issues in Tourism*. 11(4). pp. 315–348.
- Ritchie, B. (2009). *Crisis and Disaster Management for Tourism*. Channel View Publications, Bristol.
- Sirakaya, E. and A.G. Woodside. (2005). Building and testing theories of decision making by travelers. *Tourism Management*. 26(6). pp. 815–832.
- Smit, B. and J. Wandel. (2006). Adaptation, adaptive capacity and vulnerability. *Global Environmental Change*. 16(3). pp. 282–292.
- Sukarelawanto, E. (2014). Pariwisata Bali: Baru 15 Hotel Kantongi Sertifikat Bencana. *Bali*. 30 October. <http://bali.bisnis.com/read/20141030/17/47623/pariwisata-bali-baru-15-hotel-kantongi-sertifikat-bencana> (Last accessed on 16 February 2018).
- Thompson, M. (1997). Cultural theory and integrated assessment. *Environmental Modeling and Assessment*. 2(3). pp. 139–150.
- Thompson, M., R. Ellis, and A. Wildavsky. (1990). *Cultural Theory*. Westview Press, Boulder, CO.
- United Nations General Assembly. (1948). *Universal Declaration of Human Rights*. United Nations General Assembly, New York, NY.
- United Nations Office for Disaster Risk Reduction. (2010). Making cities resilient: my city is getting ready'. World Disaster Reduction Campaign, 2010–11. <https://www.unisdr.org/campaign/resilientcities/> (last accessed on 16 February 2018).
- United Nations Office for Disaster Risk Reduction. (2013). *Global Assessment Report on Disaster Risk Reduction 2013*. United Nations Office for Disaster Risk Reduction, Geneva.
- US Department of Homeland Security. (2013). *National Response Framework*. Second edition. May. https://www.fema.gov/media-library-data/20130726-1914-25045-8516/final_national_response_framework_20130501.pdf (Last accessed on 8 February 2018).
- US Department of Homeland Security. (2015). *National Preparedness Goal*. Second edition. September. https://www.fema.gov/media-library-data/1443799615171-2aae90be55041740f97e8532fc680d40/National_Preparedness_Goal_2nd_Edition.pdf (Last accessed on 16 February 2018).
- Van Hoving, D. J., Wallis, L. A., Docrat, F., & De Vries, S. (2010). Haiti disaster tourism – a medical shame. *Prehospital and Disaster Medicine*, 25(3), 201–202.
- Widjaja, B.W. (2015). Kunjungan Pegawai Pemerintah Korea ke BNPB. Badan Nasional Penanggulangan Bencana. 6 August. <https://www.bnpb.go.id/kunjungan-pegawai-pemerintah-korea-ke-bnpb> (Last accessed on 16 February 2018).

4

Under the Volcano: Responses of a Community-Based Tourism Village to the 2010 Eruption of Mount Merapi, Indonesia

This chapter is published as Rindrasih, E. (2018). Under the Volcano: Responses of a community-based tourism village to the 2010 eruption of Mount Merapi. *Sustainability*, 10(5),1620.

Abstract

This chapter assesses the responses of community-based tourism (CBT) and local governments to natural disasters. The tourism community in rural areas that are at high risk of natural disasters is largely overlooked in the literature on tourism and disaster management. It can be argued that CBT management is vulnerable to such natural disasters and, therefore, its presence should be considered in the recovery process. Time series observations and in-depth interviews were performed in Pentingsari village on the slopes of Mount Merapi, a stratovolcano in Yogyakarta, Indonesia. The findings show that the local government's preparation plans were focused only on disaster management, in general, and that it had only reactive programmes for tourism recovery. Moreover, CBT was able to respond and recover from the disaster by transforming the tourism destination with support from external agencies. In other words, it is concluded that transformation of the destination, organization, and human and community factors have taken place in the community-based tourism that leads to the post-disaster resilience.

Keywords: community-based tourism; resilience; recovery; transformation; eruption; disaster

4.1. Introduction

Many tourist destinations experience a wide range of stress factors, including natural disasters, simultaneously (Berke & Beatley, 1997). Natural disasters influence the willingness of tourists to visit an affected destination, because their perception of the destination as a non-safe area discourages them from travelling. Proactive planning within the tourism industry could minimize this negative impact (Faulkner & Vikulov, 2001; Hystad & Keller, 2008; Ritchie, 2009). For mature destinations with a stable market and decent management, such crises might be easier to handle. However, for small tourist destinations managed by the community in more 'communal' ways, the recovery from crises may have different dynamics and be more challenging.

For over three decades, community-based tourism (CBT) has been popularized as a way of development in the local community that offers the collaboration of the social, environmental, and economic dimensions by providing a tourism product (Goodwin & Santilli, 2009). CBT is presented as an alternative to mainstream tourism, and it has such attractiveness that it has rarely been subjected to critical review. However, one point of attention is that many CBT destinations are located in areas that are at high risk of natural disasters, such as floodplains, coastal areas, and the slopes of volcanoes. The risk of a natural disaster may lead to the vulnerability of rural communities due to livelihood disruption, as has been shown for Thailand, where local communities have had difficulty recovering from the tsunami (Calgaro, Pongponrat, & Naruchaikusol, 2009) and in Merapi, post-eruption (Rahman, Nurhasanah & Nugroho, 2016). Therefore, the process of recovery from natural disasters in CBT locations should be explored to help CBT communities in other areas to successfully design, manage, and demonstrate the potential of tourism as an alternative livelihood strategy following a disaster.

In the context of the resilience and post-disaster recovery of a tourism destination, there are some gaps in the literature that require further investigation. First, the discussion on CBT in dealing with natural disasters is relatively new because more attention has been paid to private entrepreneurship in cities and government-based tourism management. Second, tourism recovery studies are more focused on marketing strategy recovery and getting tourists to come back, and there is only limited discussion of product and institutional coping strategies. This chapter assesses the CBT responses to the recent (2010) eruption of Mount Merapi, focusing on Pentingsari, a village tourism community located on its slopes, and fills the gaps in the discussion on tourism and disaster management. Two questions are addressed in this chapter: (i) How did the local government and community respond to the

Merapi eruption in 2010 in the CBT village? (ii) How has the transformation taken place in the CBT village post-disaster?

The chapter is structured as follows: The following section reviews the literature on CBT. Section 3 discusses the methods used to gather and analyses the data. Section 4 provides the context of the research setting of the Merapi eruption and its impact on the region's tourism. Section 5 explains the findings and analyses the government's and the community's responses. Section 6 discusses the implications of the findings for the academic debate about tourism and community resilience. The section 7 presents the conclusion and outlines some implications for future research.

4.2. Community-based Tourism and Natural Disasters

The management of crises and disasters in general mostly comprises three stages: (1) planning and preparation actions before a disaster event; (2) response to or management of a disaster as it happens; and (3) recovery and resolution to a new or improved condition post-disaster (Ritchie, 2009). This work focuses on the second and third steps, namely efforts by community organizations to rebuild tourism, including possible innovations.

4.2.1 The characteristic of community-based tourism management

Community-based tourism (CBT) has been introduced in many countries to improve the living conditions of people by strengthening democratic processes at the local level and increasing the value of local leadership in developing tourism. In rural areas, CBT is a new way of creating economic opportunities for people to acquire benefits that are not related to farming. CBT differs from mainstream tourism in that it involves local people in the planning process and in benefiting from the tourism-taking place in their locality, the positive local cultures and uniqueness, and the conservation of community resources (Tosun, 2006). CBT essentially concerns involving the local community in planning and maintaining tourism development, in which the goal is sustainable tourism (Richards & Hall, 2000). Thus, CBT is based on a fundamental concept of resident participation; for instance, residents become employees of a tourism enterprise, local entrepreneurs themselves, or tourist guides. Russel (2000) pointed out that CBT fulfils three criteria: (1) local community support and participation; (2) people living at or near the destination benefit from the tourism activities; and (3) local people's cultural identity and natural environment are well-preserved during the

tourism activity. The tourism literature mostly mentions that tourism would be more successful with the residents' participation (Blackstock, 2005).

Generally, literature on CBT can be categorized as either supportive or non-supportive. Scholars who support CBT mostly subscribe to the statement that CBT can lead to sustainability, generate social justice, empower the community, extend access for the community to control the political and economic process in their surroundings, and establish emancipatory communal responses to local issues (Cawley & Gillmor, 2008; Richards & Hall, 2000). Stone and Stone (2011) stated that: "It would therefore be premature to say that CBT is not useful for rural communities and unfair to generalise that CBT projects are a failure".

The non-supportive literature, however, points to some of the concept's limitations and its failure to contribute to solving developmental problems. For example, Blackstock (2005) stated that CBT is "naïve and unrealistic" because it focuses on industry development rather than community empowerment, and disregards the internal dynamic of community and neglects the external barriers. In addition, the disruption of local control and the relationship between developers and community members lead to inequality (Blackstock, 2005).

Both the supportive and the non-supportive literature on CBT pay little attention to resilience, particularly how the unique management of CBT is vulnerable to natural disasters and whether community management is resilient enough to handle the recovery. Indeed, studies on CBT have mostly been limited to the political, financial, and economic aspects of tourism (Blackstock, 2005; Catley & Leyland, 2001; Cawley & Gillmor, 2008; Gilchrist, 2003; Stone & Stone, 2011; Strickland-Munro, Allison, & Moore, 2010) and rarely discussed the resilience of CBT to natural disasters. Kunjuran, Hussin, and Yasir (2015), however, did discuss the challenges faced by CBT. The authors divided them into two categories, namely, internal challenges – that is, a lack of financial and capital resources assistance, a lack of skills in, and knowledge, of management, and language barriers – and external challenges, such as a lack of a 24-hour electricity supply and the absence of clean water. Although they discussed the challenges, they did not touch upon the dimension of challenge resulting from a natural disaster that can be predicted given the location.

In the wider context, the study of the relationship between tourism, in general, and natural disasters is quite new and somewhat overlooked (Birkland et al., 2006; Rittichainuwat, 2011; Shaw, 2013). Therefore, understanding CBT post-disaster needs to be linked with the tourism concept in general. CBT is a unique form of tourism industry, because it is usually located in rural areas, is managed by the community in 'communal' ways, and involves a small number of people. Studying CBT recovery post-disaster may improve the understanding of the extent to which

CBT is resilient in dealing with natural disasters and tourism becomes part of the community's recovery strategy.

4.2.2 Recovery, resilience, and transformation post-disaster in CBT

Recovery after a catastrophe has been discussed in many dimensions, such as economic, transport, demographics, facilities, and infrastructure (Liu, Fellowes, & Mabanta, 2006). Although many researchers adopt the conventional definition of recovery as 'restore to pre-disaster', it should be stressed that this is not a static situation. Aldrich (2012), for example, stated that recovery is "the process of repopulation by survivors, who may have fled or been evacuated, and new residents along with the gradual resumption of normal daily routines for those occupants", which is focused on population changes in the time series data. In this study, recovery concerns not only the demographic, but also the economic transformation in relation to community-based tourism that has been disturbed by the event of an eruption. Moreover, the analysis of the recovery process has an intersection with the resilience concept. Both academia and practice have recognized the role of resilience in the recovery process. For example, the United Nations International Strategy for Disaster Reduction (2005) emphasized 'building resilience for nations and community to disaster' in the Hyogo Framework for action.

The term 'resilience' has been used in a variety of contexts and defined in different ways. Henstra et al., (2004) define it as "the capacity to adapt to stress from hazards and the ability to recover quickly from their impacts". Resilience is also a method to handle uncertainty, because future changes can rarely be predicted and the vulnerability of a community system cannot be fully known in advance. Moreover, the United Nations International Strategy for Disaster Reduction (2009) determines resilience as "The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions".

In the tourism field, however, resilience remains relatively unexplored. The tourism industry must adapt to the changes and have the flexibility to accommodate extreme conditions in order to recover quickly from unwelcome impacts. The adaptation and transformation process in response to changing environmental conditions requires initiatives by many tourism stakeholders with different roles in the tourism supply chain, and at many levels of government, to be able to mitigate, prepare, and manage resilience (Luthe & Wyss, 2014).

To understand the resilience of the tourism industry, one must understand the paradoxical principle that the planet's entire ecosystem, from a solo cell to a whole culture, undergoes constant change or transformation (Ruiz-Ballesteros, 2011). This view has been connected with 'sustainability' in the context of managing the process of transformation without diminishing sustainability. Holling (2001) stated that 'sustainability' is "the capacity to create adaptive competence" and 'development' is "the process that creates opportunities"; 'sustainable development' is "the process that promotes adaptive competences while also creating opportunities" (Holling, 2001). Resilience, therefore, becomes the key to achieving better performance without damaging sustainability. As put forward by Folke et al., (2002), resilience offers an indicator of sustainability that can be applied to understand a socio-ecological system. Furthermore, sustainable development will only be achieved when the resilience is consistently performed (Holling, 2001). Acknowledging that a CBT destination is managed by the community and depends on nature and culture, unlike a destination managed by the government or a large company, raises the question of whether CBT is resilient to natural disasters. Since the community manages the CBT, the dynamic of building resilience is an interesting topic. The success criteria for CBT can perhaps only be applied in a steady situation, which might not exist post-disaster. Therefore, a study on the dynamic of CBT in recovery from natural disaster is necessary. Smit and Wandel (2006) mentioned that community resilience is reinforced by a community's adaptive capacities to reorganize themselves, thus, continually withstanding the impact of external forces. According to Norris et al. (2008), in the aftershock of a disaster, communities have the ability to adapt efficiently to the new condition.

Recovery is often mentioned as the least discussed stage of the disaster life cycle (2005). The response to disasters is different in each society and community, and for each individual. In some cases, the window of opportunity created by a catastrophe could allow the tourism industry to transform itself and achieve better performance. The transformative capacity is the primary dimension of social resilience. It is the capacity to overcome and cope with immediate adversities (coping capacity), the capacity to learn from past experiences and adjust to the new threats in the future (adaptive capacity), and the capacity to innovate institutions that improve individual wellbeing and societal robustness both during the current crisis and future disaster possibility (Keck & Sakdapolrak, 2013).

In relation to transformation post-disaster, Ritchie (2009) categorized three post-disaster transformations in tourism, namely, organizational transformation, destination transformation, and human and community transformation. First, an organization can use a disaster as a tool for increasing its vitality and longevity,

re-evaluating the relationship with other stakeholders and tourists, and possibly developing a new product, market, and programme, along with the organizational team spirit and cohesion in the organization (Ritchie, 2009). Second, a disaster could also increase the awareness and cohesiveness within the tourism destination and between the tourism industry and emergency agencies. Disaster triggers changes in policy that have a positive impact on tourism and its value. Similarly, Faulkner (2001) said that the infrastructure might be rebuilt and improved to integrate the mitigation and disaster planning considerations. Third, a disaster may provide the community with an opportunity to reflect on its past and to plan for its future. There is a chance to revitalize the destination through resilient community actions, for example, through innovation and adaptation to a changing market and leadership, which ensures that the destination will not perish due to permanent decline, but will reinvent itself.

In general, the literature reflects a consensus that tourism is vulnerable to specific shocks, but that some destinations could use a disaster as an opportunity to transform their products, markets, and institutions. A review of tourism recovery studies reveals some gaps that require further investigation. First, the way that CBT deals with a natural disaster is rarely discussed, because more attention is paid to private entrepreneurship in cities and government-based tourism management. Second, tourism recovery studies are more focused on marketing strategy recovery and strategies to get tourists to come back, than on product and institutional coping strategy. In this respect, the themes of analysis in this study cover:

- 1 Governmental and institutional responses to disaster and tourism in the case study area. This concept is analysed in the context of whether the policy and governmental response have met the need for disaster management in community-based tourism.
- 2 CBT organization responses to the Merapi eruption. These responses are discussed in a separate section because the actors and the nature of management are different.
- 3 The post-disaster rural tourism destination transformation. This transformation is examined to find the relationship between the speeds of recovery, how it leads to community resilience, and the factors that influence the community resilience in CBT.

Table 4.1 shows the key areas of enquiry, the research themes, and the conceptual frameworks for each theme.

Table 4.1. Key areas of enquiry, research themes, and conceptual framework.

Key Areas of Enquiry	Research Themes	Conceptual Framework
Government and community organization responses to the natural disaster	Theme 1: Government responses to the Merapi volcano eruption Theme 2: CBT organization responses to the Merapi volcano eruption	Disaster management lifecycle → emergency, recovery, prevention (Faulkner, 2001)
Transformation in CBT post-disaster	Theme 3: The post-disaster rural tourism destination	Tourism transformation (Ritchie, 2009)

4.3. Methodology

This chapter assesses the CBT responses to the recent (2010) eruption of Mount Merapi, focusing on Pentingsari, a village tourism community located on its slopes, and fills the gaps in the discussion on tourism and disaster management. Hystad and Keller (2001) argued that the examination of disaster management should also focus on the government organization, such as tourism organization and disaster management organization. Therefore, interviews were conducted not only with the community impacted by the eruption, but also with the government officers concerned with tourism development and disaster management.

The data collection and analysis were conducted in the following order: desk research, observation and photography, and in-depth interviews. The fieldwork was undertaken in several phases, namely in July 2011, February–March 2015 and June–July 2016. Respondents were selected in the categories of community and local government (tourism board and disaster agency). A total of 33 respondents were interviewed; of them, 23 were Pentingsari villagers or government officials from the Sleman Tourism Board, Magelang and Yogyakarta Province, Agriculture Fishery and Forestry Board, or Regional Disaster Management Agency (RDMA). The author contacted and interviewed the chief of the tourism organization; through this stakeholder, the names of people who could be contacted for further interviews were acquired (snowball sampling). The author visited the village, acted as a visitor, joined the tourist package tours and had some short stays in the village to experience living in the research location. This participative research method allowed engagement with the community in their daily activities, as the respondents were more relaxed and better able to remember their tourism recovery strategy. Table 4.2 provides the coding of the respondents and the information gained from them.

Table 4.2. Research respondents.

Type of Stakeholder	Number of Interviews	Dimension of Questions
Government official: Sleman Tourism Board	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010
Government official: Regional Disaster Management Agency/RDMA of Sleman Regency	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010
Government official: Regional Disaster Management Agency/RDMA (BPBD) Province of Yogyakarta	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010
Government official: Tourism Board of Yogyakarta Province	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010
Government official: Agriculture Fishery and Forestry Board	1	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010
Community Leader (Chief)	1	Disaster management strategy includes: preparation for disaster, situation in emergency, strategy for recovery post the eruption 2010
Tour guides	2	Strategy to get tourists to return to the village
Tourism organization leader (<i>Pokdarwis</i>)	1	Strategy to get tourists to return to the village includes product, market and institutions
Residents of tourism village	20	Their individual recovery strategy post-eruption in terms of livelihood diversification using tourism
Number of respondents	33	

The interviews, each of which lasted between one and two hours, were held in the village of Pentingsari. Moreover, some phone calls were made and some text messages exchanged to confirm or clarify parts of some of the initial interviews. Interviews were conducted in two languages, Javanese and Indonesian, which are the author's native languages. The interviews data were transcribed in paper and translated into English. The data were then manually grouped and subjected to

thematic analysis in descriptive narrative texts using regular text processing software (MS Word).

4.4. Context: Pentingsari and the Merapi Eruption

Pentingsari is located in Umbulharjo sub-district, Cangkringan district, Sleman Regency, the Special Province of Yogyakarta. Figure 4.1 illustrates the location of Pentingsari. In 2016, the sub-district of Umbulharjo had 5,163 residents, representing 15% of the total population of the district of Cangkringan. The majority of the Umbulharjo economy is centred on agricultural activities, which include the cultivation of food crops and horticulture, plantation, fishery, forestry, and livestock.

Figure 4.1. Location of Pentingsari

Source: Author's modification from Pentingsari Village Tourism Board, 2016 and documentation of Community Service Programme, University of Gadjah Mada, Unit 114, 2009

Pentingsari provides meals, homestays, campgrounds and playgrounds. The main job of more than 10% of the population is in the tourism industry and their monthly salaries are the regional standard minimum. A further 30% work in tourism as a side job (their primary job is in agriculture), for example, helping to prepare events.

Pentingsari is located in 'Danger Zone 2' of Mount Merapi, meaning that it should be ready for evacuation if the volcanic activity increases. Merapi has several of the characteristics of the world's most dangerous volcanoes, and it has erupted more than 70 times since 1548 (Voight, et.al, 2000). The Merapi eruptions occur every 4–6 years (Jousset et al., 2012). The Merapi valley is home to around 1.6 million people and 34 CBT village attractions. Land-use changes from agriculture to services and housing have been on the rise (Kurniawati & Zulkaidi, 2013) and have consequently created a diversity of livelihoods.

The Merapi eruption in 2010 impacted tourism in Sleman Regency and the whole province, mainly because the transport flow was disrupted. The most imperative determinant was the closing of Adi Sutjipto airport in Yogyakarta for two weeks in response to the eruption. The ash could get into aeroplane engines and this led to major disruptions, such as the cancellation of 2,467 flights (Mei et al., 2013). The Merapi eruption had an impact on the number of domestic and foreign tourists visiting Sleman Regency. To illustrate, the Figure 4.2 displays a drop in the number

Figure 4.2. Number of domestic and foreign tourist visits to Sleman Regency.

Source: adapted from Sleman Regency document and Statistics Indonesia, 2009–16

of foreign tourists and domestic tourists of around 32% and 68.8%, respectively (Statistics Indonesia, 2009–16). In monetary terms, the loss was reported as being about IDR 5.821 trillion (USD \$530 billion), of which 39% was related to settlements, 13% to water and irrigation, 43% to agriculture, and 12% to industry and small or medium-sized enterprises (Kompas, 2010). The eruption destroyed hundreds of hectares of farmland for horticultural activities, as well as government and private sector enterprises (Maharjan, 2014).

Although the eruption killed 350 people and injured 277, and led to the evacuation of a further 410,388 (Mei et al., 2013), no deaths in Pentingsari were reported. However, the total monetary loss in Pentingsari was reported to be IDR 406,660,000 (USD \$30,000). One mosque was reported damaged and small cracks appeared in the walls of several buildings used for homestays, but nothing was seriously damaged or needed much renovation (Pentingsari community leader; Interview, 2015). Since the houses and the environment were covered with ash, it took a couple of weeks to get back to normal, except where tourism activities were concerned. The majority of the houses in Pentingsari are built of concrete and other strong materials that withstood the heavy ash. Houses built of bamboo and wood did not survive the hot ash. Vegetation, including crops and the Salaka plantation, collapsed and died. Offices and schools were closed; students and employers were discouraged from going outside due to the hot ash. However, the level of destruction in Pentingsari was less than that in the villages higher up the slopes of the volcano.

These conditions, of course, disrupted tourism activities. The booking of homestays and packages declined dramatically. This forced the community to halt tourism activities for six months (Pentingsari community leader; Interview, 2015). The community had to find ways to obtain alternative incomes.

4.5. Finding and Analysis

4.5.1. Government responses to the eruption

Indonesian Disaster Risk Reduction Law Article 44/letter states that mitigation is to be undertaken to reduce the risk for people in disaster-prone areas. The Regional Disaster Management Organization of Sleman Regency is responsible for routine monitoring and issuing alerts. The Centre of Volcanology and Geological Hazard Mitigation (CVGGM) constantly monitors Mount Merapi's volcanic activity. It has the responsibility to analyse the possibility of danger, inform the government, and broadcast the status to the public. CVGGM has full authority to judge the alert level as

'normally active', 'be on guard', 'be prepared', or 'be watchful'. CVGHM also issues a map showing danger zones that are derived from the volume of pyroclastic material.

The government's preparations for future eruptions can be categorized into zoning policy, early warning system, resettlement, and evacuation drilling. First, spatial arrangement by zoning policy is one of the local government's programmes in disaster risk reduction based on recommendations from the Centre of Volcanology and Geological Hazard Mitigation. The zoning policy results from the mitigation process that covers assessing the risks, mapping disaster-prone areas, developing the zoning and establishing disaster scenario simulations (RDMA, interview, 2015). There are five zones on the slopes of Merapi based on the disaster risk zones: (1) The Merapi National Park, which is designated as a protected area; (2) Directly exposed area: no settlement should occur here; (3) Disaster risk zone 3, which is high-risk exposure and development. This zone covers Merapi National Park with the concept of living in harmony with disaster/zero growth; (4) Disaster risk zone 2, which allows settlement under the tight control of the volcanology board; (5) Disaster risk zone 1, which is the area at high risk of a cold lava channel.

Second, the regional disaster management agency stated on its website that the disaster preparation plan and the early warning system had been established to respond to Merapi's volcanic activity. Preparations to ensure prompt and appropriate efforts in the event of a disaster had been made by preparing and testing the disaster emergency response plan; organizing, installing, and testing early warning systems; providing and preparing supplies to meet people's needs; establishing evacuation sites; providing accurate data and information, and updating the disaster response emergency procedures; and providing materials, goods, and equipment for the fulfilment of recovery of infrastructure and facilities. One of the RDMA officers stated: "The zoning policy is counted as the soft early warning system by the government because it contains zoning levels of vulnerability. It is hoped to remind the community about the limit of danger." (RDMA; interview, 2015). In addition, the government updates Merapi's status on its website every day. The information presented on the website is primarily the level of hazard or volcanic activity and the steps to be taken.

Third, the relocation programme was established as a consequence of the zoning policy. For the villages located in relatively safe areas, rather than relocation, disaster risk reduction, preparation, and recovery are conducted. Leaving the area became an option for more than 4000 people affected by the 2010 Merapi eruption. The local government of Sleman Regency encouraged people to leave the area by offering free permanent resettlement. The decision to move or stay put was voluntary, which means that no pressure was brought to bear by the government. The local government of Sleman claimed that there was enough space of sufficient quality and

safety to permanently resettle the 400 families living in the disaster-prone area within 10 km of the summit. The government facilitated both the evacuation process and the relocation. Since the 2010 eruption, nine hamlets have been evacuated because of their extreme exposure to the hazard.

Finally, although the majority of the villagers know about the risk posed by Merapi, the government regularly disseminates information to remind the community about the risk and the actions to be taken in an emergency. As the disaster management board said: "Our community is very forgetful. They are mobile and often forget the right procedure. So we remind them again and again." (RDMA; interview, 2015)

Information about the volcano's activity is disseminated to convey and explain the situation and to maintain the readiness of both the residents and the relevant government agencies. Furthermore, the government established the Merapi Forum, an informal institution focused on the risk posed by Merapi. The Merapi Forum was established to disseminate information about the Merapi volcano and its activity level, and to act as a communication channel between residents and the government. The members of the forum are representative of the regencies of Klaten, Boyolali, Magelang, and Sleman, and the CVGHM. The government also reported that it had performed the compulsory training of disaster mitigation for the community (RDMA of Yogyakarta Province; interview, 2015). Compared to the recovery and responses following the 2006 eruption, the Yogyakarta government has shown better preparation, especially regarding the zoning policy and early warning system. Information is now disseminated via social media, radio, and siren. Some village-level meetings have also been held to keep in touch with those on the ground. As regards promoting entrepreneurship, the government shows its commitment to accommodating new entrepreneurs who want to access money to capitalize their businesses. Cash and grants have also been provided for those affected by the eruption.

