

**Effective Community Engagement for Climate Change Adaptation
in Indonesia**

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Published

2014

Thesis Type

Thesis (PhD Doctorate)

School

Griffith School of Environment

DOI

[10.25904/1912/656](https://doi.org/10.25904/1912/656)

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Effective Community Engagement for Climate Change Adaptation in Indonesia

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Submitted in fulfilment of the requirements of the degree of

Doctor of Philosophy

August 2013

Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Meuthia Alvernia Naim

Date:

Abstract

In regard to the highly vulnerable coastal areas of Indonesia, the focus of this thesis is on what might comprise effective community engagement to enhance local capacity building for climate change adaptation. Following an extensive multidisciplinary literature review complemented by field work, suggestions are made. The literatures include those of public participation and community engagement; particularly in regard to closely interrelated contexts of environmental management, sustainable development and climate change adaptation, internationally and in Indonesia. A series of semi-structured interviews with relevant policy actors from the governmental to the community level provided data in Indonesian practice, thought, and context to well inform the analysis.

A key finding was that current community engagement practices in Indonesia are wanting in any meaningful engagement with local communities and their representatives to build effective adaptive capacity at the local level. Lack of local social knowledge and perspectives in government facilitated programs is a significant causal factor of low participation in such programs. Enhanced community engagement that stresses social inclusion in partnership programs for building adaptive capacity and local acceptance and support is thus needed. Other key determinants or attributes for such programs were found to be enhanced social capital, institutional change to facilitate participatory governance approaches, and the associated need to address social-economic issues of vulnerable, usually poor, communities, in particular, poverty and low levels of literacy and education.

Acknowledgments

All the praises and thanks be to Allah, the Lord of the '*Alamin*, who makes things possible, from none, to their existence. Without His guidance and permission, this PhD journey would not have been possible.

I owe my deepest appreciation to my supervisor, Associate Professor Richard Hindmarsh, for his tireless support and encouragement during my long and winding PhD journey. His meticulous comments and feedbacks throughout the processing of this thesis were an enormous support to me. I also thank my associate supervisor, Dr. Jo-Anne Ferreira for her valuable comments on my thesis; and to Merv Littman for proof reading my thesis.

Encouragement to undertake this PhD degree came from my family, especially from my beloved parents, my Dad and my late Mom; my Mom-in-law; my beloved husband, Yudi, and my son, Ismail; my sisters and brother; and all the big and happy family of Jamlating and the Dinasti Elan. My heartfelt love goes out to them, who always there with their ongoing love, prays, and patience.

I was also very fortunate and grateful to be surrounded by very attentive and caring friends in Brisbane, who were always ready to respond to my 'cry-for-help alarm', even before the alarm went on. It is impossible to list all their names and the help they gave me. I convey my heartfelt thanks for their valuable help and thoughtful attention. My special thank to Muthi for 'rescuing' me from 'the table of contents tragedy'.

Finally, my appreciation goes to all the interview participants, with their perspectives a centre-piece of the thesis. I dedicate this work to the Indonesian community, especially to the poor in their survival for life, and in adapting to climate change impacts.

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List of Abbreviations

APA	Administrative Procedures Act
BaltCICA	Climate Change Impacts, Costs and Adaptation in the Baltic Sea Region
Bappenas	National Development Planning Agency
BMKG	Meteorology, Climatology and Geophysics Agency
BPS	Badan Pusat Statistik (Statistics Indonesia)
CACC	Community-based Adaptation to Climate Change
CAF	Cancun Adaptation Framework
CBA	Community-based Adaptation
CBCRM	Community-based Coastal Resource Management
CBDP	Community-based Disaster Preparedness
CBMPA	Community-based Marine Protected Area
CCA	Climate Change Adaptation
CIA	Central Intelligence Agency
CIFOR	Center for International Forestry Research
COP	Conference of the Parties to the UNFCCC
COREMAP	Coral Reef Rehabilitation and Management Program
CP	Community Participation
CRA	Community Risk Assessment
CSR	Corporate Social Responsibility
DNPI	Dewan Nasional Perubahan Iklim
DRR	Disaster Risk Reduction
EC	Environment Canada
EM	Environmental Management
ENGOS	Environmental Non-government Organisations
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHG	Greenhouse Gases
GOI	Government of Indonesia
HFA	Hyogo Framework for Action
IAP2	International Association for Public Participation

ICCSR	Indonesia Climate Change Sectoral Roadmap
ICCTF	Indonesia Climate Change Trust Fund
ICM	Integrated Coastal Management
IFRC	International Federation of Red Cross and Red Crescent Societies
IIED	International Institute for Environment and Development
IPCC	Intergovernmental Panel on Climate Change
LBH	Lembaga Bantuan Hukum (Legal Aid Agency)
LLRM	Local Level Risk Management
LPM	Lembaga Pemberdayaan Masyarakat
MDGs	Millennium Development Goals
MoE	Ministry of Environment
MRV	Measurement Reporting and Verification
NCCC	National Climate Change Committee
NEPA	National Environmental Policy Act
NGO	Non-governmental Organisation
PEACE	Pelangi Energi Abadi Citra Enviro
PSD	Participatory Scenario Development
PVCA	Participatory Vulnerability and Capacity Assessment
RAN-GRK	Presidential Decree for GHG Emission Reduction
RANPI	National Climate Change Action Plan
REDD	Reducing Emissions from Deforestation and Forest Degradation
RPJMN	National Medium Term Development Plan
RQ	Research Question
RT	Rukun Tetangga (Harmonious Neighbourhood)
RW	Rukun Warga (Harmonious Residents)
SD	Sustainable Development
SIGN	National GHGs Inventory System
UCAR	University Corporation for Atmospheric Research
UK	United Kingdom
UKAid	United Kingdom Overseas Aid
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme

UNEP	United Nations Environment Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
UNGASS	United Nations General Assembly Special Session
UNISDR	United Nations International Strategy for Disaster Reduction
US	United States
USA	United States of America
VCA	Vulnerability and Capacity Assessment
WALHI	Wahana Lingkungan Hidup Indonesia
WCED	World Commission on Environment and Development
WHO	World Health Organisation
WMO	World Meteorological Organisation
WSSD	World Summit on Sustainable Development
WWF	World Wildlife Fund

Chapter 1

Introduction

How to respond adequately to anthropogenic climate change (hereafter, ‘climate change’) is increasingly seen as the most pressing environmental problem the world is facing today. Most climate change scientists now believe that climate change presents the most severe environmental threat to society and its survival (Parry et al. 2007; IPCC 2012). Emergent over several decades as a global environmental governance problem, the United Nations has responded through two key initiatives. First, in 1988 with the formation of the Intergovernmental Panel on Climate Change (IPCC) — a scientific body set up to review and assess the most recent scientific, technical and socio-economic information related to the understanding of climate change.¹ Second, in 1992 with the formation of the United Nations Framework Convention on Climate Change (UNFCCC) as an international treaty, ‘to cooperatively consider what they could do to limit average global temperature increases and the resulting climate change, and to cope with whatever impacts were, by then, inevitable’.²

Projected impacts include reduction of freshwater availability (already scarce in many countries), increased flooding in coastal areas, associated increases in disease, and increased pressure on natural resources and the environment — all compounded by rapid urbanisation, industrialisation and arguably, and economic growth that ignores adequate environmental protection. Once they set in, these impacts are seen as long-lasting. This is because of the temporal and wide spatial scales of climate processes, which will ensure that anthropogenic-caused global warming will likely continue for centuries (Solomon et al. 2007).

To moderate such impacts, the initial and central focus of the UNFCCC was and has been on mitigating or reducing greenhouse emissions. The Kyoto Protocol (adopted in 1997) was specifically formulated by the UNFCCC to address mitigation more effectively (van Aalst et al. 2008; Ayers and Forsyth 2009; Mercer 2010). Alarmingly, the IPCC projected that greenhouse gas (GHG) emissions would continue to grow because of industrialisation and excessive economic growth

¹ See <http://www.ipcc.ch/>

² Background on the UNFCCC at http://unfccc.int/essential_background/items/6031.php

furthered by inadequacies of current mitigation policies (Metz et al. 2007). In 2007, the IPCC Fourth Assessment Report stressed that current climate change driven by human activities was well underway, as potentially or already involving severe environmental impacts, and downstream that it posed long-lasting adverse socio-economic impacts (also Solomon et al. 2007). However, little success has been achieved in mitigation (UNFCCC 2013a). Overall, it has largely failed to achieve the objectives of the UNFCCC or the Kyoto Protocol due to almost insurmountable technical, socio-economic and political barriers internationally (van Aalst et al. 2008; see Bodansky 2010), thus making climate change impacts increasingly unavoidable.

As a result, climate change adaptation (hereafter most frequently referred to as ‘adaptation’) has emerged increasingly as a complementary strategy to mitigation (Smit and Pilifosova 2001; Matczak et al. 2008; van Aalst et al. 2008). The objective of adaptation is to reduce the vulnerability, and enhance the adaptive capacity of human populations and their resilience, to climate change (Smit and Pilifosova 2001); in short, to create effective actions for survival (Adger et al. 2005; Tompkins et al. 2010). For most effective adaptation, the climate change adaptation literature overwhelmingly calls for whole-of-society responses (for example, Parry et al. 2007; IPCC 2012). Central to such responses are seen to be stakeholder ‘partnership’ approaches, facilitated by government that aim to develop strong community engagement strategies at the local level which, in Indonesia — the focus of this research — is the most vulnerable societal level facing climate change, as in many other countries. This is especially the case in the coastal zone where climate change impacts are expected to be the worst.

Indeed, such is the failure of mitigation strategies that adaptation is now considered a key building block for the climate change management regime beyond 2012.³ Emphasis on the need for adaptation continues to grow, as was clearly underlined in the Copenhagen Accord (UNFCCC 2009: 6):

Adaptation to the adverse effects of climate change and the potential impacts of response measures is a challenge faced by all countries. Enhanced action

³ The year 2012 was the end of the first commitment period (2008-2012) of the Kyoto Protocol. Current international negotiations are paving the way for a new international framework to deliver stringent emission reductions (available from: http://unfccc.int/kyoto_protocol/items/2830.php [accessed 13 July 2010]).

and international cooperation on adaptation is urgently required to ensure the implementation of the Convention by enabling and supporting the implementation of adaptation actions aimed at reducing vulnerability and building resilience in developing countries, especially in those that are particularly vulnerable...

Following the UNFCCC Conference of Parties (COP) 16 in Cancun, Mexico, in 2010, the need for adaptation was further highlighted through the establishment of the Cancun Adaptation Framework (CAF) under the Cancun Agreements (UNFCCC 2010; 2011b). A key aim of the CAF — a result of three years negotiation on adaptation in following the Bali Action Plan — was to enhance adaptation actions to reduce vulnerability and build resilience in developing countries.⁴ Five activity clusters were stressed: implementation, support, institutions, principles, and stakeholder engagement.

Under the implementation cluster, all countries party to the UNFCCC needed to plan, prioritise and implement adaptation actions. *Developing countries* in particular needed to establish adaptation approaches to address loss and damage resulting from adverse climate change impacts. In contrast, *developed countries* needed to provide financial and technological support as well as capacity building to support developing countries. In this context, the CAF recognised the need to establish institutions at the global, national and local levels to promote and strengthen adaptation actions. At the national level, designing and implementing effective and sustainable institutions as well as approaches and practices for adaptation needed to include the role of local communities. The most recent COP, COP 18 was held in Doha, Qatar, 2012. It continued to underscore this strategy in identifying ways to enhance the adaptive capacities of the most vulnerable through better planning (UNFCCC 2013a), with the input of local communities seen as vital to such planning. Such context introduces the problematic situation of Indonesia.

Flash flood in Naringgul Village ... One trillion rupiahs for floods ...
Thousands of residents flee ... Farmer loss of 15 billion rupiahs due to

⁴ See <http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf>, p. 4 (c)

flood⁵... High sea waves, a ship sank, 41 fishermen missing ... Distribution of basic needs to Bangka Island has halted due to bad weather ... Increased rainfall, dengue rampant...⁶

Increasingly, the examples of headlines shown above dominate Indonesian national newspapers. They indicate the types of climate change impacts now faced by Indonesia. Over the last decade, Indonesia has experienced intensifying environmental incidents that appear climate-related; including floods, extreme droughts, natural forest fires, and tidal wave floods in coastal areas (MOE 2007; Bappenas 2008a; Yusuf and Francisco 2009). Some regions in Indonesia, for example, Semarang (Central Java Province), have also experienced sea level rises through tidal wave flooding, which has, in turn, severely affected coastal settlements (Marfai and King 2008; Marfai et al. 2008; Diposaptono 2009). Of central concern for Indonesia is that any marked sea level rise threatens millions of the country's population. Indeed, some 65 per cent of the population lives in the vicinity of the low-lying coastal zone (Sukardjo 2002), dependent on it economically and socially (CIFOR 2006; Bappenas 2008a).

Future projections of climate change impacts on Indonesia predict that the mean temperature will increase to such an extent that longer dry seasons and shorter but more intense wet seasons will be experienced, which will also lead to a significant increase in flooding risk (Hulme and Sheard 1999; PEACE 2007). In turn, such conditions will reduce the quantity and quality of water resources and affect agricultural production. A predicted increase in sea temperature also threatens to adversely affect fisheries production, which may ultimately disrupt the country's food security. To make matters more complex, of the total Indonesian population of nearly 240 million people (BPS 2010b), 35 per cent are employed in the agriculture, forestry and fisheries sectors, which will be most affected by extreme weather patterns.⁷ Such impacts will severely hamper the achievement of the Millennium Development Goals (MDGs)⁸, particularly those dealing with extreme hunger and

⁵ In relation to the loss of 15 billion rupiahs, this amount is equal to approximately US\$1.6 million, when Indonesian GDP per capita was US\$1,870 in 2008 (World Bank 2010b).

⁶ Collected from newspaper clippings from *Kompas* (the biggest Indonesian national newspaper) 2008 to early 2009.

⁷ Based on the 2012 survey on national workforce by main industry.

http://www.bps.go.id/tab_sub/view.php?tabel=1&daftar=1&id_subyek=06¬ab=2.

⁸ Millennium Development Goals (MDGs) consists of eight targets which range from halving extreme poverty rates to halting the spread of HIV/AIDS and providing universal primary

poverty eradication (Bappenas 2008a). In Indonesia, 18 per cent of the population live on less than US\$1.25 a day and 46 per cent live on less than US\$2 per day (World Bank 2013).⁹ These statistics indicate that Indonesia is highly vulnerable to the impacts of climate change in socio-economic terms (Yusuf and Fransisco 2009). Several other studies on the estimated climate change impacts to Indonesia confirm the high level of vulnerability of Indonesia (for example, PEACE 2007; MOE 2010a; World Bank 2010c).

With severe climate change threats posed to Indonesia's economy, society, and environmental security in a range of sectors (Bappenas 2008a), adaptation with an adequate level of adaptive capacity has been acknowledged as necessary (Parry et al. 2007). However, attaining adequate adaptive capacity is very challenging to develop in a poor country like Indonesia, which lacks infrastructure and resources. Designing and implementing effective and sustainable environmental management practices for adaptation require well thought-out strategic approaches and mechanisms, including a meaningful role for local communities. The role of communities, in addition to the Cancun Adaptation Framework and the Doha Climate Gateway, was stressed by Article 6 of the UNFCCC (United Nations 1992a).

It is at this local community level that this research particularly addresses as representing the most vulnerable of the vulnerable in Indonesia. The **working hypothesis** is that local community inclusion in decision-making processes on adaptation programs is necessary for their effectiveness in building adaptive capacity at the community level. Climate change adaptation refers to both IPCC definitions on adaptation which distinguish adaptation as 'autonomous' and as 'planned', where

autonomous adaptation is adaptation that does not constitute a conscious response to climatic stimuli but is triggered by ecological changes in natural systems and by market or welfare changes in human systems. Also referred to as spontaneous adaptation,

education, all by the target date of 2015. All these targets form a blueprint agreed to by all the world's countries and all the world's leading development institutions (United Nations 2000).

⁹ Based on 2005 international prices.

and,

planned adaptation is adaptation that is the result of a deliberate policy decision, based on an awareness that conditions have changed or are about to change and that action is required to return to, maintain, or achieve a desired state (Parry et al. 2007: 869).

In regard to the latter, adaptation actions are initiated by government, NGOs, universities, and communities, or in joint actions involving these parties or in combinations thereof. This introduces the key focus of the thesis. That said, planning process through anticipatory approaches process can also aim to be context responsive in taking into account many spontaneous adaptation experiences of the social-ecological dynamics of adaptation (for example, Lebel et al. 2006; Parry et al. 2007; Patwardhan et al. 2009).

Key focus and aims of the thesis

The importance of better inclusion of local elements in decision-making was initially brought to the attention of the Indonesian Government through *Agenda 21*, which responded with the development of *Agenda 21 Indonesia* (WHO n.d.). *Agenda 21 Indonesia* emphasises that any development programs, for example, in relation to poverty alleviation and human health, should be carried out through government–community cooperation instigated at the local policy-making and implementation levels. Nevertheless, so far this has not occurred to any great extent despite an historical assessment of Indonesia’s environmental problems by Murdiyarso et al. (2004) that also called for a greater community role in environmental management.

Murdiyarso et al. (2004) argued that top-down centralised planning — which, of course, involves limited citizen participation in decision-making processes — alienated local government and non-government organisations and their knowledge of, and values about, local places in which they are located. Subsequently, the top-down approach led to weak environmental management and law enforcement because alienated communities did not support externally imposed environmental protection programs. As argued by Hill (2007), centrally-devised regulations are often disparate from the needs and risks of local communities,

especially if communities are not involved in local decision-making processes. This situation still appears stagnant — in marine and coastal management (Glaser et al. 2010; Siry 2011; Wever et al. 2012), and in the overall development agenda (for example, Pemda Tangerang 2012) — despite more than a decade of decentralisation, which, as part of its agenda, advocates a greater role for community participation in decision-making.

The *problematic* situation that this thesis addresses, therefore, is a significant policy gap in regard to the current lack of inclusive, arguably effective, participatory engagement at the local level to facilitate appropriate adaptation responses, and the need for them to be developed as a priority to enable the most vulnerable populations in Indonesia to adapt more resiliently to climate change. Not only is this an important area to address in itself, but it also follows international trends, and aligns to my own interest in this area as a key environmental management trainer in the Indonesian Government. Indeed, my main role is to raise the awareness of government actors in this area, and of local communities, to address climate change issues through adaptation strategies.

The **key focus** this research addresses, then, is just what might represent effective participatory community engagement for adaptation in the Indonesian context, and how it might be formulated and implemented. In addressing this focus it is envisaged that the research is both *significant and original* in contributing to fundamental knowledge through the identification of appropriate participatory environmental management strategies that would assist, if implemented, Indonesian governments and local communities to build effective adaptive capacity for adaptation responses, which has not been done before. In addition, in identifying which knowledge are most appropriate to develop such strategies and how they might be furthered for that purpose. Practically, such focus aligns with prominent international agreements, including the Copenhagen Accord 2009 and the 2012 Doha Climate Gateway strategy, and also theoretically, with the international literature on adaptation. This focus, in turn, informed a set of aims (primary and secondary), and, subsequently, a set of research questions.

The **primary aim** of this research is to identify, evaluate and suggest appropriate participatory strategies at the local and community levels for highly vulnerable areas in Indonesia to inform effective adaptive capacity building in Indonesia. In turn, the *secondary aims* are to:

- (1) Identify and analyse existing community engagement policies and practices in the international and Indonesian contexts relevant to adaptation.
- (2) Undertake a comparative analysis of the above policies and practices in national and international contexts of developed and developing countries for policy ideas and development.
- (3) Identify where improved community engagement strategies might best work, be most appropriate, and/or be most needed, in Indonesia at the local level.

Informing these aims were the following research questions:

- (1) What participatory strategies best inform Indonesian community engagement in climate change adaptation responses?
- (2) What are the existing community engagement policies and practices in Indonesian environmental management and climate change adaptation policy and actions?
- (3) What community engagement approaches are most appropriate for implementing climate change adaptation at the local level in Indonesia, and how could they be strengthened?

So what was the research approach employed to address the aims and questions?

Research approach

The research approach adopted a social science constructivist epistemology — here, in regard to social phenomena related to the policy interactions between local communities and public policy makers (Singleton and Straits 2010; Neuman 2011), applied to the context of local environmental management and sustainable development issues of adaptation and community participation. This approach was seen as best informed by qualitative methodology and interpretation when knowledge is seen as socially and culturally constructed and mediated (Bryman 2008). This is the case in regard to the focus of this research on public policy development with primary data produced from respondents' social perspectives relative to the research questions. In other words, such inquiry involves going

‘inside’ the situation to gain better understanding of meanings from stakeholders perspectives (Flick 1998).

Qualitative methodology can also involve both logical and non-linear research pathways (Flick 2011). This allows it to move ‘forward’, ‘backwards’ or ‘sideways’. This movement which provides a richer interpretation of the data, arguably more accurate, is in contrast to quantitative methodology. The latter follows a linear pathway to ‘current conditions, investigate relationships, and study cause-effect phenomena’ through standardised procedures that involve precise numerical measurements and replication for validation (Bloomberg and Volpe 2008; Neuman 2011).

In following the interpretive pathway found in qualitative methodology, the constructivist grounded theory approach is applied, which refers to the ‘systematic, yet flexible guideline for collecting and analysing qualitative data to construct theories “grounded” in the data themselves’ (Charmaz 2006: 2). However, it is somewhat doubtful whether or not grounded theory generates theory rather than mere concepts (Bryman 2012). In this research, constructivist grounded theory is applied to *contribute* to theories (on effective community participation for adaptation in Indonesia) through new data, findings and subsequent hypothesis.

The constructive approach contrasts to the initial ‘objective’ approach that originated from Glaser and Strauss’s work in 1967 (Dey 1999; Charmaz 2009; Birks and Mills 2011). The objectivist approach avoids formal literature reviews in the attempt to keep research and analysis free from preconceptions impinged by extant theories or concepts (Charmaz 2009; Birks and Mills 2011). Because of many difficulties this imposes in relation to subjectivity and method, the constructivist approach uses ‘prior knowledge and disciplinary perspectives to sensitise them to conceptual issues at the beginning [of research] but seek new theoretical interpretations as they interrogate their data and emerging analyses’ (Charmaz 2009: 472; Stern and Porr 2011).