Disaster management in tourism has recently been included in the tourism-planning document, the Master Plan for Regional Tourism Development (*Rencana Induk Pembangunan Kepariwisataaan*) 2015–2025, particularly in clause 22, Perda Sleman No 11/2015. The tourism-planning document clearly states that 'the public facilities include safety tools, fire-fighter tools, and disaster readiness tools in the tourism destination located in the prone area'. The Master Plan was reviewed and renewed in 2011 to elaborate the new paradigm of tourism. Yet, in Pentingsari, the tools are not available, and it is limited to the traditional emergency strategies to cope with the disaster.

In sum, the response of the government to the Merapi volcano risk is limited to general disaster management, the aim of which is to ensure the safety of the

community. Preparation programmes targeting tourists and tourism are overlooked by the disaster management agency. Coordination between the disaster agency and the tourism board is limited. The majority of the programmes for tourism are reactive programmes, such as providing funds for recovery.

4.5.2. Community Organization's Response during the Emergency

During the emergency, Pentingsari villagers followed the authority's order to evacuate their village, as the status of Merapi was now 'watch'. Cars, trucks, and buses were put on standby close to the village to transport the villagers to the evacuation centre, namely Maguwoharjo sports hall. The evacuation process was guided and facilitated by the RDMA (the Regional Disaster Management Agency) together with the community initiative. They had to leave the village due to the danger posed by the hot ash and the possibility of a pyroclastic flow (a rapidly moving fluidized mass of rock fragments and gases). A total of 122 families were evacuated to the sports hall, which is about 15 km from the village. Together with the other evacuees, the Pentingsari villagers remained at the centre for over two weeks, until the authorities considered it safe for them to return to their homes.

The villagers then spent several weeks cleaning their houses and their villages. Although local markets were closed because products were difficult to access, government and donors provided clean water and meals at several places in the community. Since many bookings were cancelled, tourism activities stopped. During this period, community members who had been working full time in tourism had to live on their savings. Those who relied on agriculture were in the same situation, as their crops had collapsed and could not be harvested. The community had a hard time for six months. Many of the respondents said that they had spent all their savings and some had borrowed money from relatives or neighbours (residents of Pentingsari; interview, 2015).

Pentingsari learned from the 2010 eruption how to prepare for the worst possible future eruption. Safety preparations have been conducted with the local authority (the Regional Disaster Management Agency of Sleman), which was very active in disseminating information and providing the community with training. Pentingsari is one of the target villages on the list of dangerous areas, part of the programme called 'Disaster-Ready Village' (*Desa siaga bencana*).

Furthermore, the safety of tourists has also received attention. First, the community has sign-posted evacuation routes through the village, especially at several crossroads. The routes lead to a meeting point that is accessible for buses and trucks to pick people up. Second, the community added the training of disaster emergency assistance to their programme. Tour guides were taught what to do

when an eruption warning is issued, and they are expected to help tourists when the latter must be evacuated.

4.5.3. Recovery and transformation post-disaster

Recovery following the 2010 Merapi eruption allowed the Pentingsari community to move on to a better stage of CBT. Below, the transformation is assessed based on Richie's (2009) framework on transformation post-disaster, namely human and community factors, organizational, and destination transformation.

Human and Community Transformation

Transformation may occur in each individual before it spreads to all members of a community (Mezirow, 1991). Mezirow (1991) stated that personal transformation begins with a "disorienting dilemma" (e.g., a stressful life experience or relationship, a new environment, a death, or a life-threatening accident) that disturbs the normal life. In the context of this study, the Merapi eruption, when individuals in Pentingsari were threatened, can be considered a momentous event. Those who experienced the Merapi eruption and the ensuing chaos and evacuation now have more will to empower and recognize new possibilities and connect with other people. The personal transformation leads to an increasing will to live, becoming more productive, experiencing an increased creativity, and acquiring an improved ability to handle stress (Wade, 1998).

Some individuals mentioned the role of bonding between community members in helping each other to build more social resilience. They said that help from neighbours reflected the importance of a strong relationship between communities. The network and the sense of dependence between communities increased after the eruption, especially when the community members realized they could not live alone. One respondent said: "Our ancestors teach us to be kind to others, especially our neighbour, because our neighbour is our close family although we have no blood relation." (Pentingsari resident; interview, 2015)

The eruption allows the community to reflect on the past and plan for the future. Individually, they were under great stress because they were forced to take action, in both a physical and a psychological sense, in ways that they had previously not expected. The ashes and rocks covering the villages forced people to do extra work to clean, replant, rebuild, and reconstruct. During this time, the community had space to debrief their vision and mission of the tourism organization. The leader of the organization reported: "Help and support from the government and others are important for us, but our commitment to using the money, funds and successful programmes are also important to recover from the eruption." (tourism organization

leader (Pokdarwis; interview, 2015). Additionally, as one resident said: "Because of the eruption, we are more harmonious. We have a programme of *Jumat Bersih* [Friday clean] – where we get together to clean our environment." (Interview, 2015)

The increasing bonding between communities is an essential social capital to build tourism in the village. In Pentingsari, the impact of the eruption on the community is likely to increase psychological morbidity among both individuals and communities. There is a tendency that the community to be more willing to participate in village tourism development compared to before the disaster, when they faced the same problems. More attention has also been paid to tourists as their guests and to creating safety and a feeling of security during their stay in the village.

Several respondents pointed to the role of one person, namely the leader of the community tourism organization. This man and his family were working full time to develop and manage the tourism activities in the village, and they had opened their house as the office for the organization without payment. The majority of the villagers said that the role of the tourism organization leader is important, as he can create an awareness of the benefits that tourism can bring, especially since post-disaster Pentingsari has become more popular than before. This shows that leadership has an important role in recovery. This is in line with a study conducted by Nakagawa and Shaw (2004) in Kobe, Japan, who found that the role of community leaders had been prominent in developing social capital in the recovery process and in enabling collective decision-making.

Organizational Transformation

The interview with the community leader revealed that the 2010 eruption had a significant impact on how the community thought about the relationship between tourism and the Merapi eruption. The community had derived benefits from tourism since 2006 and the eruption made them realize that tourism is sensitive and vulnerable to natural disasters. Pentingsari tourism, as well as Jogjakarta tourism, suffered from a drop in the number of tourists for about six months following the biggest eruption. One of the tour guides said:

In the beginning, we never thought that the problem from the volcano would happen. We had no confidence in promoting our village because all the trees had collapsed, the surrounding areas were no longer beautiful and the road to our village was broken. (Tour guide; interview, 2015).

The community understands that disaster management is important for their business, as they increasingly rely on tourism; they had to conduct special programmes

to keep the tourists coming. However, at the same time, they also understand that tourism is a vulnerable business. The eruption led them to re-evaluate their vision and mission by establishing a programme for disaster risk preparation. The Pentingsari tourism organization has revisited its strategy for dealing with challenges. Externally, the community now builds stronger networks and better communication with other villages to face the challenges resulting from the Merapi eruption. Pentingsari has joined the Desa Wisata (village tourism forum), which allows them to create more cohesive and stronger relationships with other villages and with the local government of Sleman. They have also learned that keeping in contact with people who have visited the village is important.

Maintaining contact with people who have visited us is important. Our strategy is to inform them that we are safe and the village is safe. They helped us a lot in recovering from the disaster. Many of them come to our village on purpose: they act like tourists, but actually, they want to help us. (Tour guide; interview, 2015).

The community planned new activities for the organization, gained new knowledge and skills to implement new plans, renegotiated new relationships, and reintegrated them into their organization's programme. Many new ideas on how to manage the CBT began to emerge. The organizational transformation was influenced by a community that now fully believed, and had confidence in, the future of tourism in the village.

Pentingsari received government support under the PNPM *Mandiri Pariwisata* programme conducted by the Ministry of Culture and Tourism (no. KM.18/HM.001/MKP/2011). The programme provided cash for community empowerment of village tourism. The community used the money to rebuild their livelihoods and to conduct training for the community, such as teaching guides some English. There are now better facilities and increased capacity to support tourism in the village. Cooperation with the other institutions, such as the Tourism Board of Sleman, local media, and tour agents, was regarded as the critical factor for recovery in Pentingsari. The village now has a reliable communication channel with the Tourism Board of Sleman Regency. It is also building cooperation with the local media, tour agents and potential tourists.

Interviews with villagers whose communities are engaged in tourism revealed that there were some programmes conducted by banks and the local government to provide the necessary support for those affected by the eruption. Although the programme does not directly focus on tourism, the increasing number of loans given to small- or medium-sized enterprises indicates that entrepreneurship is now

flourishing, including in Pentingsari. The Ministry of Cooperation and Small and Medium Enterprises (*Kementerian Koperasi dan Usaha Kecil Menengah*) provided livestock farmers with 15 billion rupiahs (roughly USD 1,250,000). Additionally, the Indonesia Bank agreed to extend the loan repayment period for people affected by the disaster. The Ministry of Agriculture also provided a grant for a new plantation.

In Sleman, there have been some efforts to promote private sector activities besides agriculture. They included the establishment of many new small- or medium-sized enterprises for food producing and CBT. The plan to develop village tourism using the disaster as the main product was integrated into the tourism development master plan of Magelang and Sleman regencies. The effort seems to have increased the livelihood diversification on the slopes of Merapi by adding services and tourism to agriculture.

Destination Transformation

The tourist destinations are networks of stakeholders (Scott & Cooper, 2007). The crisis reconfigured the network structure; leading to a more cohesive industry-wide or community-wide response mechanism, better information flows, and new organizational structures (Ritchie, 2009). Mezirow (1991) suggested that central to transformation is self-examination and critical reflection on one's experiences. The experience of the falling number of tourists and the lack of income following the Merapi eruption drove the community to create a new product and explore a new market. The destination transformation has corroborated Mezirow's (1991) analysis that transformation often occurs through a series of cumulative meaning schemes or as a result of a stressful and painful personal or social crisis (de Sausmarez, 2007). The crisis may catalyse the development of new services and products as a result of the responses to the disaster. It may occur on the small scale of a tourist destination, as in this case study.

Pentingsari has undergone changes in services and products. Since the eruption, more attention has been paid to product diversification. One of the drivers behind the introduction of new products is the establishment of training programmes for small- or medium-scale entrepreneurs financed by local governments using funds from the National Programme for Community Empowerment (PNPM). The recovery programme has led to several new tourism products.

New products have emerged in other villages, too, such as Jeep trips to Merapi and the ruins of Kinahrejo (a village close to the summit of Merapi destroyed by the eruption), as well as the rivers where the pyroclastic material has accumulated. The Pentingsari community cooperates with the Jeep community by offering the products, so that tourists staying in Pentingsari can book a Jeep trip package. "We

offer a Jeep trip for tourist who wants to see the death village, Kinahrejo. We do not provide them, but we can connect them." (Tourism organization leader (Pokdarwis); Interview, 2015).

The Pentingsari community rebuilt tourism infrastructures with financial assistance from aid agencies and the government. More funding has also been provided to enhance the quality of homestays, install modern toilets, and cement the road. Although the tourism activities stopped for six months, the number of tourists increased from 5008 in 2009 to 9576 in 2010 and 13,156 in 2011.

4.6. Discussion

Several reports have shown that disasters impact tourism destinations (de Sausmarez, 2007; Faulkner, 2001; P. Hystad & Keller, 2006; Kuo, Chen, Tseng, Ju, & Huang, 2008; B. Ritchie, 2008; Ritchie, 2009; Ryan, West, & Carr, 2003). Disasters make tourism destinations vulnerable, and especially vulnerable when the community manages the tourism destination in a 'communal' way, namely as an informal organization that depends strongly on social commitment. Until now, studies on tourism and disaster have overlooked small-scale management. The present research, therefore, explored the local government's and the community's responses to regularly-occurring disasters. The focus was on the 2010 eruption of Mount Merapi in Indonesia and the subsequent governmental responses and transformations in the community.

Analyses have shown that the government's responses to the recovery were focused on emergency responses and preparation for future disasters, in general. The government claimed to have provided support for disaster preparation, disaster mitigation, emergency evacuation, and post-disaster recovery. This includes sirens, early warning system installations in several villages, radio communication, evacuation routes and places, standard operational procedures, the dissemination of information, relocation schemes, and recovery funds. The government's response to the loss of livelihoods came late, and there was a lack of coordination between the disaster management agency and the tourism board. The community and its members had to sort things out themselves until governmental agencies finally arrived at the villages.

In the eight years since the eruption, Pentingsari has gained many benefits from tourism. In 2017, it was awarded an Indonesian Sustainable Tourism Award in 2017 (Kontan, 2017). The transformations observed in Pentingsari include destination transformation, organizational transformation, and human and community transformation. The transformations result from the shifting of the community's way of thinking about tourism and the disaster. The disaster allows them to reflect on

many aspects, such as changing the organizational structures and programmes, establishing new products and services, and enhancing their sense of ownership of the tourism activities. As Hills (1998) noted, disasters may also become political events in and of themselves, prompting or accelerating change within an affected community. The Pentingsari villagers have shown that tourism activities increase community resilience. Furthermore, this finding corroborates the statement by Marschke and Berkes (2006) that people at the community level remain active and continuously 'doing something' in response to various shocks and stresses to their livelihood systems. Moreover, livelihood strategies could create community resilience, but this is not always the case (Marschke & Berkes, 2006).

The analysis of transformation and responses can be categorized into two categories of CBT resilience, that is, internal and external resilience factors. Figure 4.3 demonstrates the elements of increasing community resilience in the case study. The internal factors are the availability of attractions in the village (natural and cultural), the willingness of the local people, the innovation in tourism (social capital), the leadership of the village leader, the capacity of the community to adjust to deviations and its creative ability to change the product for a broader market.

Figure 4.3. The factors of community resilience in the case study.

Source: author's analysis, 2018.

The external factors include the support from the local government through economic recovery programmes and community empowerment mechanisms. The availability and accessibility of new knowledge, technology, and adaptations depend on a community having contact and being part of a network with higher levels or broader level of organization. NGOs can facilitate multilevel interaction through networks, deliberation, and inclusivity, in turn, leading to social learning and resilience building (Robinson & Berkes, 2011).

The role of tourism in strategies to enhance post-disaster recovery and increase the resilience of communities in disaster-prone areas was also discussed in this case study. The fact that a large number of tourists visited the community during the recovery period gave the community hope and also increased their connection to other communities. By building tourism together, the community has a space for creating innovation in their villages. It may help them to alleviate the stresses caused by the disaster.

Since the Merapi eruption, CBT has undergone a transformation, mainly regarding the role of disasters in drawing attention to innovation in, for example, products, markets and institutions. This transformation is reflected in three dimensions: (1) human and community; (2) organizational; and (3) destination. The eruption allowed the community to reflect on the past and plan for the future, as well as debrief their vision and mission of a CBT organization. It also provided a better understanding of disaster management. The implication of this finding for the CBT is on the aspect of measuring the success of CBT. The transformations post-disaster can be seen as indicators of community resilience and, in the end, can be a parameter for successful CBT. Nevertheless, when planning CBT in the village, attention should be paid to the danger posed by natural disasters and to how the community could be prepared for a worst-case scenario through clear disaster management planning and strategies at a very local and technical level.

4.7. Conclusion

This chapter has assessed the responses of community-based tourism (CBT) and local government to a natural disaster. Community-based tourism in rural areas that are at high risk of natural disaster is largely overlooked in the literature on tourism and disaster management. It can be argued that CBT management is vulnerable to such natural disasters and, therefore, its presence should be considered in the recovery process.

The findings show that the local government's preparation plans were focused only on disaster management, in general, and that it had only reactive programmes

for recovery in tourism. Moreover, CBT was able to respond and recover from the disaster by transforming the tourism destination with support from external agencies, including the local government. In addition, CBT has undergone a transformation following the natural disaster. The transformation was especially observed in three aspects: destination (new tourism products and broader market segment), organization (more formal, more organized, and better performance), and community and human (stronger social cohesion and leadership at the local level) factors. The eruption led the community to reflect on the past and plan for the future, as well as to debrief their vision and mission of the CBT organization and to change their products and create a new market. It also offers a better understanding of disaster management.

In the case study, the factors that increased the community resilience of CBT can be divided into internal and external factors. Concerning CBT, which has been introduced in many countries to improve the living condition of rural communities, this research has revealed some new insights. The former include community capacity, natural capital, cultural capital, leadership, willingness to participate, willingness to collaborate, willingness to adjust, availability of creative product, innovation of the markets and adjustment of the programmes to be more disaster aware. The external factors include networking, funding, education for evacuation, drilling for disaster, availability of infrastructure, promotion of the CBT, and community capacity-building programmes. Tosun (2006) stated that what makes CBT different from other forms of tourism management is that it involves local people in the planning process. To recover from a natural disaster, CBT needs intervention from the local government and a strong commitment from its internal community organization. As long as these two circumstances are fulfilled, CBT has the potential to provide rural communities with an alternative in terms of economic livelihood.

Finally, the present study has provided the insight that the resilience concept can be considered an indicator of the success of CBT. The transformation of human and community factors, organization, and destination that occurred in the CBT village following the disaster, led to an increase in the resilience of the community. This new understanding can contribute to the new knowledge of tourism, particularly in planning for community-based tourism. This study recommends tourism researchers to apply the 'resilience to natural disaster' as part of the evaluation indicators of successful CBT in rural areas that are located in areas prone to natural disaster. Therefore, before establishing CBT in a certain area, possible dangers should first be mitigated. Then a strategy to cope with the challenges by increasing the community's capability and gaining government support should be developed.

The above leads to several implications and recommendations for tourism development managed by the community located in a disaster-prone area: the relationship with markets should be strengthened, communities should be open to the innovation of tourism products, the community's self-defence mechanisms should be improved, and intervention from governmental and other agencies should be enhanced. The present research was limited to one case study; therefore, further research should be conducted to establish a more complete understanding of community resilience in another form of community-based economic activity.

References

- Aldrich, D.P. (2012). *Building Resilience: Social Capital in Post-Disaster Recovery*. University of Chicago Press: Chicago, IL, USA.
- Berke, P., & Beatley, T. (1997). *After the hurricane: Linking recovery to sustainable development in the Caribbean*. Johns Hopkins Univ Press.
- Birkland, T. A., Herabat, P., Little, R. G., & Wallace, W. A. (2006). The impact of the December 2004 Indian ocean tsunami on tourism in Thailand. *Earthquake Spectra*, 22(S3), 889-900.
- Blackstock, K. (2005). A critical look at community based tourism. *Community Development Journal*, 40(1), 39-49.
- Calgaro, E., Pongponrat, K., & Naruchaikusol, S. (2009). Destination vulnerability assessment for Khao Iak, Thailand. *Sustainable Recovery and Resilience Building in the Tsunami Affected Region-SEI Project Report*. Stockholm, Stockholm Environment Institute.
- Catley, A., & Leyland, T. (2001). Community participation and the delivery of veterinary services in Africa. *Preventive Veterinary Medicine*, 49(1), 95-113.
- Cawley, M., & Gillmor, D. A. (2008). Integrated rural tourism: Concepts and practice. *Annals of Tourism Research*, 35(2), 316-337.
- de Sausmarez, N. (2007). Crisis management, tourism and sustainability: The role of indicators. *Journal of Sustainable Tourism*, 15(6), 700-714.
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135-147.
- Faulkner, B., & Vikulov, S. (2001). Katherine, washed out one day, back on track the next: A post-mortem of a tourism disaster. *Tourism Management*, 22(4), 331-344.
- Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C.S., and Walker, B. (2002). Resilience and sustainable development: Building adaptive capacity in a world of transformations. *AMBIO a Journal of Human Environment*, 31, 437-440.
- Gilchrist, A. (2003). Community development in the UK--possibilities and paradoxes. *Community Development Journal*, 38(1), 16-25.
- Goodwin, H., & Santilli, R. (2009). Community-based tourism: A success. *ICRT Occasional Paper*, 11(1), 37.
- Henstra, D., Kovacs, P., McBean, G., and Sweeting, R. (2004). *Background Paper on Disaster Resilient Cities*; Institute for Catastrophic Loss Reduction: Toronto, ON, Canada.
- Hills, A. (1998). Seduced by recovery: The consequences of misunderstanding disaster. *Journal of Contingency and Crisis Management*, 6, 162-170.
- Holling, C. S. (2001). Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4(5), 390-405.
- Hystad, P. W., & Keller, P. C. (2008). Towards a destination tourism disaster management framework: Long-term lessons from a forest fire disaster. *Tourism Management*, 29(1), 151-162.
- Hystad, P., & Keller, P. (2006). Disaster management: Kelowna tourism industry's preparedness, impact and response to a 2003 major forest fire. *Journal of Hospitality and Tourism Management*, 13(1), 44-58.
- Jousset, P., Pallister, J., Boichu, M., Buongiorno, M. F., Budisantoso, A., Costa, F., Clarisse, L. (2012). The 2010 explosive eruption of java's Merapi volcano – a '100-year'event. *Journal of Volcanology and Geothermal Research*, 241, 121-135.
- Keck, M., & Sakdapolrak, P. (2013). What is social resilience? lessons learned and ways forward. *Erdkunde*, 5-19.
- Kompas. (2010). *Perekonomian Lumpuh*. 15 November 2010. Available online: <https://internasional.kompas.com/read/2010/11/15/03361989/Perekonomian.Lumpuh> (Last accessed on 30 April 2018).
- Kontan. (2017). *Desa Pentingsari Percontohan Wisata Berkelanjutan*. Available online: <https://lifestyle.kontan.co.id/news/desa-pentingsari-percontohan-wisata-berkelanjutan> (Last accessed on 5 April 2018).
- Kunjuraman, V.; Hussin, R.; Yasir, S. (2015). Challenges of seaweed community-based homestay programme in Sabah, Malaysian Borneo. In *Proceedings of the Hospitality and Tourism Conference (HTC) 2015*, Malacca, Malaysia, 2-3 November 2015.
- Kuo, H., Chen, C., Tseng, W., Ju, L., & Huang, B. (2008). Assessing impacts of SARS and avian flu on international tourism demand to Asia. *Tourism Management*, 29(5), 917-928.
- Kurniawati, A. I., & Zulkaidi, D. (2013). *Dampak Perubahan Guna Lahan Akibat Pembangunan Kampus Di Wilayah Pinggiran Kota (Studi Kasus: Kampus Terpadu Universitas Islam Indonesia Di Kabupaten Sleman, Daerah Istimewa Yogyakarta)*. Universitas Gadjah Mada, Yogyakarta, Indonesia, 2013.
- Liu, A., Fellowes, M., & Mabanta, M. (2006). *Special edition of the Katrina index: A one year review of key indicators of recovery in post-storm*. New Orleans Brookings Institution.
- Luthe, T., & Wyss, R. (2014). Assessing and planning resilience in tourism. *Tourism Management*, 44, 161-163.
- Maharjan, K. L. (2014). *Communities and livelihood strategies in developing countries*. Springer.
- Marschke, M. J., & Berkes, F. (2006). Exploring strategies that build livelihood resilience: A case from Cambodia. *Ecology and Society*, 11(1)
- Mei, E. T. W., Lavigne, F., Picquout, A., de Bélizal, E., Brunstein, D., Grancher, D., Vidal, C. (2013). Lessons learned from the 2010 evacuations at Merapi volcano. *Journal of Volcanology and Geothermal Research*, 261, 348-365.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. ERIC. San Francisco, CA, USA, 1991.
- Mezirow, J. (1997). Transformation theory out of context. *Adult Educ. Q.*, 48, 60-62.
- Mezirow, J. (2000). *Learning to Think Like an Adult: Core Concepts of Transformation Theory. Learning as Transformation: Critical Perspectives on a Theory in Progress*; Jossey-Bass Publisher: San Francisco, CA, USA.

- Nakagawa, Y., & Shaw, R. (2004). Social capital: A missing link to disaster recovery. *International Journal of Mass Emergencies and Disasters*, 22(1), 5-34.
- Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American journal of community psychology*, 41(1-2), 127-150.
- Olshansky, R.B. (2005). Toward a theory of community recovery from disaster: A review of existing literature. In *Proceedings of the 1st International Conference of Urban Disaster Reduction*, Kobe, Japan, 3 March, 2005.
- Rahman, M.B., Nurhasanah, I.S., Nugroho, S.P. (2016). Community resilience: Learning from Mt Merapi eruption 2010. *Procedia-Social and Behavioral Sciences*. 227, 387-394.
- Robinson, L.W.; Berkes, F. (2011). Multi-level participation for building adaptive capacity: Formal agency-community interactions in northern Kenya. *Global Environment Change*, 21, 1185-1194.
- Richards, G., & Hall, D. (2000). The community: A sustainable concept in tourism development. *Tourism and Sustainable Community Development*, 7, 1-13.
- Ritchie, B. (2008). Tourism disaster planning and management: From response and recovery to reduction and readiness. *Current Issues in Tourism*, 11(4), 315-348.
- Ritchie, B. W. (2009). *Crisis and disaster management for tourism*. Channel View Publications. Bristol.
- Rittichainuwat, B. (2011). Ghosts: A travel barrier to tourism recovery. *Annals of Tourism Research*, 38(2), 437-459.
- Ruiz-Ballesteros, E. (2011). Social-ecological resilience and community-based tourism: An approach from Agua Blanca, Ecuador. *Tourism Management*, 32(3), 655-666.
- Russell, P. (2000). Community-based tourism. *Travel & Tourism Analyst* 5, 89-116.
- Ryan, A. M., West, B. J., & Carr, J. Z. (2003). Effects of the terrorist attacks of 9/11/01 on employee attitudes. *Journal of Applied Psychology*, 88(4), 647.
- Scott, N., & Cooper, C. (2007). *Network analysis as a research tool for understanding tourism destinations*. Elsevier: Oxford.
- Shaw, R. (2013). *Community practices for disaster risk reduction in Japan*. Springer.
- Smit, B.; Wandel, J. (2006). Adaptation, adaptive capacity and vulnerability. *Global Environmental Change*, 16, 282-292.
- Statistics Indonesia. (2009). *Sleman Dalam Angka 2009*. Badan Pusat Statistik. Jakarta.
- Statistics Indonesia. (2010). *Sleman Dalam Angka 2010*. Badan Pusat Statistik. Jakarta.
- Statistics Indonesia. (2011). *Sleman Dalam Angka 2011*. Badan Pusat Statistik. Jakarta.
- Statistics Indonesia. (2012). *Sleman Dalam Angka 2012*. Badan Pusat Statistik. Jakarta.
- Statistics Indonesia. (2013). *Sleman Dalam Angka 2013*. Badan Pusat Statistik. Jakarta.
- Statistics Indonesia. (2014). *Sleman Dalam Angka 2014*. Badan Pusat Statistik. Jakarta.
- Statistics Indonesia. (2015). *Sleman Dalam Angka 2015*. Badan Pusat Statistik. Jakarta.
- Statistics Indonesia. (2016). *Sleman Dalam Angka 2016*. Badan Pusat Statistik. Jakarta.
- Stone, L. S., & Stone, T. M. (2011). Community-based tourism enterprises: Challenges and prospects for community participation; Khama Rhino sanctuary trust, Botswana. *Journal of Sustainable Tourism*, 19(1), 97-114.
- Strickland-Munro, J. K., Allison, H. E., & Moore, S. A. (2010). Using resilience concepts to investigate the impacts of protected area tourism on communities. *Annals of Tourism Research*, 37(2), 499-519.
- Tosun, C. (2006). Expected nature of community participation in tourism development. *Tourism Management*, 27(3), 493-504.
- United Nations International Strategy for Disaster Reduction. (2009). *UNISDR Terminology on Disaster Risk Reduction. 2009*. Available online: https://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf (Last accessed on 5 April 2018).
- Voight, B.; Young, K.; Hidayat, D.; Purbawinata, M.; Ratdomopurbo, A.; Sayudi, D.; Dejean, M. (2000). Deformation and seismic precursors to dome-collapse and fountain-collapse nuées ardentes at Merapi volcano, Java, Indonesia, 1994-1998. *Journal Volcanology and Geothermal Research*, 100, 261-287.
- Wade, G. H. (1998). A concept analysis of personal transformation. *Journal of Advanced Nursing*, 28(4), 713-719.