In this research, the literature review serves as the prior knowledge and perspective to ‘ground’ the construction of the data collection technique – that is, an interview questionnaire. In other words, not only does the literature review (or theoretical framework) consist of theories and other interpretations and findings to inform the research of its contours and substance, but also is used to develop the conceptual framework, which consists of aspects selected from the literature to

become the basis of the study (Kumar 1999; Maxwell 2005). Accordingly, to inform this process, the literature review is also treated as ‘data’, as also suggested by Birks and Mills (2011), to identify conceptual frameworks and techniques for research and data analysis.

Through preliminary research, the literatures found most appropriate to engage with for this purpose were those of public participation and community engagement; particularly in regard to the three closely interrelated contexts of environmental management, sustainable development and climate change adaptation, internationally and in Indonesia. In selecting aspects from these literatures considered most relevant to the research aims their selection (Bryman 2012: 580), but not in a statistical way, was assisted by a ‘simple’ thematic approach of identifying key themes through becoming aware of their recurrence and repetition (Owen 1984; also Riessman 2008) or their commonality, differences or relationships within data (Gibson and Brown 2009).

This resulted in identifying in the literature review three overarching themes of inquiry relevant to the key focus and questions of the research to form the analytical framework: (a) existing community participation practices in environmental management, disaster management and/or climate change adaptation; (b) enhancing community participation practices; and (c) key determinants for effective community participation. On the latter, three key preliminary determinants were also identified: (a) institutional change towards participatory approaches, (b) local knowledge for input into decision-making, and (c) enhanced social capital at the local community level; in addition to a host of minor determinants — for effective community participation for building adaptive capacity.

These determinants provided the key aspects then tested out in the fieldwork under the three overarching themes. Both informed interviews with 38 key Indonesian environmental policy managers and actors who influence and manage climate change adaptation and disaster management — government, NGO and community representatives — from the central to the local and community levels. The fieldwork was important to gain relevant insights and suggestions on community engagement for adaptation that reflected existing policy and management environments and cultures of Indonesia.

Together with the literatures accessed and the interviews conducted, a review of a broad range of policy documents helped provide rigour to the analysis. Multiple

information sources allowed the research to generate credible, rich and transferable findings, as Chapters 6-7 demonstrate and which Chapter 9 summarises as suggestions for policy development. Information sources were accessed through Griffith University's library website literature search function informed by the following databases relevant to the topic of the research: Google Scholar, SSRN/SSRN, Web of Knowledge/Science, Scopus, Social Services Abstracts, Informit, and ScienceDirect; in addition to data collected face-to-face in Indonesia through the fieldwork and as facilitated by my employment as key environmental management trainer in the Indonesian Government focussed on climate change adaptation. The major finding is that social capital, education, institutional change, local knowledge, government commitment and prosperity issues form the final determinants, and foundation, for a conceptual framework by which to develop an effective community engagement for an adaptation policy approach or framework in Indonesia.

However, it is also appropriate to note for the literature review, particularly in relation to Chapter 4 on community participation in Indonesia that some lack of internet access occurred to Indonesian governmental documented sources on climate change policy development. However, some documents were accessed first-hand during the fieldwork and some were sent to the researcher by contacts in the Indonesian Government. In addition, some local academic articles published in Indonesian journals on the topic were only accessible to scholars affiliated to a national university; however, some of these were also attained by personal contacts. Overall, it is argued that enough sources, including the fieldwork interviews, presented sufficient information from the governmental level for the research to be undertaken, found valid, and present fundamental contribution to knowledge, particularly in what is a largely formative area of policy development.

Structure of the thesis

The thesis is composed of nine chapters. While this chapter introduces the study, *Chapters 2 and 3* provide the necessary background and theoretical material for garnering an understanding of participatory approaches, strategies and methods in the field of community engagement and public participation. The first area for review in Chapter 1, which informs both chapters, is on how community

participation is conceived and defined. Three areas of review — which cover the emergence, substance and evolution of community participation relevant to adaptation — then follow: (1) environmental management, as the field within which climate change adaptation is logically situated; and as the field relevant to both developed and developing countries, as the former has significantly influenced the latter and the latter is where Indonesia is located; (2) sustainable development; and (3) climate change adaptation itself.

Chapter 4 follows on from Chapters 2 and 3 by focussing on community participation in Indonesia and particularly with regard to the history and evolution of environmental management and the environmental movement in Indonesia. Also focused on in more detail are Indonesia's existing policies and practices of community participation in environmental management and in climate change adaptation management.

Chapter 5 describes the fieldwork approach of the thesis. There are two largely descriptive sections on (i) the techniques of data collection, which coalesce around the semi-structured interview; and (ii) the processes of analysis informed by thematic and narrative analysis.

Chapters 6 and 7 present the analysis of the interviewees' responses on the three key themes of what effective community engagement might involve, as identified in the extensive literature review discussed in Chapters 2-4. These themes informed the interview questionnaire's three thematic sections: (1) existing community participation practices in environmental management, disaster management and/or climate change adaptation; (2) enhancing community participation practices; and (3) key determinants for effective community participation. Several questions (which reflected sub-themes found in the literature review that constituted each key theme) informed each thematic section. The analysis of the data was presented theme by theme.

Chapter 8 continues the presentation of the analysis of the interviewees' responses on the three key themes. It builds on the results of Chapters 6 and 7 in discussing all three themes together in the identification of cross-connecting narrative clusters across the themes and in comparison to the international and national literatures discussed in Chapters 2-4; it therefore identifies where the fieldwork results reflect appropriate practice, or reveals deficiencies in the Indonesian context.

As the final chapter, *Chapter 9* presents a theoretical and analytical synthesis of the thesis. It summarises its findings, provides suggestions for effective community engagement for climate change adaptation management in Indonesia, links the findings back to theory for critique, outlines the implications for further research, and makes some concluding remarks.

Chapter 2

Community Participation in Environmental Management

Introduction

This chapter and next chapter (Ch 3) provide the relevant background and theoretical material for garnering an understanding of participatory approaches, strategies and methods in the field of community engagement and public participation. The first area for review in Chapter 2, which informs both chapters, is Section 1 on how community participation is conceived and defined. Three areas of review — which cover the emergence, substance and evolution of community participation relevant to adaptation — then follow, which for readability concerning word length are organised into the two chapters. This chapter focuses on environmental management, as the field within which climate change adaptation is logically situated; and as the field relevant to both developed and developing countries, as the former has significantly influenced the latter and the latter is where Indonesia is located. In turn, Chapter 3 focuses on (a) sustainable development; and (b) climate change adaptation itself.

Section 1: Community participation

What is community participation?

Defining ‘community’

In understanding what ‘community participation’ is, it is useful, arguably necessary, to first explore the question: what exactly does ‘community’ mean in the context of both Western and Indonesian understandings, given the overlapping influences of both for contemporary participatory trends in broader knowledge contexts of globalisation? Perhaps not surprisingly, given the rich global histories in this area, some Western understandings of ‘community’ converge with Indonesian ones (for example, Hatta 1966). For example, typical cross-cultural ones are found in the work of Kaufman (1959), who reflects on collective goals and actions, and in Fisher et al.

(2002) who talk of a 'locality-based' community with strong 'sense of community'. But Western understandings tend to dominate the scholarly literature on this topic, particularly with regard to environmental matters, perhaps with the exception of anthropology. They are now significantly informing new forms of participatory governance that also extend to developing countries; for example, the IPCC specifies enhanced participation at the local level with regard to climate change adaptation (Parry et al. 2007). In turn, Chapter 4 focuses on specific Indonesian understandings that are associated particularly with environmental management.

In Western countries, the term 'community' has attracted much discussion in sociological and environmental studies, with various definitions posed, dependent on the goals and objectives of any particular study and the importance of various community characteristics for any study (Sexton et al. 1999). According to Bell and Newby (1971) and Mulligan and Nadarajah (2008), the theory of 'community' was proposed by Ferdinand Tönnies in 1887. Tönnies advanced several meanings on community relationships, roles, mobility, culture, and morality. This saw a shift from an understanding of 'community' as homogeneous, immobile and mainly non-urban with mutual obligation, to one of community as heterogeneous, more mobile, and mainly urbanised and self-centred. Later, Walmsley (2006) suggested that definitions of community lay between these two understandings within a sort of spectrum.

In an early study on the nature of community, Kaufman (1959) noted a scholarly consensus emerging with regard to 'elements' within the definition of community. In contrast with the understanding of community proposed by Tönnies', these elements included community as a social unit in a 'place', as an integral part and configuration of the way of life, and in reflecting collective goals and actions. Kaufman (1959) presented three elements of an interactional model of community, involving community as a participant, an association or a group for actions, and phases and processes of the actions. In turn, de-Shalit (2000: 114) suggested that 'community' reflects a collective rationale that shares common political, social and cultural experiences through discussion, debate, literature and the arts.

Alternatively, Fisher et al. (2002: 4) defined community in two ways: as 'locality-based' and as 'relational'. A locality-based community is characterised by interpersonal ties among community members residing in the same geographic area or place. This type of community usually reflects a strong 'sense of community',

which refers to a sense of belonging to and strong identification with a community, and acts to signify a community commitment of its members. Such a definition also informs developing country understandings. For example, Koentjaraningrat (1961), Sullivan (1992), and Naim (1994) all characterised Indonesian communities as being communalistic as evidenced by *gotong royong* or spontaneous mutual cooperation to serve the common good and fulfil life necessities. This understanding also reflects a psychological understanding of community (Dalton 2007). Dalton's understanding is based on common characteristics such as shared emotional bonds, identity, mutual trust, and caring of and commitment to community. In contrast, a relational community is also characterised by interpersonal relationships and sense of community, but is also bound by common interest instead of, or as well as, geographic proximity. For the context of this study on climate change adaptation, locality-based community is considered very relevant in the Indonesian context. This is because such communities are widespread throughout Indonesia, and this level of society is the key focus of this study on investigating what might amount to appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building in Indonesia.

Tönnies' theory on community is still seen to dominate characteristics of contemporary community in both developed and developing countries, particularly in terms of heterogeneity (of ethnic or cultural diversity) and self-centred ones which, perhaps, has contributed to ineffective community participations in decision-making processes today. Heterogeneity in terms of ethnic or cultural diversity, for example, may adversely affect participatory process where partiality is still very strong towards one's own ethnic group (which later may result in self-centred communities) leading to diverse preferences in decision-making process (for example, Okten and Osili 2004). On the other hand, Kaufman's and de-Shalit's understandings on community, in addition to Fisher et al.'s and Dalton's theories, appear to offer constructive meanings of community to build on in exploring appropriate strategies for collaborative community participation in Indonesia, which the climate change literature highlights, as discussed in Chapter 4. Hence, synthesis of the two streams builds a foundation for further investigation on community participation strategies in Indonesia. Having gained some understanding of what 'community' is, we now turn to understandings of 'public' and 'community' participation, especially dominant Western understandings like the former.

Understanding ‘public’ and ‘community’ participation

So what does a community in ‘community participation’ imply or mean? A starting point is offered by Harding (1998: 108), who referred to community as,

people affected by a decision. A person can be a member of several communities simultaneously depending on the project [creating the decision], where they live, their profession and their cultural background. A community may also refer to an interest group which may have specific stakeholder interests in the outcomes of an environmental decision (e.g. an environmental group or an industry association).

This understanding embodies the meaning of ‘community’ relevant to the context of this study of local communities in coastal areas affected by climate change adaptation decision-making.

It should be noted that some of the literature on this topic also uses the term ‘public participation’ to refer to community participation, in addition to public participation at the city, and regional and national levels. In this thesis the focus is on public participation at the community level. Therefore, when ‘public participation’ is referred to hereafter, ‘community level public participation’ is what it is describing, and is thus used interchangeably with ‘community participation’.

In a participatory context, Dietz and Stern (2008: 214-15) define ‘the public’ as actual participants who can influence decision-making outcomes, and specifically use the term ‘interested and affected parties’ as ‘people, groups, or organizations that may experience benefit or harm ... or decide to become informed ... and involved in decision-making process’. For the purpose of this thesis, the interested and affected parties refer to the people *within* a local community. Alternatively, Harding et al. (2009: 169) define the term ‘public’ as a range of actors who may contribute to a decision-making process in facing the prospect of being affected by the decision of that process. Public actors typically include pressure groups, interested individuals and everyday citizens, where the degree of their participation in decision-making depends not only on their interest and organisation, but also on the procedure, goals and political context of participatory processes occurring in relation to any issue at any one time (Barnes et al. 2003).

More broadly, in a development context, which is also important for the focus of this research on adaptation in Indonesia, Midgley (1986) noted that many scholars also refer to 1975 Resolution 1929 (LVIII) of the United Nations Economic and Social Council on community participation. This resolution states that participation requires:

a) voluntary and democratic involvement of people in contributing to the development effort, b) sharing equitably in the benefits derived there from, and c) decision-making in respect of setting goals, formulating policies and planning and implementing economic and social development programs (Midgley 1986: 25).

This seems to also align with the definition of Dietz and Stern (2008), who argue that public participation involves the making of all democratic decisions. Similarly, Creighton (2005: 7) sees public participation as ‘the process by which public concerns, needs and values are incorporated into governmental and corporate decision-making’. Beierle and Cayford (2002: 6) define public participation as ‘any of several “mechanisms” intentionally instituted to involve the lay public or their representatives in administrative decision-making’. This could involve a range of organised bureaucratic participatory processes, from town meetings and advisory committees to citizen juries and focus groups (Beierle and Cayford 2002). However, Beierle and Cayford (2002) exclude individual actions and broader representation methods such as voting of elected officials, referenda, lobbying, citizen lawsuits, and protests. In contrast, Dietz and Stern refer to a broader scope, including,

voting, expressing opinions on public issues and governmental actions, forming interest groups or holding public demonstrations to influence government decisions, lobbying, filing lawsuits to contest government actions, physically interfering with the execution of objectionable policy decisions, acting in partnership with government agencies, and even producing films, songs, and artistic events to mobilize public attention to issues (2008: 11).

While the primary aim of this thesis is to define the best participatory strategies for inclusion of citizens in climate change adaptation decision-making in Indonesia, whole-of-society participatory approaches characterise the climate change adaptation literature (see also Chapter 3). In this context, the following definition of community participation appears relevant,

the process of working collaboratively with groups of people affiliated by geographic proximity, special interest and/or similar situations to address issues affecting the well-being of those groups of people. It often involves partnerships and coalitions that help to mobilise resources and strengthen the associations and linkages that constitute these different forms of community life (Mulligan and Nadarajah 2008: 87).

This definition also works into the definition of ‘vulnerable communities’ provided by the IPCC’s Fourth Assessment Report; such communities are characterised as poor populations who live in high-risk areas with a strong dependence on climate-sensitive resources such as water and food supplies. More specifically, vulnerable communities constitute ‘those in coastal and river flood plains, those whose economies are closely linked with climate-sensitive resources, and those in areas prone to extreme weather events, especially where rapid urbanisation is occurring’ (Parry et al. 2007: 12). Participation in decision-making processes thus provides a vehicle for vulnerable communities to add their local knowledge about valuable aspects of their place and community in relation to building capacity and resilience in an appropriate and acceptable local manner. In addition, to voice their concerns and needs and take part meaningfully in decisions that affects their lives. While understandings of community participation in Indonesia with regard to environmental management are furthered in Chapter 4, the discussion now turns to the broad objectives of community participation.

Objectives of community participation

Beierle (1999: 81) suggests that public participation is informed by at least six social goals: (a) educating and informing the public; (b) incorporating public values into decision-making; (c) improving the substantive quality of decisions; (d) increasing

trust in institutions; (e) reducing conflict; and (f) making decisions more cost-effectively. In contrast, Dietz and Stern (2008) differentiate these purposes into three objectives: (a) to improve the quality of a decision; (b) to increase legitimacy of a decision; and (c) to improve the capacity of the public and government agencies to make decisions.

In regard to legitimacy and, in turn, to achieve better and more effective decision-making outcomes, Harding et al. (2009: 167) argue that a key purpose of public participation ‘is to ensure that those affected by environmental decisions have the opportunity to contribute to, and ideally influence, the decision-making process’. Following this argument, at the outset of the policy making process, Niemeyer and Spash (2001) then argue it is necessary to clarify the purpose of a decision-making process, especially that of a government agency inviting participation to a process that may differ and even be contradictory to that of interested stakeholders, in this case, the public. In this regard, Dietz and Stern (2008) argue that effective public participation process depends on the goals of the process in the first place. Countering such arguments are arguments addressing the limitations of public participation (as discussed below).

Returning to the objectives of community engagement advanced above, these arguments affirm the significance of effective and stronger community participation, which aligns with the literature of how best to tackle climate change adaptation in whole-of-society approaches. They also argue that such decision-making is lacking in Indonesia (for example, Murdiyarso et al. 2004), as in many places worldwide; this, it seems, is why the international literature stresses this as an important component of climate change adaptation to get right. In considering this lack of community inclusion and the associated benefits of such inclusion, the advantages and limitations of community participation need deeper discussion. For this, we go to theories that inform the nature of community participation.

Theories of community participation

Informing the above definitions and understandings of community participation are theories of community participation that have evolved from various perspectives. They address aspects of scope of participation, learning-based participation, issue management, and the democratic context of participation.

Scope of participation

In a seminal paper that still significantly informs the field of public participation, Arnstein (1969) advanced a typology of public participation based on the notion of redistributive power in relation to decisional influence (see also Cavaye 2004). Arnstein's ladder of participation involves a spectrum of weak to strong participation: (a) manipulation, (b) therapy, (c) informing, (d) consultation, (e) placation, (f) partnership, (g) delegated power, and (h) citizen control. The author categorises these levels into groupings of 'nonparticipation' (a, b); 'tokenism' (c, d, e); and 'citizen empowerment' (f, g, h). The nonparticipation category is intended to educate participants to the views of power holders. The next category allows participants to have a voice, but with no assurance that their voice will have decisional influence. In the highest category of citizen empowerment, the participants are involved in decision-making negotiations and have more chance of decisional influence. Arnstein (1969: 217) found that limits to the level of participation include paternalism and resistance to power redistribution on the behalf of power holders, and of the citizens' 'difficulties of organising a representative and accountable citizens' group in the face of futility, alienation and distrust'.

Like Arnstein, Creighton (2005: 8-9) advances the idea that participation is best understood as a continuum of categories, but reduces his to four: 'inform the public', 'listen to the public', 'engage in problem solving', and 'develop agreements'. Also influenced by Arnstein's ladder of participation, the International Association for Public Participation defines a spectrum of public participation from a minimum level ascending towards a maximum level in decision-making that consists of 'inform', 'consult', 'involve', 'collaborate' and 'empower' (IAP2 2007a). Participation at the 'inform' level aims to assist the public in understanding problems, solutions or alternatives by providing balanced and objective information, while at the next level, the public is consulted for feedback on policy development. Following on, at the next level of 'involve', the public is involved in the decision-making process and its voices are consistently understood and considered, although decisional influence is not guaranteed. Finally, at the collaborative level, the public is perceived as a partner at the lowest rungs of this category with more genuine opportunity of decisional influence (for example, Hindmarsh 2010). At the highest level of 'empower', the final decision is placed solely with the public.

Each level appears essential for effective community participation as suggested by Creighton (2005), even the lowest one, where public information is essential to provide awareness or ‘education’ about any issues at stake. Likewise, Davidson (1998) argues that each level or approach is appropriate for different contexts and circumstances. Davidson’s model is called *the wheel of participation*. It consists of approaches grouped under four quadrants — ‘information’, ‘consultation’, ‘participation’ and ‘empowerment’ — similar to Arnstein’s approach. Davidson’s approach is to select appropriate levels of participation to best address the issue at hand and influence the outcomes (also Sarkissian 2009). This model seems applicable to many contexts, including Indonesia’s, where communities lack broad awareness of climate change issues (for example, Diposaptono 2009). In this case, for example, the first quadrant of ‘information’ would first raise community awareness on the issue, to better enable participation. Participatory approaches would then be adjusted throughout the decision-making process depending on the level of community awareness and understanding on the issue at hand. This model seems to offer flexibility in applying approaches appropriate for effective community participation.

The learning-based approach

The ‘learning-based’ participation approach is a collaborative one introduced by Daniels and Walker (1996), who applied it in natural resources management. It emphasises social learning processes ‘of framing issues, analysing alternatives, and debating choices in the context of inclusive public deliberation’ for system improvement and conflict management (Daniels and Walker 1996: 73). These interactive processes allow a community to best learn about the issue under scrutiny and find solutions appropriate to their interests and needs. Similarly, Laird (1993) suggests that learning processes are crucial in scientific and technological policy decision-making. In this instance, Laird uses the term ‘participatory analysis’ as an effective form of participation in which participants not only receive information, but are also able to deliberatively analyse the problem at stake (see also Hampton 2004; Stirling 2006). Stirling (2003) and Hampton (2004) add that in participatory analysis, divergent values, interests and context-specific bodies of knowledge are gathered and taken into consideration, which would include local knowledge as community level input (see Suryadinata et al. 2003). Using this approach,

participants are assisted to consider alternative options based on the diversity of their viewpoints.

Management theory

Alternatively and also apparently influenced by Arnstein is the ‘management participatory approach’ (Thomas 1990, 1993). This approach first specifies participatory approaches as ‘autonomous managerial decision-making’ where no involvement of the public in the decision-making process occurs. Instead, top-down decisions are made by managers and policy makers. This aligns with Arnstein’s non-participation level for the public, and would hinder adaptation from working effectively to build capacity with local citizen participation (see, for example, Few et al. 2006a; Gidley et al. 2009).

Furthermore, in the ‘modified autonomous decision-making’ approach, policy makers seek information from segments of the public but do not involve the public in the final decisions, and decisions may or may not incorporate public views. This aligns with Arnstein’s tokenistic level of public participation and would, for example, be equivalent to submissions to an inquiry or a town hall meeting on any particular issue or topic under debate (McGurk et al. 2006).

Then there is ‘segmented public consultation’. Here, the public is segmented into groups that provide ideas and suggestions on the issue under debate, which may be reflected in the decisions. This is representative of the IAP’s (2007a) ‘involve’ level of public participation (for example, Hophmayer-Tokich and Krozer 2008). In addition, there is ‘unitary public consultation’, by which the public is consulted as a single group for ideas and suggestions to be incorporated into the decision. Finally, and although rarer, a ‘public decision’ is sought, where the issue is shared with an assembled public and the decision is reached together (Thomas 1990, 1993). The latter reflects the collaborative level of public participation (see IAP2 2007a; Hindmarsh 2010).

Participatory theories of democracy

Strongly advocated by Habermas (1996) and Rawls (1999), deliberative democracy has become a popular contemporary theory informing notions of public participation (see also Cohen 1997; Elster 1998; Dryzek 2002; Chambers 2003; Blowers et al. 2005). Elster (1998: 1) refers to deliberative democracy as ‘decision-making by

discussion’, while Chambers (2003: 308) advances the opinion that deliberative democracy ‘focuses on communicative processes of opinion’ prior to voting. Stern and Fineberg (1996: 73) suggest that in deliberation, people ‘discuss, ponder, exchange views, consider evidence, reflect on matters of mutual interest, negotiate, and attempt to persuade each other’. Outputs of deliberation ideally are influential inputs for the decision-making process, as the ultimate policy objective of deliberation is to help make decisions (Blowers et al. 2005). Reflecting the Rawlsian idea of ‘well-ordered’ democracy or deliberative democracy, the community exchanges views about, and debates these views on, particular problems, which ideally results in a revision of opinions (Rawls 1999: 138). That is, participants in deliberation are willing to change their judgements, opinions and views during the deliberative process in gaining better understanding of each other’s views rather than through persuasion, coercion or manipulation (Dryzek 2002: 1; also Melo and Baiocchi 2006; Baber and Bartlett 2007).

Also informed by the theory of deliberative democracy, de-Shalit (2000: 163) suggests a model of ‘deliberative participatory democracy’. This model first requires government to disclose information with regard to a problem under debate to the public to allow greater understanding on the issues, which increases community interest and its level of participation to deliberate to resolve the issues (also Stern and Fineberg 1996; Blowers et al. 2005; Roy and Chatterjee 2006). Second, that in deliberative processes the community addresses associated risks and evaluates them rationally. In deliberative participation, public perceptions on risk are essential for legitimacy (de-Shalit 2000; Roy and Chatterjee 2006). Fung and Wright (2001: 7) introduce a more active form of public participation called ‘empowered deliberative democracy’. This involves decision makers engaging the community inclusively such that the community has more influence to connect action into discussion (see also Smith 2003). This encourages people to express ideas, views and beliefs, as well as their experience and intuitive judgement (Blowers et al. 2005: 1).

Cohen (1997: 74) suggests four principles of deliberation (or deliberative process involving dialogue). First, deliberation is ‘free’, which embraces the view that participants in deliberation should not be constrained by the authority of prior norms. Second, that deliberation is based on sound reasoning to shape the agenda. Third, all participants have equal deliberative capacities in deliberative process; and

fourth, deliberation aims for consensus. Cohen's principles are emphasised by Smith (2003: 56), who argues that for more legitimate and trustworthy process, two fundamental conditions need to be fulfilled: 'inclusiveness' and 'unconstrained dialogue'. Inclusiveness means all citizens have an equal right to express their views, ideas, values and interests, and participate in decision-making process. Unconstrained dialogue implies no intentional manipulation and coercion is undertaken by participants in the dialogue process. The ideal of deliberative democracy thus offers inclusive, rational, and legitimate decisions (Miller 2006: 201), where 'rational' means that decisions are reached based on reasons arrived at through deliberation. In turn, 'legitimate' means that all participants understand how and why the outcome was reached and have had opportunity to participate in fair and competent processes of participation (Peter 2007).

Other forms of participatory deliberative processes and mechanisms include stakeholder dialogues, consensus conferences, citizens' panels and juries, deliberative polls, and deliberative mapping (Blowers et al. 2005: 2). However, whatever the form of deliberative participation, the engagement processes must be non-coercive and orientated to broaden participants understanding and perspectives through mutual understanding (Smith 2003). In sum, Miller (2006: 201) concludes:

A democratic system is deliberative when the decisions it takes are arrived at through a process of open discussion to which each participant is able to contribute freely but is equally willing to listen to and consider opposing views; as a result, the decisions reached reflect not simply the prior interests or prior opinions of the participants but the judgements they make after reflecting on the arguments made on each side, and the principles or procedures that should be used to resolve disagreements.

Given the complexity and cross-sectoral nature of adaptation issues, the deliberative approach seems useful to accommodate divergent views and knowledge of various players to ultimately reach shared decisions through mutual understanding and discussions. But there are also a number of criticisms of community participation that would challenge this hypothesis. The ensuing section thus elaborates on the benefits, limitations of, and challenges to, community participation for environmental management.

Benefits, limitations and challenges of community participation

Benefits

Community participation poses a number of benefits. First, better measurement and inclusion of the actual needs, priorities and capabilities of people and communities so that decisions about some development or new aspects of environmental impact that pose transformational change can be more acceptable in local conditions, which can also reduce conflict (Hindmarsh 2012). Second, educating, informing and empowering local community groups, thus improving quality and legitimacy of decisions. For legitimacy of any outcomes, the inclusion of a diverse range of participants is also important. Third, incorporating public values into decision-making which accommodates public interests and preferences in policy formulation. This also increases the public role in evaluating policy products thus providing valuable local feedback on government programs, which, in turn, can lead to better policy formulation and increase public trust on the decisions. Fourth, making decisions cost-effective by adopting local technology that is more appropriate to local conditions with lower costs and more local effectiveness than imported technology (Beierle 1999; Barnes et al. 2003; Irvin and Stansbury 2004; Roy and Chatterjee 2006; Richards et al. 2007; Connelly and Richardson 2008; Dietz and Stern 2008; Larsen and Gunnarsson-Ostling 2009; Hindmarsh 2012). But to make these aspects work, Niemeyer and Spash (2001) outline that at the outset of any participatory process the purpose of the process needs clarifying; including the purpose of the agency in conducting the public engagement. In addition, what the perceived role of the public is, otherwise purposes may differ between the agency and the public with ineffective decision-making the result.

Overall, Dietz and Stern (2008: 51) found that the participatory approach in decision-making process was a result of stronger relationships forming among all engaged parties. The outcome is 'social learning' (Stringer et al. 2006), a term describing how all parties are mutually encouraged to improve their knowledge and understanding of the issue/s to be decided upon, and of each other's views. This stimulates future engagement beyond the initial decisions, consequently involving them in the implementation, assessment and revision of those decisions (see also Blackstock et al. 2007). A deliberative or inclusive participatory approach would

thus build upon the capacity of local people to deal with future problems (Fraser et al. 2006), as well as reflect and build local social capital (Barnes et al. 2003).

Limitations and challenges

Despite the benefits of public involvement in environmental management, there are limitations and challenges to effective participation. Particularly in risk-related issues, involvement of too wide a spectrum of participants with contrasting ideas can limit effective resolution of the problems that the participatory process is addressing, as seen in some deliberative processes (Stern and Fineberg 1996). Steelman and Ascher (1997) and Pratchett (1999) argue that too much participation can increase conflict, create an unorganised and inefficient process due to its labour intensive nature, and prolong the process, which hampers outcomes, especially when decision-making speed is needed (also deVries 1997; Steelman and Ascher 1997). Sometimes, decisions of experts may also be more relevant, especially when scientific knowledge is needed (Teles 1997). This all points to the need for, or benefits of, conjoint expert-to-expert participatory forums in many cases, particularly involving place-based local communities (Hindmarsh 2012).

By way of contrast, ineffective participation may arise from limited, unequal or unrepresentative responses (Mostert 2003). In some instances, well-organised and educated communities living adjacent to a new development can be over-represented. In contrast, interests unable to organise effectively, typically from poor and marginalised groups, are not channelled into the decision-making process even though they have the same right to voice their concerns. Further, Mostert (2003) argues that the quality of responses may be weakened by communities with a low level of knowledge on the issue.

However, it is a complex issue and difficult process to ensure the inclusion of all interested parties, particularly if participatory processes are conducted at larger spatial scales (for example, Richards et al. 2007). To facilitate this process, as Steelman and Ascher (1997: 73) argue, participants in collaborative decision-making need to be competent, interested, or knowledgeable about the issue/s. At the same time, a finding of Edwards et al. (2008: 11) in evaluating a deliberative exercise on climate change and energy was that ‘even the relatively well-informed participants needed more time and information resources to better understand the highly complex topic’ (also Hindmarsh 2012). This highlights the issue of sufficient deliberative

capacity of participants to be 'engaged'. In the case of Indonesia a key challenge is then likely to be the difficulty of ensuring even a limited proportional level of understanding of various participants on the issue at stake. This is because only about half of the population might be sufficiently educated, that is, from high school to tertiary levels (BPS 2010c; d), to engage. Concomitantly, school education may not be the only way for understanding climate change, adaptation and participation as there are other ways to gain knowledge to engage on these topics, for example, through local NGO initiatives such as public awareness forums.

Harding et al. (2009: 188) also highlight that procedural, administrative and political weaknesses may hinder successful public participation. Procedural weakness may include insufficient or over-structured procedures, poorly timed processes within a decision-making cycle, and unreasonable expectations raised for participants which, in the case of undelivered expectations, can easily lead to community distrust of government agencies or developers conducting participatory exercises (Richards et al. 2007).

In turn, political weaknesses may emerge as governments are often reluctant to listen to community voices. If that is the case, participatory processes can occur at a very late stage of the process when the decision cannot be substantially changed, or where participatory process can be ignored. Resistance from the government to initiate participatory processes may also be due to additional costs incurred in public participation (Petts and Leach 2000; Kapoor 2001; Mostert 2003), or unforeseen or unexpected time spans involved for adequate deliberative processes (Hindmarsh 2012). Compounding these challenges, failure to choose 'who', 'how' and the right number of participants to participate appropriately is also among the pitfalls of the participation process (Richards et al. 2007; Harding et al. 2009).

Overall, participatory challenges need to be factored in at the design stage of participatory processes to best ensure their success and realise the many benefits proffered. In such engagement, theories and principles of public participation are useful to guide processes and outcomes (Duram and Brown 1999: 456; Edwards et al. 2008).

Principles of public participation in environmental management

In a study on principles and practices of environmental stewardship, Carr (2002) identified four key principles of public participation with regard to the local community level: a 'sense of place', a 'sense of community', 'local empowerment', and a 'knowledge system'. A 'sense of place' describes how communities are 'attached' psychologically to the area where they reside, which, in the case of strong attachment, strengthens their commitment to 'protecting' a place when faced with environmental or other disruptive activities (Devine-Wright 2009; Hindmarsh 2010). Wagenet and Pfeffer (2007: 803) term this phenomenon as being 'place-based'. The principle of sense of place, in turn, is highly relevant to definitions of 'community'. For example, and to reiterate, Kaufman (1959) and Fisher et al. (2002) suggest that a community is a social unit in a place where those residing demonstrate psychological ties of identify and collective values to that place.

In turn, a 'sense of community' refers to a sense of belonging to and identification with a community, and acts to signify the commitment of community group members. The greater a sense of community and place, the greater the involvement with local organisations, and the greater the value accorded to their involvement by the community (Carr 2002). As a result, community members may develop strong commitment to an environmental cause that affects their community and/or place (Christoff 1996). The ultimate objective to engage in decision-making processes is to protect their place from place-disruption, which Devine-Wright (2009) calls 'place-protectionism'. Inversely, the full participation of community members in decision-making process heightens sense of community and strengthens community bonds (Midgley 1986: 9). In the context of adaptation where the impact of climate change is local and specific in nature, strong 'sense of place' and 'sense of community' are essential for adequate community participation.

Smith (1997: 237) highlights that community participation through local empowerment is crucial to revitalise local control over excessive environmental exploitation and the resultant degradation from development, so that potentially adverse impacts on the environment and the community are minimised. As to why local control is important, Beierle (1999) provides three key reasons. First, centralised hierarchical decision-making is not accommodative to the more diffuse and more widely distributed sources of environmental problems at the local level.

This requires multiple engagements of local government, interested parties and the general public, particularly local community in the affected area. Second, failure to engage public voices in local projects that have perceived environmental impacts leads to public resistance and opposition. This can interfere with a project even when socially and/or environmentally useful benefits are posed. Third, the public and experts may have disparate perspectives on decision-making about risks. Consequently, better understandings are needed on the diversity of perspectives and knowledge that different parties bring to discussions about developments of, or disruptions to, a local place, particularly controversial ones. Here, local empowerment is important in exploring local knowledge essential to increasing the sense of ownership that a community has of an environmental project that may not attract instant acceptance but needs local deliberation. This leads to the next principle of public participation: the principle of a 'local knowledge system'.

Carr (2002) outlines that community knowledge on local problems should be developed to best encourage active participation of the people in addressing any environmental or social problem. This principle can be seen to align with Davidson's (1998) wheel of participation schema, mentioned above, where level of participation is in accordance with the level of knowledge of the community. Local knowledge is constructed from awareness and the recognition of problems. Such awareness first arises from everyday interactions between a local community and its social and biophysical environment. Again, in the context of adaptation, community knowledge on local problems is essential to be considered in decision-making process.

Dovers (2005) also posits some basic principles of public participation to best address environmental problems: they must be genuine, clear, sustained, flexible and appropriately resourced. Participation should be 'genuine' so that government comes to recognise community input as valid and, at best, influential for policy development. Like other commentators discussed earlier, Dovers stresses that the purpose, process, limits and duration of participation should be explicitly understood by the community to best build community confidence (and legitimacy) to participate in decision-making process. Participation should also be maintained over time to have the best effect on instigating better policy actions and outcomes. Finally, effective participation can best be achieved through adequate resources including financial, technical, and administrative support which help to strengthen

the decision-making process to produce better policy outcomes. These all seem crucial in the context of climate change adaptation decision-making.

Let us now turn briefly to legitimacy. Thomas (1990; 1993), Mostert (2003) and Creighton (2005) all suggest that for a decision to be seen as legitimate by a community the level or scope of participation is dependent on the issues to be addressed. Thomas (1990; 1993) and Mostert (2003) argue that policy makers need to identify the issues at the outset to identify and enable appropriate approaches of participation. According to these authors, if the issue is weighted more on efficiency and technical competence, less public involvement will be needed. Conversely, if the outcome is to have public acceptability, more public involvement is appropriate (see also Rowe and Frewer 2000). In the context of this study where adaptation actions are local, specific and attached to a local community, more public involvement is imperative — an observation also highlighted by the adaptation literature.

In summary, for public participation to be effective, (a) it must be based on a community that has a strong sense of community and place; (b) it must maximise local empowerment and knowledge; and (c) it must be genuine, clear, sustained, transparent, flexible, appropriately resourced and be engaged with at the beginning of addressing any problem or issue arising that warrants community participation. In addition, a clear set of principles, as guidelines, is crucial for effective participation of local community for adaptation and needs to be considered in investigating an appropriate strategy for the most effective community participation.

We now turn to the history of community participation in environmental management in developed and developing countries to gain further insights about community participation for environmental management and, in turn, climate change adaptation.

Section 2: Environmental community participation in developed and developing countries

Developed countries

The dominant understanding of community or public participation regarding the environment is that it first emerged in the field of environmental management in

developed countries, particularly the USA, Britain, Germany, Canada and Australia (Brookes and Richardson 1975; Robinson 1992; Harrison 1996; Hutton and Connors 1999; Toner 2002; Weidner 2002). Over time, community participation has increasingly become an important part of environmental decision-making in Western countries (see for example, Wagenet and Pfeffer 2006), with Western forms steadily gaining influence internationally. Support for community participation originated historically in the modern era, especially with the rise of modern environmentalism in the nineteenth and twentieth centuries, as led by the preservation of nature movement (Hutton and Connors 1999).

A leading player laying the foundation for the emergence of environmental public participation was the US. An early influential approach there was the so-called 'managerial model', which dominated US public administration from the late nineteenth century until the mid-twentieth century (Beierle and Cayford 2002). Through this model, government administrators were authorised to 'identify and pursue the common good' (Beierle and Cayford 2002: 2). However, Wagenet and Pfeffer (2007) argued that in the early 20th century, US federal environmental agencies seemed more focused on gaining citizen approval of specific projects, which was nominated as the 'unilateral approach'.

Later, there was the endeavour through the US Administrative Procedures Act of 1946 (APA) to balance government and citizen involvement in rule-making processes (Beierle and Cayford 2002; Shapiro 2004). But up to the 1960s, information dissemination dominated public participation (Wagenet and Pfeffer 2007). Under the APA, government agencies were required to inform the public about the rules they proposed and to provide opportunities for public comment, and in light of those comments, conduct judicial review (Beierle and Cayford 2002; Dietz and Stern 2008).

Leading into the 1960s, things began to change. A noticeable catalyst was the publication of *Silent Spring*, written by biologist Rachel Carson in 1962. This widely read book documented the hazardous chemical pollution of air, water and wildlife and encouraged the concept of conservation of natural resources to emerge more readily. Another seminal influence was Aldo Leopold's concept of a 'land ethic' (Leopold 1969). Such texts catalysed a growing citizenry to demand environmental policies and laws to reduce pollution and protect the environment. With increasing pollution across whole nations, this led to the robust environmental

movement of the 1970s involving mass demonstrations and numerous actions pressuring for change (Schnaiberg 1980; Weber 2000; Blowers et al. 2005; Parkins and Mitchell 2005; Wagenet and Pfeffer 2006; Miller 2007). Community participation at this stage thus mainly featured direct action in expressing a need to be involved and increasing calls for active public engagement in decision-making.

Meaningful pluralist decision-making, it was advanced, would cater better to the views and local knowledge of the public and civic representatives, like environmental non-governmental groups (ENGOS), for the resolution of enduring and increasing environmental problems (Brookes and Richardson 1975; Rosenbaum 1998; Sheail 2002; Wagenet and Pfeffer 2007).¹⁰ ENGOS increased in number and size globally with pioneer ones being the Sierra Club, Friends of the Earth, and Earth First. Also known as ‘pressure groups’, ENGOS aimed to influence policy-making as well as to advance local citizen involvement in decisions about potential environmental hazards (Doyle and McEachern 2008). The pluralist thrust gradually altered the managerial model, with government administrators shifting more to being arbiters among different interests within the public, typically through consultation practices such as town hall meetings and the rise of the big public inquiry (Beierle and Cayford 2002: 3). A key policy response was the 1969 National Environmental Policy Act (NEPA), which stressed the importance of public input (Wagenet and Pfeffer 2007). In the 1970s, which became rhetorically known as the ‘Environmental Decade’, following the increasing strengthening and pressure tactics of the environmental mass movement, the legal, political and institutional foundations of US environmental policy were laid (Rosenbaum 1998).

This led to and reinforced similar trends in other industrialised countries and also began to pressure the United Nations and developing countries to better address environmental issues of development. Mainstream public consciousness of environmental degradation grew. In turn, this led to the rise of green political parties (Poguntke 1992; Rucht and Roose 1999; Weidner 2002). The first green party — the United Tasmania Party — emerged in Australia in April 1972 to fight against deforestation and the proposal for a hydro-electric dam that would damage the renowned Lake Pedder (Harding 1998; Hutton and Connors 1999). But the Green Party that achieved most prominence was the German Green Party, which

¹⁰ Pluralist decision-making views that government administrators play a role as arbiters among different interests within the public; not as a source of objective decision-making in the public interest (Beierle and Cayford 2002: 3).

conceptualised the Four Pillars of the Green Party and gained office in 1980 (Poguntke 1992; Weidner 2002). The Four Pillars of ecological wisdom, social justice, grassroots democracy, and nonviolence, inspired and shaped international environmental thought and politics. Grassroots or participatory democracy was embraced by the Greens as the only perceived reliable governance model for achieving social change (Eckersley 1992). Thereafter, environmental groups and parties have played important roles in influencing and catalysing environmental policy, in developing institutional access to the polity, and being ‘involved in many processes of political negotiation and bargaining’ (Christoff 1996; Rucht and Roose 1999: 62). Consequently, much environmental policy resulted, including the increasing global rise of environmental regulations and laws (Rucht and Roose 1999; Weidner 2002).

As part of such trends in the 1970s, the commitment by policy makers to public participation in environmental management increased, although still exhibiting a weak form of consultation through, for example, submissions to governmental inquiries and slightly more participatory town hall meetings. This incremental shift, however, still lacked decisional influence. This form of participation — the limited public involvement model (Rowe and Frewer 2000) — was popularised, particularly through the advent of community-based environmental planning under the US Environmental Protection Agency and the Model Plan for Public Participation, as developed by the US National Environmental Justice Advisory Committee (Beierle and Cayford 2002; Wagenet and Pfeffer 2007).

Outside of the US, public involvement in policy making was also making ground, particularly in the UK, Canada, Germany and Australia. Environmental policy in the UK eventually began to develop a consultative consensus-building approach with affected or interested groups through, for example, the 1974 Control of Pollution Act, which was shaped between industry and local government (O’Riordan 1988: 7), and the 1981 Wildlife and Countryside Act, shaped by farmers and landowners (McCormick 2002). In Canada, in response to increasing public consciousness and pressure about environmental disasters, Environment Canada began to initiate stronger public consultation processes that led to the establishment in 1986 of the Canadian Environmental Protection Act (CEPA).¹¹ This also marked

¹¹ Environment Canada is the lead Canadian federal department for environmental issues (Toner 2002: 71).

the first formal involvement of the public, through environmental NGO representatives, in environmental policy formulation processes (Toner 2002).

In sum, over the last 40 years, the environmental decision-making approach has evolved from linear decision-making (or one-way decision-making) in the 1970s, mainly informed by scientific and technical expertise, to increasingly more open decision-making through bargaining and negotiating competing interests in the 1990s (also Harding et al. 2009; Affolderbach 2011). In the 2000s, stronger participatory styles then also emerged that reflected partnership and consensus building approaches (for example Connelly and Richardson 2008). However, these stronger inclusive approaches remain embryonic in most cases, and consultative participation remains the most popular form although apparent shifts are occurring increasingly to the so-called 'deliberative turn' (for example, Chambers 2003; Harding et al. 2009: 13; Hindmarsh 2012).