5

Life After Tsunami: The Transformation of a Post-tsunami and Post-conflict Tourist Destination; the Case of Halal Tourism, Aceh, Indonesia

This chapter is published as Rindrasih, E., (2019). Life after tsunami: The transformation of a post-tsunami and post-conflict tourist destination; the case of halal tourism, Aceh, Indonesia. *International Development Planning Review*. 41(4), pp. 517-540.

Abstract

The 2004 Indian Ocean tsunami not only impacted the environment, politics and society, but also changed the performance of tourism as an economic sector in Aceh, Indonesia. This chapter explores both the tourism transformations that have been taking place in Aceh as a result of the tsunami and the challenges associated with those transformations. The points of analyses cover: 1) the stages of tourism development before, during and after the tsunami; 2) the forms and types of post-tsunami transformations; and 3) the current condition of the tourism industry. A resilience approach combined with Butler's TALC model shows that disaster can also trigger the development of new forms of tourism. It appears likely that supportive social contexts, the availability of innovation that is acceptable to the local community, and the supply and marketing of tourism resources are key enabling factors for tourism transformation and becoming part of the post-disaster recovery strategy, thereby enhancing resilience.

Keywords: transformation, disaster, halal tourism, Aceh, tsunami, Indonesia

5.1. Introduction

On 26 December 2004, an earthquake and tsunami killed over 250,000 people and destroyed thousands of buildings in the Indian Ocean area, making it one of the largest and deadliest tsunamis in human history. It devastated the province of Aceh in Indonesia and the surrounding areas. Prior to the tsunami, Aceh had experienced severe political conflict as a consequence of the Free Aceh Movement (GAM), whose members demanded Aceh's independence from Indonesia. The long period of political conflict had a significant detrimental effect on Aceh's economic performance, including tourism. The conflict persisted for almost thirty years and finally ended when a memorandum of understanding was signed in Helsinki, Finland, on 15 August 2005.

The earthquake and tsunami not only impacted the environment, politics and society, but also changed the performance of tourism. In relation to tourism, the majority of the research on tourism perceives disasters as a threat to tourism development and focuses on destination vulnerability (Beirman, 2003; Wang, 2009), while overlooking the possibility that disasters might also provide windows of opportunity for tourism development as well as evidence of a 'build back better' effect in the tourism industry.

Aceh is one of Indonesia's major 'halal tourism' destinations. The niche halal tourism market is based on Islamic teaching (i.e. halal life), as is the practice of halal tourism activities. It can be said that 'halal life' (living in accordance with Sharia law) is an identity for the majority of Muslims who practice their religion. Assessing the relationship between emerging halal tourism, the long period of political conflict, and the earthquake and tsunami event contributes to the academic debate on post-disaster transformation processes. Although Aceh is an extreme and specific example, it can help to identify some new perspectives and aspects of disaster recovery that lead to tourism transformation.

This study argues that disasters can trigger new paths for tourism development by disturbing situations of development lock-in. It focuses especially on the post-reconstruction period and the period of organized emergency assistance, highlights the development stages and their characteristics, and addresses the research question of how tourism development has been transformed in post-tsunami Aceh. This chapter is based on in-depth field research carried out in Aceh. Since the dynamic in Aceh is very complex, the points of analysis focus on the tourism development phases that are influenced by the political situation and the dynamic of reconstruction, which led to community and organization initiatives to innovate and develop halal tourism in Aceh.

In order to create a clear story line through the complex phenomena, this chapter focuses on transformations in destinations and the challenges associated with the process. Section 2 reviews literature on disasters, post-disaster windows of opportunity, transformations, and resilience theory. Section 3 discusses the methodology of data gathering and analysis. Section 4 explains the findings and results of the present research, with a particular focus on the tourism development stages experienced by Aceh, and the form and the challenges of halal tourism development. Section 5 focuses on the relationship between this study and the literature, as well as the implications of this research for the academic debate on tourism. The final section presents the conclusion and outlines some implications for future research.

5.2. Conceptual Framework

Previous research led to a discussion on the need to understand the relationship between tourism and crisis events (Faulkner & Vikulov, 2001; Prideaux et al., 2003; Ritchie, 2009). Hall (2010) highlights that most research into tourism in a crisis focus on an economic and financial crisis, with only a few papers explicitly focusing on an environmental crisis resulting from a natural disaster. It is therefore important to research the transformation process whereby a non-touristic area became a touristic area as a result of a combination of Aceh politics, social dynamics and a natural disaster.

5.2.1. Disaster may open windows of opportunity

The literature on tourism has built the consensus that disaster is a threat to tourism development due to its effect on the image of a destination as being an unsafe destination, which causes tourism to be diverted away from both it and neighbouring areas (e.g. Birkland et al., 2006; Wang, 2009). Disaster events create a perceived risk that influences the image of the destination. The perception of risks may arise from perceived potential loss as a result of epidemics (Rittichainuwat & Chakraborty, 2009), terrorism (Sonmez & Graefe, 1998), political instability (Carter, 1998) or natural disasters (Mansfeld, 2006). Different types of risk can contribute to different ways of image formation. Risk has been related to media coverage, as noted by Cooper (2006) and Chew and Jahari (2014), as media reports can have a devastating effect on affected destinations. The crisis can be partially interpreted as the challenges tourists face in travelling to and accessing the destinations (Ross, 2006). Additionally, political instability causes tourism crises and influences the tourism business cycle

(Dhariwal, 2005; Guizzardi & Mazzocchi, 2010). The possibility that disasters can also drive tourism development has received only limited attention.

This research discusses how disasters may provide opportunities in the context of tourism development by leading to post-disaster transformations. Birkmann et al. (2010) assert that disasters could be windows of opportunity for the affected region, which opens new possibilities for, among other things, tourism development. Kates et al. (2012) state that disasters reveal extreme differences in the way societies, communities and individuals manage their lives and cope with and respond to adversity. Some societies were able to handle the impact of disasters and create changes using the disaster as a trigger and catalyst (ibid.). In the policy context, major disasters could drive changes via influential policy actors and institutional change (Birkland et al., 2006; McSweeney & Coomes, 2011).

The windows of opportunity created by disaster events could lead to the transformation of the tourism industry and the improvement of its performance. In policy studies, Kingdon (1984) introduced windows of opportunity as moments in a policy process that are triggered by unrelated external focusing events, such as crises, accidents, or the presence or absence of policy entrepreneurs both within and outside government. In a later study, Kingdon (2002) also stated that windows open because of changes in the political stream. As a result, the problems and political streams have a greater effect on the agenda, while the policy stream has a greater effect on the alternatives. Moreover, Birkland (2009) views changes in post-crisis or post-disaster performance from the perspective of 'lessons learned'. He states that in post-disaster learning processes, organizations, communities, regions and nations sometimes fail to change policies due to restraints imposed by the political systems.

The earthquake and tsunami can be seen as the focusing events mentioned by Kingdon. The role of earthquake and tsunami need to be examined in shifting the perspective, agenda and focus of development in Aceh.

5.2.2. Tourism destination transformations

In tourism studies, most of the post-crisis changes have been studied in the context of negative changes due to the impact of the crisis. Ritchie (2009), however, categorized three types of post-crisis transformations, namely organizational, destination, and human and community transformations.

Organizational transformation means that disasters can be used as a tool to increase an organization's vitality and longevity, re-evaluate its relationship with other stakeholders and tourists, and possibly develop new products, markets and programmes to decrease costs and increase the organizational team spirit and

cohesion (Ritchie, 2009). Destination transformation means that disasters can also increase the awareness and cohesiveness within the tourism industry and between the tourism industry and the emergency aid agency. Disasters prompt policy changes that have a positive impact on tourism and increase its value. Similarly, Faulkner (2001) said that the infrastructure in the destination might be rebuilt and improved post-disaster, so that mitigation and disaster can be taken into account in the infrastructure master plan. Finally, a disaster can provide the community with an opportunity to reflect on its past and plan for its future. Communities may find a way to increase the innovation and adaptation to a changing market and leadership, which ensures that the destination will not perish due to permanent decline.

Several scholars interpret transformation as an evolution, especially when it takes a long process over many years to complete. One of these scholars is Butler (1980), who introduced the popular concept of tourist area life cycle (TALC). TALC suggests a stages approach to help understand resort evolution and proposes that resorts move through 'exploration', 'involvement', 'development', 'consolidation' and finally 'stagnation or decline'. This model has been widely used to analyse the evolution of small-scale tourism (Agarwal, 1997). The simplicity of this model allows an understanding of the transformation of destinations, especially in the involvement stage initiated by the local community (Hamzah & Hampton, 2013). However, there have been criticisms of the TALC model (Ma & Hassink, 2013), because its linear narrative does not permit a rigorous analysis of the complexity of the interactions and forces that shape destination areas. Weaver (2000) also argued that TALC is malleable, subjective and complex, and he introduced a broader context model of destination development. TALC means that the transformation of a tourism destination is perceived as possibly happening due to internally induced factors (i.e. carrying capacity), while in the present research natural disaster goes beyond the internal context and requires an understanding of the complex phenomena in post-disaster Aceh and after the period of political conflict. Therefore, a combination of TALC and resilience concept was used in analysing the Aceh case study.

5.2.3. Tourism destination resilience

Resilience has become the central term in the natural and social sciences to describe the capacity of a 'thing' to respond to or withstand change due to crisis events like an economic crisis, or natural disasters such as earthquakes, tsunamis and floods. The concept of resilience was introduced relatively late in tourism studies, as the term showed no significant growth in use as a keyword until the 2000s (Hall et al., 2017).

Tourists have been acknowledged as among the most vulnerable stakeholders when a given triggering event such as a natural or human-induced disaster occurs

(Ma, Zhang, & Qu, 2015; Murphy & Bayley, 1989). For instance, Rindrasih et al. (2018) explore how tourists have different responses towards such natural disasters. However, tourism destinations and tourism supply can show high vulnerabilities (Biggs et al., 2015; Ghaderid et al., 2015) as well as adaptability (Bultjens et al., 2014) to such triggering events. At the destination level, resilience will partly be a function of individual and organizational resilience, but will also be affected by the nature of the destination – the emergent effects – which stem from the density and richness of the network between businesses, local government, NGO's and the local community within the destination (Hall et al., 2017).

Tourism resilience describes the capacity of these tourism systems to deal with stresses by maintaining the stability of the tourism-related regional economy while ensuring the flexibility and diversity necessary for innovation and further development (e.g. Nelson et al., 2007). In terms of destination resilience, Hall et al. (2017) categorized resilience using an ecological approach, including the socio-ecological dimension, socio-political dimension, organizational dimension, community dimension, urban dimension and individual dimension of disaster resilience.

Holling (1973) introduced the four phases of changes – namely reorganization, exploitation, conservation and release – in his resilience theory in the field of ecology, but it has lately been applied in other disciplines, including tourism. Reorganization represents the rapid change that usually takes place after a 'destabilizing event', which is often manifested in the regeneration of societal structures. Exploitation elucidates the creation of new systems or institutions accompanied by new cultural, political and social relationships. Conservation refers to the formation of a stable but rigid state through newly formed and interconnected structures and capital. Finally, the release phase occurs when the existing rigid structures are destabilized by the disturbance event(s), leading to rapid changes (Holling 2001: 394).

A few studies have successfully applied resilience theory to tourism in the past decade, such as that by Calgaro and Cochrane (2009), who used the theory to understand the best strategy for the tourism system in Sri Lanka and Thailand following the 2004 tsunami. Focussing on the impact of the 2004 tsunami on tourism destinations and systems, the work of Calgaro & Lloyd (2008), Carlsen (2006), Reddy (2005) and Sharpley (2005) add to our understanding of the processes and factors that underpin post-disaster resilience. Calgaro and Lloyd (2008) pointed out that the role of power distribution and political preference influences both vulnerability and the uneven distribution of resources.

Calgaro et al. (2014) used the perspective of vulnerability to examine whether tourism destinations can be more vulnerable and less resilient as a result of three dimensions, namely exposure, sensitivity and system adaptiveness. Becken (2013)

also conducted a resilience analysis of tourism destinations. She adapted the stability landscape model of Walker et al. (2004) for the sub-systems of tourism, focusing on three dimensions of resilience, namely precariousness, resistance and latitude. In addition, Cochrane (2010) examined the resilience cycle in Sri Lanka, Laos and Indonesia, and identified the principal elements of the sphere of tourism resilience, that is, the harnessing of market forces, leadership and stakeholder cohesion.

This study uses certain concepts from the TALC framework and Holling's resilience theory to analyse the tourism development in post-disaster Aceh. This intersection of perspectives is instrumental in explaining the phenomena of recovery.

In sum, this research developed the conceptual framework on the basis of the fundamental idea that tourism is important for economic development in a country because of its role in providing job opportunities and attracting foreign revenue. However, the tourism industry is very volatile and disasters often result in crises. The big question is whether the earthquake and tsunami, as focusing events, changed the performance of tourism for Aceh. Consequently, this research covers three main themes of analysis:

- 1 Tourism development phases in Aceh. The analysis covers 30 years and categorizes the timeframe in phases based on tourism development characteristics, by intersecting the concepts from Butler (TALC) and Holling (resilience phases).
- 2 The post-disaster tourism transformation in Aceh. The forms, types and characteristics of the transformations are examined to understand how the disaster has truly opened the window of opportunity for Aceh.
- 3 Dilemma in the current situation of post-disaster Aceh. The existing Aceh tourism development is investigated based on the primary data gathering from the actors. This is essential to know whether the current policy is sustainable.

5.3. Methods

The empirical research was performed in Aceh from June to September 2016 and from February to April 2017 and consisted of focus group discussions, observations and in-depth interviews. Two focus group discussions were conducted with fifteen tour guides and six tour providers. In 2017, there were a total of 60 certified tour guides and more than 100 uncertified tour guides in Aceh (Tribunnews, 2017). We chose to focus on the certified tour guides. However, only 20 of the tour guides could be contacted using the snowball sampling approach, and only 15 of them were able to attend due to their tight schedules and other constraints. The in-depth interviews were conducted in the village of Nusa Gampong Aceh with six members of the village tourism community organization. Separate meetings were conducted

with representatives of the Disaster Prevention Board, the Aceh Tourism Board, and Aceh's Board of Regional Planning and Development. In addition, 20 hotel owners and eight restaurant owners were also interviewed.

The selection of focus group participants and interviewees was based on snowball sampling because the tour guides' and tour agents' contact details could not be accessed. First, the researchers approached the leader of the tour guide association for some names. They then contacted these people and arranged a time and place for the focus group discussions. The two focus group discussions lasted for about two hours. Interviews and focus group discussions were conducted in the respondents' native language, as the researcher is fluent in Indonesian.

The respondents were first asked to describe the tourism situation during the conflict, reconstruction and post-peace agreement eras; they were free to describe the product, markets and challenges they faced. They were then asked to describe the current situation of tourism development and how the tourist guiding process is operated (e.g. what challenges there had been during the development of tourism, and how halal tourism had emerged). Finally, the respondents were asked about the vision and mission regarding the development of tourism in Aceh, and about possible future challenges.

The interviews and focus group discussions were recorded, transcribed, coded, catalogued and analysed in MS Word documents. Classifications were generated to create a clear storyline in what Bryman and Burgess (2002) call 'analytic induction', which echoes the grounded theory method. It incorporates an iterative process of going back and forth between original data and theoretical concepts to reach abstract categorization.

5.4. Context: natural disaster, political dispute and peace agreement

Aceh is located in the northern tip of Sumatra Island (see Figure 5.1). It is surrounded by the Andaman Sea to the north, the Indian Ocean to the west and south, and the Malacca strait to the east. It is close to India's Andaman and Nicobar Islands. Demographically, the Aceh population was roughly five million in 2018 and continues growing. Agriculture is the main livelihood equalling 35% of the gross domestic product since 2014 to present. Restaurants and accommodation services contribute 16–17% of Aceh's GDP.

Historically, Aceh was the first place of entry of the Islam in Indonesia. In the 9th century Gujarat traders introduced the religion of Islam to Aceh. Two kingdoms were

established in Aceh based on Islamic teachings called Peureulak and Pasai. The territory of these kingdoms covers most of the east and west coast of Sumatera to the Malaysian Peninsula (BPS, 2018). The influence of the Islam has positioned Aceh as religious hotspot in the east; it was called 'Seuramo Mecca' (i.e. 'Veranda of Mecca'). However, after the death of Sultan Iskandar Muda, Aceh became the target of British and Dutch colonialization, marked by the signing of the Treaty of Sumatera and the Treaty of London. This was followed by war in 1873 between the Dutch and the Sultanate of Aceh. After thirty years of war, Aceh capitulated and became part of the Dutch administration called Oost Indië Nederlandsch in the form of a province, and since 1937 Aceh became a residency administration. Aceh then integrated into the Republic of Indonesia after the national independence of Indonesia in 1945.

Geologically, Aceh is situated in a vulnerable geomorphologic zone known as the Ring of Fire that is extremely prone to earthquakes, volcanic eruptions and tsunamis. It explains why Aceh was struck by the tsunami 2004. Besides the loss of lives, the direct losses resulting from the 2004 tsunami were greatest in the social sector (housing) and the private sector (assets), and in terms of activities that relate directly to the livelihoods of the communities, such as fisheries, agriculture, tourism and transport.

Before the tsunami, Aceh had experienced almost 30 years of political conflict that discouraged people from visiting the province. The conflict arose due to a movement that demanded justice and recognition of the area's history. The recent separatist movement in Aceh arose in 1976 when Hasan di Tiro, the founder of the Free Aceh Movement (GAM), 're-declared' Acehnese independence, claiming that Aceh had never been completely colonized by the Netherlands and that its transferral to the Indonesian authorities in 1949 had been illegal (Schulze, 2004). GAM posed a profound threat to governmental control of Aceh, leading to Aceh's formal designation as a Military Operation Zone from 1989 to 1998 (Waizenegger & Hyndman, 2010). During the conflict period, Jakarta issued the Law of Aceh, identifying it as a special region (No.44/1999), and the Law of Special Autonomy of Province of Nanggroe Aceh Darussalam (No.18/2001), in 1999 and 2001, respectively. The special autonomy granted Aceh 'exceptionalities' in the fields of religion, custom and education, and with regard to the role of *ulama* or religious leader (Ichwan, 2013).

However, the political conflict persisted. The election of General Yudhoyono as president in September 2004 appeared to resolve the conflict. Barely two months into his presidency and four days before the earthquake and tsunami struck, the two sides agreed in secret negotiations to conduct formal peace talks (Merikallio & Mitchell, 2006). While an initiative had been launched before the tsunami, it was the disaster that formed, in the words of Yudhoyono, 'an overwhelming moral, political,

economic, and social imperative to end the conflict' and ensured that, this time, a peace agreement would be secured (Fan, 2013). Moreover, the Memorandum of Understanding for the peace agreement between Aceh separatist movement and Indonesian government was signed after the tsunami 2004.

5.5. The tourism transformation phases in Aceh

The long period of conflict damaged the tourism performance of Aceh. The 2004 earthquake and tsunami locked out tourism from the conservation/stagnation to early development period. But within just a decade, Aceh tourism had been transformed. The transformation process can be divided into four stages, based on 30 years of conservation/stagnation, followed by decline, exploration and involvement (Figure 5.2).

Figure 5.1. Map of Aceh Province, Indonesia
Source: Author, adapted from Geospatial Information Board, Indonesia (2017)

Figure 5.2. Tourism development stages of Aceh

Source: Author's analysis, 2018

Conservation/stagnation stage (before the tsunami)

This stage is characterized by a very low number of visitors, namely fewer than 9,000 visitors per year during the decade before 2004 (Statistics Indonesia, 2005). The visits were reported as being related to business and trade only and they did not influence the Aceh's economic growth. The media depicted Aceh as a daunting place to visit because of the military occupation and news about violence committed by both the military and the Aceh separatist movement. A situation of war made it hard to receive tourists and fulfil the role of host. As one of the tour guides said: "It was a difficult situation in which to engage in tourism. We had to be very careful. We were in a dilemma because the military could have arrested us and GAM could have attacked us." (Tour guide: focus group discussion, 2016)

Tourism was not considered an important source of income in the region due to GAM's opposition. The conflict in turn led to widespread poverty, gross human rights violations and political oppression. Prior to this political conflict, Aceh was reasonably wealthy, but it suffered a considerable development setback due to the conflict. In 1996, Aceh's poverty rate was 12.7% compared to 17.7% in Indonesia overall. By 2004, the poverty statistic had reversed from the previous decade, with 28.5% poverty in Aceh compared to 16.7% in Indonesia as a whole.

Boxing Day – Decline stage (after tsunami) (December 2004–August 2005)

During the decline stage, the performance of tourism and the economy declined to a very low level. The Aceh earthquake and tsunami was headline news both nationally and internationally, which may have framed Aceh as an unsafe place to visit. Only 83 foreign tourists and 294,528 domestic tourists visited Aceh in 2005 (Statistics Indonesia, 2005), due to travel warnings and negative travel advice from many countries.

Post-disaster, it was hard to stimulate business and investment, as inflation was running at 35% (Statistics Indonesia, 2010). It was difficult time for the community to conduct any economic activities, including tourism. As a diving entrepreneur in Weh Island, an island located 17 km from Aceh, explained:

"Our business totally collapsed due to the earthquake and tsunami. We didn't know how to re-start. However, back then my father was not thinking about his business but instead decided to help people. He sailed his boat to Banda Aceh to remove corpses before anyone else had got there." (Diving provider, 2016)

During the emergency process following the tsunami, hundreds of government organizations and NGOs came to Aceh to provide humanitarian assistance. Both local and international organizations focused on providing shelter and fresh water, clearing rubbish, and collecting corpses and arranging mass graves.

Reorganization stage (mid 2005–mid 2010)

The reorganization stage began around a year after the tsunami. The key moment was in August 2005 when the Indonesian government and the representative of the Aceh separatist movement signed the peace agreement. These changes created an atmosphere of opportunity and hope. In April 2005, the national government established the Rehabilitation and Reconstruction Agency (BRR) for Aceh and Nias. Its mission was to restore livelihoods and strengthen communities in Aceh and Nias by designing and then overseeing a coordinated, community-driven reconstruction and development programme that was implemented according to the highest professional standards as mandated by Regulation (Perppu) No. 2/2005, which was issued by the president of the Republic of Indonesia.

During the changing political situation, the international and local NGOs continued to be involved in the recovery programmes in Aceh. The main programme was the rebuilding of the settlements, roads and facilities. Local government, with financial support from national budgets, reconstructed much of the transport-related

infrastructures. These nodes have now become the basis for the mobility of people and tourists. Some events and tourism promotional initiatives were arranged to attract tourists. In collaboration with the Sacred Bridge Foundation and the Indonesian Department of Culture and Tourism, in May 2006 UNESCO sponsored 'Rising Above Tsunami: A Transmission of Acehese Cultural Heritage'. This event, held at the Ministry of Culture and Tourism in Jakarta, was aimed at 'sharing experiences and lessons learnt during the tragedy'. During this stage the number of foreign tourists increased from 4,414 in 2005 to 20,684 in 2010; the number of domestic tourists increased in this period from 395,691 to 720,079.

Exploitation stage (2010 – present)

The involvement stage is characterized by the increasing number of tourists and actors involved in tourism promotion and destination development. The successful reconstruction and the peace agreement have been increasingly promoted through the media, and even more visitors have been attracted to Banda Aceh, Sabang, Takengon and the surrounding regencies. The number of foreign visitors increased from 20,648 in 2010 to 54,588 in 2015; the number domestic tourist was reported as being 1,662,528 in 2015.

The increasing tourism demand in Aceh has been partly stimulated by pre-existing tourism resources in Sabang. Several heritage buildings were also renovated, for example Masjid Raya Baiturrahman (the biggest mosque in Aceh), Museum Nagari Aceh, the Indra Patra fortress and the Kerkhoff Dutch cemetery. The tsunami museum was also opened to the public in 2009; it is now the most popular tourist attraction. Another important magnet for tourists is PLTD Apung – a 2,600-ton floating diesel power plant that the tsunami carried five kilometres from the open sea into the centre of the town. Some white sand beaches, such as Ulee Lheu, Loknga and Lampuuk, attract many visitors at weekends and during holiday periods.

This stage marks a rapid increase in visitor numbers. The number of domestic and foreign visitors is reported to have increased significantly following the earthquake and tsunami. International demand increased from fewer than 100 people in 2004 to more than 78,000 in 2016. During this stage, Aceh experienced massive promotion; for example, it participated in the World Halal Tourism Award 2016, which was held in in Abu Dhabi and Aceh. Indonesia won 12 of the 16 categories.

5.6. Transformation in post-tsunami tourism

5.6.1. Destination transformation: halal tourism supply and demand

In 2013, the Indonesian government promoted halal tourism at the Halal Expo 2013 & Global Halal Forum in Kemayoran, Jakarta. In 2016, the Aceh government declared halal tourism to be its main tourism product and supported its development and promotion. The Tourism Board of Aceh also acknowledged halal tourism as Aceh's main brand of tourism development. Finally, the Ministry of Tourism added Aceh to the list of national halal tourism destinations and provided budgets, programmes and promotions.

Halal tourism can be categorized as a new tourism niche. Henderson (2003) explained that in the context of Islamic teaching, there was a concern among Muslim social leaders and citizens that tourists could create problems. Moreover, drug and alcohol consumption, unacceptable behaviour, immodest dress, and open displays of affection between males and females, lead to prostitution and gambling, which are forbidden by Islamic law.

The majority of the population of Aceh are Muslims, and Islam has a strong influence on the culture and way of life in the area. The implementation of Sharia law in Aceh as part of the peace agreement generated a remarkable new beginning for tourism development: Aceh launched halal tourism as both its brand and mission. The statement in the Helsinki Memorandum of Understanding also supported tourism development: 'Aceh has the right to set and raise taxes to fund official internal activities. Aceh has the right to conduct trade and business internally and internationally and to seek foreign direct investment and tourism to Aceh'. The label 'halal' influences the tourism supply side; for example, attractions, infrastructure and facilities have been adapted to comply with the teaching of Islam. The supply side has been prepared to cope with the development in tourism. The land transportation infrastructure has been developed, for example in the form of asphalt roads that connect North Sumatra to Banda Aceh. Furthermore, three ferries carry more than 600 passengers from Ulee Lheue harbour (Banda Aceh) to Balohan harbour (Sabang) every day. In this regard, the availability of roads and airports increased the number of visitors during the involvement stage.

With regards accommodation, Aceh has more than 400 classified hotels and a total of around 7,380 rooms in those hotels and non-classified hotels (e.g. hostels, motels, home stays). However, more than half of the hotels are in Banda Aceh, with

others scattered around the province. Several new hotels have been built in the past two years, largely driven by the emerging tourism industry.