The shift to enhanced or inclusive participatory approaches is also being stimulated by many programs and recommendations at the United Nations level (Creighton 2005), including various development programs, especially for developing countries (Midgley 1986). An example of the latter is that the World Bank requires many environmentally orientated projects that it funds to include public participation (Creighton 2005), including ones on urban housing, health and irrigation projects in Asia, Latin America and the Caribbean, and Africa (Paul 1987). However, as in Western countries, much contestation remains over the type of public participation that occurs, often because it is not seen to be strong or socially inclusive enough, especially at the local and community levels (for example, Fischer 2002; Dovers 2005; Fraser et al. 2006; Smith 2008; Harding et al. 2009; Hindmarsh 2012).

In returning to considering the Indonesian case for public engagement for climate change adaptation, I now turn to the emergence and evolution of community participation in environmental management in developing countries. This, however, is not so focussed on the Indonesian case, as Indonesia is featured specifically in Chapter 4 with regard to this topic in association with environmental management, which has not been so well documented as for many other countries. The following paints a general picture of community participation in developing countries, which then provides the context for delving more into the Indonesian experience in the following chapter.

Developing countries

In developing countries, to reiterate, community participation in environmental management, particularly from the 1960s onwards, became significantly influenced by the emerging environmental consciousness internationally, as well as by increasing pressure for community development, for democracy versus authoritarianism, and on authorities not seen to be protecting the environment enough (for example, Schnaiberg 1980; Leonard and Morell 1981; Redclift 1987; Kumar 2002; Jinlong et al. 2004; Fraser et al. 2006). The problem with increasing pressure on slow-acting Western authorities is that when they do strengthen their environmental laws, they drive heavily polluting industries overseas, often into developing countries. At the same time, in pursuing 'development' along Western lines, developing countries have adopted the same types of industries, most often without ensuring adequate environmental protection, which is very expensive for poor countries to implement. Again the quality of the environment has suffered. In the contemporary era, China and India are highly visible examples. The overall result has been a significant rise of large local industrial polluters (Schnaiberg 1980; Leonard and Morell 1981; Castro 1995; Dwivedi 2001; Elliott 2004; Fan 2008; Higgins 2010).

A significant catalyst for the development of a broader international environmental consciousness was the 1972 United Nations Conference on the Human Environment in Stockholm (Gupta 1988; Boardman and Shaw 1995). For developing countries, this increased environmental consciousness led to stronger local environmental movements that critically reflected on environmental protection against developmental priorities (Van Der Heijden 1999). With growing awareness, mainstreaming increased and pressure grew for authorities to react to increased environmental stress from pollution, environmental degradation, and nuclear issues (Leonard and Morell 1981; Chatterjee and Finger 1994; Haynes 1999; Hsiao 1999; So and Lee 1999; Kapoor 2001). Environmentalists focussed on deforestation, poor water quality, depletion of indigenous resources, human resettlement, and public threats, including toxic contamination and air pollution, as well as adverse impacts on local resource management (see Van Der Heijden 1999; Dwivedi 2001: 17).

Regional groups emerged, like the Malaysia-based Pesticide Action Network Asia-Pacific and the Third World Network, in networking with many national and local environmental groups across South and South East Asia and Oceania. In Thailand, it became obvious that two kinds of environmental movements existed (Forsyth 2007): middle-class activism that focussed on forest degradation, and lower-socio-economic activism that focussed on pollution. Similarly in Mexico, educated, middle-class urban movements emerged as well as urban and rural poor movements that focussed on sustainable livelihoods (Redclift 1987).

In India, commercial forest exploitation by outside contractors provoked the well-known Chipko movement, widely considered a highly successful environmental movement with the major result of a 15-year ban on tree felling in the Himalayan forests (Haynes 1999: 227). Another Indian action saw the Narmada Valley hydro-electric dam and irrigation project halted. This saved more than 20 million people from massive displacement, as well as valuable aquatic and terrestrial ecosystems being decimated (Haynes 1999). Conflicts, typically between environmentally destructive development and local people, also occurred in Kenya, for example, between conservation and eco-tourism; in Nigeria with the Ogoni people contesting polluting oil production; and in Tahiti over French nuclear testing (Haynes 1999; Doyle and McEachern 2008). In the Philippines, notable peasant protests occurred over commercial logging in San Fernando, which threatened livelihoods and local access to forest ecosystems as natural resources (Broad 1994). Environmental movements in the Philippines also emerged in the struggle between environmental protection and democratic access to natural resources (Magno 1993).

Overall, environmental movements in the developing world became characterised by voracious and inequitable exploitation of natural resources leading to conflicts between advantaged and disadvantaged groups (Leonard and Morell 1981; Bandyopadhyay and Shiva 1988; Kalland and Persoon 1998; Dwivedi 2001). A study by Dwivedi (2001), which mapped seven cases of environmental movements in India, the Philippines, Brazil, Mexico, Nigeria and Kenya, reinforced that these movements often involved 'struggles for protecting environmental conditions of livelihoods and sustenance of directly affected local communities' (Dwivedi 2001: 17). As a result, many environmental movements in developing countries became known as 'red-green' as they protected people and the environment simultaneously (Forsyth 2007: 2110).

Irritated by the slowness with which state authoritarianism was shifting to more democratic forms of government, environmental movements in India, the Philippines and Taiwan (more than elsewhere) often featured confrontational community engagement tactics, including grassroots-level mass protests that aimed to interrupt official meetings by demanding democratic participation (Gadgil and Guha 1994; Lee and So 1999; Pinkney 2003). Indeed, growing democratisation has increased decentralisation movements and subsequently the demand for a larger role of communities in local decision-making processes (Blair 2000). Other terms for these movements include ‘environmentalism of the poor’ (Martinez-Alier 2002: 10), and ‘socio-environmental’ (Doyle and McEachern 2008). Furthermore, third world environmental movements can also appear strongly ‘culturally indigenized’ through local religions, cultural values and rituals (Lee and So 1999: 291); this is also a feature of Indonesia as addressed in Chapter 4. As well as conducting protests and attracting the ‘eye’ of a scrutinising media, a common action adopted by environmental groups is to lobby politicians (Gadgil and Guha 1994). Such groups invariably call for transparency and accountability in decision-making procedures and processes and, in turn, participation (Van Der Heijden 1999; Dwivedi 2001).

In their analysis, Gadgil and Guha (1994) suggest that different pathways of economic development between developed and developing countries have led to a different focus on environmental problems. In developed countries, the focus has now shifted from air, land and water contamination as these issues have largely been cleaned up in the first phase of industrial development. The focus is now more on environmental and lifestyle quality in a second phase of development (Hays 1982; Redclift 1987; Gadgil and Guha 1994; Lee and So 1999), variously referred to as ecological modernisation or post-industrialism. In contrast, developing countries still face dire problems in relation to inappropriate and polluting development causing severe environmental degradation with regard to land, water and air pollution — all of which intensely and adversely affect cities as well as local communities (Gadgil and Guha 1994; Domask 1998; Lee and So 1999; Dwivedi 2001; Fan 2008).

Despite its challenges and constraints, community participation in environmental management has been practised in several developing countries in a range of sectors, including (a) forestry, watershed, solid waste, wastewater, and natural resource management; (b) soil conservation; and (c) ecosystem management

and ecotourism. Several case studies illustrate the successes and failures of such participation and offer ideas of how to better address the latter.

A notable case is forest management in Nepal, which is at the forefront of community forestry practice (Kumar 2002; Shrestha and McManus 2008). Launched in the mid-1970s, by 2009, the Community Forestry Program succeeded in managing 25 per cent of Nepal's forest area and involving one-third of Nepal's population (Ojha et al. 2009). The program includes 'a well-defined legal and regulatory framework, participatory institutions, benefit sharing mechanisms, community-based forestry enterprises, and biodiversity conservation strategies' (Ojha et al. 2009: 1). Top-down government-controlled forestry was shifted to include active community participation (see also Pokharel et al. 2007; Kanel and Acharya 2008). However, as noted by Thoms (2008) in an analysis of community forestry in Nepal, community forest groups were dominated by local elites which limited community access to forests. This resulted in successful forest conservation but unfavourable community livelihoods.

Another study on weak community participation involved soil conservation programs in the Peruvian Andes, and suggested that a combination of top-down and participatory bottom-up approaches is required to better balance conservation of natural resources and agricultural productivity (Posthumus et al. 2010: 664). This study found social networking to be a key factor for encouraging households to participate. In turn, Agrawal and Gupta (2005) stressed greater access to education, more frequent local meetings, and incentives for better interactions with government officials to enhance participation on natural resource protection.

Community participation was also recommended as a means for effective decentralisation in waste management, in the case of solid waste management in Uganda (Okot-Okumu and Nyenje 2011). Participation was seen as particularly important in the effective implementation of waste management policies, and priority management actions achieved through consensus. In Sri Lanka and Bangladesh, community participation is used widely in the planning process for managing wastewater for agricultural use (Evans and Varma 2009). Also in China, starting in 1996, afforestation projects have been implemented that involve local farmers through participatory techniques in planning and management (Jinlong et al. 2004: 101). Farmers are able to influence decisions in planning, the selection of sites

and species, and forest protection and management, with technical and financial assistance provided by authorities.

In all these contexts, in both developed and developing countries, important policy lessons are then posed about the role of community participation for capacity building with regard to adaptation. An important question to probe is what were the key determinants for effective community participation in these literatures? Here I begin this task, which is aim number three of the thesis — that is, to identify where improved community engagement strategies might best work, be most appropriate, and/or be most needed, in Indonesia at the local level. In Chapter 3, as mentioned earlier, I then turn to the sustainable development and climate change adaptation literature to undertake the same exercise and then to combine the findings about what might constitute the key determinants for effective community participation in Indonesia. This will then be further informed by Chapter 4 on the Indonesian case of environmental management, and by Chapter 7 through interviews with key Indonesian policy actors with regard to environmental management and climate change adaptation. Again, it needs to be emphasised that environmental management is the envelope within which sustainable development and climate change adaptation sit, so it was important to start with the environmental management literature.

Section 3: Key preliminary determinants for effective community participation in environmental management

Building on the basic principles and practices of community participation in environmental management, at least 17 aspects or determinants for effective community participation emerged from the environmental management literature, as shown in Table 2.1.

Table 2.1 Summary of determinants for effective community participation in environmental management

Determinants	Frequency of the determinants mentioned as important in the articles (<i>n=53 articles</i>)*
Institutional change	17
Local knowledge	10
Social capital	7
Resource availability (time, money, infrastructure, etc.)	5
Understanding the role of all participants	3
Communication mechanism	3
Open channel and two-way of information/transparency	2
Awareness/understanding on the issue	2
Expert	2
Size of groups/ Adequate representation	2
Leadership	2
Community empowerment	2
Benefits derived by all involved	1
Adaptability of participants	1
Integrity, patience and perseverance by partners	1
Technique/approach applied	1
Public trust and legitimacy	1

* see Appendix A for article details

As shown in Table 2.1, three aspects were found to be mentioned most frequently as determinants for effective community participation: (1) institutional change; (2) local knowledge, and (3) social capital.

Institutional change

The first key determinant for effective community participation is institutional change. In summary, institutional change is needed to implement stronger public participation at the local level for adaptation in shifts from weaker to stronger forms of participation. Stronger forms foster meaningful or active social inclusion of local knowledge for decision-making that seeks to build more effective adaptive capacity and resilience (for example, Lebel et al. 2006; also Hindmarsh 2012). In the following, I define what institutions are and in more detail what institutional change entails and why it is important for building public participation with regard to adaptation.

Various definitions of ‘institution’ have been found. Institutions, as defined by North (1990: 3), constitute ‘the rules of the game in society’, which regulate and

shape human behaviour and interaction. These rules help to reduce uncertainty through structuring everyday life (also Adger et al. 2003b). Alternatively, Dovers (2005: 12) defined institutions as,

persistent, predictable arrangements, laws, processes or customs serving to structure political, social, cultural or economic transactions and relationships in a society. They may be informal or formal, and allow organised, collective efforts around common concerns.

In addition, a key representation of institutions is ‘organisations’, ‘as specific departments, associations, [or] agencies...’ (Dovers 2005: 12). That representation typifies the Indonesian case (Bapepam 2006; The Habibie Center 2009; LBH 2011). Thus in addition to governmental agencies, legal institutions like the courts, and any number of instituted organisations, institutions may include conventions, codes of conduct, norms of behaviour, statute law, common law and contracts (North 1990; Vatn 2005). Within the environmental (and adaptation) context, institutions are seen to ‘determine the activity and behaviour of humans, for instance, the resource use practices of a community, through which they influence the nature-society interaction itself’ (Gómez-Baggethun and Kelemen 2008: 120). Adger et al. (2003b: 1100) outline that institutions also include the institutional framework for environmental decisions, including formulating and implementing any participatory approaches and mechanisms that might inform decision-making (also Kiser and Ostrom 1982: 179).

With regard to the relationship between institutional change and more effective community participation, institutions are widely understood to constantly evolve (Dovers 2005), and so shape societal change particularly with regard to human behaviour through associated policy changes such as that effecting stronger participation if that is seen as needed (for example, North 1990). Vatn (2005) distinguishes two types of institutional change: first, that which involves an existing institution, and second, that which involves the establishment of a new institution. Within environmental management, institutional changes are often required before a change in environmental policy practices and outcomes can occur (Adger et al. 2003b).

More specifically, with regard to effecting enhanced participation at the local level for adaptation, a relevant institutional policy norm to change would be the rules of decision-making from any emphasis on expert approaches to expert and community (partnership) approaches (for example, Lebel et al. 2006: 19; Hindmarsh 2012). This is because rules determine whose interests are recognised and who is to be involved in the decision-making process, as well as the procedures to be followed in such process (Paavola 2007: 100). As Hillman and Howitt (2008: 55) outline, major change in institutional arrangements — as, for example, in the case of any policy change for natural resource management — usually involves ‘the establishment of new management bodies, new forms of participation and new modes of decision-making’ (Hillman and Howitt 2008: 55).

In other words, changes in decision-making rules are often necessary for more effective community participation in environmental management (Young 1994; Adger et al. 2003b). On adaptation, Lebel et al. (2006: 22) argue:

A society’s ability to manage resilience resides in actors, social networks, and institutions ... The ability to learn and adapt implies that a system can get better at pursuing a particular set of management objectives over time and at tackling new objectives when the context changes....,

here climate change. Such ability involves ‘[t]he capacity to effectively combine or integrate understanding gained from different sources and forms of knowledge’, which subsequently ‘increases the likelihood that key thresholds and components of diversity will be acknowledged’ (Lebel et al. 2006: 22); as in the case of building adaptive management as one form of enhanced participatory endeavour at the local community level. Such capacity, of course, implies that such institutional change means that there must be concomitant changes in community and individual behaviour (Kiser and Ostrom 1982), which highlights the relationship between institutional change and enhanced public participation, here, again, at the local community level. To enable such change, Kiser and Ostrom (1982: 180) advance three conditions. First, individuals to be affected by such change must be aware of and attempt to comply with the posed change. Second, change must have influence upon the strategies adopted by individuals and communities. Third, the accumulation of changed strategies must lead to different results other than those

that already exist; for example, weak consultative strategies or institutional resistance to stronger consultative strategies (tempered by more local social inclusion, for example) and institutional innovation.

Local knowledge

The second key determinant in the environmental management literature for effective community participation was the inclusion of local knowledge in decision-making practices. As mentioned above, Carr (2002) argues that community knowledge of local problems should be developed to enable active participation of local people in decision-making about how to address those problems. This is because they are the first to bear the consequences of any decision, as well as having valuable local knowledge to contribute to addressing the problems. Local knowledge, according to Harding (1998: 83) and Carr (2002: 181-2), is constructed from intimate awareness and recognition of the problems that arise from everyday interactions between communities and their place and environment. Local knowledge may also include indigenous or traditional knowledge; that is, the traditional knowledge of local and indigenous peoples based on their understandings and interactions with the natural environment (Knudtson and Suzuki 1992).

In short, local knowledge involves ‘information about local conditions, local culture, intuitive concern and local places’ (Carr 2002: 184). It is mediated through cultural traditions, occurring sometimes over thousands of years, which include knowledge and interpretations about plants, soil, animals, climate and food sources (Harding 1998; Berkes et al. 2000; Corburn 2003). In relation to the socio-biophysical relationship, Berkes et al. (2000: 1252) defines such knowledge as ‘traditional ecological knowledge’. Such knowledge forms ‘a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment’. Local knowledge thus provides important input for environmental decision-making because environmental issues are typically co-produced, having both social and environmental elements (Harding 1998).

As such, collaborative inclusion of the local community members with their knowledge and understandings of local conditions informs a burgeoning literature focussed on improving the quality of the local decision-making process to help

develop appropriate solutions (for example, Stern and Fineberg 1996; Carr and Halvorsen 2001; Blowers et al. 2005; Spink et al. 2010; Hindmarsh 2012). Addressing such elements at the local level effectively then situates local and expert knowledge as complementary (Fischer 2002), with solutions offered by the experts often being redefined (Carr 2002; Corburn 2003; Dietz and Stern 2008). An example of this is shown in cod fisheries research in Atlantic Canada. Scientists and fisheries managers miscalculated the extent of the fish stocks due to a lack of their actual and/or local fishing experiences and their placing of too much reliance on scientific assumption and modelling (Mitchell 1997). Local knowledge helped to attain more accuracy. The inclusion of local knowledge demonstrates its relevance to the Indonesian context, as there are nearly 150 local cultural groupings pertaining to environmental issues (Purba 2001).

Alternatively, the value of local knowledge for partnership decision-making approaches is conceptualised by Kretzmann and McKnight (1993: 1) as an asset to better carry out policy development and activities. These authors term 'asset-based community development' as involving assets, capacities and abilities that can lead to effective community-based efforts. They assert the value of local knowledge is important as an 'asset' to carry out policy development and activities. Assets represent specific talents, attributes and skills of individuals in a community, as well as the community's social capital. Such capital can boost local community associations, community economic development and local planning (Kretzmann and McKnight 1993; Mathie and Cunningham 2003). For example, community associations are likely to have resources to enable good participation in environmental decision-making process through representativeness. Additionally, wealthier communities are likely to possess more capacity to participate in decision-making process as their basic needs are assumed to have been achieved; consequently, willingness to participate in solving environmental problems in their area can be greater.

It is also stressed that fully acknowledging and mobilising community assets, capacities and abilities are important for boosting inclusive participation of the community. Where the community is recognised as the 'owner' of the activities, rather than as 'client' or 'recipient of aid', confidence is bolstered in a community's capacity and willingness to act. Thus, rather than having to list what is absent in the community as a problem, asset-based community development recognises what

communities have at any one time, for example, to contribute to development or capacity building to address environmental problems. Through this strategy, external additional resources, such as financial inputs and scientific knowledge, can be better identified to complement existing community assets to develop actions (Mathie and Cunningham 2003).

However, an active citizenry itself is insufficient for effective and sustainable decision-making because of the dominant role of the state or government in governing. Good interactions between the (bottom-up) community with its local knowledge and (top-down) government agencies and policy makers need to be established (Carr 2002; Dovers 2005). Partnership collaboration ensures clarification on the roles and responsibilities of all involved stakeholders, and recognises the inclusion and value of active participation of local stakeholders (Ivey et al. 2004; Pettengell 2010). In summary, local knowledge is important to effectively engage communities in better managing environmental problems; to enable communities to play the role as local 'experts' and thus increase their social capital through a stronger 'sense of place' and 'sense of community', as notable principles of community participation (Carr 2002; Dovers 2005).

Social capital

The third key determinant for effective community participation found in the environmental management literature was the development and enabling of social capital. Social capital consists of interactive relations amongst actors, including individuals, and organisations and institutions that perform collective actions (Coleman 1988; Woolcock and Narayan 2000; Devine-Wright et al. 2001; Adger 2003; Martens and Rotmans 2005). Alternatively, Putnam (1995: 67) refers to social capital as 'features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit'.

Networks such as neighbourhood associations and cooperatives are imperative to develop social capital because the more cohesive such community networks are, the greater their mutual trust and the more opportunity for the community to work collectively for mutual benefit (Putnam et al. 1993). Further, Putnam et al. (1993) posit the norm of 'generalised reciprocity', as the most highly productive component of social capital. Generalised reciprocity describes an unrequited community relationship of mutual expectations that will be repaid in the

future. Hence, individual opportunism can be effectively restrained by the community, and more effective collective and productive action can be achieved. Inversely, networks of generalised reciprocity encourage social trust and cooperation as they reduce uncertainty and pose as a model for future cooperation.

In explaining further the relevance of social capital to effective community participation, social capital involves horizontal and vertical relations among actors (Coleman 1988; Woolcock and Narayan 2000; Devine-Wright et al. 2001; Adger 2003; Martens and Rotmans 2005). Putnam et al. (1993) elaborates that different social actors can also be categorised by two forms of social capital. First, 'bonding capital' brings together individuals who come from shared social identities and who already know each other. Second, 'bridging capital' brings together individuals who do not know each other, and who often have different values and perspectives (see also Wolf et al. 2010). For effective community participation, these two forms of capital need to be built cohesively, particularly in heterogeneous communities that comprise disparate racial, ethnic, or social status (Gittell and Vidal 1998; Hindmarsh 2012). In addition to this, Wolf et al. (2010) suggest the concept of 'linking capital', which relates to making good connections to authority or government, as this is also important for successful collective actions leading to effective participation.

High cohesion marks the quality of social interaction at the local level; such cohesion has been found to characterise communities with strong social capital (Forrest and Kearns 2001). Ritzen et al. (2000: 6) define social cohesion as 'a state of affairs in which a group of people (delineated geographically, like a locality-based community) demonstrate an aptitude for collaboration. This, in turn, reflects strong 'sense of place' and 'sense of community', and acts as a foundation for consensus-building participatory positions and actions. Reinforcing such findings is the definition of social cohesion by Kearns and Forrest (2000: 996), as being where 'all the component parts somehow fit in and contribute to society's collective project and well-being; and conflict between societal goals and groups and disruptive behaviours, are largely absent or minimal'.

Underpinning social cohesion are 'common values and a civic culture; social order and social control; social solidarity and reductions in wealth disparities; social networks and social capital; and territorial belonging and identity' (Kearns and Forrest 2000: 996). Here, common values and culture mean that members of a community share moral principles, which enable them to identify and support

common objectives such as common economic, social and environmental standards to achieve social solidarity. With social cohesion, there are few conflicts within a community that may disrupt the existing order or system, through which the community can build social interaction and networks leading to collective action. This, again, also enhances strong sense of, or attachment to, a place.

Not surprisingly then, a high level of social capital has also been found as crucial to effective representative stakeholder dialogue for any community in also determining who is the most appropriate person to represent the community (Devine-Wright et al. 2001; Adger 2003). In the case of engaging communities in different geographical areas, exploring the attitudes and values of different socio-demographic groups may also allow better understanding on the nature of the target audience relevant to the issue (White and Wall 2008).

Conclusion

In reviewing the broad area of community participation in the environmental management context, this chapter has begun to provide important points or aspects to inform the conceptual frameworks for the purpose of the thesis, which will be complemented in the material, discussed and analysed in Chapters 3 and 4. In this chapter a number of points are highlighted about the role of community participation and the initial finding of three key determinants for such participation to be effective: institutional change, local knowledge, and social capital.

The literature also pointed out that for effective participation, the purpose of a decision-making process needs to be clarified at the outset. This clarification would include the intentions of any government agency or developer or the public engaging in such processes that often involve perspectives that can differ widely and are contradictory or open to contest, as such differences can influence the concept and method of participation appropriate for the issue at stake (Cavaye 2004). This is a key point that will inform my design, evaluation and suggestion of appropriate participatory strategies for climate change adaptation in the Indonesian local community context. Also notable is that the deliberative approach was identified as the most prominent contemporary participatory approach considered appropriate for community participation in environmental management. This is particularly so because it allows equitable communicative processes among participants that

include open and respectful discussion for the exchange of views to gain a better understanding of the issue under deliberation. Informing this approach is a range of participatory mechanisms that can also have potential for adoption, either alone or in tandem, depending on the issue being addressed at the local and community levels (Cavaye 2004), in highly vulnerable areas to inform effective adaptive capacity building in Indonesia.

This chapter's review of the community engagement literature also reinforces the importance of community participation for climate change adaptation in the broader policy envelope of environmental management. It is clear that community participation in environmental management provides an important space for public involvement in decision-making. Such civic engagement space informs increased sense of partnership, community ownership of an issue, and public trust through active inclusion. This enhanced inclusion, in turn, leads to three key benefits: better understandings of different perspectives, especially at, and concerning, the local level; more effective responses to climate change; and thus to better environmental management outcomes for all parties. In practice, such outcomes are evidenced in both developed and developing countries where enhanced community participation demonstrates a positive contemporary approach to decision-making process. Such evidences make it clear that stronger, inclusive or enhanced community participation is important for effective adaptation at the local level. However, challenges and barriers to effective community participation also need to be well considered and addressed in the decision-making process.

In conclusion, this chapter has accessed community participation in environmental management, to contribute to building a foundation for this study. Perhaps most importantly, it revealed three *preliminary key determinants* for effective community participation in the broader environmental field. As stated at the beginning of this chapter, although environmental management is the primary policy area within which adaptation management must sit; it is also significantly associated with sustainable development, which also strongly influences policy. It is to this literature, as well as that of climate change adaptation itself, that we turn to in Chapter 3 to further our investigation of what insights these two areas provide on community participation for adaptation.

Chapter 3

Community Participation in Sustainable Development and Climate Change Adaptation Literatures

Introduction

Following Chapter 2 on community participation in environmental management, this chapter investigates and discusses the nature and role of community participation for sustainable development and climate change adaptation. A secondary aim is to identify preliminary determinants for effective community engagement, as was found in the environmental management literature to be institutional change, local knowledge, and social capital. The chapter comprises two sections. Section 1 discusses sustainable development and Section 2 discusses climate change adaptation. In addition, community participation in disaster risk management is discussed as important in informing adaptation — most significantly because climate change is now considered the key global driver of natural disaster, as signalled, for example, by the disastrous impacts on local coastal communities of extreme weather events. Finally, some examples of participatory adaptation strategies and methods applied in developed and developing countries are presented that offer potential to inform Indonesian community-engagement adaptation responses.

Section 1: Community participation and sustainable development

Sustainable development

The notion of sustainable development was first proposed by Western environmentalists and economists. For example, by the writing of Rachel Carson's *Silent Spring* in 1965, and as a response to mounting tensions between environmental problems and economic development (Moffatt 1996). There was also the particular concern of developing countries that environmental degradation due to development activities of developed countries was hampering poor and developing

countries' economic development (Moffatt 1996; Dryzek 2005; Dresner 2008; Harding et al. 2009). Overall, the notion that economic growth and environmental protection are complementary, increasingly emerged at the international level (United Nations 1992b; Dryzek 2005; Dresner 2008). A sharp catalyst was the Club of Rome's publication *Limits to Growth* in 1972, which drew international attention to its argument of the finite capacity of the Earth for unfettered population growth and consumption. These developments helped prompt the 1972 United Nations Conference on the Human Environment in Stockholm. It first addressed the issue of sustainability formally at the global governance level. In subsequent developments, in 1980, the *World Conservation Strategy* (1980) explicitly highlighted the term 'sustainable development'. In turn, in 1987 the publication of *Our Common Future* by the World Commission on Environment and Development (WCED) (also referred to as the Brundtland Report) formalised the sustainable development concept (Mitcham 1995; Harding 1998).

In 1992, the Brundtland report became the blueprint of the *United Nations Conference on Environment and Development* (also known as the Earth Summit) held in Rio de Janeiro (Harding et al. 2009). This placed sustainable development firmly on the international political agenda (Harding 1998). It was the largest diplomatic gathering post-World War II. Over 100 heads of government and thousands of officials and advisors from over 150 nations attended (Von Weizsäcker 1994). Five major documents were signed at the Earth Summit as a foundation for sustainable development (Harding et al. 2009). As such, the Rio Declaration encompassed broad principles to guide environmental protection and development. The principles acknowledged the right of every nation to explore their own resources without adversely affecting other countries' environments (Moffatt 1996). There was also the Framework Convention for Climate Change, and the Convention on Biological Diversity, as well as a forest principles statement.

But probably the most important for implementation was Agenda 21, the 'blueprint' or 'action plan' on how to achieve sustainable development (Dresner 2008). Following these agreements a number of new international institutions were established. The most important was the Commission on Sustainable Development, which overruled the implementation of Agenda 21. An important aspect of Agenda 21 for this thesis was the projected interaction between local authorities and the international level through 'Local Agenda 21', a plan where 'people [could]

share information and ideas and expertise from the community level' (Keating 1993: 47).

Post-Rio, many conferences and action plans followed, which Pezzoli (1997) referred to as the 'Rio cluster', with much attention paid to certain aspects of Agenda 21. However, a review in 1997 (Rio+5) saw very little progress in sustainable development (UNGASS 1997), and the international community reaffirmed the need for action in 2000 with the Millennium Development Goals, which were eight goals to be achieved by 2015 (for example UNGASS 2000). But even with these agreed goals in place, ongoing implementation has been a serious problem (see, for example, United Nations 2011). A key problem has been in agreeing upon any one meaning of the term 'sustainable development' (for example, Dovers and Handmer 1992), as its meaning is vague and difficult to understand (Iyer-Raniga and Treloar 2000; Williams and Millington 2004; Dryzek 2005). The widely accepted definition is, to reiterate, 'sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987: 8). This definition implies not only environmental protection alongside economic growth (Dresner 2008), but also equity between generations and equity within generations (WCED 1987: 43).

In addressing the ongoing failure of sustainable development to achieve its aims, as exemplified by many sources (for example, State of the World Reports 1996-2012), the term 'sustainability' has now emerged widely to replace it (for example, Elliott 2006). 'Sustainability' is a more encompassing term than 'sustainable development' as it refers to the need for humankind to instead improve its understandings, and change its attitudes and subsequent behaviour, according to the best available integrated knowledge approaches to achieve a sustainable future (Iyer-Raniga and Treloar 2000: 354).

Sustainability is thus seen as a process of dynamic change involving highly interactive social, environmental and economic aspects rather than one prioritising economic growth as the key strategy to achieve environmental protection. This reframing, in turn, led to notions of 'weak' and 'strong' sustainability (Pearce et al. 1996; Renning and Wiggering 1997; Hediger 2006). However, from the literature informing this study, both 'sustainability' and 'sustainable development' are often used in parallel, sometimes quite confusingly, thus the meaning of the terms needs to be clearly differentiated. Harding's (1998: 18) definition seems to clarify this.

‘Sustainability’ is the ultimate goal while ‘sustainable development’ is the means to achieve it. For example, in Indonesia, the term ‘sustainable development’ is consistently used by government, business, university and community, and posited as the ultimate goal for the country’s development in all aspects (see, for example, Bappenas 2010b). Notably for the focus of this research, sustainable development, in its origin, advocates that ‘the pursuit of sustainable development requires a political system that secures effective citizen participation in decision-making’ (WCED 1987: 109).

Community participation and sustainability

As a result of being raised at numerous international conferences and symposiums through the 1970s and 1980s, the argument for better public participation in environmental management became embedded in definitions of sustainable development. That began most definitively with the Brundtland Report which, in turn, became an international catalyst for attention to this area. The Brundtland Report asserted that sustainable development requires effective environmental management. This would require all stakeholders, including the broader community such as grass-roots communities and civil society, being actively and effectively involved in decision-making processes, from formulation to implementation (WCED 1987; Bäckstrand 2006).

One of the main arguments in support of this view was that communities bear the main consequences of development and therefore should have meaningful opportunity to be involved in decision-making (Robinson 2004). An important point made in the Brundtland Report was that sustainable development would require ‘a political system that secures effective citizen participation in decision-making’ (WCED 1987: 65). The importance of including local communities in environmental decision-making, and the role of government to provide relevant information to communities in tackling environmental issues, were subsequently endorsed under Principle 10 of the Rio Declaration on Environment and Development (United Nations 1992b), and the subsequent Agenda 21 (UNDESA 2009). At the local level, they were then solidified by Local Agenda 21, with its focus on local actions in addressing global issues (for example, Moffatt 1996; Bäckstrand 2006).

Another notable shift occurred at the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002. It was argued that participation to achieve sustainable development had to be strengthened by more-inclusive participatory practices of partnership engagement involving government, society and other stakeholders such as industry and NGOs (Robinson 2004; Bäckstrand 2006; Elliott 2006). For these practices to succeed, local governments were seen to play a key role in coordinating actions and facilitating community involvement in policy programs (Bulkeley and Betsill 2005).

Following such developments, grassroots community and civil society engagement and representation have become more prominent over the last decade in sustainability discourse (Bäckstrand 2006). These have also been well promoted by risk society theorists like Brian Wynne (1993) and Ulrich Beck (1998), and science, technology and society scholars like Sheila Jasanoff (2004). Many environmental management approaches now emphasise citizen engagement. Meadowcroft (2004: 165) highlighted the benefits of enhanced public participation for sustainability as providing better decisions, more effective implementation, enhanced legitimacy, a more educated community, fairness, and increased opportunities for individual and collective fulfilment. These benefits align with many of the arguments discussed earlier in the environmental management literature on this topic.

Another argument on the importance of community participation in the sustainable development context concerns the notion of 'good governance'. Community participation is conceived as a cornerstone of good governance (UNESCAP 2009). Good governance is informed by principles of openness, participation, accountability, effectiveness and coherence (Commission of the European Communities 2001), 'as the most viable political institutional framework for tackling sustainable development challenges' (Bäckstrand 2006: 470). For the focus of this thesis, good governance means that the views and voices of community, especially minority and the vulnerable ones, are well considered, if not ensured, in decision-making (UNESCAP 2009.).

In contributing to this argument, Adger et al. (2003a: 1) assert that in the context of environmental issues, environmental decision-making requires effective interconnectedness of four criteria of good environmental governance: efficiency, effectiveness, equity and legitimacy. 'Efficiency' means an achievement of improved net social welfare or welfare-maximisation; 'effectiveness' refers to an

achievement of the objectives of the decisions; ‘equity’ relates to the wide and fair distribution of environmental risk as the consequence of environmental decisions (see also Ringquist 1998); and ‘legitimacy’ relates to the acceptance of a decision by participants and recipients in terms of procedural decision-making dimensions. These criteria, as Adger et al. (2003a: i) argue, are indispensable dimensions of economic, social and environmental dimensions of sustainable development, where sustainable development ‘has become the dominant rhetorical device of environmental governance’. Failure to address these criteria will adversely affect environmental decision-making and indeed ultimately hamper sustainability (Adger et al. 2003a). Following these arguments, effective public participation in environmental negotiations — especially negotiated through top-down bottom-up deliberative approaches — is seen to strengthen the democratic basis of environmental governance, as essential for sustainable development (Meadowcroft 2004), in developing more effective environmental outcomes (Bäckstrand 2006).

Overall, understanding the importance of community participation in sustainable development discourse is crucial in developing countries where sustainable development is posited as the ultimate goal of development; thus all efforts aimed at achieving this goal are considered important. However, the effectiveness of such efforts is determined not only by political willingness of the government to move from a weak to a stronger sustainability pathway and to achieve good governance, but, by association, in identifying what determinants of community engagement best contribute to its effectiveness. In Chapter 2, it was found that the key determinants for effective community engagement in environmental management were local knowledge, social capital and institutional change. We now turn to exploring the sustainability and climate change adaptation literature, in turn, to identify such determinants.

Key preliminary determinants of community participation in the sustainable development literature

Building on the 17 aspects or determinants for effective participation identified within environmental management discourse, the three key determinants of institutional change, local knowledge, and social capital, were also mentioned most frequently within the sustainable development literature, as shown in Table 3.1

Table 3.1 Summary of determinants for effective community participation in sustainable development

Determinant	Frequency of the determinants mentioned as important in the articles* (n = 34 articles)
Institutional change	12
Social capital	8
Local knowledge	6
Community empowerment	3
Adequate representation	2
Government/stakeholder commitment	1
Awareness/understanding on the issue	1
Communication mechanism	1
Clarity of goals	1
Community group	1
Resource availability (time, money, infrastructure, etc.)	1
Technique/approach applied	1
Accountability	1

* see Appendix A for the details of the articles

Institutional change

In locating the place and role of institutional change in sustainability transitions, the WCED (1987: 9) made a notable observation: ‘the real world of interlocked economic and ecological systems will not change; the policies and institutions concerned must’. Fokkema et al. (2005) agree. These authors argue that moving towards sustainable development requires changes in both technical (and technological) and non-technical aspects, the latter including behaviour, organisation and institutions. Kemp et al. (2007) and Rotmans et al. (2001) add to this, changes in values, culture and governance, although perhaps changes in values and culture are not as simple as changes in governance. This is because the first two aspects have been shaped and handed down through generations by cultural transmission. In the context of institutional change, institutional reforms keenly address environmental and democratic (or participatory) values as any decisions produced from institutions affect both of these values (Beckman 2008). In addition, for institutional actors, their ability to manage environmental problems as well as their responsiveness to local problems can significantly influence the level of vulnerability of a region (for example, Ivey et al. 2004). For this to happen in a positive way, Fritzen (2007) argues that a key aspect of institutional change is to affect changes in institutional actors, including those of the community, in terms of behaviour.

Nevertheless, many challenges exist to institutional change as typically, institutions are independent and fragmented ‘silos’, as much of the policy literature highlights (for example, Dovers 2005; Thomas 2007). For example, institutions responsible for managing the economy are most often institutionally separated from those managing the environment, and those in the environment often from each other, for example, water, agricultural, environmental, industrial and energy sectors (WCED 1987; Fischhendler and Heikkila 2010; Lubell and Lippert 2010), as well as when dealing with climate change (Keys et al. 2010). Increasingly, with many environmental problems worsening, integrated management approaches that include and enhanced public participation are advocated (Dovers 2005; Keys et al. 2010).

An emergent participatory institutional change approach is ‘transition management’, which was applied to Holland’s waste management system (Kemp et al. 2007). Bottom-up inclusion involved government coordinating different levels of governance and all relevant actors at every societal level through interactive learning and action cycles to create radical and beneficial innovations. Local waste collection systems were replaced by a national recycling and incinerating system, which involved changes in production, consumption, societal values and beliefs including raised societal awareness on waste problems. This example supports the view that moving towards sustainable transitions requires transformational changes in social systems in relation to beliefs, values, behaviour and culture, and institutions and governance (Rotmans et al. 2001; Kemp et al. 2007). In this context, transition towards stronger sustainability would involve proactively and anticipatory planned new governance approaches for progressive improvement in environmental, economic, and social performance (Rotmans et al. 2001; Meadowcroft 2005; Sondejker et al. 2006; Kemp et al. 2007; Voß et al. 2009; Guston 2013).

Social capital

In turn Lehtonen (2004: 204) asserts that moving towards sustainability also requires a good stock of social capital, as ‘critical, irreplaceable, in the same manner as some of the natural capital is considered “critical”’. This view reinforces social capital in the same definitional way as that concerning community participation in the environmental management literature. For example, Devine-Wright et al. (2001) found that regions with high social capital possess more capacity to successfully implement sustainable development, because more participation of stakeholders

occurs (see also Brooks 2007). Enhanced participation has also been found to inversely increase social capital to build stronger networks of trust and mutual accountability that link people *within* a community to improved access to resources, security, livelihood and well-being (Bebbington 1999; also Devine-Wright et al. 2001). In accentuating the role of social capital in enhancing participation to achieve sustainability, these causal relationships also reflect notions of partnership collaboration among actors. To build up social capital, a key conduit is through effective dissemination of relevant information, expertise and resources (Devine-Wright et al. 2001), which can also reduce transaction costs associated with information, expertise and resource exchange (also Rydin and Holman 2004).

Local knowledge

In the frame of sustainable development, Principle 22 of the Rio Declaration stresses the role and practices of local communities and knowledge (including traditional or indigenous knowledge, also referred to in Chapter 2), as playing a significant role in environmental management to achieve sustainable development. This principle asserts that the usefulness and application of local knowledge is best developed through transparency or openness and access to relevant information on environmental problems (United Nations 1992b; see also Harding 1998). In addition, governments should ensure effective participation of communities with their knowledge and practices to achieve sustainable development.

This argument was highlighted by Riedlinger and Berkes (2001) and Duerden (2004), who found from studying Inuit communities in the Canadian Arctic territory that keeping local knowledge ‘alive and well’ was highly valuable for the intergenerational flow of information that helps identify environmental changes. For example, to understand local variations of climate change over time so as to better understand local weather and climate-related changes and plan accordingly their social, environmental and economic sustainability. Such understandings of course inform adaptive capacity and resilience, which relates also to community-based responses to climate change (Peake and Smith 2009).

That said, lack of local knowledge as valuable input for decision-making has been found to hamper the achievement of sustainability if only technical efforts are undertaken (Hindmarsh 2012). Again, the social and technical linkages inherent in sustainability emphasise the importance of partnership collaboration among all

actors, as was also found relevant within the environmental management literature, as discussed earlier in Chapter 2. Also highlighted in this section was that the key preliminary determinants for effective community engagement of institutional change, social capital, and local knowledge for sustainability were also found in Chapter 2 for environmental management. This then brings us to Section 2 of the chapter on community participation in the adaptation context.

Section 2: Community participation in climate change adaptation

Adapting to climate change not only aims to secure human survival, but also development and progress, particularly for developing countries and also for notions of transitions to low-carbon and green economies. As such, dealing with adaptation has compelled a new discourse on the linkage between adaptation and development to emerge (Schipper 2007; Ayers and Forsyth 2009; Ayers and Dodman 2010). Where does community engagement sit in this discourse, and what determinants might best support its effectiveness? To answer this question, I begin with a discussion on this discourse on adaptation and development, followed by an exploration of the role of community participation in climate change adaptation, and lastly, an identification of key determinants for effective participation in climate change adaptation.

Climate change adaptation and development

The Intergovernmental Panel on Climate Change (IPCC), in its Fourth Assessment Report (Parry et al. 2007: 79), defined adaptation as ‘adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities’. Such adjustment involves changes in processes, practices, and structures to reduce adverse impacts of climate change, or to reap potential benefits of climate change. Adaptation involves both a biophysical and a social process (Gidley et al. 2009), where this study, in its focus on the role of participatory approaches, stresses the social.

The main policy approach for adaptation was derived from ‘top-down’ or expert derived climate scenarios at the regional scale, but much uncertainty accompanies the extent of adaptation to be taken at this scale (van Aalst et al. 2008).

Concomitantly, it became recognised that most adaptation needs to be done at the local scale, as this is the scale where most impacts will be felt (as further discussed below). Therefore, local participation was needed to develop adaptation strategies at the local scale involving, among others, assessment of vulnerability on current climate variability and extremes, and policies, strategies, and measures based on actual experiences and local level variables.

In addition, and especially for poor/er or developing countries, adaptation should become a strong complement for development (Mertz et al. 2009; Ayers and Dodman 2010). Here, adaptation factors in the developmental needs of the poor such as adequate nutrition, food, shelter, clean water, sanitation and employment. In identifying and understanding the socio-economic characteristics of a community, vulnerability factors such as poverty, low education and geographic condition can be better understood. Such understanding, of course, also serves to inform more effective capacity building.

Conversely, the ability to adapt is seen to be influenced by the state of development. As asserted by Pittock (2005: 146), enhancing capacity to adapt requires actions that are similar to those for promoting sustainable development: improved access to resources, poverty alleviation, reduced inequities in wealth and resources between groups, improved information and education, improved infrastructure, active engagement of all parties to ensure the inclusion of local needs and resources, and improved institutional capacity and efficiency for vulnerable communities to appropriately respond. This agenda is also emphasised by the IPCC's Fourth Assessment Report, which states, 'future vulnerability depends not only on climate change but also on the development pathway' (Parry et al. 2007: 19).