On the market side, Aceh received 2,077,797 domestic visitors and 76,452 foreign visitors in 2016, amounting to half of the total population of Aceh (Table 5.1). The cities of Sabang and Banda Aceh remain the two most visited cities. Sultan Iskandar Muda airport handled almost 7,000 domestic and international flights in 2016. Malaysia is a major market for Aceh: in 2015, 77.32% of foreign tourists were from Malaysia. China, Singapore, the USA and Australia make up 8% of the foreign tourism market. The geographical proximity and Muslim majority perhaps explain why Malaysian people like to visit Aceh. It can be argued that labelling tourism as halal has attracted more tourism from the Muslim market than from the non-Muslim market.

Table 5.1. Number of tourists visiting Aceh

Year	Foreign	Domestic
2000	9,278	-
2001	9,582	-
2002	6,721	-
2003	3,603	-
2004	83	294,528
2005	4,414	296,801
2006	11,524	395,691
2007	13,835	595,546
2008	17,282	710,081
2009	18,589	712,630
2010	20,648	720,079
2011	28,053	959,546
2012	28,993	1,026,800
2013	42,552	1,075,626
2014	50,721	1,377,541
2015	54,588	1,662,528
2016	76,452	2,077,797

Source: Aceh Tourism Board, 2017

The practices of halal tourism in Aceh are visible in restaurants that serve only halal food and hotels that provide all guests with services that are compliant with Islamic teaching, such as qibla (direction of Mecca, to which Muslims turn at prayer), halal food, alcohol-free beverages and a prayer room with a call to prayers. It was mentioned by one of the respondents that the availability of assessments and certificates for Muslim-friendly or halal hotels is considered to be one of the most important attributes that attract Muslim travellers to Aceh. Moreover, many tour packages appeal to tourists; such packages include visits to a Baiturahman mosque, *pesantren* (an Islamic boarding school) or an orphanage, as well as the observance of Ramadhan or the celebration of its end (the Eid day religious festival). Some offer Islamic heritage tours to show tourists the history and culture of the Islamic civilization in Aceh. The sale of Islamic packages has increased in Aceh, and it is expected that investments in the Islamic package market will increase, particularly in the inbound tourists category.

5.6.2. Organizational transformation

The main shift in organizational transformation is indicated in the vision of the Tourism and Culture Board of Aceh. The vision emphasizes the need to establish tourism development programmes based on Islamic values. The peace agreement encouraged a re-evaluation of the vision and mission and the restructuring and development of programmes. The organization revisits its strategy in dealing with challenges. Externally it creates a stronger relationship with other local organizations in neighbouring provinces and a vertical relationship with the state (i.e. the Ministry of Tourism).

Moreover, NGOs indicate that progress is being made. This is particularly shown by the improvement of two important organizations, namely the Aceh chapters of the Hotel and Restaurant Association and the Association of Tour Guides. In 2017, there were a total of 60 certified tour guides and more than 100 uncertified tour guides (Tribunnews, 2017). As one of the tour guides explained, "Many of us are newcomers and there are new graduates with Bachelor's and Master's degrees in English literature because tourism studies programmes are not available in Aceh". Most of the tour guides are young (25–35 years old) and relatively skilled in English. The young and active tour guides help to realize innovations in providing services and tourism packages. The fresh energy and better formal education of tour guides has helped with the development of some tourist packages. Previously, guiding tourists was not a popular job in Aceh, as tourism itself was not popular.

5.6.3. Human and community transformation

The earthquake and tsunami that struck Aceh caused psychological problems for many of its victims. There is a growing literature documenting the negative effects of natural disasters on community psychology. Neuner et al. (2006) examined the tsunami-related post-traumatic stress disorder (PTSD) symptoms in Sri Lanka resulting from the severity of trauma exposure and family loss, as well as from previous traumatic events. In Thailand, Thienkruea et al. (2006) assessed trauma experiences and the prevalence of symptoms of PTSD and depression among children in tsunami-affected areas, and found a significant association between the symptoms and the disorder in children. For Aceh, the situation was even worse, because the earthquake, the tsunami and the long period of conflict between GAM and the Indonesian military all have the potential to impact the community. Such has been observed in many studies on the impact of war and violence on a community's mental health; for example Miller and Rasmussen (2010) examined mental health in conflict and post-conflict settings and suggested well-designed intervention programmes.

Ritchie (2009) concludes that physical and mental exhaustion and post-traumatic stress among the local community, emergency workers and tourists may lead to transformation. This study found that there is an emerging transformation of human and community in terms of tourism activities. There is a demand from the domestic market for it to be a tourism destination. Sabang, Takengon and Banda Aceh are known as places where the Acehnese can engage in tourism activities. The improved economy following the reconstruction led to an increase in demand for entertainment. From the perspective of hosts, the Acehnese community is preparing itself to provide tourists with services.

In the context of tourism, the community in Aceh can be regarded from two perspectives, namely as hosts and as guests. As guests, they need space and facilities to relax and enjoy entertainment, in order to reduce stress. It has been believed for several decades that tourism activities can potentially reduce stress because tourism attractions and popular destinations are designed and built around environmental activities (Fridgen, 1984). An individual is thought to seek out new, potentially satisfying environments and social situations when trying to escape everyday social pressures and his or her personal environment (Iso-Ahola, 1983). It is an important phase that allows people and the community to reflect on the past and to start new lives.

The interviews revealed that the community of Aceh has become more open to the new environment, the new people and the new culture. The devastation brought many people from all over the world to Aceh and they interacted with the local people

during the five-year recovery process. This interaction stimulated understanding and networking, which is important for the tourism industry. The transformation is reflected not only in the new buildings, the rehabilitation and reconstruction of public facilities, a new museum, new mosques and new entertainment venues, but also in the more frequent cultural events and in the openness to the new people who visit Aceh.

5.6.4. Dilemma to current tourism development

Halal tourism is seen as a new mode of destination transformation that is more inclusive and more in line with what the people of Aceh really want. Halal tourism and hospitality has implications for both the consumption and production of tourism and hospitality products (Razzaq, Hall, & Prayag, (2016)), which is also visible in the case of Aceh. Halal tourism is not new, but it has attracted the attention of the academic world of tourism studies because the size of the Muslim travel market is impressive. It is projected that by 2050, the Muslim population will have grown to 2.8 billion people, representing 30% of the world's total population (Perrin, 2015; Scott & Jafari, 2010). However, halal tourism in Aceh faces many dilemmas that have arisen since its emergence. These dilemmas fit into four categories.

First, there is a problem when it comes to selecting appropriate locations for tourism development. Aceh, and especially its coastal area, remains vulnerable to tsunamis and earthquakes. Several earthquakes have hit Aceh since 2004; for instance, 39 people were killed in the 6.1 magnitude earthquake in 2013, and 92 died as a result of the 6.5 magnitude earthquake in 2016. The touristic places are currently located mostly in the coastal area and in the city centre, which was severely impacted by the 2004 tsunami. The growth of tourism as a livelihood source for many people may increase their vulnerability, because tourism is sensitive to disaster events. Moreover, tourists are at high risk because they may not be familiar with the evacuation procedure during disaster events.

Second, there is the problem of political conflict. To support tourism development, violence and political conflict must be reduced. As a result of the long periods of conflict, there are a large number of former GAM combatants the government needs to keep an eye on. Problems might arise if there is injustice in terms of giving opportunities to ex-combatants to work in the new period of peace. In addition, several small-scale conflicts that were not associated with the ex-combatants have threatened the security and safety of the city; for instance, there were a few incidents before the election in 2009 and 2012, and street violence throughout the year.

Third, the government is facing community resistance. Aceh is regulated through the *Qanun* (directive based on Sharia law), which means that certain acts – the consumption of intoxicating food and drink, immoral conduct, gambling, etc. – are

prohibited, and the prohibition applies to everyone, including tourists. The tour guides reported that some communities had rejected tourism activities as they consider them un-Islamic. During the process of community transformation in Aceh, there were different responses to tourism development. The rejection of tourism was also evident in the strong criticism of the construction of a Best Western hotel (Republika, 2012), which contravened Qanun Aceh number 9/2008 on customary practice and Qanun Banda Aceh number 4/2009 on spatial planning in Banda Aceh (Berita Satu, 2012).

Fourth, halal tourism branding impacts tourism investment and marketing. The implementation of Sharia law and the labelling of tourism as 'halal' can be problematic when trying to attract new investments, as halal might be associated with terrorism, ISIS or other radical activities. As also highlighted in Western media, there is a lot of Islamophobia and 'halal hysteria', and that could decrease people's desire to visit Aceh (Battour & Ismail, 2014). In addition, from the promotional perspective, it is weakening the confidence in building the destination brand based on Islamic values, due to the lack of interest from prospective Western tourists, who hold misconceptions about Islam. As mentioned by Timothy and Iverson (2006), Islamic values discourage exposure of the female body, and the stereotypical view is that Muslim, conservative and anti-Western practices are unattractive to Western tourists.

5.7. Discussion

The transitions in politics, society and the economy, as well as the environmental changes, in Aceh influenced the development of tourism in the province. The enactment of Sharia law has led to changes in tourism from the point of view of product, market, organization and policy. Halal tourism has been chosen as the main narrative and vision by the local government as a way of adjusting to the new law and community demands.

The development of halal tourism has boosted tourism, as evidenced by the increasing number of tourists and the improvement of infrastructures. As this chapter suggests, the government has an important role to play in providing the conditions and atmosphere for the tourism sector to grow. The recovery stage saw the introduction of a lot of entrepreneurship and economic development programmes. This confirms the view of some experts that disasters may provide windows of opportunity to transform social-ecological systems (Goldstein, 2008; Pelling, 2006; van Eijndhoven et al., 2001). The tsunami generated a long-lasting shift in the tourism industry that, in this case, led to a new tourism niche and changes in both product development and market orientation.

The findings resulting from the intersection of Butler's TALC framework and Holling's resilience theory model show that Aceh has experienced four stages of post-disaster tourism development. These are conservation/stagnation, decline, reorganization, and exploitation. Conservation occurred during the long period of conflict following the Aceh separatist movement's declaration of independence in 1976, which led to the stagnation of tourism development. The decline stage was triggered by the 2004 tsunami. Nonetheless, the tsunami also brought about the peace agreement that allowed the government and rebels to settle the political conflict. During this stage, halal tourism was explored and found to meet the requirements of local people, who wanted a more Islamic form of tourism. The subsequent stages (reorganization and exploitation) are characterized by the increasing number of both international and domestic tourists, an improvement in facilities and infrastructure, and increasing attractions and events.

In summary, the 2004 tsunami ended the long period of non-progress (conservation/ stagnation) and allowed for the transformation to the new stage. Reorganization happened after the conservation/stagnation, which was associated with new inventions, innovation and capital accumulation. The disaster led to transformation and the transformation in tourism destination contributed to the resilience of the industry. Resilience theory can therefore be used to understand the phenomena that occurred in Aceh. However, as a consequence, tourism planners in Aceh have been advised to anticipate a possible future decline in tourism.

The relationship between halal tourism development and the tsunami perhaps cannot be treated as a direct causal relation; in other words, it does not mean that the tsunami sparked halal tourism development. As many writers on public policy have lamented (Sabatier, 1999), there is no 'stages' model of the political process that can provide a simple map, because of the multiple sources of causation and feedback and the sheer complexity of what is going on. However, what has been found in Aceh shows that the earthquake and tsunami have opened the lock-in in the conservation/ stagnation period produced by the long period of conflict. The natural disasters made the actors settle down and look for a way to escape from the conflict; Kingdon (2002) calls such events 'focusing events'. The window of opportunity was created by the occurrence of such an event. Moreover, the actors had the ability and capability to ride the storm at the right moment. In short, this study does not suggest a new theory of policy changes driven by disasters; rather, it suggests that windows of opportunity were opened by the tsunami and that tourism actors reacted by using it as a trigger for transformation.

5.8. Conclusion

This study raises a fundamental question concerning how the tourism destination transformation has been taking place in Aceh since the 2004 tsunami. Aceh has experienced transitions in politics, society and the economy, as well as environmental changes. The main feature is the transition from a conflict zone under military occupation to the more stable situation. The tsunami opened new windows of opportunity for tourism by promoting the peace agreement, which was followed by the implementation of Sharia law, improvements in infrastructure and finally the emergence of halal tourism. It also shows how 'build back better' could be practised in the tourism industry post-natural disaster. The tsunami destabilized the regime, and that forced the government to pursue transformation in policy, including tourism policy.

From the perspective of academic contribution, this study demonstrates that new theoretical insight can be gained by examining how becoming a tourism destination transformed Aceh from a conflict area into a new tourism destination with a new type of product and market, namely halal tourism. This chapter used certain concepts from Butler's TALC framework and Holling's resilience theory to show that Aceh has undergone four stages of post-disaster tourism development, namely conservation/stagnation, decline, reorganization and exploitation. This study does not suggest that the case of Aceh is an ideal template for other post-disaster and post-conflict areas, because it is understood that the varied nature and characteristic of each tourism destination leads to different types of transformation. However, some insights can be gained from the case, especially into the initiative of the Aceh and the national governments to spread and increase the opportunity to use tourism as a tool for recovery. Furthermore, following Holling's (2002) resilience model, and in terms of practical implementation, tourism planners need to anticipate a possible decline in tourism. Thus, the principle of sustainability should be enhanced during the exploitation stage.

Using Holling's resilience theory, the phenomenon of halal tourism in Aceh has shown that a new path for tourism development that is more acceptable to the community can increase resilience. The resilience in Aceh has been increased by better understanding the market, knowing their community's strengths (culture and environment), adjusting tourism policy to involve the aspirations and values of local people, and improving the physical condition of the destination. The 2004 earthquake and tsunami event has helped to focus attention on the value of local people being part of tourism development and it can be integrated into the economic and social structure. Disaster opens the window for local communities

to transform the tourism destination and create more or less desirable conditions. This extends the implementation of the sustainable development concept, which should be viewed as an evolving, complex system that co-adapts to the needs of the place and the local community (Farrell & Twining-Ward, 2005). Understanding the complex connection between disaster, political conflict and peace agreement, which is basically the relationship between people and nature, creates an opportunity for innovation and economic policies aimed at building resilience (Folke et al., 2002). Moreover, the ability to use windows of opportunity has become essential to make the post-disaster tourism agenda more resilient.

Future research is needed to study the more exploratory and detailed ways in which the government is dealing with the tourism development and how the Aceh community benefits from halal tourism.

References

- Agarwal, S. (1997). The resort cycle and seaside tourism: An assessment of its applicability and validity. *Tourism Management*, 18(2), 65-73.
- Battour, M., & Ismail, M. N. (2014). The role of destination attributes in Islamic tourism. *SHS Web of Conferences*, 12 01077.
- Beirman, D. (2003). *Restoring tourism destinations in crisis: A strategic marketing approach*. CAUTHE 2003: Riding the Wave of Tourism and Hospitality Research, 1146.
- Berita Satu, (2012). *Best Western Hotel Ditolak di Aceh*. Retrieved from <http://www.beritasatu.com/nasional/24461-best-western-hotel-ditolak-di-aceh.html> on 30 Augustus 2017.
- Becken, S. (2013). Developing a framework for assessing resilience of tourism sub-systems to climatic factors. *Annals of Tourism Research*, 43, 506-528.
- Biggs, D., Hicks, C. C., Cinner, J. E., & Hall, C. M. (2015). Marine tourism in the face of global change: The resilience of enterprises to crises in thailand and australia. *Ocean & Coastal Management*, 105, 65-74.
- Birkland, T. A., Herabat, P., Little, R. G., & Wallace, W. A. (2006). The impact of the December 2004 Indian ocean tsunami on tourism in Thailand. *Earthquake Spectra*, 22(S3), 889-900.
- Birkland, T. A. (2009). Disasters, lessons learned, and fantasy documents. *Journal of Contingencies and Crisis Management*, 17(3), 146-156.
- Birkmann, J., Buckle, P., Jaeger, J., Pelling, M., Setiadi, N., Garschagen, M., Kropp, J. (2010). Extreme events and disasters: A window of opportunity for change? Analysis of organisational, institutional and political changes, formal and informal responses after mega-disasters. *Natural Hazards*, 55(3), 637-655.
- Bryman, A., & Burgess, B. (2002). *Analysing qualitative data*. Routledge. New York
- Butler, R. W. (1980). The concept of a tourist area cycle of evolution: Implications for management of resources. *The Canadian Geographer/Le Géographe Canadien*, 24(1), 5-12.
- Buultjens, J., Ratnayake, I. and Gnanapala, A.C. (2014). From tsunami to recovery: The resilience of the sri lankan tourism industry. *Tourism Crisis and Disaster Management in the Asia-Pacific*, 1, 132.
- Calgaro, E., & Cochrane, J. (2009). Comparative destination vulnerability assessment for Thailand and Sri Lanka: Sustainable recovery and resilience building in the tsunami affected region Stockholm Environment Institute.
- Calgaro, E., & Lloyd, K. (2008). Sun, sea, sand and tsunami: Examining disaster vulnerability in the tourism community of Khao Lak, Thailand. *Singapore Journal of Tropical Geography*, 29(3), 288-306.
- Calgaro, E., Dominey-Howes, D. & Lloyd, K. (2014). Application of the Destination Sustainability Framework (DSF) to explore the drivers of vulnerability in Thailand following the 2004 Indian Ocean tsunami. *Journal of Sustainable Tourism*, 22, 361-383.
- Carlsen, J. (2006). Post-tsunami tourism strategies for the Maldives. *Tourism Review International*, 10(1-2), 69-79.
- Carter, S. (1998). Tourists' and travelers' social construction of Africa and Asia as risky locations. *Tourism Management*, 19(4), 349-358.
- Chew, E. Y. T., & Jahari, S. A. (2014). Destination image as a mediator between perceived risks and revisit intention: A case of post-disaster Japan. *Tourism Management*, 40, 382-393.
- Cochrane, J. (2010). The sphere of tourism resilience. *Tourism Recreation Research*, 35(2), 173-185.
- Cooper-Chen, A. (2006). *Global entertainment media: Content, audiences, issues*. Routledge. New York.
- Dhariwal, R. (2005). Tourist arrivals in India: How important are domestic disorders? *Tourism Economics*, 11(2), 185-205.
- Fan, L. (2013). Disaster as opportunity. *Building back better in Aceh, Myanmar and Haiti*. Pacificdisaster.net.
- Farrell, B., & Twining-Ward, L. (2005). Seven steps towards sustainability: Tourism in the context of new knowledge. *Journal of sustainable tourism*, 13(2), 109-122.
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135-147.
- Faulkner, B., & Vikulov, S. (2001). Katherine, washed out one day, back on track the next: A post-mortem of a tourism disaster. *Tourism Management*, 22(4), 331-344.
- Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C. S., & Walker, B. (2002). *Resilience and sustainable development: Building adaptive capacity in a world of transformations*. AMBIO: A Journal of the Human Environment, 31(5), 437-440.
- Fridgen, J. D. (1984). Environmental psychology and tourism. *Annals of tourism research*, 11(1), 19-39.
- Ghaderi, Z., Mat Som, A. P., & Henderson, J. C. (2015). When disaster strikes: The thai floods of 2011 and tourism industry response and resilience. *Asia Pacific Journal of Tourism Research*, 20(4), 399-415.
- Goldstein, B. E. (2008). Skunkworks in the embers of the cedar fire: Enhancing resilience in the aftermath of disaster. *Human Ecology*, 36(1), 15-28.
- Guizzardi, A., & Mazzocchi, M. (2010). Tourism demand for Italy and the business cycle. *Tourism Management*, 31(3), 367-377.
- Hall, C. M. (2010). Crisis events in tourism: Subjects of crisis in tourism. *Current Issues in Tourism*, 13(5), 401-417.
- Hall, C. M., Prayag, G., & Amore, A. (2017). *Tourism and resilience: Individual, organisational and destination perspectives* Channel View Publications.
- Hamzah, A., & Hampton, M. P. (2013). Resilience and non-linear change in island tourism. *Tourism Geographies*, 15(1), 43-67.

- Henderson, J. C. (2003). Managing tourism and Islam in peninsular Malaysia. *Tourism management*, 24(4), 447-456.
- Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics*, 4(1), 1-23.
- Holling, C. S. (2002). Understanding the complexity of economic, ecological, and social systems. *Ecosystems*, 4(5), 390-405.
- Ichwan, M. N. (2013). Alternatives to Shariatism: progressive Muslim intellectuals, feminists, queers and Sufis in contemporary Aceh. *Regime change, democracy and Islam the case of Indonesia*. 137.
- Iso-Ahola, S. E. (1983). Towards a social psychology of recreational travel. *Leisure Studies*, 2(1), 45-56.
- Kates, R. W., Travis, W. R., & Wilbanks, T. J. (2012). Transformational adaptation when incremental adaptations to climate change are insufficient. *Proceedings of the National Academy of Sciences*, 109(19), 7156-7161.
- Kingdon, J. W., & Thurber, J. A. (1984). *Agendas, alternatives, and public policies* (Vol. 45, pp. 165-169). Boston: Little, Brown.
- Kingdon, J.W. (2002). *Agendas, alternatives, and public policies*. 2nd Edition. Longman.
- Ma, M., & Hassink, R. (2013). An evolutionary perspective on tourism area development. *Annals of Tourism Research*, 41, 89-109.
- Ma, E., Zhang, Y., & Qu, H. (2015). Influence of the global financial crisis (GFC) on the chinese outbound travel market: A case study of the shanghai regional market. *Tourism Crisis and Disaster Management in the Asia-Pacific*, 161-174.
- Mansfeld, Y. (2006). *The role of security information in tourism crisis management: the missing link*. In Y. Mansfeld, & A. Pizam (Eds.), *Tourism, security & safety from theory to practice*. Burlington, MA: Elsevier, Butterworth-Heinemann.
- McSweeney, K., & Coomes, O. T. (2011). Climate-related disaster opens a window of opportunity for rural poor in north-eastern Honduras. *Proceedings of the National Academy of Sciences of the United States of America*, 108(13), 5203-5208.
- Merikallio, K., & Mitchell, D. (2006). *Making peace: Ahtisaari and Aceh*. WS Bookwell Oy Helsinki.
- Miller, K. E., & Rasmussen, A. (2010). War exposure, daily stressors, and mental health in conflict and post-conflict settings: bridging the divide between trauma-focused and psychosocial frameworks. *Social science & medicine*, 70(1), 7-16.
- Murphy, P. E., & Bayley, R. (1989). Tourism and disaster planning. *Geographical Review*, , 36-46.
- Nelson, D. R., Adger, W. N., & Brown, K. (2007). Adaptation to environmental change: Contributions of a resilience framework. *Annual Review of Environment and Resources*, 32(1), 395.
- Neuner, F., Schauer, E., Catani, C., Ruf, M., & Elbert, T. (2006). Post-tsunami stress: A study of posttraumatic stress disorder in children living in three severely affected regions in Sri Lanka. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 19(3), 339-347.
- Pelling, M. (2006). *Incentives for reducing risk. A Reflection on Key Themes, Issues and Ideas on Risk Reduction Raised at the 2006 ProVenton Forum*. ProVenton Consortium, Geneva.
- Perrin, A. (2015). Social media usage. *Pew Research Center*.
- Prideaux, B., Laws, E., & Faulkner, B. (2003). Events in Indonesia: Exploring the limits to formal tourism trends forecasting methods in complex crisis situations. *Tourism Management*, 24(4), 475-487.
- Razzaq, S., Hall, C. M., & Prayag, G. (2016). The capacity of new zealand to accommodate the halal tourism market – or not. *Tourism Management Perspectives*, 18, 92-97.
- Republika, (2012). *Soal Pembangunan Hotel Berbintang & Mal di dekat Masjid Raya, warga Aceh terbelah*. Retrieved from <http://www.republika.co.id/berita/regional/nusantara/12/01/09/lxjc03-soal-pembangunan-hotel-berbintang-mal-di-dekat-masjid-raya-warga-aceh-terbelah>. Accessed at 20 August 2017.
- Reddy, M. V. (2005). Commentary: Tourism in the aftermath of the tsunami: The case of the Andaman and Nicobar islands. *Current Issues in Tourism*, 8(4), 350-362.
- Rindrasih, E., Hartmann, T., Witte, P., Spit, T., & Zoomers, A. (2018). Travelling without a helmet: Tourists' vulnerabilities and responses to disasters in Indonesia. *Disasters*, Volume 42. Issue 4, pp 728-803.
- Ritchie, B. W. (2009). *Crisis and disaster management for tourism*. Channel View Publications Bristol.
- Rittichainuwat, B. N., & Chakraborty, G. (2009). Perceived travel risks regarding terrorism and disease: the case of Thailand. *Tourism Management*, 30(3), 410-418.
- Ross, G. F. (2006). Tourism industry employee work stress – A present and future crisis. *Journal of Travel & Tourism Marketing*, 19(2-3), 133-147.
- Sabatier, P. A. (1999). *Theories of the policy process*. Boulder, CO: Westview.
- Schulze, K. E. (2004). The free Aceh movement (GAM): Anatomy of a separatist organisation. *Policy Studies*, (2), 1.
- Scott, N., & Jafari, J. (2010). *Tourism in the Muslim world*. Emerald Group Publishing Limited.
- Sharpley, R. (2005). The tsunami and tourism: A comment. *Current Issues in Tourism*, 8(4), 344-349.
- Sönmez, S. F., & Graefe, A. R. (1998). Determining future travel behavior from past travel experience and perceptions of risk and safety. *Journal of Travel Research*, 37(2), 171-177.
- Statistics Indonesia, (2002). *Aceh in Figure 2002*. Badan Pusat Statistik Indonesia.
- Statistics Indonesia, (2005). *Aceh in Figure 2005*. Badan Pusat Statistik Indonesia.
- Statistics Indonesia, (2010). *Aceh in Figure 2010*. Badan Pusat Statistik Indonesia.
- Statistics Indonesia, (2016). *Aceh in Figure 2016*. Badan Pusat Statistik Indonesia.

- Statistics Indonesia, (2018). Indikator Strategis Provinsi Aceh (*Strategic Indicator Aceh Province*). Badan Pusat Statistik Indonesia.
- Thienkrua, W., Cardozo, B. L., Chakkraband, M. S., Guadamuz, T. E., Pengjuntr, W., Tantipiwatanaskul, P., & Tappero, J. W. (2006). Symptoms of posttraumatic stress disorder and depression among children in tsunami-affected areas in southern Thailand. *Jama*, 296(5), 549-559.
- Timothy, D. J., & Iverson, T. (2006). Tourism and Islam. *Tourism, Religion and Spiritual Journeys*, 186.
- Tribunnews, (2017). 60 *Tour guide Aceh Dilatih Wisata Halal*. Retrieved from <http://aceh.tribunnews.com/2017/05/26/60-tour-guide-aceh-dilatih-wisata-halal>. Accessed at 24 September 2017.
- van Eijndhoven, J., Clark, W. C., & Jäger, J. (2001). *The long-term development of global environmental risk management: Conclusions and implications for the future*. 181-198.
- Waizenegger, A., & Hyndman, J. (2010). Two solitudes: Post-tsunami and post-conflict Aceh. *Disasters*, 34(3), 787-808.
- Walker, B., Holling, C. S., Carpenter, S. R., & Kinzig, A. (2004). Resilience, adaptability and transformability in social-ecological systems. *Ecology and society*, 9(2).
- Wang, Y. (2009). The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, 30(1), 75-82.
- Weaver, D. B. (2000). A broad context model of destination development scenarios. *Tourism Management*, 21(3), 217-224.