Ayers and Forsyth (2009: 25), and Ayers and Dodman (2010), suggest two approaches for development-based adaptation. First, 'adaptation plus development' or 'mainstreaming' adaptation into the development agenda means that adaptation is integrated into development planning and adopted in development policy and practice. Schipper (2007) also contends that development trajectories need to be consistent with adaptation objectives otherwise mainstreaming will not be effective. The second approach is 'adaptation as development', as a simultaneous convergence of adaptation and development whereby development becomes 'an effective contribution to withstanding future climate change'. This aligns with the

‘vulnerability reduction approach’ to development (Schipper 2007: 7), which asserts that development should aim to reduce vulnerability and adverse impacts of climate change. As such, poverty alleviation programs, enhanced quality of education and health, improved living conditions, and provision of improved citizen and vulnerable community access to financial markets and technology need to be bolstered (Ayers and Huq 2009).¹²

Community participation is well situated within this ‘adaptation as development’ approach, as climate change impacts significantly occur at the local level (Ayers and Forsyth 2009). That said, community participation is also a key aspect of the broader policy envelope of environmental management and thus sustainable development, within which climate change strategies must also be located. The ensuing section discusses the role of community participation in adaptation.

Community participation and climate change adaptation

Calls for wide or enhanced public participation for adaptation are found in several major climate change related policy documents (Hawthorne and Alabaster 1999; Few et al. 2006; UNDESA 2009). Most importantly, as Few et al. (2006: 3) made clear, Article 6 of the 1992 United Nations Framework Convention on Climate Change calls for Parties to promote and facilitate ‘public participation in addressing climate change and its effects and developing adequate responses’.

The role for public participation, particularly in adaptation to climate change, was also emphasised by the IPCC in its Third and Fourth Assessment Reports. These documents state that participation by concerned parties in enhancing adaptive capacity was crucial to match adaptation actions to local needs and resources (Smit and Pilifosova 2001; Parry et al. 2007). The latter document also places a strong emphasis on the role of public participation from the beginning of formulating

¹² This approach, perhaps, could ameliorate the issue of the adaptation fund of the Kyoto Protocol where there is current uncertainty on and a drop in certified emission reduction (CER) prices, which jeopardise the existence of the fund, as discussed during the recent Doha UNFCCC conference 2012 (see Eni-ibukun et al. 2012). Through this approach, adaptation projects could still be funded through other sources such as official development assistance (ODA). Note that the Adaptation Fund was established to finance concrete adaptation projects and programs in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change. The Adaptation Fund is financed from the share of proceeds from clean development mechanism project activities and other sources of funding. The share of proceeds amounts to 2% of CERs issued for a CDM project activity (UNFCCC 2012).

policy at the planning and design stages to the implementation stage (Parry et al. 2007). Other key policy makers and researchers support such arguments; for example, Stern (2007: 27) argues that reducing the risks of climate change

requires a partnership between the public and private sector, working with civil society and with individuals. It is still possible to avoid the worst impacts of climate change; but it requires strong and urgent collective action. Delay would be costly and dangerous.

What might such partnership involve? Lorenzoni et al. (2007: 446) assert that public participation in addressing climate change should focus on cognitive, affective and behavioural aspects, where the community first needs to understand climate change to ‘care about it, be motivated and [be] able to take action’ to transition to long-term changes in attitudes and lifestyles.

Arguments for public participation in climate change measures are convergent to those for sustainable development, and reinforce that both provide a new opportunity for the paradigm shift in perceptions about community engagement advanced by many commentators (above): from the typically passive recipient to the active participatory contributor more focused on enhancing adaptive capacity building (Alaerts et al. 1991; Biswas 1996; Adger et al. 2007; Capetola 2008). Alternatively, from the vulnerable needing protection to actioning protection communities (Capetola 2008).

Initially, building adaptive capacity referred to learning-based management — also termed ‘adaptive management’ (Lee 1999; Tompkins and Adger 2004) — to better manage natural resources in contexts of ecological uncertainty (see Rist et al. 2012). Learning more about ecosystem behaviour, including lesson-learning from past management processes, would increase resilience. However, the term adaptive capacity is now used as a common term to build community resilience in relation to both social and ecological threats (for example, Tompkins and Adger 2004). As such, Tompkins and Adger (2004: 13) suggested:

By working together and consolidating spaces of dependence such as social support networks and local bonding relationships, as well as by working with the government to expand spaces of engagement or outward-reaching

networks, users of primary resources may be generating secondary benefits by building community resilience to better cope with the impacts of climate change.

In 1999, Lee advanced that effectively building adaptive capacity depends on the engagement of communities in collaborative governance and decision-making (Lee 1999; also Holling and Meffe 1996), and their social learning to manage ecosystem sustainably (also Pahl-Wostl 2002). Such learning, as Ogden and Innes (2009) posit, needs to be informed by combining local knowledge with scientific knowledge, which complements other views held in the environmental management field. More inclusion of local communities in decision-making at the local level is also seen to increase access to and control over commons resources (Brosius et al. 1998; Dumaru 2010). This, in turn, has been found to facilitate a community's adaptive capacity to climate change impacts. As such, a number of authors (for example, Alaerts et al. 1991; Biswas 1996; Capetola 2008) argue that a central component of capacity building for adaptation, as well as for the success of international cooperation as an adaptation response, is public participation (Alaerts et al. 1991; Biswas 1996; Capetola 2008). This argument also aligns with a vulnerability reduction approach.

The strong connection between adaptation with public participation or community engagement has been articulated by the United Nations Development Program. In 2004, the UNDP established a framework to assist developing countries to formulate adaptation strategies, at both the national and local scales, integrated with sustainable development planning (UNDP 2004). Within this framework, challenges and priorities of sustainable development were perceived as a starting point in considering adaptation programs and projects, with an emphasis on engaging grassroots stakeholders (Wilbanks 2003). However, referring back to the adaptation-as-development approach, caution is needed in applying this framework so as not to create 'maladaptation'. Maladaptation is adaptation that seems to bring benefits in the short term but actually increases risk in the long term (see Schipper 2009; Barnett and O'Neill 2010).

This highlights the arguments of the UNCED, Agenda 21 and IPCC that successful adaptation strategies need to be made with the strong inclusion of local stakeholders in policy making involving a wide array of stakeholders (Conde and

Lonsdale 2004). As Conde and Lonsdale (2004) argue, the inclusion of all relevant stakeholders to any area or sector is central to determining appropriate forms of adaptation, particularly at the most affected local level of climate change threat (also Pettengell 2010). In this terrain, ‘stakeholder’ refers to policy makers, scientists, citizens, groups, government and non-governmental organisations and communities at risk of climate change impacts (Conde and Lonsdale 2004).

Alternatively, Iati (2008: 20) emphasises the term ‘civil society’, defined as ‘non-state actors that engage both the state and society at large in relation to public matters’. Similarly, the World Bank (2010a) defines civil society as ‘the wide array of non-governmental and not-for-profit organizations that have a presence in public life, expressing the interests and values of their members or others, based on ethical, cultural, political, scientific, religious or philanthropic considerations’.¹³ In this sense, civil society is seen to act as a bridge between government and citizens in lobbying and helping inform government of societal interests, views and concerns and, in turn, government helping citizens to be involved in policy formulation (Iati 2008). To this end, governance networks or ‘partnerships’ involving both state and non-state actors facilitate the mainstreaming of climate protection goals into policy (Bulkeley and Betsill 2005).

This two-way process is demonstrated in Table 3.2, which depicts elements of an enabling holistic environment for adaptation (Pettengell 2010: 24). It tells us that bottom-up and top-down approaches are important for adaptation. Partnership approaches are seen to facilitate the distribution of key aspects required for adaptation, for example, access to capacity enabling resources. Collaborative partnership also offers shared problem solving, which has been found to enable robust decision-making. This finding supports the argument that ‘adaptation to climate change requires both planned, top-down action and autonomous, locally rooted efforts’ (Matczak et al. 2008: 1), and aligns with arguments for enhanced community participation within environmental management (see Chapter 2). To reiterate, several sources have advanced the argument that there is a need for partnership collaboration of top-down (government agencies) and bottom-up (community) interests. Such partnership is needed to ensure clarification on the roles

¹³ Available from:
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/CSO/0,,contentMDK:20101499~menuPK:244752~pagePK:220503~piPK:220476~theSitePK:228717,00.html> [accessed 10 July 2012].

and responsibilities of all involved stakeholders to develop legitimate, coherent and effectively policy outcomes for local adaptation.

Table 3.2 Elements of an enabling environment for climate change adaptation

Community	Local government	National government
←————— Capacity —————→		
←————— Resources —————→		
←————— Participatory decision-making —————→		
←————— Access to information —————→		
←————— Innovation and learning —————→		
←————— Flexible planning —————→		
←————— Robust decision-making —————→		
←————— Addressing factors that limit adaptive capacity —————→		
<ul style="list-style-type: none"> • Bottom-up vulnerability assessment • Local design and implementation • Participatory monitoring and evaluation 	<ul style="list-style-type: none"> • Devolved decision-making and resources • Bridge bottom-up and top-down processes • Platform for engagement with stakeholders 	<ul style="list-style-type: none"> • Political will • Supportive policy environment • Knowledge generation • Co-ordination • Integration [adaptation into national development planning]

Source: Pettengell (2010: 24)

In summary, community participation is widely seen as central to the effectiveness of adaptation. Again, as was emphasised in the sustainable development discourse, sustainable long term solutions for adaptation require changes in attitudes and behaviour. It is clear that adaptation provides good grounds for a paradigm shift of community engagement from passive to active involvement in decision-making process with meaningful decisional influence. This paradigm is well suited for the emergent notion of ‘adaptation as development’ and ‘vulnerability reduction’ approaches, which also align to the sustainable development trajectory, especially that of strong/er sustainability. In the next and final section of the chapter, we investigate what might be the key determinants of effective community participation in the climate change literature.

Key determinants of effective community participation in the adaptation literature

The three determinants of effective community participation — local knowledge, social capital, and institutional change — as identified in the environmental management and sustainable development literatures, were also found to be dominant in the adaptation literature as shown in Table 3.3. This section discusses these findings.

Table 3.3 Summary of determinants for effective community participation in the climate change adaptation literature

Determinant	Frequency of the determinants mentioned as important in the articles* (n = 36 articles)
Local knowledge	13
Social capital	8
Institutional change	7
Awareness/understanding on the issue	5
Technique/approach applied	3
Leadership	2
Collaboration with other stakeholders	2
Open channel and two-way of information/transparency	2
Benefits derived by all involved	2
Understand the role of all participants	2
Size of groups/ Adequate representation	2
Inclusiveness	1
Expert	1
Communication mechanism	1
Clarity of goals	1
Resource availability (time, money, infrastructure, etc.)	1
Fairness	1
Community empowerment	1
Religion	1
Integration of local knowledge and science	1

* see Appendix A for the details of the articles

Local knowledge

In the adaptation field, active community participation at the local level has been found to lead to (a) stronger shared understandings of the issues and vulnerabilities to climate change impact, and (b) stronger adaptation strategies for local conditions by integrating scientific and factual information with local skills, knowledge and

experience (Palakudiyil and Todd 2003; Conde and Lonsdale 2004; Pettengell 2010). This combination, it is argued, can lead more appropriately to changing local behaviour and reducing climate change risks than either aspect by itself (Nelson et al. 2007; Pelling 2007; Mercer 2010; Mercer et al. 2010). For example, scientific information can provide long-term predictions of climate change and local knowledge can provide historical trends and changes in regard to social, cultural and environmental contexts experienced at the community level (Reid et al. 2009).

Berkes et al. (2000) assert that local knowledge is somewhat similar to modern adaptive management in including ecological system management, such as species management, resource rotation, succession management; social mechanisms such as adaptations for the generation, accumulation, and transmission of knowledge; institutional aspects, such as providing guidance and rules for social regulation; and the substance and direction of resource management. Such knowledge aspects are consistent with adaptive management for successful adaptation as emphasised by the IPCC in its Fourth Assessment Report (Parry et al. 2007).

Several studies stress this role of local knowledge including studies of the Canadian Inuit (Ford et al. 2006), the Western Canadian Arctic (Berkes and Jolly 2002); Graham Island, Canada (Dolan and Walker 2006); and the African Sahel (Nyong et al. 2007). Their findings show that local knowledge about adaptability to changing climate leads to more effective decision-making, planning and monitoring in areas vulnerable to climate change risk. For example, in Ecuador, the agrarian calendar signals appropriate activities to climatic change based on the knowledge of such change by rural communities (Blanco 2006). In Tonle Sap Lake, Cambodia, a study revealed that past successes and failures of community adaptation actions offered a foundation to strengthen current and future adaptation strategies (Nuorteva et al. 2010).

Nyong et al. (2007) has categorised how local knowledge is valuable for climate change projects. First, it plays a role as a 'moral regulator', with a person appointed to set guidelines to be followed by community members to reduce risks. Second, as a complement to modern science; third, for effective community participation; fourth, it is found in guiding principles of sustainable development concerning economy, equity and the environment; and fifth, it facilitates information

dissemination through understanding and effective communication on climate change measures.

Social capital

As adaptation to climate change has occurred through the whole course of human history, societies have developed many capacities for adaptation (Adger 2003; Nyong et al. 2007). These capacities, according to Adger (2003), reflect the ability of societies to act collectively to build social capital. Strong social networks reduced vulnerability through collective actions on adaptation, thus increasing resilience (for example, Wolf et al. 2010). Olhoff (2002) and Adger (2003) argue that adaptive capacity can be made stronger if linkages between and within groups of society and between society and the government become synergistic.

On this aspect, Adger (2001) found that both bonding and bridging social capital are beneficial. A community's activities pertaining to *bonding social capital*, for example, might include attending a social group or visiting friends; or enhancing collective actions of the community to cope with a heat wave as, for example, in the case of the extreme heat wave of Chicago in 1995. In addition, strong kinship networks, as part of bonding social capital, also informs adaptive capacity (Smit and Wandel 2006). In turn, for *bridging social capital*, a variety of skills and experiences, as well as community networking, provide new strategies and wider social relations to help manage climate change risks through increased adaptive capacity (see also Ebi and Semenza 2008; Wong 2009). An example of bridging capital can be seen in a transboundary water governance project that concerned poor people's livelihoods in Ghana and Burkina Faso. Communities in these two countries who did not initially know each other worked together to successfully identify climate change-related problems and solutions for mutual benefit (Wong 2009).

Contrarily, a diversity in values informed by cultural and societal norms, according to Adger et al. (2009), may hamper adaptation actions where different actors have significantly different objectives of adaptation that hamper convergent views and actions. That was seen quite dramatically in a study on heat waves on the elderly in the UK (Wolf et al. 2010). It showed that individual perceptions of the risks of the heat waves could become a barrier to adaptation, especially for proactive anticipatory adaptation. This was because the study found the elderly perceived the

heat wave as a low priority risk and this, in turn, led to ignorance about adaptation actions. This was worsened by the acceptance of such views by social contacts (such as spouses, siblings, and friends), which spread lack of knowledge about the risks. To counter the rise of such ignorance, and build more effective capacity building, Tompkins (2005: 141) suggests that initial/transformational adaptation responses need to be made through ‘champions, legislation, collective action, or a changed national consciousness’, or in raising individual cognition in both the private and public sectors, and in government, the latter leading to institutional change. Informing such change is, of course, good communication, which Iati (2008), and Ebi and Semenza (2008) argue is needed to best enable the collaborative involvement of a wide range of expertise including those from government agencies, science and technology, and communities.

Building on expectations that climatic events are expected to increase in magnitude, Blanco (2006) asserts that strengthening community initiatives already underway is the best way for communities to adapt to change. Seyfang and Smith (2007: 585) term these community initiatives ‘grassroots innovations’. They are perceived as ‘bottom-up’ solutions for sustainable development, as the initiatives operate at the grassroots level and often refer to past experiences facilitated by their own social capital and resources (Adger et al. 2003c). For example, in the Cayman Islands, Tompkins (2005) found that successful community responses to tropical storm risks were based on the willingness of the community for collective action as informed by learning from past experiences that increased community resilience.

Of further import is that Kearns and Forrest (2000) found that social cohesion was crucial when dealing with a complex situation such as climate change that involves important social and political choices (Ritzen et al. 2000). Building rapport to connect individuals was found important to manage risks and vulnerability. Conversely, disrupted social cohesion could lead to low levels of social interaction between and within communities. At the same time, higher social capital and social cohesion could be achieved through any social transformation occurring in a community. Under such conditions, social transformation could catalyse ‘individual visionary and the [local] level on-the-ground initiatives and efforts’ to creatively and positively change living conditions (Kapoor 2007: 475). In contrast, however, as climate change poses an increased interdependence amongst communities, a disintegrating community due to displaced people as the result of

climate-related disasters (Edwards and Wiseman 2010), might adversely affect social capital and cohesion in other communities due to any relocation of the disintegrating community to different places, as, for example, was found in the case of severe earthquake in Indonesia in 2009.

Institutional change

To best respond to climate change, as with many social adjustments to environmental scarcity or problems, changes in behaviour and the attitudes of communities are widely supported as important for institutional change (Harding 1998; Tompkins 2005). Behavioural and attitudinal change is thought to best occur through collective action informed by simultaneous individual awareness of the need for change. Examples in relation to tropical storms in the Cayman Islands, and flood risk in the UK, demonstrate this well (Arnell et al. 1984). Such experiences raise public awareness of environmental hazards, increase preparedness to disasters, and motivate institutional change. In relation to climate change, Patwardhan et al. (2009: 221) argue, ‘institutional behaviour and response is important for understanding how responses may be implemented and adaptation options may be taken up and put into practice’. As such, Folke et al. (2002) are of the view that institutional change plays a key role in helping behavioural and attitudinal change, for example, through changes in legislation or organisational arrangements that place priority on building responses to climate change impacts, such as adaptive capacity.

In this context, Matczak et al. (2008) suggest that both formal and informal institutions are beneficial for successful adaptation to best weigh the needs of local communities, as was evidenced in the Hungarian Tisza river basin in adapting to floods and droughts. According to these authors, formal institutions based on laws, and enforced and monitored by the state, have a key role in mainstreaming adaptation into long-term planning, including allocation for investments and infrastructure, while informal institutions — for example, customs, traditions, norms, conventions, self-imposed codes of conduct — can strengthen autonomous adaptation and adaptive capacity. Additionally, Huq et al. (2007) contend that the ability of formal institutions to generate such responses can directly influence the level of vulnerability of poor people; for example, through readily or not readily providing infrastructure, for example, to reduce risks of widespread flooding.

The inclusion of local communities or vulnerable groups, who are often not included so much in decision-making, was found beneficial by Dessai et al. (2004), who found formal institutions can then better build institutional innovation through deeper understanding of the issue according to local knowledge; to help generate transformative processes. Alternatively, IISD et al. (2003: viii) advance that a key priority of strengthening institutional capacity for disaster threats was to ‘ensure the effective participation and empowerment of poor communities in key adaptation decisions, allowing for the inclusion of non-structural approaches rooted in community-based patterns of resource management in these decisions’. Likewise, Ivey et al. (2004) argue that institutional arrangements can better build a community’s adaptive capacity through clear identification of the roles and responsibilities of the main actors at both the institutional and local levels, and which new roles and responsibilities should be understood and accepted among these actors. Such arrangements became evident with regard to the role of social capital and institutional change in building climate change adaptation in the Cayman Islands as a response to hurricanes (Tompkins 2005). Community resilience in this region has since been improved by changes in organisation, stronger local social cohesion, and stronger mechanisms for collective action.

Summary

In summary, the adaptation literature showed that institutional change that included stronger community participation was found important to respond to climate change by helping behavioural and attitudinal change to increase adaptive capacity. It was also shown that social capital plays an important role for community adaptation by reducing vulnerability through increasing resilience in a number of ways. Notably, the integration of scientific and technical information with local knowledge was found to enrich the development of adaptation strategies through active community participation. Several studies demonstrated that local knowledge assists to increase adaptability to changing climates, leading to more effective decision-making, planning and monitoring in areas vulnerable to climate change risks.

That these three key determinants for effective community engagement were found across the three major literatures informing adaptation, then, leads to the

hypothesis that institutional change, local knowledge, and social capital¹⁴ form an inherent foundation for a conceptual framework by which to develop effective community engagement for adaptation.¹⁵ This hypothesis will be tested further by examining the Indonesian literature (Chapter 4) and empirical data informed by field work (Chapters 5-8). However, before moving on to Chapter 4, it is also seen as relevant to review the natural disaster literature for any notions of effective community participation to integrate disaster risk reduction with climate change adaptation. In regard to natural disaster, the term ‘natural’ is used to delineate weather informed disasters in the climate change context from technologically informed disasters like aircraft crashes, nuclear reactor meltdowns, and so forth.

Community participation in disaster risk reduction management for climate change adaptation

Disaster risk reduction (hereinafter referred to as DRR) is defined by the United Nations International Strategy for Disaster Reduction (UNISDR 2005:10-11) as:

The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

The importance of community engagement in DRR is internationally recognised by the UNISDR, particularly through the Hyogo Framework for Action (HFA) 2005-2015 adopted in 2005 just a few weeks after the Indian Ocean Tsunami. The HFA

¹⁴ This order was the result of adding up the preliminary key determinants across the three literatures as presented in Chapter 2 and this chapter.

¹⁵ In relation to the depth of the literature reviewed that supports this hypothesis, the literature was reviewed over a period of one and a half years (of a four-year AusAid scholarship) and comprised in total 123 articles of which 53 were found in the environmental management literature, 34 in the sustainable development literature, and 36 in the climate change adaptation literature. The greater depth of the environmental management literature reflects its status as an older deeper literature with more emphasis on the aspect of community engagement historically. While more literature review might have changed the order of the three variables in any one literature, if we refer to triangulation as authoritative then the findings are authoritative in their order of key variable. Also it is argued the depth of the literature is sufficient given time and space constraints of the research, but also because the key variables easily stand out by way of their number over all the other variables.

underlines the need to ensure community participation to meet local needs by developing and strengthening community-based disaster risk management programs that utilise local knowledge in past experiences of responding to disasters (UNISDR 2005).

The HFA is now seen as a national platform for disaster reduction. It has mandated the establishment of national mechanisms to coordinate and guide disaster risk reduction actions that also include public participation in broad stakeholder engagement. Implementation of HFA projects in the Philippines, for example, was considered successful in terms of effective disaster risk reduction through local development planning and community-based management approaches (Global Network of Civil Society Organisations for Disaster Reduction 2009).

As Ellemor (2005) reinforces, engaging communities to identify and define their own vulnerability and empowering communities to deal with that vulnerability is critical for disaster reduction. On the value of local knowledge for that purpose, this value was also evidenced in the experience of Simeulue Island, Indonesia, where local knowledge about earthquakes and tsunamis helped keep the death toll down to only seven people (UNISDR 2005). Yet another example was the successful application of local community knowledge in Limpopo Province, South Africa, to reduce the risks of extreme floods (Vermaak and van Niekerk 2004).

Van Aalst et al. (2008) point out that public participation in DRR stemmed from the method of participatory risk assessment developed in the early 1980s. It aimed to gather information from communities to foster active participation in the assessment process. Local knowledge and perspectives were sought to better explore ways to solve local problems. In turn, these developments laid the basis for the 1990s phase of disaster relief to consider engagement of affected communities as crucial. With several other catalysts, disaster risk assessment widely accepted the engagement of the grassroots.

Such developments with regard to extreme weather events in disaster risk reduction (DRR) created synergies and logical linkages between climate change adaptation (CCA) and DRR (Mitchell and Aalst 2008; Venton and La Trobe 2008; Schipper 2009; Mercer 2010). Both CCA and DRR seek to reduce vulnerability and building resilience, as advanced in the IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) (IPCC 2012). However, in contrast to the climate change literature, which is more

focussed on reducing vulnerability of future impacts of climate change, the natural disaster literature focuses more on addressing existing risks (Thomalla et al. 2006; Mercer 2010), although recent developments in DRR may be shifting to the focus of CCA. For example, 2013 saw the formation of the Los Angeles County Community Disaster Resilience Initiative in reaction to Hurricane Katrina and other disasters in the recent past that occurred in the US (Plough 2013). It encompasses individual preparedness as well as establishing a supportive social context in communities to withstand and recover from disasters, which includes building psychological resilience. The development of this program was informed by a program of strong community engagement with input of local social knowledge and experiential perspectives (Wells et al. 2013).

Another distinction is where the DRR addresses all types of hazards while CCA only addresses those related to climate change (Schipper 2009). Approaches, organisation and institutions, strategies and funding are also amongst the differences (Thomalla et al. 2006), which pose challenges in integrating CCA and DRR. Mercer (2010), however, argues that adaptation strategies need to adopt more the DRR approach, as all community risk factors are considered (also Pelling 2007; Patwardhan et al. 2009). As such, Schipper and Pelling (2006: 20) contend that ‘both disaster risk and climate change can learn from and strengthen each other by consolidating efforts to reduce effectively risks posed by climate change and natural hazards, which will in turn support sustainable development processes’. Alternatively, Pettengell (2010: 33) argues that DRR ‘is a vital component of climate change adaptation’ and ‘equally, climate change analysis must become a vital component of DRR planning’. Examples of such integration have occurred in Papua New Guinea in local community responses to the risks of floods, landslides and an active volcano (Mercer 2010), and in the Wajir District, Kenya, in response to drought and floods. Both resulted in increased public health (Pettengell 2010).

Additionally, given that climate change is now considered the key global driver of natural disaster risk (UNISDR 2005), adaptation strategies have also fallen under risk management strategies with heightened attention to future uncertainties and effects (Pittock 2005). Some integration of climate change and disaster risk was seen in the Global Platform for Disaster Risk Reduction 2009 with ‘a common goal to reduce disaster risk at all levels and as a means to tackle climate change’ (United Nations 2009a: iii). Moreover, the role of DRR for adaptation was raised by the

IPCC in its Fourth Assessment Report (Parry et al. 2007), and other international agencies (see UNISDR 2005; Few et al. 2006b), as well as in the Bali Action Plan 2007. Integration of CCA and DRR is plausible at the community level because communities cannot discern between the impact of climate change and natural disasters (Gero et al. 2011). This understanding grounds the importance of community participation for integrated climate change adaptation and disaster reduction approaches.

Indeed, nearby Fiji and Samoa have already adopted integrated DRR and CCA projects for health and first aid in flood-prone areas (Gero et al. 2011). In Navua, Fiji, Local Level Risk Management (LLRM), which values relationship building, was also utilised to develop local community understanding on the introduced early warning system for floods through a collaborative approach involving communities, local organisations and governments (Pluut 2006). The LLRM approach incorporated Vulnerability and Capacity Assessment (VCA), which utilises participatory approaches to identify local priorities and the design of responsive community actions (IFRC 2009). The inclusive participatory approach was also adopted to help reduce hurricane risks in the Cayman Islands and in Brazil, to provide long-term adaptive capacity (Tompkins et al. 2008).

Another emergent approach for community-based disaster risk management programs is 'community-based disaster preparedness' (CBDP), which aims to reduce vulnerability, to strengthen adaptive capacity, and to manage disaster. Emerging during the 1980s and 1990s, CBDP responded to the failure of top-down approaches and institutional interventions in addressing specific local needs of vulnerable communities (Walia 2008; ADPC 2011). In valuing local knowledge and capacities for local empowerment, the CBDP utilises local resources (Allen 2006). In a Philippines study, Allen (2006) suggested this approach needs to be implemented under development processes, as the local level in developing countries is relatively weak in resources, and in decision-making, legislative and regulatory powers. This view reinforced calls for disaster reduction raised in the World Summit on Sustainable Development 2002 to integrate disaster reduction and sustainable development (O'Brien et al. 2006). We now turn to looking at participatory adaptation strategies and methods applied in developed and developing countries to inform Indonesian community-engagement adaptation responses.

Existing participatory climate change adaptation practices in developed and developing countries

‘Climate change adaptation is a social process. It is planned, implemented and managed under particular social conditions and is designed to serve particular social ends’ (Gidley et al. 2009: 436). However, as mentioned earlier, such process through anticipatory planning approaches can also aim to be context responsive in taking into account many spontaneous adaptation experiences of the social-ecological dynamics of adaptation (for example, Lebel et al. 2006; Parry et al. 2007; Patwardhan et al. 2009).

Understanding such processes is important in building visioning methods for *prospective participatory futures approaches*. A number of different approaches have emerged, from the large national summit to engagement at the local level. An example of the former was the National Climate Adaptation Summit held in Washington, DC, USA, in 2010 involving users and providers of climate adaptation information (UCAR 2010). The summit aimed to obtain insights on what is needed for effective climate adaptation for implementation from the federal to the local level. Other conferences that engage in similar aspects are the Adaptation Futures Conferences that have run from 2010,¹⁶ and the international CBA or community based adaptation to climate change conferences with the eight one held in Kathmandu, Nepal in 2014.¹⁷

All such forums stress local/community participatory approaches are appropriate and necessary to build the resilience of vulnerable communities through partnership conduits involving government and communities. They enable communities to better understand probable, possible and preferred futures in reflecting upon their adaptive capacity and existing resources (Gidley et al. 2009; Smith et al. 2009). Conduits range from the local citizen summits to dialogic multi-stakeholder and scenario projection workshops to community risk assessments. An example of a citizen summit was held by the Danish Kalundborg municipality (BaltCICA 2011), with 350 citizens in attendance. Dialogue involved presentations, small group discussions, and individual voting on many issues and ideas. Resulting

¹⁶ See: <http://adaptationfutures2014.ccst.inpe.br/about-the-conference/> [accessed 28 April 2014].

¹⁷ See: <http://www.iied.org/cba8-8th-conference-community-based-adaptation-climate-change> [accessed 28 April 2014].

priorities and recommendations were then submitted to the City Council of Kalundborg as policy input for the proposed adaptation strategy of the municipality.

Examples of workshops carried out included those at Christchurch Bay on the Dorset-Hampshire coast of southern England, and at the Isles of Orkney off the north coast of Scotland; both for decision-making in coastal management for climate change (Few et al. 2006a). These deliberative workshops explored local stakeholders' perspectives including those of resident groups, community-based organisations, economic and recreational sectors, local authorities, and regional authorities and public agencies.

An example of the scenario thinking workshop — which aims to build community awareness through gathering the perceptions and ideas of communities in regard to futures adaptation issues — was applied in the Hamilton region, Victoria, Australia, in 2008. Through the workshop, communities engaged in dialogue on different possible futures and the consequences of actions they did and did not do, to contribute to ongoing planning for adaptation (Gidley et al. 2009: 433). This approach followed the learning-based deliberative approach (see Chapter 2 for more detail), applied to assessment of future scenarios. Another Australian workshop included a series of pilot activities conducted in North East Victoria in 2012 (Riedy 2012). The pilot activities consisted of 'Brains Trust' workshops engaging seniors in the community to identify ways to respond to climate change; workshops with grassroots community groups to exchange knowledge and ideas among groups; and a set of fun activities that engaged communities to avoid distress when thinking and dealing about climate change.

In developing countries, the workshop tool seemed dominant at the time of writing this research. One tool is participatory vulnerability and capacity assessment (PVCA) — a disaster risk reduction (DRR) tool that integrates DRR into livelihood programs. It aims to empower disadvantaged people to analyse their problems and suggest their own solutions (Ruiz 2010). Participatory vulnerability and capacity assessment is used to develop a most-likely scenario of future climate change and its impacts on livelihoods (Christian Aid 2009). The process for developing this scenario is carried out in workshops with communities by collecting and analysing information about their vulnerability in regard to climate science on climate modelling and community and local knowledge. This method has been applied in Zimbabwe for farm management (Patt et al. 2005), and also in Honduras, El

Salvador, Bangladesh, the Philippines, the Sahel, and Malawi (Ruiz 2010). It is obvious from these practices that local knowledge plays an important role in engaging communities in adapting to climate change impacts, as well as providing concrete examples of the benefits and effectiveness of integrating CCA and DRR.

Yet another tool related to community-based disaster preparedness is ‘community risk assessment’ (CRA), which has been applied by many NGOs and the Red Cross in Costa Rica, Cambodia, and Zambia (van Aalst et al. 2008). Activities include assessment on hazards, and the vulnerabilities and capacities of communities to them; where not only are climate-related natural hazards identified but so are new risks and uncertainties associated with climate change. Overall, CRA like PVCA is designed to motivate ‘people in the community to change things so that they have more control over their own lives’ (van Aalst et al. 2008: 172). There is also ‘participatory scenario development’ (PSD) for adaptation, which has been applied in Hungary (Bizikova et al. 2009). This method aims to create local responses that integrate development choices, adaptation options, and local capacities. This, in turn, provides a means to take into account a community’s priorities and knowledge in decision-making. The method consists of steps that define the scope of the scenario process, identify significant factors shaping local development, develop scenarios, review scenarios, and build strategies.

Another emergent method is ‘community-based adaptation’ (CBA), which adopts the ‘adaptation as development’ approach (as discussed earlier) (Ayers and Forsyth 2009; Reid et al. 2009; Ayers and Dodman 2010). Similar to PVCA, CBA works at the community level and aims to increase resilience to adapt to current and future climate impacts. CBA utilises a participatory and consultative learning-by-doing approach involving local stakeholders, indigenous knowledge, and technologies in developing adaptation strategies based on building capacity and reducing vulnerability (see also Smit and Wandel 2006; Jones and Rahman 2007; IIED 2011). As such, CBA builds on community priorities, needs, knowledge and capacities, which ultimately empower a community to better cope with climate change impacts (Reid et al. 2009).

CBA-related projects have been carried out in many countries, including Sudan, Tanzania, Uganda, Zambia, Malawi, Kenya, Zimbabwe and South Africa (IIED 2011). A good example of CBA occurred in the mid-2000s in the Gaibandha District of Bangladesh where communities worked with an NGO to grow food on

flooded land by utilising community-led identification and prioritisation of natural resource management options and technologies (Ayers and Forsyth 2009). The latter highlighted effective use of local knowledge in designing adaptation measures at the community level. In Central Vietnam, the Community-based Adaptation to Climate Change (CACC) project was initiated to enhance resilience to severe climatic hazards such as typhoons, floods, droughts, forest fires and landslides that frequently hit the area (Shaw 2006). The project utilised participatory approaches early in the planning stage, which involved leaders of mass organisations, district government officers, and representative community members. The district government was involved to ensure that the plans were officially approved and mainstreamed into development plans. Similarly, participatory approaches were implemented in Buccoo Reef Marine Park in South West Tobago to better respond to coastal changes due to climate change (Brown et al. 2001).

In 2006, UNDP under the GEF Strategic Priority on Adaptation initiated CBA pilot programs in Bangladesh, Bolivia, Samoa and Niger (Uitto and Shaw 2006).¹⁸ In addressing the differences in climate impacts in each country, the programs were designed to fit each local situation. In Niger, for example, food production through watershed management and water resource management was the focus, as food security was a major concern for a drought-prone area. By way of contrast, in the low-lying coastal countries of Bangladesh and Samoa, the focus was on protecting freshwater supplies from seawater intrusion. Communities were involved in the monitoring and evaluation so that the goals, strategies and indicators of the programs aligned to their own interests.

Another CBA project in Samoa aimed to enhance the adaptive capacity of the community in Fasito'otai and reduce the vulnerability of the mangrove and coral reef ecosystem to climate change impacts (Gero et al. 2011: 109). The project applied a village-based approach that employed local knowledge and experiences under the direction of a community leader, which gained the acceptance of the project by the community. In Thailand, CBA in farming practices also utilised a participatory decision-making approach in providing education on potential climate change impacts. This helped communities identify appropriate farming practices to

¹⁸ The Global Environment Facility (GEF) unites 182 member governments — in partnership with international institutions, nongovernmental organisations, and the private sector — to address global environmental issues. UNDP is one of the partners in implementing GEF projects (GEF 2010)

adapt to these impacts by designing their own on-farm water management systems (Anuchiracheeva and Pinkaew 2009). Similar approaches were applied in the Congo and Sri Lanka where farmers were involved in designing strategies to strengthen their capacity to respond to climate risks (Berger et al. 2009; GEF 2009). Also in Ecuador and Bolivia, where locally led learning engaged farmers for climate change resilience (Sherwood and Bentley 2009). Here, the approach included process design and curriculum development. Farmers shared experiences and identified ways to improve agricultural practices through group problem-solving.

Overall, Swalheim and Dodman (2008) sum up the advantages of CBA. Through CBA, local communities develop and ‘own’ the process of adaptation starting from identification of their own vulnerabilities and needs. This leads to better local definition of the problems and development of solutions tailored to local conditions, and implementation of actions. An example of successful CBA was the application of floating gardens (*baira*) in Bangladesh, which responded to increased flooding. The gardens were easy to build and the materials were freely available as they are locally abundant and recyclable. In utilising local resources, CBA is also efficient and cost effective as it utilises local resources. However, it has been found that CBA can only succeed if there is long-term and collaborative partnership with local government. Along such lines, grassroots participatory adaptation approaches and methods are emerging widely in many developing countries in adopting a combination of ‘learning-based’ participation approaches and deliberative participatory approaches. That said many challenges confront inclusive public participation for adaptation.

Challenges to inclusive public participation in climate change adaptation

Despite its benefits for communities and decision-making, public participation in adaptation also presents several challenges, particularly for anticipatory strategies, which are somewhat problematic in practice and build on earlier criticisms of participatory approaches mentioned above. In a research project in the coastal zone of the UK, Few et al. (2006a) found there was one impediment influenced by the level of participant knowledge and understanding on future possible climate impacts, as well as on scientific and technical uncertainties about how to adapt successfully. Complementing this was a lack of detailed climate change information and top-

down communication to the community level, which has been found to lead to the rejection of proposed programs by communities, or to hinder the participation of communities (Ayers and Dodman 2010). Another problem was top-down resistance to enhanced participatory approaches; which typically embraced an expert-driven policy style of environmental management. Further complicating shifts to stronger social inclusion in decision making were disparities in, and competition between, agencies and local actors' interests (Few et al. 2006a).

Turning to challenges found in community-based adaptation (CBA), many projects do not utilise future projections as suggested by the IPCC. Instead, they only respond to existing impacts; thus CBA may not currently suffice to prevent future impacts of climate change (IISD 2009), or build up enough community capacity to adapt to them effectively at the local level or on a broader spatial scale.

To meet such challenges, an important component of participatory design is how participatory approaches for adaptation projects need to be made practical for the local community. A number of researchers provide substance for such design (for example, Marchi and Ravetz 2001; Spash 2001; Kemp and Loorbach 2003; Meadowcroft 2004; Few et al. 2006a). Their collective suggestions include the following key points, which tend to align to many studies found in the broader literature (as traversed in Chapters 2 and 3):

- All actors should be involved in framing the issue being considered, as this allows for the inclusion of local knowledge and concerns. 'Actors' include communities, government, NGOs and experts, and other interested parties relevant to programs;
- The process of engaging actors should be transparent, and the results of the process open for public scrutiny and accountability;
- Scientific or expert information should be assessed in terms of quality, relevance and limitations, and considered along with other information including community values, local experiences and knowledge, cultural norms, social organisation, and ethical beliefs and attitudes;
- Information should be openly provided and widely accessible from the very early stages of projects, and also be available in formats or languages understandable to everyday citizens;

- The conduct of a participatory process must be carefully specified in terms of purpose; the representative characteristics or diversity of actors; appropriate procedural rules including the treatment of dissent; expected outcomes; and quality assurance of the outcomes. These aspects strive for representativeness, legitimacy and accountability, and are considered essential for the success of the participatory process;
- Trust should be built among stakeholders so that their deliberative capacities are effective and equitable;
- The deliberative engagement of all actors should be enhanced through exchanging views, equitable debate, and interactions, which strive for a collective solution to problems;
- The outcomes of the process should be connected to the institutional context of the problem, and recommendations should form part of the policy process; and finally,
- Existing systems need to be gradually transformed by adding new elements, particularly to address specific problems.

Conclusion

It is clear that the literature on community engagement in sustainability and climate change adaptation supports inclusive community engagement to inform effective adaptation strategies within three overarching themes: (a) existing community participation practices in environmental management, disaster management and/or climate change adaptation; (b) enhancing community participation practices; and (c) key determinants for effective community participation.

It was found that diverse and wide participation of relevant actors is considered necessary to create a shared responsibility or ownership of the problem and solution; to ensure transparency; and to build broad consensus as a basis for developing appropriate policy instruments that address, build on and further the development of sustainable environmental management goals (for example Fokkema et al. 2005), including adaptation strategies. That said, the level and scope of participation of communities — and its effectiveness to positively contribute to management strategies at the local level — was found to depend on access,

experience and knowledge of the public to contribute to management strategies, adequate exposure of communities to relevant information, and their active involvement in discussion and debate within participatory processes. Mentioned prominently in the latter were ‘learning-based’ participation and deliberative participatory approaches. It was also clear that adaptation in itself provides a strong argument and justification for a paradigm shift of community engagement from overly passive observation to active inclusion in decision-making processes for adaptation programs at the community level, which was also aligned with the notion of ‘adaptation as development’ to sit in the sustainable development trajectory.

Overall, in Chapter 2 and this chapter, stronger community engagement was seen to increase the effectiveness of sustainable development, environmental management, disaster risk reduction and climate change adaptation. For example, relying on adaptation alone to respond to climate change without considering the broader contexts of environmental management and sustainable development inadvertently invites flawed adaptation or ‘maladaptation’. This convergence of overlapping fields of socio-environmental endeavour or management then informs the hypothesis that institutional change, local knowledge, and social capital are the key preliminary determinants of effective community engagement for a conceptual framework by which to develop effective community engagement for adaptation in Indonesia. This hypothesis will be tested by (a) the Indonesian literature on community engagement particularly with regard to environmental management and adaptation (presented in Chapter 4) and (b) the empirical data informed by fieldwork (presented in Chapters 6-8). Given this local Indonesian context of knowledge and review, these criteria and their status may be changed or modified. I now turn to Chapter 4.

Chapter 4

Community Participation in Indonesia

This chapter follows on from concepts about and developments in community participation internationally, as discussed in Chapters 2 and 3, and now focuses on Indonesian literature that addresses community participation. This focus aligns with Aim 1 of the thesis, which is to identify and analyse existing community engagement policies and practices in Indonesian environmental management and climate change adaptation policy and actions. What exists in Indonesia today, and what Indonesia has experienced in the past, must both be understood if we are to effectively devise pathways to the future. Therefore, past and existing community engagement policies and practices need to be analysed for their cultural and political substance, and their potential for building effective community engagement in relation to adaptation. The chapter comprises five sections: the nature of community participation in Indonesia; coastal community characteristics; history of community participation in environmental management in Indonesia; existing environmental management practices of community participation; and an overview of climate change adaptation policies and actions in Indonesia.

Section 1: The nature of community participation in Indonesia — the rise and fall of democracy in Indonesia

To provide an understanding of the nature of local community participation in Indonesia, this section discusses the historical and political context of democracy in Indonesia, which sets the stage for laying a foundation for community participation in adaptation. However, we begin with Robert Dahl's seminal view that public participation in terms of freedom of expression and right to vote are among the necessary conditions for democracy (Dahl 1971: 2-3). While Dahl's view informs the USA and Western societies, it points out that in the context of community participation; analysis on the community characteristics of any country reflects the type of democracy that country adopts. This is important to understand in the contemporary development of effective community engagement for adaptation.

Four major political periods have significantly influenced Indonesian society, which, in turn, reflects the characteristics of Indonesian communities at the local level and their democratic scope for public participation (hereafter, any mention of ‘Indonesian society’ in this chapter also relates to Indonesian communities at the local level). First, there was the pre-Dutch colonial era (pre-1600). Following that was the Dutch colonial era (1600~1965). Next came the period of 1965-1998, which featured decolonisation and the two ‘orders’ — the Old and New Orders — of centralist government under Presidents Sukarno and Suharto, respectively. Finally, from 1998 to the present time, is the so-called ‘reformation’ period, which has significantly enhanced and reshaped contemporary participation.