6

Reinventing the Post-Disaster Cultural Landscape of Heritage Tourism in Yogyakarta, Indonesia

This chapter is under review the *Journal of Heritage Tourism* as Rindrasih, E. and Witte, P. (2019). Reinventing the post-disaster cultural landscape of heritage tourism in Yogyakarta Indonesia.

Abstract

When a disaster destroys historical buildings, it is a challenge to maintain the authenticity and originality of the buildings as a heritage tourism site, and their destruction impacts the local community whose economy is dependent on them. The present research therefore focused on the reinventing of heritage tourism, using the case of Kotagede, Yogyakarta, which was hit by a 5.9 magnitude earthquake in 2006. This study shows that the earthquake has refreshed the cultural landscape, and that new tourism packages using the story of heritage in combination with the earthquake event have also gained popularity. It also shows that the process of reinventing the post-disaster heritage tourism was challenged by the problems of administrative versus cultural boundaries, confusing criteria concerning heritage products, conflicts in the building restoration process, a lack of interest among younger generations in culture and tradition, and unsustainable government programmes. Based on this, it can be concluded that the overlapping of the post-disaster recovery process with the reinvention of heritage tourism products may permanently change the authenticity of the cultural landscape and lead to a shift from organic place-making to planned placemaking processes.

Keywords: reinventing, earthquake, tourism, recovery, heritage, Kotagede

6.1. Introduction

A natural disaster poses significant challenges to the development of tourism and affects all layers of the economy (Dahles & Susilowati, 2015). Besides human causalities, disasters may have impacts on both physical aspects of tourism – for example, on infrastructure, buildings and other facilities – and non-physical aspects of tourism, such as destination image branding and perceptions of safety. These two types of impact need different recovery management approaches, especially in the case of heritage tourism. For tourism destinations that are based on heritage and culture, the recovery approach is mostly related to the originality and authenticity of the product after the disaster. Heritage sites have become significant tourist attractions. For instance, Machu Picchu (Peru), Venice (Italy), Borobudur (Indonesia) and the pyramids (Egypt) have for many years provided opportunities for the local communities in terms of livelihood opportunities.

Over time, such places can become famous tourist destinations through the process of 'place-making'. Lew (2017) differentiates between two types of place making, namely place-making – which means organic, spontaneous and non-planned processes – and placemaking (i.e. without the hyphen), which means more organized, more planned and having a specific target. It is hard to say that a post-disaster recovery process is an organic process, as it is almost always planned, at least to the extent that it usually comes under the programmes of many organizations working during the immediate recovery phase.

The question that arises in the context of heritage tourism sites that are hit by disasters, however, is how does an area that used to have a more organic tourism development process become a planned tourism site during the recovery phase? The method of reinventing, re-creating and remaking a heritage tourism destination post-disaster must be studied to understand how the dynamics between the site, the community and the organization of tourism challenge the future viability of that tourist destination. Surprisingly little academic attention has been paid to the process of the recovery of heritage and culturally based tourist's destinations post-disaster (Faulkner, 2001).

This chapter presents an empirical case of a heritage tourism area that in the process of organic place-making became dominated by a planned placemaking approach following a disaster. The aim of the research underlying it was to understand the transformations post-disaster and the challenges related to reinventing heritage tourism, using the case of Kotagede heritage tourism in Yogyakarta, Indonesia, which was severely damaged by an earthquake in 2006. Although Indonesia has tried to utilize tourism as its major economic resource, the country has long been known as

the 'supermarket of natural disasters'. The present research differs from previous research in that it makes two valuable contributions that thus far have attracted little attention; that is, it enriches the debate on heritage tourism place making and describes the post-disaster recovery process over the past 13 years using the first-hand experiences of the affected local community.

This chapter is structured as follows. The following section reviews the literature on the place making concept, heritage tourism and post-disaster recovery processes. Section 3 discusses the methods used to gather and analyse the research data. Section 4 provides the context of the research setting of the Kotagede heritage site and its impact on regional tourism in Yogyakarta. Section 5 explains the findings, especially concerning shifts and transformations, such as new types of organizations, new programmes, new tourism products and new cultural landscapes. Section 6 explores the challenges related to the process of reinventing the cultural landscape of Kotagede. Finally, Section 7 presents the conclusion and the implications of the findings for the academic debate.

6.2. Conceptual framework

6.2.1. Place making and the role of authenticity in heritage tourism

Heritage is often developed as a tourist destination as part of an economic strategy to create wealth and a livelihood strategy. When a heritage site becomes a tourist destination, this is usually the result of a non-generic (i.e. organic) place-making process. From a geographical perspective, place making has been used to understand contemporary political processes and social movements. Places, according to Davis (2005, p.610), are 'discursive-material formations,' in which the representation of place enables and 'legitimizes the performance of certain activities in those places as well as directs the social practices that actively shape the landscapes.' When a place is designated as a heritage site, there will be certain activities and dynamics of a political and social nature at that particular site. According to Rollason (2106), sites that are created and modified by the rulers can yield essentially historical conclusions about the nature of the sites' power, or about the power they possess. As such, a place symbolizes power in three categories: (1) bureaucratic power, which came into existence through the creation of bureaucratic machinery and the development of laws and ideas about the sites; (2) personal power, which originated through circumstances that made it desirable for influential members or classes of society to forge personal relations with the ruler; and (3) ideological power, which was made

possible by the ways in which rulers were able to merge their power with the existing or new religious beliefs. All these types of power can become materialized at sites that are later labelled as historical or heritage sites.

In the process of touristic place making, depending on the context, original sites may be replaced with new buildings or new materials for reconstruction, and sometimes the new buildings are not similar to the old buildings in terms of structure and design. Similarly, disasters have led to transformations of the landscape and the architecture. In some cases, the new construction will be adapted to meet the need for disaster mitigation in the future. Considerations such as time and budget constraints can also influence the landscape, building and place making process. This raises questions regarding the authenticity of heritage tourism, especially in the case of built heritage.

Authenticity has been discussed in many kinds of research related to tourism. Going back to the early academic research on this topic, MacCannell (1973) states that the authenticity of origins is the central aspect that attracts tourists who want to experience real things. More recently, authenticity has also been understood as inter-subjective and is consequently labelled as constructed authenticity. Authenticity in this view depends on the criteria used to define it; it is thus inherently socially constructed (Cohen, 2007). As such, a non-authentic heritage tourism attraction can still be experienced as authentic according to the subject who experiences it. In post-modern terms, constructed or cultural authenticity is perceived as a non-fixed commodity and it is continually negotiated and reinvented with every act of recognition (Lowenthal, 2015). The process of negotiation and reinvention can be in the form of economic development and commodification, nationalism, heritage conservation and 'museumization', and the creation of new cultures and arts (Richards, 2011).

Besides authenticity, the reinventing of heritage tourism post-disaster can be difficult due to various challenges in the process. First, and in line with the above, heritage can be interpreted differently within any one culture at any one time, as well as between cultures and over time (Graham & Howard, 2008). Further, it is also apparent that heritage takes a variety of official (i.e. state-sponsored) and unofficial forms. Different agencies, communities and levels of government can use their own definition of heritage, which impacts heritage tourism practices in terms of the set rules, norms and conventions. Moreover, those implications change over time from culture to culture or from period to another (Hall, 1997). Second, there is the tension associated with different ways of managing, governing and making use of heritage. It could for instance create a conflict of interest concerning heritage management, especially with regard to the tension between conservation and commodification.

Notably, the commodification and commercialization of heritage has been regarded as a strategic component to conserve and preserve heritage. Heritage in many parts of the world has clearly been exploited as an economic resource by intentional or unintentional place making processes. Third, the preservation and conservation purpose can be replaced by the survival purpose. In this case, many of the cultural values are no more important than the need to build a better life after the emergency situation.

In general, there is a strong connection between the literatures on heritage conservation, place-making and tourism. Heritage sites are usually places with strong cultural elements and they reflect personal, bureaucratic or ideological powers. Moreover, heritage sites have often been developed to become heritage tourism packages that offer a place for tourists to experience the cultural elements of the past. For heritage tourism destinations, a disaster can either disturb or stimulate the place making process, as is explored in the following sub-section.

6.2.2. Recovery post-disaster and reinventing heritage tourism

The disaster management lifecycle involves four aspects, namely mitigation, preparedness, relief/response and recovery (Henstra, Kovacs, McBean, & Sweeting, 2004). Of these four aspects, recovery is the least understood in terms of academic research (Calgaro, Lloyd, & Dominey-Howes, 2014; Coppola, 2006; Lloyd-Jones, 2006). Measuring recovery is complex because of its diverse dimensions, for example economic, transport and demographic dimensions (Aldrich, 2012). To deal with this complexity and difficulty, many researchers conceptualize recovery as a 'process'. This influences the way the recovery efforts are assessed. This perspective has been increasingly adopted by researchers conducting recovery research (e.g. Coppola, 2006; Mileti, 1999; Aldrich 2012). The research is further separated into two phases, namely short-term recovery and long-term recovery. Research on short-term recovery focuses on activities to stabilize the living conditions of the affected population, such as clearing the debris, restoring major infrastructures, providing transitional shelters, etc. (Coppola, 2006), whereas research on long-term recovery is generally concerned with the rebuilding and rehabilitating of individuals, households and communities. In this stage, communication becomes very important, especially regarding the marketing campaign that informs consumers and other stakeholders about the status of the destination to regain the consumers' confidence (Ritchie, Dorrell, Miller, & Miller, 2004).

Ritchie (2009) discusses three types of post-disaster transformations, namely human and community transformation, organizational transformation and destination transformation. Human and community transformation is achieved if the community

is able to reflect on the past using the disaster as a starting point and to plan for the future. Organizational transformation means changes in the vitality and longevity of the organization. For instance, there is a possibility of structural changes in the composition and numbers of tourism stakeholders, and eventually of new tourists, new products and new programmes within the organization (Ritchie, 2009). Finally, the renewing generally indicates destination transformation and rebuilding of the infrastructure to be better prepared for future disasters by integrating mitigation and disaster planning strategies. This can only be achieved if the awareness and the cohesiveness within tourism destinations are improved. This is then mostly translated into new policies that support the growth of tourism post-disaster.

To sum up, recovery is conceptualized as a process and the focus of the present research was specifically on the long-term aspect of recovery. Figure 6.1 presents the analytical framework. The period of 13 years after the occurrence of the event allowed an examination of the process of recovery, as well as of the transformations, post-disaster. This chapter first focuses on the transformation process, and then analyses the challenges related to the reinventing of the cultural heritage process in terms of the possibility of conflict, authenticity, boundaries and governing the heritage site.

Figure 6.1. The analytical framework of the research

Source: Authors

6.3. Methods

The present research combined a qualitative approach with a case study method. Beeton (2005) defines a case study as a holistic empirical inquiry used to gain an in-depth understanding of a contemporary phenomenon and its real-life context, using multiple sources of evidence. Using this perspective, data were collected from the relevant documents, direct observations and in-depth interviews in two phases. The first phase was in 2011/12, when the first author identified and observed the most important stakeholder groups, and also participated in several projects related to the economic recovery process and map-making exercises in preparation for future disasters. This allowed the first author to conduct a deep field observation and participatory process during this phase of the recovery process.

The second phase was in 2019, when the authors re-interviewed the organizations and residents working in the tourism industry in Kotagede to investigate the changes and transformations since the 2006 earthquake. Some phone calls were also made and some text messages were exchanged to confirm or clarify parts of some of the initial interviews. A topic list was used as an interview guideline and each interview lasted around 60–90 minutes. Key informant interviews were conducted with the representatives of six organizations working on heritage conservation and tourism in Kotagede – namely Yayasan Kanthil, Forum Joglo, *Pusat Studi Dokumentasi* (PUSDOK) Kotagede and BKM PNPM Mandiri Pariwisata, OPKP (*organisasi pengelola kawasan pusaka*) and Jogja Heritage Society – and with the local sub-district government. Resident interviews were conducted with the owners of ten traditional joglo³ houses, Kotagede tour guides and silver crafters. Interviews were conducted in two languages, Javanese and Indonesian, which are the first author's native languages. The interviews were recorded, transcribed and translated into English. The data were then manually grouped and subjected to thematic analysis in descriptive narrative texts using regular text processing software (MS Word).

The questions put to the individual informants depended on the their role in the recovery process. The community members were asked about their experiences during the 13 years of the recovery process and their stories of reinventing Kotagede as a heritage tourism location. The representatives of both internal and external organizations working in Kotagede were asked about their programmes, roles and challenges, and Kotagede's prospects (Table 6.1).

3 The word joglo refers to the shape of the roof. In the highly hierarchical Javanese culture, the shape of a house's roof reflects the social and economic status of the owners of the house. Joglo houses are traditionally associated with Javanese aristocrats (Tjahjono, 1998).

Table 6.1. Aspects of analysis and explanations

Aspect of analysis	Explanation
Human and community transformation	The analysis covered individuals' reflections on new opportunities post-disaster, and whether the community members now have increased capacity and whether the community has become more cohesive and united.
Organizational transformation	The analysis explored the new organizations for reconstruction and restoration, new programmes in the tourism organization that integrated the disaster management, and new networks and cooperation with external stakeholders.
Destination transformation	The analysis covered changes in the building, landscape and marketing strategy of the heritage tourism.
Challenges in the process	The analysis concerned the challenges in the reinventing process of the tourism products.

Source: Authors

6.4. Case study: Kotagede heritage tourism, Yogyakarta, Indonesia

Yogyakarta's historical and cultural background makes it a popular tourism destination: in 2018, it received nearly four million tourist visits. Kotagede itself is promoted as an exemplar of traditional Javanese culture. The first capital of the kingdom of Mataram was situated in Kotagede. The kingdom was established in the 16th century and this vital civilization spread Islamic teachings and culture combined with Javanese traditions.

Kotagede has a unique architectural landscape. It is considered a heritage site of the Mataram kingdom and includes buildings such as the Grand Mosque (17th century), royal cemeteries (one containing the grave of the founder of the Mataram, Panembahan Senopati (d. 1601)), the Kotagede market, traditional Javanese houses (joglo) and Kalang houses (the houses of successful merchants who lived in Kotagede during the Dutch occupation period). Some of the Kalang houses have been transformed into cafés or restaurants, which are sometimes rented by the local community or outsiders for special events. The Kotagede area is designated as a heritage preservation site (*cagar budaya*) by the local government of Yogyakarta with Regional Law No 11/2005 chapter 1 verse 6 (Anurogo et al., 2017). Furthermore, in 2011, Kotagede and five other heritage areas in Yogyakarta were designated as a heritage district by the national government (Government Decree; SK Gubernur

DIY No. 186/KEP/2011) (Rahmi, 2017). The most interesting aspect of the local culture is the cultural landscape of Kotagede – the *Catur Gatra* ('four pillars'), namely the palace, the mosque, the market and the square. Moreover, two kinds of boundaries exist in Kotagede, namely a cultural boundary and an administrative boundary. Cultural boundary refers to the post-Mataram Kingdom area, while the administrative boundary refers to the Yogyakarta Province government. Within the cultural boundary of Kotagede there are three kampongs under the administration of the city of Yogyakarta (Purbayan, Prenggan and Rejowinangun) and two kampongs under the administration of Bantul Regency (Jagalan and Singosaren). In 2017, the Kotagede cultural boundary was home to 43,000 people (Statistics Indonesia, 2018).

On 27 May 2006, a strong earthquake (magnitude 5.9) hit Yogyakarta and several parts of the surrounding regions. The earthquake killed 5,751 people and injured a further 29,473. A total of 145,929 houses were completely destroyed and 190,843 were severely damaged. Although the worst hit area was in the Bantul Regency, the Kotagede district was strongly impacted by the earthquake. The major loss for Kotagede was the destruction of and damage to the joglo houses, which are part of the tourist attraction. According to the organization focusing on heritage assessment (*Pusaka Jogja Bangkit*; PJB), eight traditional houses were completely ruined, 47 were severely damaged, 16 were partially damaged and 17 were lightly damaged (Rahmi, 2017). In addition, more than a thousand non-traditional houses were damaged. The recovery status report (Anonymous, 2008) showed that the earthquake damaged 90.52% of the private assets held in the housing, social and productive sectors in Yogyakarta Province.

6.5. Transformations of Kotagede heritage tourism

6.5.1. Human and community: new tourism products; the Kotagede heritage trails

Human and community transformations post-earthquake are reflected by two aspects, namely the communities' reflection on the value and quality of the houses and the acceptability of tourism activities. First, the earthquake made the community consider replacing the damaged houses with a different type of housing that is more modern and commonplace. Those who had a good financial situation started to consider stronger types of buildings. Moreover, the local government produced a guideline for housing reconstruction only for regular houses, and not the traditional ones. This resulted in only a small number of traditional joglo houses being rebuilt.

Preservation considerations did not lead them to rebuild traditional joglo houses; instead, they built modern houses that are smaller, more effective and minimalistic.

Second, in 1998 a group of Kotagede's people led by a young lady had established Kotagede Heritage Trails (KHT) as a new tourism package (the KHT was originally called 'Rambling Through Kotagede'). Its activities were suspended for four years following the earthquake, but when the activities were resumed, it became more popular. It became even more popular in 2012 and is still operating. The package comprises a map that guides visitors through Kotagede to several tourism spots, such as the market and traditional houses, as well as culinary visits and performance art events (Purwohandoyo et al., 2018). Visitors buy the tour package from the community organization, which then distributes the money to the community based on their contribution to the scheme.

Figure 6.2. Kotagede Heritage Trails guide map

Source: Department of Architecture and Planning, Universitas Gadjah Mada, 2018

The KHT was introduced by external agencies and subsequently conducted by the community of Kotagede itself. As a tourism package, KHT has increased the community's opportunities to benefit from tourism activities. Although the traditional joglo houses suffer from a lack of authenticity due to some changes in their structure and the materials used, with the help of the new tourism package, Kotagede managed to recover from the earthquake. Statistics Indonesia data show, for instance, consistently increasing numbers of visitors to the Mataram royal cemetery (Table 6.2). Thus, the KHT has supported the recovery process and reinvented Kotagede as a heritage tourism site in a more planned way.

Table 6.2. Visitors to the Mataram royal cemetery, Kotagede

Year	Number of domestic tourists	Number of foreign tourists
2007	9432	-
2008	-	-
2009	18,059	650
2010	18,524	623
2011	20,290	635
2012	26,180	751
2013	26,883	-
2014	27,785	-
2015	39,349	2034
2016*	5418	11
2017	52,987	3330

*2016: the year the renovation was carried out
 Source: Yogyakarta in figures 2007–2017, Statistics Indonesia

6.5.2. Organizational transformation

Following the earthquake, Yogyakarta received attention from local, national and international organizations. Since the local government of Yogyakarta Province declared that it could manage the disaster recovery itself, the earthquake was considered a local disaster. In the Indonesian Disaster Management Law, local and national disasters have different consequences in terms of financial support and institutional responsibility. The national government conducted four programmes: the Houses and Settlement Reconstruction Programme, under the National Disaster Management Coordinating Board for Disaster (BAKORNAS); infrastructure restoration, including drainage, roads, bridges, etc., performed by the Ministry of Public Works; the rebuilding of educational and health facilities and government offices; and the recovery of the economy by providing training in labour skills and small credits for small and medium-sized enterprises. The overall programme was called the Jogja Reconstruction Fund (JRF). Thanks to this fund, Kotagede district was able to recover from the earthquake quicker than other areas, such as Pleret or Sewon district. In the governmental institutions, at least five branches of government offices supported the recovery, including the Yogyakarta Cultural Board, the Ministry of Public Works, the Board of Cultural Conservation Yogyakarta, the Ministry of Energy and Mineral Resources of the Republic of Indonesia, and the Regional

Planning and Development Board of Yogyakarta. International agencies, such as the World Bank and PUM Netherlands, had provided aid and assistance for immediate recovery (Wijayanto, 2014). Also, the local universities in Yogyakarta sent students to perform community services. Universitas Gadjah Mada, a national university located in Yogyakarta, built a replica of a traditional joglo house, which was then used to host exhibitions for tourists.

The transformation of community organizations in Kotagede is reflected in the new programmes that have been conducted since the earthquake. Organizations such as Yayasan Kanthil, Forum Joglo and PUSDOK previously focused only on cultural and tourism matters (Widyastuti, 2009). Yayasan Kanthil, for example, focused on cultural preservation, while PUSDOK focused on collecting Kotagede literature and provided information to visitors. After the earthquake, disaster mitigation measures, such as providing evacuation routes for tourists, were implemented. The organizations also participated in the reconstruction of joglo houses by assessing the level of damage and providing data for external agencies that wanted to help. Moreover, the government provided training and all organizations focused on Kotagede were persuaded to join and implement the evacuation guidelines. The marketing strategy for reintroducing Kotagede into the tourism market was also improved by developing trail maps and building the Kotagede library and website.

During the 13-year recovery and reinventing process, many new organizations were developed in the community. Most of the organizations were established to act as the local counterparts of an external donor that was funding parts of the recovery. The community then agreed to establish a new organization called Heritage District Local Organization for Heritage Management (*Organisasi pengelola Kawasan pusaka Kotagede*; OPKP). Although Kotagede already had Forum Joglo – an umbrella organization of five kampongs for conservation, preservation and making use of Kotagede – only the OPKP tackled the recovery programme of the external donor. According to the informants, there was an overlap in the personnel of the various organizations, meaning that some people act for several organizations at the same time. The OPKP is currently inactive. A new organization – *Badan Pengelola Kawasan Cagar Budaya* (Management Board for Cultural Heritage) – has been established. An organization called Kampung Wisata was also established with government support in the period of Susilo Bambang Yudhoyono to handle the PNPM (National Programme for Community Empowerment) programme.

External organizations have supported the recovery of Kotagede in many ways, for example by providing economic recovery programmes and restoring traditional houses. Two days after the earthquake, the Centre for Heritage Conservation of the Department of Architecture and Planning in the Faculty of Engineering at Universitas

Gadjah Mada set up a heritage conservation programme called *Pusaka Jogja Bangkit* (Jogja Heritage Revival; JHR). This revitalization programme was supported by collaborative parties from external organizations, including the Jogja Heritage Society, the Centre for Heritage Conservation, the Indonesian Network for Heritage Conservation, and ICOMOS Indonesia. The local community organizations were invited to actively participate in the programmes. Adishakti (2008) mentioned that the programme focuses on building the local economy by strengthening both the tangible and the intangible heritage. Some training was provided to enhance the capacity of the organizations in both disaster mitigation and tourism development. The programmes for tourism development were introduced after the restoration of the houses was completed.

6.5.3. Destination transformation: building and landscape transformation

Perhaps the most visible transformation is that of the cultural landscape, namely the replacement of damaged traditional joglo houses with modern houses. The joglo houses used to be Kotagede's third major attraction, after the mosque and the royal cemetery. Traditional joglo houses have a different structure, style and size. Since the earthquake, however, the appearance of the cultural landscape of Kotagede has become more vague. In addition, the rapid reconstruction projects driven by non-local and non-traditional approaches jeopardized the cultural urban dwelling because they did not consider the socio-cultural, environmental and economic implications. Although the reconstruction projects are not agency driven, the use of modern building technologies is more prominent. It is the only way to achieve hazard-resistant houses that will survive another earthquake.

Shifting from traditional joglo houses to regular houses was also part of the adherence to the government's guidelines. An amount of money was made available for the collapsed houses as identified by the government. In the programme of rehabilitation–reconstruction sponsored by the government, monetary support for traditional joglo houses was a similar amount as the subsidy for regular houses. Thus, the amount was not enough to build a similar traditional house. Therefore, the majority of Kotagede homeowners decided to build as easily and as quickly as possible by following the government's suggestion and thereby ignoring the rebuilding of the traditional joglo houses. However, a small number of traditional joglo houses remain.

6.6. Challenges in the reinventing process

Although the Kotagede's process of recovery can be regarded as both rapid and successful, some conflicts followed the restoration process, as discussed in the following sub-sections.

6.6.1. Place making versus authenticity

After the earthquake, local and external organizations that focused on recovery devised a set of approaches, programmes and activities to reinvent Kotagede as a heritage site. This indicates a non-organic process of place making. The economic value became the primary target by providing the experience of heritage. Kotagede promoted its unique cultural landscape of the kampongs to attract tourists. However, very few joglo houses are considered original in terms of materials. The authenticity of the attraction is therefore questioned. The homeowners and the representatives of organizations working on heritage conservation understand that; however, their perceptions about authenticity are diverse. For instance, the local community believes that as long as the joglo house in terms of its design is intact, it is authentic. Therefore, the existence of joglo houses automatically preserves the Javanese culture.

6.6.2. Administrative boundary versus cultural boundary

There is also a conflict between the administrative boundary and the cultural boundary. The former is one of the districts (*kecamatan*) in the city of Yogyakarta. However, within the cultural boundary, the old Kotagede includes two other kampongs that are under the administration of Bantul Regency. They previously formed one united area of old Kotagede. This leads to problems in many aspects of recovery programmes. The administrative boundary has become the basis for delineating the target of recovery programmes, which is under the administration of Bantul Regency (Kampung Jagalan and Kampung Singosaren) and the city of Yogyakarta (Kampung Prenggan, Kampung Rejowinangun and Kampung Purbayan). These two administrations have different priorities concerning programmes and budgets. In the organic tourism place-making process, the cultural boundary seems to work better than the administrative boundary, because the flow of people and their interests are not restricted to the administrative boundary. Tourists are free to visit any part of the kampong they wish to visit.

6.6.3. Confusing criteria on heritage products

The definition of 'heritage product' has become a challenge for both the community and the government. For the community, heritage is more about meaning than about material artefacts. However, the national government needs fixed standards and criteria to define something as a heritage product. The definition has implications for the funds the programme receives. According to the interviews, the community had asked the government to support the maintenance of the joglo houses. The government responded by offering a discount on the annual property tax on joglo houses. Yet, the discount (IDR 50,000/USD 5) is not enough to maintain the houses.

Moreover, the definition of 'heritage building' is also problematic, because the government will only financially support the maintenance of houses that are older than 50 years and thus qualify as a 'heritage building'. Unfortunately, post-earthquake, many joglo houses were transformed into new houses that are not more than 50 years old. Moreover, the government does not support the new 'traditional' houses even though they are exact replicas of the original joglos. Confusing criteria have also resulted in disputes between the owners of joglos regarding who does and who does not receive support money. Following the earthquake, these disputes escalated due to the lack of standards and budgets and the inconsistency of procedures.

6.6.4. Lack of interest among the younger generation in the cultural aspects of Kotagede

A lack of interest among the younger generation in Kotagede's culture and traditions has been observed. Many young and educated people have moved to Jakarta or another city to find jobs. Although this shows that the community has recovered and can send their children away to higher education institutions, the number of workers in the traditional silver workshops has dropped significantly and the population composition has become more dominated by the elderly rather than the young.

Tourism activities as a livelihood have become more acceptable in the community. Introducing some new programmes from outside agencies changed the community's perception of tourism before and after the disaster. Previously, tourists mainly visited the *Catur Gatra* ("four pillars"), that is, the mosque, the square, the market and the cemetery. After the introduction of the Kotagede Heritage Trails, the community became aware that tourism could also benefit the surrounding areas. One informant said that the tour to the joglo houses was initiated in 1998, but it had not attracted many local people or tourists; thus, the activities had been very rarely conducted. Apparently, the community now supports the development of the tour to visit their neighbourhood.

Although tourism activities have become more acceptable since the earthquake, as mentioned younger people leave Kotagede to work in cities. This has negative consequences not only for the already declining handicraft industry, but also for cultural activities and the traditional joglo houses. However, the younger generation's lack of interest in the local culture may also be caused by the low wages paid to those with culture-related jobs. A drop in demand for silver craft has also been observed. Many blame the Bali bombings in 2002 and 2005. Since then, the demand for silver craft has remained low because the main buyers of the silver were the tourists in Bali and Lombok.

6.6.5. Unsustainable programmes

Since the end of the recovery period, Kotagede's reinventing process has continued on its own. The local government, including the Tourism Board and the Culture Board, followed up by supporting the culture and tourism development. However, many of the programmes have some problems in the implementation phase. One of the informants said that some programmes did not achieve the targeted outcome. For example, the training for tour guides that was conducted has not produced a sufficient number of tour guides, because the participants in the training were undergraduate students who then obtained other jobs after graduation.

Another problem concerns the community's participation. As one of the local community activists said, 'We are merely the target of development and programmes, not the actors'. There is a tendency for the community of Kotagede to be a target of programmes from the government. The term 'target' used by the key person refers to the lack of space to participate in the planning process for Kotagede. They tend to just receive the top-down programmes planned by the government. They also said that the government does not have a clear vision on how to develop Kotagede. For instance, when there is an event or programme (e.g. performance art or a cultural festival), the government hires external private event organizers to handle it. The local government had to employ this mechanism because the national government has ruled that only private legal companies can be contracted by local governments to conduct certain activities. Some members of the Kotagede community, however, said that the community was not asked to participate in the programmes.

6.7. Discussion and conclusion

In the post-earthquake recovery process of heritage tourism development in Kotagede, Yogyakarta, Indonesia, the recovery process overlapped with the reinventing of the

destination's image branding. Kotagede as a case study has shown that there are dynamics and challenges in both the reinventing and the recovery process. The post-disaster recovery process that generally follows the rules and standards for disaster mitigation is not always in line with the sustainability of the cultural landscape. For disaster mitigation purposes, the cultural aspect is sometimes diminished, and it does not have priority. This creates a conflict over authenticity and originality, which are the primary capital of heritage tourism. The 13-year reinventing process of Kotagede following the 2006 earthquake has revealed some essential notions.

First, disasters can change the cultural landscape. Kotagede's heritage tourism has undergone a cultural landscape transformation. Although it is believed that global issues, such as the migration of both people and knowledge, influenced the decisions on the preservation of cultural landscapes, the earthquake also triggered a process of change. A lack of financial support and of interest in cultural matters led to the transformation of Kotagede's cultural landscape. It may build perspective that transformation post-disaster is needed in order to achieve resilience (Rindrashih, 2018).

Second, Kotagede has shown the power of place in terms of bureaucratic power (see Rollason, 2016). Since Kotagede is designated as a heritage conservation area, most of the programmes for development and the reconstruction of facilities to enable livelihood recovery were targeted at the Kotagede community. Moreover, the ideological power of place is also reflected in the large numbers of visitors doing pilgrim tourism, namely to pray in the mosque. Therefore, although Kotagede cannot be said to have been transformed, it became resilient through innovating its products, and it has shown two kinds of place-power, that is, bureaucratic and ideological power.

Third, although the authenticity is questioned, Kotagede recovered and reinvented itself as a heritage tourism site through government interventions in terms of planned programmes and community initiation. Clapp (1999) writes that authenticity is the attribute of the quality of heritage. The case of Kotagede has shown that although the quality of authenticity has been reduced due to the earthquake, heritage tourism can still recover quickly. This is in line with Chhabbra et al. (2003), who say that not every component of an experience needs to be authentic (or even satisfactory) as long as the combination of elements generates the required nostalgic feelings. In this sense, an object only becomes heritage by its social or political purpose and subsequently acquires an economic sense in its new role as a heritage object (see Van Gorp, 2007). Heritage is capable of being interpreted differently within any one culture at any one time, as well as between cultures and through time (Graham & Howard, 2008). The case of Kotagede has also confirmed this.

Finally, the government perspective on tourism development tends to be dominated by planned reinventing, especially in relation to programmes and marketing. However, the community perspective on reinventing tends to follow organic place-making (see Lew, 2017). The local government is a key actor in reinventing heritage tourism through its projects and programmes. Further, the government considers that heritage tourism has a direct economic use.

This chapter argues that a tourism destination that successfully connects the place with its history and the political and place framing is able to recover from a disaster and to transform the 'bad story' of disaster into a better narrative to support the tourism industry. In addition, the authenticity of a heritage product should not hamper the recovery of a heritage tourism destination following a disaster. Furthermore, more research should be done to understand the role that a new product and new organization play in a community's wealth and to evaluate the effectiveness of government programmes that promote the resilience of heritage tourism in different parts of the world.

References

- Adishakti, L. T. (2008). Community empowerment program on the revitalization of Kotagede Heritage District, Indonesia post-earthquake. In *Vulnerable cities: Realities, innovations and strategies* (pp. 241-256). Springer, Tokyo.
- Aldrich, D. P. (2012). *Building resilience: Social capital in post-disaster recovery*. University of Chicago Press.
- Anonymous. (2008). *Recovery status reports The Yogyakarta and Central Java Earthquake 2006*. Universitas Gadjah Mada and International Recovery Platform. Yogyakarta.
- Anurogo, W., Lubis, M. Z., Hartono, H., Pamungkas, D. S., & Dilaga, A. P. Kajian ketahanan kawasan wisata berbasis masyarakat dalam penguatan ekonomi lokal serta pelestarian sumberdaya kebudayaan kawasan kotagede yogyakarta. *Jurnal Ketahanan Nasional*, 23(2), 238-260.
- Beeton, S. (2005). The case study in tourism research: A multi-method case study approach. *Tourism Research Methods: Integrating Theory with Practice*, 37-48.
- Chhabra, D., Healy, R., & Sills, E. (2003). Staged authenticity and heritage tourism. *Annals of tourism research*, 30(3), 702-719.
- Calgaro, E., Lloyd, K., & Dominey-Howes, D. (2014). From vulnerability to transformation: A framework for assessing the vulnerability and resilience of tourism destinations. *Journal of Sustainable Tourism*, 22(3), 341-360.
- Clapp, G. (1999). Heritage tourism. *Heritage Tourism Report*. North Carolina Division of Travel.
- Cohen, E. (2007). 'Authenticity' in tourism studies: Après la lutte. *Tourism Recreation Research*, 32(2), 75-82.
- Coppola, D. P. (2006). *Introduction to international disaster management*. Elsevier.
- Dahles, H., & Susilowati, T. P. (2015). Business resilience in times of growth and crisis. *Annals of Tourism Research*, 51, 34-50.
- Davis, J. S. (2005). Representing place: 'Deserted isles' and the reproduction of bikini atoll. *Annals of the Association of American Geographers*, 95(3), 607-625.
- Department of Architecture and Planning Universitas Gadjah Mada. (2019). *Guide Map Kotagede Heritage Trail*. Retrieved from <http://chc.ft.ugm.ac.id/guide-map-kotagede-heritage-trail/> (Last accessed on 1 August 2019).
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135-147.
- Graham, B. J., & Howard, P. (2008). *The Ashgate research companion to heritage and identity*. Ashgate Publishing, Ltd.
- Hall, S. (1997). *Representation: Cultural representations and signifying practices*. Sage.
- Henstra, D., Kovacs, P., McBean, G., & Sweeting, R. (2004). *Background paper on disaster resilient cities*. Toronto: Institute for Catastrophic Loss Reduction.
- Lew, A. A. (2017). Tourism planning and place making: Place-making or placemaking? *Tourism Geographies*, 19(3), 448-466.
- Lloyd-Jones, T. (2006). *Mind the gap! Post-disaster reconstruction and the transition from humanitarian relief*. RICS.
- Lowenthal, D. (2015). *The past is a foreign country – revisited*. Cambridge University Press.
- MacCannell, D. (1973). Staged authenticity: Arrangements of social space in tourist settings. *American Journal of Sociology*, 79(3), 589-603.
- Mileti, D. (1999). *Disasters by design: A reassessment of natural hazards in the United States*. Joseph Henry Press.
- Purwohandoyo, J., Cemporaningsih, E., Wijayanto, P. (2018). *Pariwisata Kota Pusaka*. UGM Press. Yogyakarta.
- Rahmi, D. H. (2017). Building resilience in heritage district: Lesson learned from Kotagede Yogyakarta Indonesia. *Paper presented at the IOP Conference Series: Earth and Environmental Science*, 99(1) 012006.
- Richards, G. (2011). Creativity and tourism: The state of the art. *Annals of Tourism Research*, 38(4), 1225-1253.
- Rindrasih, E. (2018). Under the Volcano: Responses of a Community-Based Tourism Village to the 2010 Eruption of Mount Merapi, Indonesia. *Sustainability*, 10(5), 1620.
- Ritchie, B. W., Dorrell, H., Miller, D., & Miller, G. A. (2004). Crisis communication and recovery for the tourism industry: Lessons from the 2001 foot and mouth disease outbreak in the United Kingdom. *Journal of Travel & Tourism Marketing*, 15(2-3), 199-216.
- Rollason, D. W. (2016). *The power of place: Rulers and their palaces, landscapes, cities, and holy places*. Princeton University Press, Princeton and Oxford.
- Statistics Indonesia (2018). *Kota Yogyakarta dalam Angka 2018*. Retrieved from <https://jogjakota.bps.go.id/publication/2018/08/16/8e60dd366fc77ddeee9ea008/kota-yogyakarta-dalam-angka-2018.html>. Last accessed at 7 March 2019.
- Statistics Indonesia (2018). *Kabupaten Bantul dalam Angka 2018*. Retrieved from <https://bantulkab.bps.go.id/publication/2018/08/16/40e5d68cbcf9f2c86bd402ba/kabupaten-bantul-dalam-angka-2018.html>. Last accessed at 7 March 2019.
- Tjahjono, G. ed. (1998). *Architecture. Indonesian Heritage*. 6. Singapore: Archipelago Press.
- Van Gorp, B., & Renes, H. (2007). A European cultural identity? Heritage and shared histories in the European Union. *Tijdschrift voor economische en sociale geografie*, 98(3), 407-415.
- Widayastuti, B. (2009). Motif Sosial Yayasan Kanthil Dalam Melestarikan Budaya Lokal Kotagede. *Thesis. Unpublished*. Islamic State University. Sunan Kalijaga Yogyakarta. Retrieved from <http://digilib.uin-suka.ac.id/3159/> – Last accessed at 18 February 2019.
- Wijayanto, P. (2014). Managing Kotagede heritage districts after 2006 earthquake. *Journal of Disaster Mitigation for Historical Cities*, Vol. 8 (July 2014).

7

Conclusion

Over the last few decades, the tourism industry has grown to be one of the biggest industries worldwide (UNWTO Tourism Highlight, 2018). However, the international travel and tourism sector can be very vulnerable in disaster-prone areas, most of which are in developing countries such as Indonesia. A disaster may not only destroy the infrastructure and facilities at a tourist destination, but also negatively impact the image of the destination, causing potential tourists to stay away. Therefore, disasters and the possibility of future disasters have created a severe dilemma for tourism development: although tourism promises economic development, it is not only a vulnerable but also a risky sector, since unplanned tourism development can damage the natural and sociocultural environments of travel destinations. These undesirable side effects have led to a growing need to find alternative solutions in tourism development, in particular in relation to sustainable tourism.

However, while it is known that tourism is vulnerable, tourism development in disaster-prone areas has so far attracted only limited attention in academia. Although some studies have examined the relationship between disasters and tourism, they were often based on single-event impacts, relatively small areas and single destinations, for example the case of hurricanes (e.g. Higgins, 2005), flooding and tsunamis (e.g. Calgaro & Lloyd, 2008; Cheung & Law, 2006), earthquakes (e.g. Huang & Min, 2002), volcanic eruptions (e.g. Carlino et al., 2008) and bushfires (e.g. Armstrong & Ritchie, 2008). In addition, some studies focussed on non-natural disaster events, for instance foot and mouth disease in the UK (e.g. Rodway-Dyer & Shaw, 2005) or SARS in Asia (e.g. Au et al., 2005). In contrast, this dissertation brought together different types of disasters (e.g. earthquakes, tsunamis and volcanic eruptions) with different types of tourism (e.g. mass tourism, community-based tourism, heritage tourism and halal tourism) in a variety of geographical contexts (e.g. different localities, regions and provinces).

This dissertation focused on Indonesia as an example of a country that tries to promote tourism as an important economic sector, but is confronted with different types of disasters that make tourism a risky business. Three cases of disasters were selected in the Indonesian context, namely the 2004 Aceh tsunami, the 2006 Yogyakarta earthquake and the 2010 Mt Merapi eruption. The aim was to contribute to a better understanding of tourism development in a disaster-prone environment by investigating the impact of disasters on the tourism performance, the responses of tourists and local communities to disasters, and the dynamics of recovery and transformation processes in post-disaster tourist destinations. The research addressed the following main question:

What are the challenges of tourism development in Indonesia, given the risk of natural disasters and goal of inclusive sustainable development?

To address the main question, three sub-questions were formulated:

- 1 What are the consequences of different types of disasters for the arrival of tourists in space and time? How vulnerable are tourism flows to disasters?
- 2 How capable are tourists and host communities of dealing with the risks and consequences of different types of disasters and how do they respond? How resilient are people?
- 3 Focusing on the post-disaster period, what are the characteristics of the recovery process and what transformations have taken place; and how inclusive and sustainable are the results?

The answers to these three research questions were discussed in the previous five chapters, which were grouped into three themes:

- The impact of disaster on the tourism industry performance (Chapter 2).
- Tourists' and community's responses (Chapters 3 and 4).
- Recovery and transformation (Chapters 5 and 6).

The remaining sections of this chapter outline the main conclusions per chapter (section 7.1) and discuss the outcomes in the light of the theoretical background that was introduced in Chapter 1 (section 7.2).

7.1. Findings of the chapters and main conclusions

The previous chapters presented various outcomes regarding tourism development in disaster-prone environments. In this section, the findings of the five chapters are structured according to the following three main conclusions (7.1.1–7.1.3).

7.1.1. Tourism is a risky business, but it is more disaster-resilient than expected

Chapter 2 presented an analysis of 18 years of statistical data on national trends in tourism development in Indonesia, in relation to several significant disaster events. The investigation showed that during this period, frequent large- and small-scale disasters occurred in Indonesia and although the tourism industry was impacted to various degrees, it was always able to recover in terms of tourism flows.

It was found that human-induced and natural disasters have divergent impacts on the (falling) numbers of international tourists, the gross domestic product and hotel room occupancy rates. In this, human-induced disasters have a more negative

impact on the destination and the recovery process takes more time compared to natural disasters. Human-induced disasters present a significantly greater challenge in terms of the recovery of tourism flows than natural disasters, such as tsunamis and earthquakes. In addition, disasters and crises impact neighbouring regions in both positive and negative ways. The statistical data revealed positive spill-over effects when nearby provinces benefitted from disasters in another area, because tourists tend to avoid dangerous areas and visit alternative destinations that are safer and more secure. Finally, the tourism policies in Indonesia do not play a key role in changing rules and procedures to facilitate the acceleration of investments in the tourism industry to make it safer and ready for disasters, because it is only implemented for particular sectors. In other words, a comprehensive, multi-actor and multi-sector approach in dealing with disasters is largely absent.

Nevertheless, the results of this chapter show, in contrast to Cavlek (2002), that disasters in one region may also positively stimulate tourism flows in another region. This 'waterbed effect' – or put more positively, 'spill-over effect' – could be a starting point for developing survival mechanisms for regional tourism strategies in the case of disasters. Of course, such spill-over effects are unpredictable. Patterns of spill-over effects can differ between cases of disasters, because it depends on the time (high or low season) and location of the disaster and on the scale of destruction.

7.1.2. Tourists and communities have the potential to be more disaster-resilient

Tourist perspective

Chapter 3 explored the behaviour of tourists to understand their responses to hypothetical disaster events. Over 500 tourists from Africa, Asia, America, Europe and Australia were surveyed in Yogyakarta and Bali. The results presented in Chapter 3 showed that there are four categories of tourists' rationalities and their likely responses to disasters, based on the group-grid scheme of the cultural theory approach (Douglas, 1978). The identified rationalities are: 1) those who are dependent on the local authority (hierarchism); 2) those who act for themselves (individualism); 3) those who do not act and do not know how to act (fatalism); and 4) those who act for other people (egalitarianism). Consequently, there is no one-size-fits-all way to address tourists who are confronted by natural hazards.

These results show that tourists are not a homogeneous group, but a complex, diverse and dynamic body of stakeholders. It is clear that tourists make diverse responses to disasters. The collective responses of all tourists do, however, provide a framework for disaster management agencies for more tailored and effective disaster

management programmes. In this, understanding tourists' rationalities can lead to better poly-rational mitigation and preparation strategies for disaster management in tourist destinations in terms of tools, equipment, programmes and education.

Moreover, this empirical study of tourist behaviour towards disasters enhanced our understanding of tourists' complex, diverse, dynamic and unique responses by reassessing the preparedness phase in the disaster lifecycle approach developed by Baker et al. (2014) and disaster management planning approaches in tourism as explored by Ritchie (2009). The results also extend the results of previous research on tourist behaviour (e.g. Pearce, 2005; Juvan & Dolnicar, 2016; Nagai et al., 2018) by adding the variety of tourists' responses. Comprehension of tourists' behaviour plays a vital role in preparedness for disasters, especially in cases of different behaviours depending on the origin and type of disaster.

Local community perspective

Chapter 4 focused on the Pentingsari community on the slopes of Mt Merapi. The community was destroyed by the Mt Merapi eruption in 2010 but was able to recover quickly by using its own capacity supported by external agency.

A first main finding is that both internal and external factors supported the recovery of the community. The internal factors are the availability of natural and cultural attractions in the village, the willingness of local people, the innovations in tourism (social capital), the strong leadership of the village leader, the capacity of the community to adjust to deviations and its creative ability to change the product for a broader market. A tourist destination is more resilient when the actors in that destination have the ability to protect both the tourists and their community in terms of safety and livelihood opportunities, respectively. In the case of post-eruption Pentingsari, resilience is influenced by learning, flexibility, leadership and adaptability of the destination management organization, supported by the cohesion of stakeholders and regulators to enhance the public image of this tourist destination. The external factors include the support from the local government through economic recovery programmes and community empowerment mechanisms. The availability and accessibility of new knowledge, technology and adaptations depend on a community having contacts and being part of higher-level networks.

A second main finding is that the Pentingsari community was able to transform itself from one that was isolated and had to eke out a living from poor soil, into a rich community that derives its livelihoods from tourism. The transformations observed in Pentingsari include destination transformation, organizational transformation, and human and community transformation. The disaster allowed the community to reflect on many aspects, such as changing the organizational structures and programmes,

establishing new products and services, and enhancing their sense of ownership of the tourism activities.

Chapter 4 contributes to the academic debates by highlighting the resilience of community-based tourism post-disaster. Community-based tourism (CBT) enables the development of a community through social, environmental and economic collaboration in providing a tourism product (Goodwin & Santilli, 2009). Resilience can be obtained by making the CBT destination more 'disaster friendly' in terms of destination, organization and human–community management.

7.1.3. Disasters can open a window of opportunity

Recovery and transformation post-disaster were discussed in Chapters 5 and 6, using the cases of Kotagede (Yogyakarta) and Nanggroe Aceh Darussalam (Aceh). Many scholars have identified disasters as a threat to tourism development because people believe that the affected areas are unsafe destinations, which causes tourism to be diverted away from both the affected and neighbouring areas (e.g. Birkland et al., 2006; Wang, 2009; Ross, 2006). Additionally, political instability causes tourism crises and influences the tourism business cycle (Dhariwal, 2005; Guizzardi & Mazzocchi, 2010). However, in this dissertation, successful recovery can also be observed from the ability of Kotagede and Aceh to 'get back to normal' post-disaster.

Chapter 5 elaborated on the transformations post-tsunami and post-political conflict in Aceh. Aceh's political, social and economic transitions have influenced the development of a new tourism niche in the province, called 'halal tourism'. The existence of Sharia law post-peace agreement in 2005 stimulated the development of halal tourism in Aceh. The enactment of Sharia law in the province has also led to changes in tourism from the point of view of product, market, organization and policy. Halal tourism has become the main narrative and vision of the local government as a way of adjusting to the new law and community demands.

Chapter 6 focused on the process of reinventing heritage tourism, by selecting the case of Kotagede, Yogyakarta, which was struck by a 5.5 magnitude earthquake in 2006. The long-term recovery process disturbed the value, originality and authenticity of heritage tourism. As a result, Kotagede's heritage tourism has undergone a cultural landscape transformation. Second, Kotagede has shown the power of place in terms of bureaucratic power (Rollason, 2016). Although Kotagede has not been totally transformed, it has become resilient through innovating its products, and it has shown two kinds of place-power, that is, bureaucratic and ideological power. Third, although the authenticity is questioned, Kotagede recovered and reinvented itself as a heritage tourism site through government interventions in terms of planned programmes and community initiation. The case of Kotagede has shown

that although the quality of authenticity has been reduced due to the earthquake, heritage tourism can still recover quickly.

Chapters 5 and 6 showed that new theoretical insights can be gained by examining how becoming a tourism destination transformed Aceh from a conflict zone into a new tourism destination with a new type of product and market. The Kotagede case also showed that although the authenticity of an attraction was changed, it did not mean that the tourist destination would fail to recover. With the innovation and the ability to attract new markets, a post-disaster destination can use the disaster as a window of opportunity for better performance.

7.2. General reflection and implications of the research

In general, this research reflects some important points that contribute to the understanding of tourism development in disaster-prone environments, including the need for structural policy responses for disaster management in tourism and the need to integrate resilience indicators in discussions about sustainable tourism development. Both aspects are briefly outlined below.

7.2.1. The need for structural policy responses

Although the tourist destinations in this research managed to survive and 'get back to normal', the Indonesian government still faces challenges in preparing for disasters, due to the inherent uncertainty of disasters.

The results of this study call for the implementation of structural policy approaches to tackle the impact of disasters on the tourism sector. So far, the programmes that have been conducted by the Indonesian tourism stakeholders have not considered automatic stabilizers to dampen fluctuations in income from tourism. The programmes were sporadic, fragmented and reactive, and lacked a shared objective for the whole nation. Thus, the government has a central role in governing the mitigation, preparation, emergency and recovery phases. The government can take a leading role in defining and implementing programmes aimed at structural change in affected regions. National destination management may provide alternatives to anticipate spill-over effects when disasters strike a particular area. In addition, tourists are so far a largely neglected stakeholder. This is surprising, for they are the ones who help tourists' destinations to recover.

Considering these results, all levels of government, from local to national, should commit themselves to helping their tourism industry expand and, at the same time,

focus their attention on long-term policies. For example, in the case of Aceh, the government faces the dilemma of community resistance because of the Qanun directive based on Sharia law. And in the case of the Merapi volcanic eruption, the government's response to the loss of livelihoods came late, and there was a lack of coordination between the disaster management agency and the tourism board. The community and its members had to sort things out themselves until the governmental agencies finally arrived at the villages.

Thus, Indonesia should consider a structural approach to handle tourist destinations in disaster-prone environments. We know that the tourism industry relies on interrelated and interdependent individual businesses such as restaurants, transport entities, accommodation providers and various attractions (Evans et al., 2003). The multiple actors all are connected in the complex linkages that have divergent views and values (Jamal & Stronza, 2009; Laws & Prideaux, 2005). This research has shown that to deal with natural disasters that affect tourism industries, cross-sector stakeholder coordination is important. This is in line with, for example, Waugh and Streib (2006), Coombs (1999), Faulkner (2001) and Ritchie (2004).

7.2.2. The need to integrate resilience indicators in sustainable tourism development

It was mentioned in the introduction that tourism is a potentially vulnerable sector, as many developing countries currently rely on it (World Tourism Organization, 1998). The present research, however, has shown that tourism can be more disaster-resilient than expected. This has implications for discussions about sustainable tourism, which is defined as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities" (WTO, 2005).

In relation to this, the three cases of the 2006 earthquake, the 2004 tsunami and the 2010 volcanic eruption imply that achieving sustainable tourism development in destinations in disaster-prone environments is a complex process. This is, for instance, related to the tourists' diverse rationalities as the basis for governing tourist destinations (i.e. how are tourists likely to respond in certain crisis situations?), the ability of local communities to transform the 'bad story' of a disaster into a better narrative to support the tourism redevelopment, and the commitment of the government to perform the disaster management in a tourist destination.

These results reflect the need to integrate the resilience concept into discussions on sustainable tourism development. Indonesian tourist destinations are expected to mitigate disaster risk factors and develop contingency plans for tourism development. The ability to recover from non-normal (i.e. disaster-impacted) conditions should

also be considered as one of the indicators of sustainable tourism. In other words, incorporating resilience is a prerequisite for sustainable tourism development. Doing business in the tourism sector will always be risky, and without mitigation, intervention and promotion, most entrepreneurs will be reluctant to rebuild their businesses in a disaster-prone environment.

Overall, the research presented in this dissertation enhances our understanding of tourism development in disaster-prone environments, by examining disaster impacts on tourism development, tourists' and communities' behaviour, and the transformation and recovery processes post-disaster. For tourism development in Indonesia, this means tourists should be better protected, communities should be ready, and contingency plans should be prepared to ensure rapid recovery after a disaster strikes. This is an ongoing challenge for sustainable tourism development, one that is not easily resolved. Thus, travelling in Indonesia is likely to remain a delicate dance on the Ring of Fire.

References

- Armstrong, E. K., & Ritchie, B. W. (2008). The heart recovery marketing campaign: Destination recovery after a major bushfire in Australia's national capital. *Journal of Travel & Tourism Marketing*, 23(2-4), 175-189.
- Au, A. K., Ramasamy, B., & Yeung, M. C. (2005). The effects of SARS on the Hong Kong tourism industry: An empirical evaluation. *Asia Pacific Journal of Tourism Research*, 10(1), 85-95.
- Cavlek, N. (2002). Tour operators and destination safety. *Annals of Tourism Research*, 29(2), 478-496.
- Baker, L., L.A. Cormier, and L. Cormier (2014). *Disasters and Vulnerable Populations: Evidence based. Practice for the Helping Professions*. Springer Publishing Company, New York, NY.
- Birkland, T. A., Herabat, P., Little, R. G., & Wallace, W. A. (2006). *The impact of the December 2004 Indian ocean tsunami on tourism in Thailand*. *Earthquake Spectra*, 22(S3), 889-900.
- Calgaro, E., & Lloyd, K. (2008). Sun, sea, sand and tsunamis: Examining disaster vulnerability in the tourism community of Khao Lak, Thailand. *Singapore Journal of Tropical Geography*, 29(3), 288-306.
- Cheung, C., & Law, R. (2006). How can hotel guests be protected during the occurrence of a tsunami? *Asia Pacific Journal of Tourism Research*, 11(3), 289-295.
- Carlino, S., Somma, R., & Mayberry, G. (2008). Volcanic risk perception of young people in the urban areas of Vesuvius: Comparisons with other volcanic areas and implications for emergency management. *Journal of Volcanology and Geothermal Research*, 172(3), 229--243.
- Coombs, W. T. (2014). *Ongoing crisis communication: Planning, managing, and responding*. Sage Publications.
- Goodwin, H., & Santilli, R. (2009). Community-based tourism: A success. *ICRT Occasional Paper*, 11(1), 37.
- Dhariwal, R. (2005). Tourist arrivals in India: How important are domestic disorders? *Tourism Economics*, 11(2), 185-205.
- Douglas, M. (1978). *Cultural Bias*. Royal Anthropological Institute, London.
- Evans, N., & Elphick, S. (2005). Models of crisis management: An evaluation of their value for strategic planning in the international travel industry. *International Journal of Tourism Research*, 7(3), 135e150. <http://dx.doi.org/10.1002/jtr.527>.
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22(2), 135-147.
- Guizzardi, A., & Mazzocchi, M. (2010). Tourism demand for Italy and the business cycle. *Tourism Management*, 31(3), 367-377.
- Huang, J., & Min, J. C. (2002). Earthquake devastation and recovery in tourism: The Taiwan case. *Tourism Management*, 23(2), 145-154.
- Higgins, B. A. (2005). The storms of summer: Lessons learned in the aftermath of the hurricanes of '04. *Cornell Hotel and Restaurant Administration Quarterly*, 46(1), 40-46.
- Jamal, T., & Stronza, A. (2009). Collaboration theory and tourism practice in protected areas: Stakeholders, structuring and sustainability. *Journal of Sustainable tourism*, 17(2), 169-189.
- Juvan, E., & Dolnicar, S. (2016). Measuring environmentally sustainable tourist behaviour. *Annals of Tourism Research*, 59, 30-44.
- Laws, E., Prideaux, and K. Chon. (2007). "Crisis Management in Tourism: Challenges for Managers and Researchers". In *Crisis Management in Tourism* edited by E. Laws, B. Prideaux, and K. Chon. Oxfordshire: CABI, pp. 1-392.
- Nagai, H., Ritchie, B., Sano, K., & Yoshino, T. (2018). The challenges of protecting international tourists in Japan: The development of a hazard information system. *CAUTHE 2018: Get Smart: Paradoxes and Possibilities in Tourism, Hospitality and Events Education and Research*, 668.
- Pearce, P. L. (2005). *Tourist behaviour: Themes and conceptual schemes*. Channel View Publications.
- Ritchie, B. W. (2009). *Crisis and disaster management for tourism*. Channel View Publications. Bristol.
- Rodway-Dyer, S., & Shaw, G. (2005). The effects of the foot and mouth outbreak on visitor behaviour: The case of Dartmoor national park, Southwest England. *Journal of Sustainable Tourism*, 13(1), 63-81.
- Rollason, D. W. (2016). *The power of place: Rulers and their palaces, landscapes, cities, and holy places*. Princeton University Press Princeton and Oxford.
- Ross, G. F. (2006). Tourism industry employee work stress – A present and future crisis. *Journal of Travel & Tourism Marketing*, 19(2-3), 133-147.
- United National World Tourism Organization. (2018). *UNWTO Tourism Highlights, 2018 Edition, UNWTO, Madrid*, DOI: <https://doi.org/10.18111/9789284419876>
- Wang, Y. (2009). The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, 30(1), 75–82.
- Waugh Jr, W. L., & Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public administration review*, 66, 131-140.
- World Tourism Organization. (2005). *Making Tourism More Sustainable – A Guide for Policy Makers*, UNEP and UNWTO, 2005, pp.11-12. Last accessed on 26 March 2019.

Appendices

Appendix 1

Appendix 2

Appendix 3

Appendix 4

Summary

Samenvatting

Curriculum vitae

Appendix 1

Survey questionnaire discussed in Chapter 3

The main purpose of the questionnaire discussed in Chapter 3 was to gather data during interviews on tourists' responses to disasters. The interviews were held in Yogyakarta (Parangtritis Beach, Prawirotaman, Borobudur Temple, Prambanan Temple, Malioboro and University of Gadjah Mada) and Bali Province (Kuta Beach, Seminyak Beach, Tapak Siring and Tanah Lot). The respondents (about 40–60 respondents at each study site) were categorized according to their country of origin.

Question for international tourists

A. GENERAL INFORMATION		
1. Gender	1. Male 2. Female	
2. Age	 years old	
3. Country of origin		
4. City of origin		
5. Have you been to Indonesia before?	1. Yes 2. No	
6. If you have been to Indonesia before,	1. 1 st visit	
• How many times have you visited Indonesia?	2. 2 nd visit	
	3. 3 rd visit	
	4. I have visited more than 3 times	
• How long have you spent in Indonesia?	 days	
• What was the purpose of your visit?	a. Business	
	b. Recreation	
	c. Study	
	d. Family	
	e. Other	

B. TOURISTS RESPONSES TO THE POSSIBILITY OF DISASTERS

7. What would you do if there were a tsunami?
.....
8. What would you do if there were an earthquake?
.....
9. What would you do if there were floods?
.....

10. What would you do if there were a volcanic eruption?
.....
11. What would you do if there were a cyclone?
.....

Questions for Indonesian tourists (Pertanyaan untuk wisatawan asal Indonesia)

A. INFORMASI UMUM	
1. Jenis Kelamin	1) Laki laki 2) Perempuan
2. Usia	 tahun
3. Asal kota	
4. Berapa lama Anda tinggal di destinasi ini?	 hari
5. Apakah tujuan utama Anda mendatangi kota ini?	1. Tujuan Bisnis 2. Rekreasi 3. Belajar 4. Mengunjungi keluarga 5. Lainnya

D. RESPON PENGUNJUNG TERHADAP KEMUNGKINAN BENCANA

6. Apakah yang akan Anda lakukan jika tsunami terjadi saat ini?
.....
7. Apakah yang akan Anda lakukan jika gempa bumi terjadi saat ini?
.....
8. Apakah yang akan Anda lakukan jika banjir terjadi saat ini?
.....
9. Apakah yang akan Anda lakukan jika gunung meletus terjadi saat ini?
.....
10. Apakah yang akan Anda lakukan jika angin puting beliung terjadi saat ini?
.....

Appendix 2

Guidance questions for in-depth interviews discussed in Chapter 4

Chapter 4 assessed the community-based tourism (CBT) responses to the recent (2010) eruption of Mount Merapi, focusing on Pentingsari, a village tourism community located on its slopes. Two research questions were addressed:

- (i) How did the local government and community respond to the Merapi eruption in 2010 in the CBT village?
- (ii) How has the transformation taken place in the CBT village post-disaster?

List of questions (but not limited) to guide the in-depth interviews

Type of Stakeholder	Number of Interviews	Dimension of Questions
Government official: Sleman Tourism Board	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010 <ul style="list-style-type: none"> - How did your institution respond to the eruption? - In your institution's assessment, what are the problems resulting from the eruption? - What kinds of programmes were conducted to tackle the problems resulting from the eruption? (Please explain the aims, targets, budget and people involved in them). - How did the programmes work? - Do you think the programmes are effective in helping the community to recover from the ? - What lessons can you draw from the case of the eruption, both for community and the government? - What kind of mitigation and preparations are planned for possible future disasters?

Government official: Disaster Management Organization (BPBD) of Sleman Regency	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010 <ul style="list-style-type: none"> - How did your institution respond to the eruption? - In your institution's assessment, what are the problems resulting from the eruption? - What kinds of programmes were conducted to tackle the problems resulting from the eruption? (Please explain the aims, targets, budget and people involved in them). - How did the programmes work? - Do you think the programmes are effective in helping the community recover from the eruption? - What lessons can you draw from the case of the eruption, both for community and the government? - What kind of mitigation and preparations are planned for possible future disasters?
Government official: Disaster Management Organization (BPBD) Province of Yogyakarta	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010 <ul style="list-style-type: none"> - How did your institution respond to the eruption? - In your institution's assessment, what are the problems resulting from the eruption? - What kinds of programmes were conducted to tackle the problems resulting from the eruption? (Please explain the aims, targets, budget and people involved in them). - How did the programmes work? - Do you think the programmes are effective in helping the community recover from the eruption? - What lessons can you draw from the case of the eruption, both for community and the government? - What kind of mitigation and preparations are planned for possible future disasters?
Government official: Tourism Board of Yogyakarta Province	2	Support and programme conducted for villages on the slopes of Merapi post-eruption 2010 <ul style="list-style-type: none"> - How did your institution respond to the eruption? - In your institution's assessment, what are the problems resulting from the eruption? - What kinds of programmes were conducted to tackle the problems resulting from the eruption? (Please explain the aims, targets, budget and people involved in them). - How did the programmes work? - Do you think the programmes are effective in helping the community recover from the eruption? - What lessons can you draw from the case of the eruption, both for community and the government? - What kind of mitigation and preparations are planned for possible future disasters?

Government official: Agriculture Fishery and Forestry Board	1	<p>Support and programme conducted for villages on the slopes of Merapi post-eruption 2010</p> <ul style="list-style-type: none"> - How did your institution respond to the eruption? - In your institution's assessment, what are the problems resulting from the eruption? - What kinds of programmes were conducted to tackle the problems resulting from the eruption? (Please explain the aims, targets, budget and people involved in them). - How did the programmes work? - Do you think the programmes are effective in helping the community recover from the eruption? - What lessons can you draw from the case of the eruption, both for community and the government? - What kind of mitigation and preparations are planned for possible future disasters?
Community Leader (Chief)	1	<p>Disaster management strategy includes: preparation for disaster, situation in emergency, strategy for recovery following the eruption in 2010</p> <ul style="list-style-type: none"> - Could you please explain the village's situation before the eruption? - Could you please explain the village's situation following the eruption? - Could you please describe the changes that occurred before and after the eruption in regards to the community, the organization and individuals? - What are the challenges of the recovery process that you observed? - What lessons have you learned from the case of the eruption?
Tour guides	2	<p>Strategy to get tourists to return to the village</p> <ul style="list-style-type: none"> - Could you please explain the village's situation before the eruption? - Could you please explain the village's situation following the eruption? - Could you please describe the changes that occurred before and after the eruption in regards to the community, the organization and individuals? - What are the challenges of the recovery process that you observed? - What lessons have you learned from the case of the eruption, particularly for the tourist guiding process?

Tourism organization leader (Pokdarwis)	1	<p>Strategy to get tourists to return to the village includes product, market and institutions</p> <ul style="list-style-type: none"> - Could you please explain the village's situation before the eruption? - Could you please explain the village's situation following the eruption? - Could you please describe the changes that occurred before and after the eruption in regards to the community, the organization and individuals? - What are the challenges of the recovery process that you observed? - What lessons have you learned from the case of the eruption?
Residents of tourism village	20	<p>Their individual recovery strategy post-eruption in terms of livelihood diversification using tourism</p> <ul style="list-style-type: none"> - Could you please explain the village's situation before the eruption? - Could you please explain the village's situation following the eruption? - How did you survive during the emergency phase? - How did you recover from the disaster? - What are the challenges of the recovery process that you observed? - As an individual, what lessons have you learnt from the case of the eruption?
Number of respondents	33	

Appendix 3

A. In-depth interview guideline questions for Aceh in-depth interviews discussed in Chapter 5

For Chapter 5, in-depth interviews were held in Banda Aceh and Sabang, Province of Nanggroe Aceh Darussalam (NAD). The informants included government agencies (Aceh Tourism Board, Regional Disaster Relief Agency of Aceh, and Agency for Regional Development of Aceh Province), the university (International Centre for Aceh and Indian Ocean Studies (ICAIOS), University of Syiah Kuala) and the community of Nusa Gampong village tourism. Below is the interview guideline:

- Could you describe the situation in Aceh in general before the 2004 tsunami?
- Could you describe the situation in Aceh as regards tourism development before the 2004 tsunami?
- What has changed regarding the organization, the community and individuals in Aceh following the 2004 tsunami?
- What programmes were conducted by your institution in response to the changes following the 2004 tsunami?

In addition, 20 hotel owners and eight restaurant owners were also interviewed. Below is the interview guideline:

- A. Personal characteristics
 - a. Gender
 - b. Age
 - c. Education
 - d. Daily working activities (restaurant, hotels/guesthouses)
 - e. Location of the business (Banda Aceh and surrounding villages, Weh Island)
 - f. When did you start your business?
 - g. The reasons you started your business
 - h. Number of employees
- B. Opinion about the potential of and opportunities offered by the tourism industry
- C. What benefits have you received from tourism activities?
- D. Understanding of the disaster risk (located in the risk-prone environment)
- E. Type of precautions to reduce the risk posed by disasters
- F. Opinion about tourism development before and after the 2004 tsunami

B. Questions for Focus Group Discussion Guideline (Chapter 5)

The first focus group discussion (FGD) was performed with 15 active and legal tour guides in Aceh, the second with five tour providers in Aceh. Both FGDs lasted for about two hours and were conducted in the respondents' native language, as I am fluent in Indonesian.

- A. Personal characteristics
 - a. Gender
 - b. Age
 - c. Education
 - d. When did you start working as a tour guide/provider?
- B. Opinion about the potential of and opportunities offered by the tourism industry
- C. What benefits have you received from tourism activities?
- D. Understanding of the disaster risk (located in the prone environment)
- E. Type of precautions to reduce the risks posed by disasters
- F. Opinion about tourism development before and after the 2004 tsunami
- G. Tourism situation during the conflict, reconstruction and post-peace agreement eras
- H. Tourism product and market
- I. The challenges you faced
- J. The current situation of tourism development and how the tourist guiding process is operated
- K. Vision and mission regarding the development of tourism in Aceh, and about possible future challenges.

Appendix 4

Guideline questions for the in-depth interviews discussed in Chapter 6

For Chapter 6, in-depth interviews were held with the community of Kotagede heritage site in Yogyakarta and the related agencies. Key informant interviews were held with the representatives of six organizations working on heritage conservation and tourism in Kotagede – namely Yayasan Kanthil, Forum Joglo, Pusat Studi Dokumentasi (PUSDOK) Kotagede and BKM PNPM Mandiri Pariwisata, OPKP (organisasi pengelola kawasan pusaka) and Jogja Heritage Society – and with the local sub-district government. Resident interviews were held with the owners of 10 joglo houses (traditional vernacular houses), Kotagede tour guides and silver crafters. The community members were asked about their experiences during the 13 years of the recovery process since the 2006 earthquake and their stories of reinventing Kotagede as a heritage tourism location. Below are the guidelines for the in-depth interviews:

A. Group I: Residents of Kotagede (owners of joglo houses, owners and workers of silver craft businesses, tour guides, food vendors and non-tourism occupation households)

Introductory questions

- Can you tell us a little bit about yourself (age, highest level of education, occupation)?
- How long have you lived in Kotagede?

2006 earthquake

- Did you experience the earthquake in 2006? Please tell me about it.
- Did you have to move to another area? Where did you live? And for how long?
- What was your housing situation like?
- Where did your food and income come from?
- How long after the earthquake did you start earning an income again?
- Did you experience a change in income source?
- What type of job did this income come from?
- How long did it take you to rebuild your permanent home?
- Did you wait for government funding before rebuilding your home or did you start rebuilding with your own money/savings?
- Did you use gotong royong (work together) to rebuild your permanent house?

- Would you say your permanent home is finished?
- At what point would you say that the recovery effort was finished? What type of assistance did you receive to help you recover?
- From whom did you receive the assistance?
- How long did the assistance last (i.e. how long did the food aid last? At what point did you have to start paying for food again?)? How well did this assistance meet your needs?
- Were you satisfied with the immediate response and aid provided?
- Were there any items that you needed or wanted that you didn't get?
- Within your community, do you feel the aid was distributed fairly? Why or why not?

Tourism following the earthquake

- What do you think about the tourism activities before the earthquake?
- What do you think about the tourism activities after the earthquake?
- Would you say that tourism in Kotagede have now recovered from the earthquake?
- What aspects of the recovery of tourism do you think could have been done better?
- What kind of programmes do you think are the most effective to encourage tourists to come back to Kotagede?
- Are there any problems in tourism recovery that didn't exist before the earthquake? Can you explain them?
- Do you think the tourism organization in Kotagede has been better since the earthquake?
- What organizational aspects do you think have been better since the earthquake?
- Do you think the environment and neighbourhood in Kotagede is better since the earthquake?
- What aspects of the environment and neighbourhood do you think are better since the earthquake?
- Do you think the community capacity in Kotagede is better since the earthquake?
- What aspects of the community capacity do you think are better since the earthquake?
- In general, what aspects do you think are better compared to before the earthquake?
- What have you learned from the recovery process?

B. Group II: Community Organization representation

Yayasan Kanthil, Forum Joglo, Badan Keswadayaan Masyarakat, Pusat Studi Dokumentasi (PUSDOK) Kotagede and BKM PNPM Mandiri Pariwisata, OPKP/ organisasi pengelola kawasan pusaka), and Jogja Heritage Society.

Introductory questions

- What is the main vision and mission of your organization?
- When was your organization established? What was the background to its establishment?
- How does your organization operate and conduct its programmes?
- What kind of support and funding did your organization get from internal and external sources?

Recovery following the 2006 earthquake

- Do you think your organization had a role in Kotagede's post-disaster recovery?
- What aspects of the recovery effort do you think were well done?
- What aspects of the recovery effort do you think should have been better?
- In general, how would you assess Kotagede's post-earthquake recovery?

Transformation of Kotagede tourism

- What was your organization's role in building restoration in Kotagede?
- What was your organization's role in reconstructing the public facilities and infrastructure for tourism service?
- How has your organization adapted to the possibility of future disasters affecting Kotagede?
- Has the earthquake led to changes in your organization's vision and missions? If so, what changes?
- Are there any programmes directly related to disaster preparation both for tourists and for the target of your organization?
- Since the earthquake, has there been more networking and cooperation with the external organization? Please explain.

SUMMARY

TRAVELLING IN THE RING OF FIRE

Tourism development in Indonesia's disaster-prone environment

This dissertation is about tourism development in a disaster-prone environment, an issue that is currently attracting attention from geographic scholars. The occurrence of disasters and the possibility of future disasters present tourism with an acute dilemma: although tourism is promising for economic development, it is a vulnerable sector and thus a risky business. This dissertation contributes to a better understanding of tourism development in disaster-prone environments by focusing on the impact of disasters on the performance of the tourism industry in Indonesia, the responses of tourists and communities to disasters, and the transformations that have taken place following recent disasters in Indonesia.

The study area of the present research was Indonesia, more specifically Aceh, which was hit by the 2004 tsunami, and Yogyakarta, which was severely damaged by an earthquake in 2006 and by the eruption of Mt Merapi in 2010. Indonesia was chosen because it wants to develop tourism for economic development, but it is threatened by disasters due to its geological location in the 'Ring of Fire', namely an area that is prone to tectonic and volcanic phenomena such as earthquakes, tsunamis and volcanic eruptions. To understand the impacts of disasters, actors' responses and resilience to disasters, and recent transformations in tourist destinations resulting from disasters, data were gathered between 2014 and 2019 by means of desk and library research, secondary data collection, observations, surveys, in-depth interviews and focus group discussions in Yogyakarta, Bali and Aceh.

Impact of disasters on the performance of the tourism industry

Over the last two decades, many disasters have affected tourist destinations around the world. The occurrence of disasters threatens tourism development in Indonesia and influences the performance of tourism. Since tourism is an economic activity that is mostly dependent on the image of a destination, a disaster can deter tourists from visiting that destination. This recurring situation demands attention. Secondary data covering the period 1998–2016 were gathered from official publications of the National Disaster Management Agency of Indonesia, Statistics Indonesia and the Ministry of Tourism, and analysed using three indicators as variables, that is, number of inbound tourists, hotel occupancy rates and income from tourists.

Indonesia has experienced many disasters and crises that threatened economic performance, including tourism. The most significant natural crises include the 2004 Indian Ocean tsunami, the 2006 Yogyakarta earthquake, the 2010 Mt Merapi eruption, the 2014 Kelud eruption, the 2010 Mentawai and Nias earthquake and tsunami, and the 2013 Jakarta floods. Serious non-natural crises include the 2002 and 2005 terrorist attacks, the 2003 SARS outbreak, political conflict and transport incidents. The present research found that the human-induced and natural disasters were of different intensities and resulted in different consequences; for example, following the 2002 and 2005 terrorist attacks, the number of tourists, the hotel occupancy rate and the income generated from tourism fell in 2002 and 2003 and in 2005 and 2006, respectively. Although the impact of disaster on tourism performance can be indicated by the number of tourists, hotel occupancy rates and shares of tourism in gross domestic product, there is a dynamic in the tourism performance in regional context. The present research found that disasters have a spill-over effect: when the number of visitors in an affected destination drops, tourist numbers in other regions increase. Thus, responding to disasters requires a structural approach, because managing the impact of disasters on tourism is an effort that involves multiple areas, multiple actors and multiple sectors.

Tourists' and communities' responses and resilience

In the present research, both tourists and communities were studied to understand their responses to disasters. When a disaster strikes a tourist region, tourists are particularly vulnerable. It is assumed that tourists lack awareness and understanding of the actions they need to take. Tourists' rational responses were investigated via a survey of 537 respondents in Yogyakarta and Bali tourist destinations. The results show that although tourists respond to disasters in very different ways, from their perspective these responses are rational. The interviewees provided responses to hypothetical disasters, which were categorized into four rationalities, namely egalitarianism, fatalism, hierarchism and individualism. The responses of most Indonesian and international tourists were categorized as individualism; Indonesian tourists also generally chose individualism in all types of natural disasters. Fatalism was the second largest form of response, followed by egalitarianism. There were only a few hierarchism responses, which means that local travellers prefer to take action personally and individually when disaster strikes an area. Hardly anyone considered contacting the authorities.

The above result provides an important insight for disaster management in tourist destinations. It also reveals, however, how heterogeneous tourists' responses to disasters are and provides a framework, based on cultural theory, that not only

avoids labelling responses by tourists as irrational, but instead helps to structure different responses to disasters. This can ultimately contribute to more tailored and effective disaster management. The most crucial points for discussion are, first, that current disaster management planning largely follows a single rationale: it considers tourists a single community without considering the rationale behind their behaviour. A second crucial point is that tourists do not form a homogeneous group, but are a diverse, complex and dynamic group of stakeholders. As discussed above, four categories of tourists were identified: those dependent on the local authority (hierarchism), those who act for themselves (individualism), those who do not act and do not know how to act (fatalism), and those who act for other people (egalitarianism). There is, therefore, no single catch-all response for tourists who face natural hazards. The third crucial point is that the focus of disaster management planning should be polyrational rather than monorational. The four types of responses require disaster management to incorporate approaches not only for hierarchism, but also for individualism, egalitarianism and fatalism.

Community response to disaster was studied by examining the responses of a community-based tourism (CBT) village, Pentingsari, to the 2010 eruption of Mt Merapi. We found that the government's response was limited to general disaster management targeted at local residents, and that tourists were overlooked. Following the disaster, the Pentingsari community was aware that transformation was required. Thus, they proceeded to signpost evacuation routes, underwent training so they can provide emergency assistance, and set up a simple early warning system. There were three types of transformation following the eruption:

- 1) Individual transformation. The community became more productive and creative, community members bonded more closely, and the community reflected on the past and about what should be done to be more resilient.
- 2) Organizational transformation. The community planned new activities for the CBT organization, gained new knowledge and skills to implement new plans, renegotiated new relationships and reintegrated them into their organization's programme. Many new ideas on how to manage the CBT began to emerge. The organizational transformation was influenced by a community that now fully believed and had confidence in the future of tourism in the village.
- 3) Destination transformation. The experience of the falling number of tourists and the lack of income following the Merapi eruption drove the community to create a new product and explore a new market. Pentingsari has undergone changes in services and products. Since the eruption, more attention has been paid to product diversification and marketing.

Recovery and transformation (an outcome of disaster)

Following a disaster, a tourist destination experiences many changes, which can be studied to understand the transformations that have taken place. We found that the 2004 Indian Ocean tsunami not only impacted the environment, politics and society in Aceh, but also changed the performance of tourism as an economic sector. The findings resulting from the intersection of Butler's tourist area life cycle (TALC) model and Holling's resilience theory show that Aceh has experienced four stages of post-disaster tourism development, namely conservation/stagnation, decline, reorganization, and exploitation. Conservation occurred during the long period of conflict following the Aceh separatist movement's declaration of independence in 1976, which led to the stagnation of tourism development. The decline stage was triggered by the 2004 tsunami. Nonetheless, the tsunami also brought about the peace agreement that allowed the government and rebels to settle the political conflict. During this stage, 'halal' tourism was explored and found to meet the requirements of local people, who wanted a more Islamic form of tourism. The subsequent stages (reorganization and exploitation) are characterized by the increasing number of both international and domestic tourists, an improvement in facilities and infrastructure, and increasing numbers of attractions and events.

In the case of Kotagede following the 2006 earthquake, we found that there had been changes in heritage tourism. The earthquake had refreshed the cultural landscape, and new tourism packages that use the story of heritage in combination with the earthquake event have gained popularity. The process of reinventing the post-disaster heritage tourism was challenged by the problems of administrative versus cultural boundaries, confusing criteria concerning heritage products, conflicts in the building restoration process, a lack of interest among younger generations in culture and tradition, and unsustainable government programmes. Based on this, it can be concluded that the overlapping of the post-disaster recovery process with the reinvention of heritage tourism products can permanently change the authenticity of the cultural landscape and lead to a shift from organic place-making to planned placemaking processes.

It appears likely that supportive social contexts, the availability of innovation that is acceptable to the local community, and the supply and marketing of tourism resources are key enabling factors for tourism transformation and becoming part of the post-disaster recovery strategy, thereby enhancing resilience. Last but not least, this dissertation presents some important points that contribute to the understanding of tourism development in disaster-prone environments, including the need for structural policy responses for disaster management in tourist destinations and the need to integrate resilience indicators in discussions about sustainable tourism development.

SAMENVATTING

REIZEN IN DE RING OF FIRE

Toeristische ontwikkelingen in een rampgevoelige omgeving van Indonesië

Dit proefschrift gaat over de ontwikkeling van toerisme in een rampgevoelige omgeving, een onderwerp dat momenteel de aandacht trekt van geografische wetenschappers. Het optreden van rampen en de mogelijkheid van toekomstige rampen stelt het toerisme voor een acuut dilemma: hoewel toerisme veelbelovend is voor economische ontwikkeling, is het een kwetsbare sector en dus een risicovolle onderneming. Dit proefschrift draagt bij tot een beter begrip van de ontwikkeling van het toerisme in rampgevoelige omgevingen door zich te concentreren op de impact van rampen op de prestaties van de toeristenindustrie in Indonesië, de reacties van toeristen en gemeenschappen op rampen en de veranderingen die hebben plaatsgevonden na recente rampen in Indonesië.

Het studiegebied van het huidige onderzoek was Indonesië, meer specifiek de tsunami van 2004 in Atjeh, de aardbeving van 2006 in Yogyakarta en de uitbarsting van 2010 van Mt Merapi in Yogyakarta. Indonesië werd gekozen omdat het toerisme wil ontwikkelen voor de economische ontwikkeling, maar dit wordt bedreigd door natuurrampen vanwege zijn geologische locatie in de 'ring van vuur', namelijk een gebied dat gevoelig is voor tektonische en vulkanische fenomenen zoals aardbevingen, tsunami's en vulkanische uitbarstingen. Om inzicht te krijgen in de gevolgen van rampen, de reacties van actoren en de weerbaarheid tegen rampen en recente veranderingen in toeristische bestemmingen als gevolg van rampen, werden gegevens verzameld tussen 2014 en 2019 door middel van bureau- en bibliotheekonderzoek, secundaire gegevensverzameling, observaties, enquêtes, diepte-interviews en focus-groep discussies in Yogyakarta, Bali en Atjeh.

Gevolgen van rampen voor de prestaties van de toeristische sector

In de afgelopen twee decennia hebben veel rampen toeristische bestemmingen over de hele wereld getroffen, waaronder Indonesië. Het optreden van rampen bedreigt de ontwikkeling van het toerisme in Indonesië en beïnvloedt de prestaties van het toerisme. Aangezien toerisme een economische activiteit is die meestal afhankelijk is van het imago van een bestemming, kan een ramp toeristen afschrikken om die bestemming te bezoeken. Deze terugkerende situatie vraagt aandacht. Secundaire gegevens over de periode 1998-2016 zijn verzameld uit officiële publicaties van

het National Disaster Management Agency of Indonesia, Statistics Indonesia en het ministerie van Toerisme en geanalyseerd met behulp van drie indicatoren als variabelen, dat wil zeggen het aantal inkomende toeristen, hotelbezetting en inkomsten van toeristen.

Indonesië heeft veel rampen en crises meegemaakt die de economische prestaties bedreigden, waaronder het toerisme. De belangrijkste natuurlijke crises zijn de tsunami in de Indische Oceaan van 2004, de aardbeving in Yogyakarta in 2006, de uitbarsting van Mt Merapi in 2010, de uitbarsting van Kelud in 2014, de aardbeving en tsunami in Mentawai en Nias in 2010 en de overstromingen in Jakarta in 2013. Ernstige niet-natuurlijke crises zijn de terroristische aanslagen van 2002 en 2005, de uitbraak van SARS 2003, politieke conflicten en vervoersincidenten. Het huidige onderzoek wees uit dat de door de mens veroorzaakte rampen en natuurrampen van verschillende intensiteit waren en verschillende gevolgen hadden; bijvoorbeeld na de terroristische aanslagen in 2002 en 2005 daalde het aantal toeristen, de bezettingsgraad van het hotel en de inkomsten uit toerisme in respectievelijk 2002 en 2003 en in 2005 en 2006. Hoewel de impact van rampen op de prestaties van het toerisme kan worden aangegeven door het aantal toeristen, de bezettingsgraad van het hotel en het aandeel van het toerisme in het bruto binnenlands product, is er een dynamiek in de prestaties van het toerisme in regionale context. Uit het huidige onderzoek is gebleken dat wanneer het aantal bezoekers op een getroffen bestemming daalt, het aantal in andere regio's toeneemt. Dit hangt samen met het overloopeffect van een ramp, waardoor gebieden baat hebben bij een ramp in een ander gebied. Het reageren op rampen vereist dus een structurele aanpak, omdat het beheersen van de impact van rampen op toerisme een inspanning is die meerdere gebieden, meerdere actoren en meerdere sectoren omvat.

Reacties en veerkracht van toeristen en gemeenschappen

Zowel toeristen als gemeenschappen zijn bestudeerd om hun reacties op rampen te begrijpen. Wanneer een ramp een toeristisch gebied treft, zijn toeristen bijzonder kwetsbaar. Er wordt verondersteld dat toeristen onvoldoende bewust zijn van en inzicht hebben in de acties die ze moeten ondernemen. De rationele reacties van toeristen werden onderzocht via een enquête onder 537 respondenten in toeristische bestemmingen in Yogyakarta en Bali. De resultaten laten zien dat, hoewel toeristen op zeer verschillende manieren op rampen reageren, deze reacties vanuit hun perspectief rationeel zijn. De geïnterviewden hebben gereageerd op hypothetische rampen, die zijn onderverdeeld in vier rationaliteiten, namelijk egalitarisme, fatalisme, hiërarchisme en individualisme. De reacties van de meeste Indonesische en internationale toeristen werden gecategoriseerd als individualisme; Indonesische toeristen kozen in het algemeen ook voor individualisme bij alle soorten

natuurrampen. Fatalisme was de tweede grootste vorm van reactie, gevolgd door egalitarisme. Er waren slechts enkele hiërarchische reacties, wat betekent dat lokale reizigers liever persoonlijk en individueel actie ondernemen wanneer een ramp een gebied treft. Bijna niemand overwoog contact op te nemen met de autoriteiten.

Bovenstaand resultaat biedt een belangrijk inzicht voor rampenbeheersing in toeristische bestemmingen. Het laat echter ook zien hoe de reacties van heterogene toeristen op rampen zijn en biedt een kader, gebaseerd op de culturele theorie, dat niet alleen voorkomt dat reacties van toeristen als irrationeel worden bestempeld, maar in plaats daarvan helpt om verschillende reacties op rampen te structureren. Dit kan uiteindelijk bijdragen tot een meer toegesneden en effectief rampenbeheer. De meest cruciale discussiepunten zijn in de eerste plaats dat de huidige rampenbestrijdingsplanning grotendeels een enkele reden volgt: het beschouwt toeristen als een enkele gemeenschap zonder rekening te houden met de reden achter hun gedrag. Een tweede cruciaal punt is dat toeristen geen homogene groep vormen, maar een diverse, complexe en dynamische groep belanghebbenden. Zoals hierboven besproken, werden vier categorieën toeristen geïdentificeerd: degenen die afhankelijk zijn van de lokale autoriteit (hiërarchisme), degenen die voor zichzelf handelen (individualisme), degenen die niet handelen en niet weten hoe te handelen (fatalisme), en degenen die handelen voor andere mensen (egalitarisme). Er is daarom geen eenduidige reactie voor toeristen die met natuurlijke gevaren worden geconfronteerd. Het derde cruciale punt is dat de focus van rampenbeheerplanning polyrationaal moet zijn in plaats van monorationaal. De vier soorten antwoorden vereisen rampenbeheersing om niet alleen benaderingen voor hiërarchisme, maar ook voor individualisme, egalitarisme en fatalisme op te nemen.

De reactie van de gemeenschap op een ramp werd bestudeerd door de reacties van een community-based toeristen (CBT) dorp, Pentingsari, op de uitbarsting van Mt Merapi in 2010 te onderzoeken. We ontdekten dat de reactie van de overheid beperkt was tot algemeen rampenbeheer gericht op omwonenden en dat toeristen over het hoofd werden gezien. Na de ramp was de Pentingsari-gemeenschap zich ervan bewust dat verandering nodig was. Zo gingen ze over tot evacuatieleroutes, ondergingen training zodat ze noodhulp konden bieden en een eenvoudig vroegtijdig waarschuwingssysteem opzetten. Er waren drie soorten veranderingen na de uitbarsting:

- 1) Individuele transformatie. De gemeenschap werd productiever en creatiever, leden van de gemeenschap hechter en de gemeenschap dacht na over het verleden en over wat er gedaan moest worden om veerkrachtiger te zijn.

- 2) Organisatorische transformatie. De gemeenschap plande nieuwe activiteiten voor de CBT-organisatie, verwierf nieuwe kennis en vaardigheden om nieuwe plannen te implementeren, onderhandelde over nieuwe relaties en reïntegreerde deze in het programma van hun organisatie. Er kwamen veel nieuwe ideeën over hoe het CBT te beheren. De organisatorische transformatie werd beïnvloed door een gemeenschap die nu volledig geloofde en vertrouwen had in de toekomst van het toerisme in het dorp.
- 3) Bestemmingstransformatie. De ervaring van het dalende aantal toeristen en het gebrek aan inkomsten na de Merapi-uitbarsting bracht de gemeenschap ertoe een nieuw product te maken en een nieuwe markt te verkennen. Pentingsari heeft wijzigingen ondergaan in diensten en producten. Sinds de uitbarsting is meer aandacht besteed aan productdiversificatie.

Herstel en transformatie (een uitkomst van een ramp)

Na een ramp ervaart een toeristische bestemming veel veranderingen, die kunnen worden bestudeerd om de transformaties die hebben plaatsgevonden te begrijpen. We hebben geconstateerd dat de tsunami in de Indische Oceaan in 2004 niet alleen invloed had op het milieu, de politiek en de samenleving in Atjeh, maar ook de prestaties van het toerisme als economische sector veranderde. De bevindingen die voortvloeien uit de kruising van Butler's Tourist Area Life Cycle TALC-raamwerk en het veerkrachttheoriemodel van Holling tonen aan dat Atjeh vier stadia van ontwikkeling van toerisme na rampen heeft doorgemaakt, namelijk behoud / stagnatie, achteruitgang, reorganisatie en exploitatie. Instandhouding vond plaats tijdens de lange periode van conflict na de onafhankelijkheidsverklaring van de Atjeh-beweging in 1976, die leidde tot de stagnatie van de ontwikkeling van het toerisme. De daling werd veroorzaakt door de tsunami van 2004. Desondanks bracht de tsunami ook het vredesakkoord tot stand dat de regering en rebellen in staat stelde het politieke conflict te beslechten. In deze fase werd het halal-toerisme verkend en gevonden om te voldoen aan de behoeften van de lokale bevolking, die een meer islamitische vorm van toerisme wilde. De daaropvolgende fasen (reorganisatie en exploitatie) worden gekenmerkt door het toenemende aantal zowel internationale als binnenlandse toeristen, een verbetering van voorzieningen en infrastructuur, en een toenemend aantal attracties en evenementen.

In het geval van Kotagede na de aardbeving van 2006 hebben we geconstateerd dat er veranderingen waren in het erfgoedtoerisme. De aardbeving had het culturele landschap opgefrist en nieuwe toerismepakketten met het verhaal van erfgoed in combinatie met het aardbevingsevenement waren populair geworden. Het proces van het opnieuw uitvinden van het erfgoedtoerisme na de ramp werd uitgedaagd

door de problemen van administratieve versus culturele grenzen, verwarrende criteria met betrekking tot erfgoedproducten, conflicten in het bouwrestauratieproces, een gebrek aan interesse onder jongere generaties in cultuur en traditie, en niet-duurzame overheidsprogramma's. Op basis hiervan kan worden geconcludeerd dat de overlapping van het herstelproces na rampen met de heruitvinding van erfgoedtoerisme-producten, de authenticiteit van het culturele landschap permanent kan veranderen en kan leiden tot een verschuiving van organische plaatsbepaling naar geplande plaatsbepalingsprocessen.

Het lijkt waarschijnlijk dat ondersteunende sociale contexten, de beschikbaarheid van innovatie die acceptabel is voor de lokale gemeenschap, en het aanbod en de marketing van toeristische hulpbronnen belangrijke factoren zijn voor de verandering van toerisme en onderdeel worden van de herstelstrategie na rampen, waardoor de veerkracht wordt verbeterd. Tenslotte presenteert dit proefschrift enkele belangrijke punten die bijdragen aan het begrip van de ontwikkeling van toerisme in rampgevoelige omgevingen, waaronder de behoefte aan structurele beleidsreacties voor rampenbeheersing in toeristische bestemmingen en de noodzaak om veerkrachtindicatoren te integreren in discussies over duurzame toerisme ontwikkelingen.

RINGKASAN

PARIWISATA DI CINCIN API

Pembangunan pariwisata di kawasan rawan bencana Indonesia

Disertasi ini membahas tentang pembangunan pariwisata di kawasan rawan bencana, sebuah isu yang saat ini sedang menarik perhatian para geograf. Kejadian bencana di masa lalu dan kemungkinan kejadian dimasa depan memberikan dilema yang serius terhadap pariwisata. Meskipun pariwisata menjanjikan untuk pembangunan ekonomi, sektor ini dirasa cukup rawan terhadap bencana sehingga bisnis pariwisata cukup beresiko. Disertasi ini berkontribusi terhadap pemahaman yang lebih baik tentang pembangunan pariwisata di kawasan rawan bencana dimana berfokus pada pemahaman dampak bencana terhadap performa pariwisata di Indonesia, respon wisatawan dan masyarakat terhadap bencana, dan transformasi yang terjadi setelah bencana yang melanda Indonesia.

Lokasi penelitian dalam kajian ini adalah Indonesia, lebih khususnya adalah kejadian tsunami di Aceh tahun 2004, gempa bumi di Yogyakarta tahun 2006, dan erupsi gunung Merapi di Yogyakarta pada tahun 2010. Indonesia dipilih karena Indonesia saat ini sedang gencar mengembangkan pariwisata namun disisi lain Indonesia adalah negeri yang terletak di posisi 'ring of fire' atau cincin api yang secara geologis rawan terhadap bencana baik bencana tektonik maupun vulkanik, seperti gempa bumi, tsunami dan gunung meletus. Untuk memahami dampak bencana, ketahanan dan respon aktor aktor yang terlibat dalam penanggulangan bencana dan pengelolaan pariwisata, serta transformasi yang terjadi di daerah tujuan wisata, data dikumpulkan antara tahun 2014 dan 2019, dengan penelusuran kepustakaan, desk riset, pengumpulan data sekunder, observasi, survey, wawancara mendalam di Yogyakarta, Bali dan Aceh, serta diskusi terfokus di Aceh.

Dampak bencana terhadap performa industri pariwisata

Selama dua abad terakhir, banyak kejadian bencana telah mempengaruhi tujuan wisata di dunia, termasuk Indonesia. Kejadian bencana mengancam pengembangan pariwisata di Indonesia. Karena pariwisata adalah kegiatan ekonomi yang sangat tergantung pada citra dari sebuah destinasi, bencana dapat menjauhkan wisatawan dari obyek wisata. Situasi ini dapat terjadi lagi dan berulang, sehingga hal ini membutuhkan perhatian khusus. Guna memahami dampak bencana terhadap performa pariwisata, data sekunder pada periode 1998 – 2016 yang dikumpulkan dari publikasi resmi Badan Penanggulangan Bencana Indonesia, Badan Pusat

Statistik, dan Kementerian Pariwisata, di analisis menggunakan tiga indikator sebagai variabel, yaitu, jumlah kunjungan wisata luar negeri ke Indonesia, tingkat hunian hotel dan pendapatan yang diperoleh dari wisatawan.

Indonesia mengalami banyak kejadian bencana dan krisis yang mengancam ekonomi, termasuk mengancam pariwisata. Krisis alam yang paling signifikan adalah tsunami di Samudera Hindia pada tahun 2004, gempa bumi di Yogyakarta pada tahun 2006, letusan gunung Merapi pada tahun 2010, letusan gunung Kelud tahun 2014, gempa dan tsunami di Mentawai dan Nias, dan banjir di Jakarta pada tahun 2013. Sedangkan bencana non-alam misalnya serangan terrorist pada tahun 2002 dan 2005 di Bali, wabah SARS tahun 2003, konflik politik dan kecelakaan transportasi. Penelitian ini menemukan bahwa baik bencana alam dan bencana buatan manusia memiliki intensitas dan tentu saja konsekuensi yang berbeda pada pariwisata, contohnya setelah serangan teroris di Bali pada tahun 2002 dan 2005, jumlah kunjungan wisata, tingkat hunian hotel dan pendapatan dari pariwisata mengalami penurunan pada tahun kejadian 2002 dan 2005 bahkan setelah satu tahun dari kejadian tersebut.

Meskipun dampak bencana pada performa pariwisata dapat dilihat dari jumlah kunjungan, tingkat hunian hotel dan kontribusi pada produk domestik, ada dinamika yang menarik di tingkat regional. Riset ini menemukan bahwa ketika jumlah kunjungan wisata turun di suatu tempat yg terdampak bencana, ternyata di lokasi lain mengalami peningkatan. Hal ini dapat dihubungkan dengan adanya spillover effect atau efek 'luberan', dimana satu area dapat memperoleh keuntungan dari kejadian bencana di daerah lain. Dengan pemahaman tersebut maka riset ini menyarankan bahwa dalam merespon bencana dibutuhkan pendekatan secara struktural, karena menanggulangi bencana dan mengelola pariwisata membutuhkan usaha usaha yang mengikutsertakan banyak lokasi, aktor dan sektor.

Respon dan tingkat ketahanan wisatawan dan masyarakat

Respon dan tingkat ketahanan wisatawan dikaji didalam studi ini. Ketika bencana melanda sebuah destinasi pariwisata, wisatawan biasanya adalah pihak yang paling rentan. Wisatawan diasumsikan memiliki tingkat kewaspadaan dan pemahaman yang rendah tentang upaya yang harus dilakukan saat terjadi bencana. Riset ini mensurvey 537 wisatawan di beberapa obyek wisata di Yogyakarta dan Bali. Dalam survey, mereka ditanya kemungkinan respon terhadap bencana jika terjadi. Hasil survey menunjukkan bahwa meskipun respon wisatawan berbeda, namun respon mereka dapat dikatakan rasional atau berasal. Melalui pendekatan dari Cultural Teori, respon wisatawan dapat dikategorikan dalam empat rasionalitas yaitu: hierarchism (yang tergantung pada pihak berwenang), individualism (yang bertindak

secara diri sendiri), fatalism (yang tidak tahu harus berbuat apa sehingga justru tidak bertindak apa apa atau bertindak namun salah), dan egalitarianism (yang bertindak bukan untuk dirinya sendiri melainkan untuk orang lain).

Mayoritas respon wisatawan yang berasal dari Indonesia dan wisatawan asing/ luar negeri adalah individualism; dan wisatawan dari Indonesia pada umumnya merespon individualism pada semua tipe bencana alam. Fatalism merupakan rasionalitas terbesar kedua yang diikuti oleh egalitarianism. Hanya ada beberapa orang yang memiliki respon hierarchism yang artinya wisatawan lokal lebih memilih untuk mengambil tindakan secara personal dan individu ketika terjadi bencana. Agak sulit bagi mereka untuk menghubungi pihak yang berwajib ketika terjadi bencana.

Hasil diatas menunjukkan gagasan yang penting untuk pengelolaan bencana pada destinasi pariwisata. Hasil penelitian juga menunjukkan betapa beragamnya respon wisatawan terhadap kemungkinan bencana sehingga membentuk kerangka pikir berdasarkan Cultural Theory atau teori budaya, dimana respon mereka bukan tidak rasional tetapi justru membantu dalam penyusunan struktur respon terhadap bencana. Hal ini tentu saja berkontribusi pada lebih sesuainya dan efektifnya pengelolaan bencana. Hal yang paling penting untuk menjadi bahan diskusi bersama adalah, pertama, bahwa pengelolaan bencana saat ini hanya mengikuti satu saja rasionalitas, dimana hanya mempertimbangkan wisatawan sebagai satu komunitas tanpa mempertimbangkan ada rasionalitas pada setiap tindakan wisatawan. Yang kedua, wisatawan bukanlah entitas yang homogen, tetapi beragam, kompleks dan dinamis. Tindakan atau respon mereka dikategorikan dalam: egalitarianism, fatalism, hierarchism, dan individualism. Oleh karena itu, tidak ada satu orangpun yang bertindak keempat empatnya ketika menghadapi bencana. Yang ketiga, fokus dari pengelola bencana sebaiknya berubah dari monorational (berfikir bahwa tindakan wisatawan sama) ke polyrational (berfikir bahwa tindakan wisatawan beragam). Keempat respon yang ditemukan dalam survey ini menunjukkan bahwa pengelolaan bencana membutuhkan sebuah pendekatan yang menyeluruh pada empat rasionalitas yang ditunjukkan oleh wisatawan, bukan hanya yang hierarchism, tetapi juga yang individualism, egalitarianism dan fatalism.

Penelitian ini juga mengkaji respon masyarakat menghadapi bencana. Respon masyarakat terhadap bencana dikaji dengan memeriksa respon desa wisata berbasis masyarakat, yaitu Desa Pentingsari, terhadap erupsi Gunung Merapi tahun 2010. Studi ini menemukan bahwa respon dari pemerintah terbatas pada bencana secara umum yang menyasar masyarakat lokal, sedangkan wisatawan masih belum mendapat perhatian. Setelah bencana tersebut, masyarakat Pentingsari menyadari bahwa perubahan diperlukan. Perubahan atau transformasi yang terjadi di Pentingsari dapat dikategorikan dalam tiga hal:

- 1) Transformasi individu. Masyarakat Pentingsari menjadi lebih produktif dan kreatif, anggota masyarakat lebih rukun, dan masyarakat menggunakan peristiwa meletus Gunung Merapi untuk refleksi diri terhadap upaya yang diperlukan supaya mereka lebih tahan terhadap bencana.
- 2) Transformasi organisasi. Masyarakat merencanakan kegiatan baru untuk organisasi wisata berbasis masyarakat. Mereka memperoleh pengetahuan dan keterampilan baru untuk mengimplementasikan rencana baru, menegosiasikan ulang hubungan baru dan mengintegrasikannya kembali ke dalam program organisasi mereka. Banyak ide baru tentang cara mengelola pariwisata berbasis masyarakat yang mulai muncul. Transformasi organisasi dipengaruhi oleh masyarakat yang sekarang sepenuhnya memiliki kepercayaan terhadap masa depan pariwisata di desa mereka.
- 3) Transformasi obyek wisata. Pengalaman menurunnya jumlah wisatawan dan kurangnya pendapatan setelah letusan Gunung Merapi mendorong masyarakat untuk menciptakan produk baru dan menjelajahi pasar baru. Pentingsari telah mengalami perubahan dalam layanan dan produk. Sejak letusan, lebih banyak perhatian diberikan pada diversifikasi produk dan pemasaran.

Pemulihan dan transformasi (hasil dari bencana)

Setelah bencana, sebuah destinasi wisata mengalami banyak perubahan. Perubahan ini dapat dipelajari untuk memahami transformasi yang telah terjadi. Penelitian ini menemukan bahwa tsunami di Aceh tahun 2004 tidak hanya berdampak pada lingkungan, politik, dan masyarakat di Aceh, tetapi juga mengubah wajah pariwisata sebagai sektor ekonomi. Hasil riset ini menemukan bahwa pengembangan pariwisata di Aceh telah melalui berbagai fase. Dengan menggunakan pendekatan Tourist Area Lifecycle (TALC) Butler dan model teori ketahanan milik Holling riset ini mencatat bahwa Aceh telah mengalami empat tahap pengembangan pariwisata pascabencana, yaitu konservasi / stagnasi, penurunan, reorganisasi, dan eksploitasi. Konservasi terjadi selama periode konflik yang panjang setelah deklarasi kemerdekaan separatis gerakan Aceh pada tahun 1976, yang menyebabkan stagnasi pengembangan pariwisata. Kemudian tahap kedua adalah tahap penurunan yang dipicu oleh kejadian tsunami 2004. Meskipun demikian, tsunami juga menghasilkan perjanjian damai yang memungkinkan pemerintah dan GAM menyelesaikan konflik politik. Tahap ketiga adalah reorganisasi, dimana pariwisata halal dieksplorasi dan dikembangkan untuk memenuhi keinginan masyarakat setempat, yang menginginkan

bentuk pariwisata yang lebih Islami sesuai dengan nilai yang mereka anut. Tahap selanjutnya adalah eksploitasi yang ditandai oleh meningkatnya jumlah wisatawan internasional dan domestik, peningkatan fasilitas dan infrastruktur, dan peningkatan jumlah atraksi wisata dan kegiatan pariwisata.

Dalam kasus Kotagede setelah gempa bumi tahun 2006, penelitian menemukan bahwa telah ada perubahan dalam pariwisata warisan budaya. Gempa bumi telah menyegarkan lanskap budaya dan paket wisata baru menggunakan kisah sejarah warisan budaya dikombinasikan dengan peristiwa gempa bumi. Hal ini telah mendapatkan popularitas yang lebih baik dari sebelumnya. Proses penciptaan kembali pariwisata berbasis warisan budaya pascabencana mengalami tantangan berupa perbedaan antara batas administrasi dan batas budaya, kriteria yang samar tentang apa itu produk warisan budaya, adanya konflik dalam proses restorasi bangunan, kurangnya minat generasi muda dalam budaya dan tradisi, dan program pemerintah yang tidak berkelanjutan. Dapat disimpulkan bahwa ketika kedua upaya berjalan bersama yaitu upaya pemulihan pasca bencana dan upaya penciptaan kembali produk wisata berbasis warisan budaya, dapat menyebabkan pergeseran tingkat keaslian dari produk pariwisata. Dimana proses organik atau alamai, menjadi tidak alami lagi. Meskipun demikian pergeseran tingkat keaslian produk wisata tidak menjadi kendala yang berarti dalam upaya menjual daya tarik.

Jelas disini bahwa dukungan dari kondisi sosial, ketersediaan inovasi yang diterima masyarakat, dan ketersediaan produk dan pemasaran pariwisata adalah kunci utama terjadinya perubahan atau transformasi. Hal ini adalah strategi penting untuk pemulihan pascabencana dimana diharapkan meningkatkan ketahanan sebuah destinasi wisata. Disertasi ini menyajikan beberapa poin penting yang berkontribusi pada pemahaman pengembangan pariwisata di lingkungan rawan bencana, termasuk kebutuhan untuk mengimplementasikan kebijakan struktural dalam manajemen bencana di daerah tujuan wisata dan perlunya mengintegrasikan indikator ketahanan dalam indikator pariwisata berkelanjutan.

CURRICULUM VITAE

Erda Rindrasih was born on 5 May 1982 in Bantul Regency, Yogyakarta, Indonesia. In 2005, she received her Bachelor's degree cum laude in Geography from Universitas Gadjah Mada Indonesia, majoring in Regional Development and Planning. She then worked at the Center for Tourism Studies at the same university. In 2007 she started her Master's degree at the University of Hawaii at Manoa, USA, majoring in Urban and Regional Planning, thanks to an award from the International Fellowship Program Ford Foundation. She graduated in 2009 and, Master's degree in hand, returned to the Center for Tourism Studies as a researcher and developed with her colleagues a non-government organization called Indonesia Tourism Watch (ITW). During her working period, she received several awards, including the best paper in the Asia Tourism Forum (2012), the Bravo award (2013) and the winner of a national competition for the best tourism paper organized by the University of Gadjah Mada (2013). In 2014, she received the Scholarship Award from the Indonesian Endowment Fund for Education (LPDP) to pursue a Doctoral degree programme at Utrecht University, Faculty of Geosciences, where she majored in Social Geography and Spatial Planning with a focus on tourism development and disaster under the International Development Studies (IDS) study group. She has published two books, namely *Tourism Development in Archipelago Countries* (2012) and *Mengembangkan Pariwisata Dari Bawah / Developing tourism from the ground* (2013), and published various articles in international journals, including *Disasters*, *Sustainability*, *International Development Planning Review*, *Journal of Service Science and Management*, *Humaniora*, *Journal of Tourism Research*, *ASEAN Journal on Hospitality and Tourism*, and *Geografia: Malaysian Journal of Society and Space*. She has also wrote a novel titled *From Borneo to Hawaii* (2012).

Contact: erdadesa@gmail.com