Pre-Dutch colonisation

This section describes the characteristics of Indonesian communities before the Western influence on Indonesia, marked by the arrival of a Dutch trading expedition in 1596 (for example, Drakeley 2005). As the fourth most populous country in the world, Indonesia, with a population of around 246 million (July 2011 estimation, CIA f2011), is situated just south of the Equator between Asia and Australia. Of some 17,000 islands, 6000 are inhabited and reflect significant cultural diversity with over 1000 ethnic groups (Suryadinata et al. 2003). This diversity was significantly shaped by topography: differences in altitude within the archipelago resulted in highland communities having a culture substantially different from that of lowland ones. In addition, significant cultural differences existed between coastal and mountainous inland communities (Hellwig and Tagliacozzo 2009). Cultural diversity was also influenced by trade with India, Persia and Arabia (Geertz 1963; Koentjaraningrat 1975; Hellwig and Tagliacozzo 2009), from which Geertz (1963) ascertained another three features of Indonesian society: first, inland communities were strongly influenced by Hinduism; second, trade-oriented coastal communities were strongly influenced by Islam; and third, mountainous tribal groups remained pagan due to inaccessible terrain, which prevented religious conversion. These developments also highlighted that coastal cultures had much in common due to iterative contacts among them, while interior regions were more diverse due to inaccessibility because of tropical forests and mountainous regions. Isolation thus

saw much less contact and cultural influence occurring between interior tribes (see also Koentjaraningrat 1975; Wertheim 1979; Hefner 2001; Drakeley 2005).

Before the influence of external civilisations, many fundamental commonalities evolved among most Indonesian communities as they came from one ethnolinguistic group, Austronesia,¹⁹ as well as having shared similar geographical and natural backgrounds (Koentjaraningrat 1975; Naim 1994; Taylor 2003; Szczepanski 2013). They were also highly influenced by Hinduism, which provided ‘a further basis for cultural similarity over much of the area’ (Geertz 1963: 5). Some distinctive commonalities existed in livelihood, for example among peasants, hunter-gatherers, or fisherpeople; and in social structure, for example among communalistic groups such as tribes and kinship groups. The last included communalism with *gotong royong*, which refers to spontaneous mutual cooperation to serve the common good and fulfil life necessities (Koentjaraningrat 1961; Sullivan 1992; Naim 1994). In turn, Bowen (1986: 546) described *gotong royong* as a harmonious social relationship among Indonesian communities where ‘labour [was] accomplished through reciprocal exchange, and villagers [were] motivated by a general ethos of selflessness and concern for the common good’. The communalistic life was ruled by an oligarchic system where power was held by community elders (Soemardjan et al. 1993; Naim 1994); and although *gotong royong* originated as a Javanese expression, it is widely perceived as a cultural element of Indonesia (Bowen 1986).

Traditionally, Indonesian states were controlled by an autocratic king. The kingdoms provided a framework of peace and protection from other kingdoms, as well as spiritual protection in terms of preserving harmony between ‘heaven and earth’ (Drakeley 2005). Nevertheless, indigenous Indonesian society also demonstrated democratic tendencies, particularly at the village level (Hatta 1966). Indeed, villages were considered autonomous and local democratic systems featured customary laws (Hatta 1966; Soemardjan et al. 1993; Naim 2000). An example of such local autonomy was found in customary law mediating cooperation in regulating complex irrigation systems (Drakeley 2005). Another example of local autonomy was found during the time of the Majapahit Kingdom (1293 to around

¹⁹ Austronesian peoples arrived in Indonesia around 2000 BCE and spread through the archipelago. This massive migration pushed the indigenous Melanesian peoples to the far eastern regions (Taylor 2003).

1500), with decisions made by local subordinates and endorsed by the ruler (Chalmers 2006).

Consultation was also common in Indonesian society (Hatta 1966; Noer 1977). Through consultation, the general interests of communities were first considered by community members and then decisions were taken through consensus building procedures in village meetings chaired by the village head. Every adult had the right to attend the meetings. ‘Village democracy’ also featured the right of people to question any of the King’s regulations that were seen as contestable, for example, as unjust, as well as the right to decide the community’s own fate (Hatta 1966: 20).

Hatta (1966: 5) argues that such evidence implies that ‘democracy has its roots deep in [Indonesian] society’. Such evidence with regard to community participation also appears to align with Mulligan and Nadarajah’s (Mulligan and Nadarajah 2008: 87) (Western) notion of community participation as ‘the process of working collaboratively with groups of people affiliated by geographic proximity, special interest and/or similar situations to address issues affecting the well-being of those groups of people’.

Concomitantly, the style of village democratic trends, according to Naim (1994: 3), were of two types, reflecting the influences of Hinduism and Islam (see also Taylor 2003). On one hand, Java, which always had a large population (today, it is nearly 42% of the population (Heriawan 2006)), was exposed to 15 centuries of Hinduism, with the resulting Java-Hindu culture centralistic or centripetal, and feudalistic. The kings and queens of Java had absolute power while the populace (termed in Javanese as *kawula* or servant) was subservient to their commands. By way of contrast, in Islamic-influenced regions, royal ascendancy was more a symbol for the unity of autonomous villages. Other regions called ‘Melayu’, which included the Bugis of South Sulawesi and the Minangkabau of West Sumatra, instead featured a strong Islamic culture, which was decentralist, egalitarian and democratic. These two main streams, as described by Naim (1994), then polarised the myriad Indonesian cultures into local Javanese and Melayu democratic patterns.

The Dutch colonial era (1600~1965)

In the Dutch colonial era, governance followed the ‘autonomous system’. Regions and villages were autonomous and controlled by customary laws or *adat* (Naim 2000). This decision by the Dutch reflected a strategy of *dividé et impera* or ‘divide and rule’ to reign over the vast landscape of Indonesia. This reflected the inability of the Dutch to directly organise Indonesia under a tighter system of control (Soemardjan et al. 1993; Naim 2000). More specifically, *dividé et impera* was a policy through which the Dutch tried to break the unity of the local communities by separating Indonesia into states (Darmaputera 1988; Gouda 1995). At the local scale, the Dutch administrator ‘instituted indirect rule, exercising control over the most senior *adat* heads in each area, while leaving the villages and the people in the rural areas to manage their own affairs’ (Soemardjan et al. 1993: 8). This strategy remained in place until Dutch control collapsed during the Second World War due to Japanese occupation. With the surrender of the Japanese in August 1945, Indonesian nationalists declared independence (Naim 2000).

From 1945 to 1959, Indonesia introduced parliamentary democracy (see also Drakeley 2005). Indonesia’s first general election was held in 1955. Democratic procedures fostered fair process, free of government influence. In turn, Feith (1962) posited that several features of constitutional democracy had occurred during this parliamentary democracy period. They included the dominant role of civilians, very rare violations of civil freedoms, and government power used moderately. However, President Sukarno, the first president of Indonesia (from 1945 to 1965), became discontented with this adversarial Western-style system, which he considered spawned a diverse and fractious country (Hatta 1966). In 1959, through Presidential Decree, Sukarno established an autocratic system called Guided Democracy (*Demokrasi Terpimpin*) (Hatta 1966; Drakeley 2005). This marked a significant turning point for Indonesian democracy. The new style featured a centralist single leader and ‘guide’ for the Indonesian traditional way of mutual cooperation: the *gotong royong* approach of fostering deliberation and consensus-making that characterised harmonious traditional Indonesian society in serving the common good and fulfilling life necessities (Hatta 1966). In 1965, Suharto (a Major-General in Indonesia’s security forces) wrested power from the conservative, highly criticised ‘left leaning’ Sukarno (e.g. Crouch 1978) and subsequently became Indonesia’s

second president (1967-1988). Guided Democracy was replaced by Pancasila Democracy, and the period within which it thrived was called the 'New Order' in nominating the era of Sukarno's rule as the 'Old Order'.

Democracy during the 1965~1998 period

The name of the government may have changed, but governance remained similar to the authoritarianism of the Guided Democracy period. Although the system was also labelled a type of 'democracy', Pancasila Democracy was manipulated by the New Order regime to rebuild national culture 'from above' (Chalmers 2006). The term 'Pancasila' refers to its constituent Five Principles as a sole national ideology legitimising state authority over the people, as a framework to govern social relations (Bourchier and Hadiz 2003; Chalmers 2006). Such control meant that no space existed for opposition and contestation within society, and between society and the state (Aspinall 1996; Bourchier and Hadiz 2003). The five principles were (i) belief in the one and only God, (ii) a just and civilised humanity, (iii) the unity of Indonesia, (iv) democracy guided by the inner wisdom in the unanimity arising out of deliberations amongst representatives, and (v) social justice for all the people of Indonesia.

Centralism, autocracy, totalitarianism, nepotism and despotism all described the characteristics of the New Order regime in its positioning of the populace as subservient, just like the Old Order regime (Naim 2000; Wibawa 2008; Bunte and Ufen 2009). Also like the Old Order regime, the New Order regime argued the need for centralist government; this was premised on the need to unite the nation and counter post-independence instability due to the growth of armed separatist groups. The national government also claimed that it was necessary to ensure 'all powers emanated [from Jakarta] and [were] channelled to all the regions of the country' (Soemardjan et al. 1993: 9).

Subsequently, standing behind the argument for a unity of the highly diverse *adat*-based villages, customary law and village-level representation at the local level was increasingly replaced by centralised, feudal-paternalistic and government-formed institutions (see also Wibowo and Nogi 2004). In the term 'feudal-paternalistic', 'feudal' referred to traditional Indonesian (or Javanese) culture that enforced the right of the ruler to be honoured, served and obeyed (Basrowi 2005).

This also embraced the traditional view of ‘paternalism’ — that elders must be respected as more capable in all aspects of life: socially, culturally, economically and politically (Wibowo and Nogi 2004). In this schema, *gotong royong* was manipulated as a central strategy for national development. Communities became mobilised through government overtures to this concept to provide volunteer labour, building materials, and money for the government budget (Bowen 1986; Okten and Osili 2004). In this context, *gotong royong* became regarded as community participation for development (Bowen 1986).

Overall, ‘the people’ were perceived as a ‘floating mass’ who needed firm guidance from government (Mulder 1996: 155). They were not expected or allowed to take part in decision-making related to their welfare. The overall result was that under the Old and New Order regimes of more than 30 years duration, Indonesian society shifted from a society featuring strong solidarity and social cohesion, to one of individualism, apathy and materialism (see Naim 2000). Indeed, Bourchier and Hadiz (2003) argue that the role of the government was too great while the role of society was too small. This saw military domination of social and political life; and tight restriction on the press, which limited public debate, as well as notable corruption (Bourchier and Hadiz 2003; Drakeley 2005).

Democracy in the reform era (1998~present)

Sparked by the 1997 Asian crisis — which highlighted increasing government corruption, growing dissatisfaction with Suharto’s rule, and pushes for democracy — massive demonstrations were triggered throughout Indonesia in 1997 and 1998. Given the growing political and economic instability, the New Order regime finally collapsed and Suharto resigned. His immediate successor (1998-1999) was Vice-President Bacharuddin Jusuf Habibie, who quickly began a reform agenda, which included improving the relationship between state and society to revive sovereignty to the people and allow a far more liberal political regime (Naim 2002; Bunte and Ufen 2009).

A centrepiece of the new regime was to decentralise power by entrusting autonomy to regions under the 1999 Regional Autonomy Law (Law 32/2004), except for powers of security and defence, foreign policy, monetary and fiscal matters, and justice and religious affairs (Usman 2002). This was the first step in

allowing Provinces to have more power in governing themselves. It was designed to revive democracy and also the participation of communities in all developmental aspects. Local governments at city and district levels were also given autonomy to manage the interests of local society, and were no longer compelled to report to the provincial government (Siry 2006). Decentralisation thus aimed to allow participatory, transparent, responsive and accountable policy making process (Wibawa 2008). The law also clearly provided greater opportunity for local communities to manage themselves and be involved in decision-making (Hadiz 2004).

Nevertheless, the ultimate objective of the regional autonomy has been difficult to achieve given that remnants of the authoritarian New Order resist and undermine change. As such, the quality of Indonesia's young democracy still remains weak and in transition, as poorly organised communities and civil society have only made slight impact on government policies (Usman 2002; Bunte and Ufen 2009). However, decentralisation is promising better participation of local communities with the Regional Autonomy Law informed by principles of democracy, community participation and empowerment, equity and justice, recognition of the potential and diversity within regions, and the need to strengthen local legislatures (Usman 2002: 1).

In view of the prolonged domination of New Order indoctrination, its philosophies have become deeply rooted in daily life and Indonesian culture. In the context of strengthening democracy, therefore, there is a question about whether Indonesian traditional features of *gotong royong* – fostering deliberation, collectivism and consensus-making effectiveness – can still effectively contribute to decentralisation, and ultimately more-effective community engagement for adaptation. To answer this question, the next section discusses in more detail the Indonesian cultural context of community participation.

The cultural context of community participation: the Indonesian case

According to Mostert (2003), culture plays a pivotal role in determining effective methods for community participation because culture is intricately connected to social behaviour that influences certain types of participation over others. But what exactly is 'culture'? 'Culture', according to Hofstede and Hofstede (2005: 2), is a

social phenomenon that involves ‘patterns of thinking, feeling, and potential acting’. Similarly, Faure and Rubin (1993: 3) argue that culture involves beliefs, ideas, language, customs, rules and family patterns that are established and shaped by the social environment, and which characterise societal behaviours.

In exploring cultural differences for insights into the role of culture in the Indonesian context, studies by Hofstede and Hofstede (2005) are particularly useful as well as those by Mostert (2003). They found that culture exerted an indirect influence on community participation through socio-political systems adopted in any culture and the degree of democracy of those systems. Hofstede and Hofstede (2005) identified four relevant dimensions of national cultures that assist ‘in dealing with the differences in thinking, feeling, and acting of people around the globe’: (a) social power distance (in relation to authority); (b) collectivism or individualism; (c) gender regarding masculine versus feminine (or ‘assertive’ versus ‘modest’ behaviour is implied); and (d) uncertainty avoidance (which refers to feeling threatened by unknown situations). Hofstede and Hofstede’s study was conducted during the late 1960s to 1980 and involved 74 countries in assessing the responses of different cultures to these dimensions during the autocratic rules of the Old and New Orders.

For the dimension of social power distance, Indonesia was ranked 15th, which suggested that Indonesia has high power distance (Hofstede and Hofstede 2005), and reflected that communities were reluctant to disagree with autocratic government. This finding arguably also reflects a residual condition of Indonesian society post the New Order regime to actively grasp new democracy. This suggestion implies that public participation is still difficult to embrace and regulations are needed for its introduction (Mostert 2003). However, the extent to which this condition had changed since 2003 was examined in the fieldwork study of interviews with key policy actors regarding public participation, as discussed in Chapters 5 to 8. As a prompt to introduce stronger democracy in Indonesia in the contemporary era, Mostert (2003) suggested that public participation might be better accommodated through local institutions. That suggestion aligns with the hypothesis presented in Chapter 3, of need for institutional change as a key preliminary determinant for effective community engagement.

Unlike the power distance, Indonesia ranked low in the individualism index (Hofstede and Hofstede 2005), which signals that Indonesians are relatively

collectivist. This would align with the Indonesian traditional way of mutual cooperation or *gotong royong*. For the gender dimension of ‘masculine’, the study revealed that Indonesia has a more ‘feminine culture’, which indicates a non-assertive and non-competitive culture. In feminine cultures, as suggested by Mostert (2003), consensus-building methods may work well for participation exercises. However, this raises the question of whether this method can work effectively in the non-assertive culture of Indonesia, given the lingering effects of its centralistic and autocratic history, which discouraged people from expressing their views actively. The views or ideas of participants may remain reserved. In turn, in participatory exercises such reservations may lead to ‘pseudo-consensus’ decision-making where the basis of the decision is introduced and then becomes decided by government or other parties outside a community. Similarly, Indonesia ranked low on the uncertainty avoidance dimension. Low levels of uncertainty avoidance refer to ‘lower’ cultural expressiveness where ‘aggression and emotions are not supposed to be shown’ (Hofstede and Hofstede 2005: 171). This, Chalmers (2006) contended, was the case for Indonesia and was most likely driven by the oppression of the Old and New Order regimes. In this context, the only cultural dimension of Indonesia that appears highly supportive of any community participation notion is collectivism, which also can refer to social capital (see Chapters 2 and 3). However, this may not be sufficient to provide effective opportunities for community participation.

Summary: Opportunities for community participation in Indonesia

The political periods outlined above are important signifiers of the ‘democratic’ characteristics of Indonesian community, as are cultural aspects. In the early history of Indonesia up to the colonial and post-colonial era of 1959 when rule by Presidential Decree emerged, autonomous, democratic, collective *gotong royong* depicted Indonesian community. From the Old Order to the New Order, centralism, feudal-paternalism and authoritarianism dominated the country. The reformation era which followed is still ongoing (at the time of writing) and marks the reawakening of regional autonomy. Each of these periods has thus come to represent a distinct chapter in the political and social life characterising Indonesia, particularly, here, with regard to community participation.

Regardless of all the changes in political regimes, the long-held Indonesian traditional community characteristics of democracy, collectivism and *gotong royong* have endured. Now, in the reformation era with trends towards regional autonomy, opportunity for stronger community participation in Indonesia has unfolded once again. This opportunity is strengthened by community-level government administrative organs called *rukun tetangga* (RT) — literally meaning ‘harmonious neighbourhood’, and *rukun warga* (RW) or ‘harmonious residents’, where the RW comprises several RTs. In the New Order era the RT and RW were government extensions to control the social and political life of communities at the grassroots level (Fernandez 2008; Sudarmo 2008; Aoer 2009). This changed in the reformation era, post-1997, when RTs and RWs were transformed into community-based institutions to voice community aspirations in governmental decision-making processes, which increased community awareness of democracy (Antlov 2003). Since then, they have significantly helped governments to better enable community wellbeing with regard to social, prosperity and security aspects (Sullivan 1991).

The heads of the RT and RW neighbourhood associations, which usually comprise 20-100 houses, are elected from and by a community on the basis of a popular vote and with acknowledgement by the local government. In addition, as neighbourhood associations and cooperatives are common in Indonesia (for example, Sullivan 1991; also Soemardjan et al. 1993),²⁰ social capital appears relatively high in the Indonesian context. Indeed, social capital has been found to be another preliminary determinant of effective community engagement, as reported in Chapters 2 and 3. As such, these institutions could provide a foundation for consensus-building participatory actions. Again, the need for appropriate institutions for participatory actions was particularly advanced by Putnam et al. (1993) and discussed in Chapters 2 and 3.

In exploring the potential of social capital for community participation in the Indonesian context — regardless of the status of democracy at any one time in the country’s history — the role of customary law, or *adat*, must be considered. In the context of cultural diversity, which also augments the opportunity for a participatory approach, Soemardjan et al. (1993: 8) wrote, ‘*adat* encapsulates the way of life of a village community that has developed over the centuries and in the context of

²⁰ Cooperative activities in Indonesia are managed nationally under the Ministry of Cooperative and Small and Medium Sized Enterprises Affairs.

communal interests within a specific territory'. Soemardjan et al. (1993: 8) further outlined that *adat*

governs relationships between the individual and the community ... It determines the responsibilities of parties in inter-individual and inter-group relations. And it serves as a legal basis for relationships between the community (or an individual) and the land.

This suggests that the role of *adat* as practised today in most cultures in Indonesia signals a highly appropriate avenue to strengthen community social capital. Moreover, although *Pancasila*, or the Five Principles, lost its legitimacy as an authoritarian rule of the Old and New Order regimes and is now perceived as being irrelevant to the reformation era (Hood 2012), it still serves as a philosophical foundation of the Indonesian state and could also lead to strengthening social capital. Reinforcing this argument are Kearns and Forrest (2000), who assert that common values and culture, as evident in *Pancasila*, enable the identification and development of common objectives. These include economic, social and environmental standards to guide communities in building social interactions and networks for collective action, such as adaptive capacity for climate change.

Following the reformation era, the opportunity for stronger engagement of communities in the decision-making process was broadened by the establishment of the local government Community Empowerment Board (referred to in Indonesian as *Lembaga Pemberdayaan Masyarakat* or LPM). Found at the district and local village and community levels, the LPM serves as another means to strengthen community–government relationships in terms of governance, development and community prosperity (see, for example, Pemkot Bandung 2005).

Finally, the implications of the cultural findings for public participation in Indonesia tell us that the challenges require considerable efforts; however, current decentralisation efforts provide promise. We now move onto Section 2, which discusses the social characteristics of Indonesian coastal communities. Exploration of these characteristics provides better social understanding of local communities as the basis for evaluating and suggesting appropriate participatory strategies at the local coastal community level for building climate change responses like enhanced adaptive capacity.

Section 2: Social characteristics of Indonesian coastal communities

Limited social studies, particularly in sociology, have been conducted at the Indonesian coastal community level, despite Indonesia being a well-known maritime country with some 65 per cent of the population located in the vicinity of the low-lying coastal zone (Sukardjo 2002), and dependent on this zone economically and socially (CIFOR 2006; Bappenas 2008a). Nevertheless, Satria (2002) provides some guidance, which is referred to by many Indonesian scholars discussing this topic. It is therefore also referred to in depth in the following section, complemented by other literature related to community sociology studies.

Indonesian coastal communities are characterised as isolated rural coastal communities and rural coastal communities (Satria 2002), which also appears to reflect the characteristics of ‘little community’ (Redfield 1960). The former are found on many small islands dotted along the coastline. The latter are found on the main islands of Indonesia. This study focuses on the latter as the majority of inhabited coastal areas are in the main islands (94.5% of Indonesia’s population live in six main islands) (BPS 2010a). The most numerous rural communities are relatively modernised and urbanised under the impact of various development initiatives (for example Soemardjan et al. 1993). Tönnies’ community theory about the historical shift from rural to urban communities, as also discussed in Chapter 2, is relevant to this context. The Indonesian case is augmented by Hofstede (1991), who discussed the modernisation of rural Indonesian communities and the social urban interaction among community members. At the same time, most coastal communities are quite poor (Hidayah and Purba 2001), and account for 25 per cent of the total poor people of Indonesia (Yus 2011).

‘Little community’, in characterising the Indonesian coastal communities, can be seen to have four meanings: (a) the community has distinctiveness articulated through group-consciousness of the community members; (b) the size of community is small; (c) it is homogenous — all members have very similar activities and awareness of community matters and values and beliefs and the same occupation is handed down over generations; and (d) it is self-sufficient in that it consumes what it produces. Such characteristics also appear to reflect Fisher et al.’s (2002: 4) explanation of ‘locality-based’ community as characterised by interpersonal ties

among community members residing in the same geographic area or place. Adding to the understanding of ‘community’ is Dalton and Dalton’s (1975: 2) idea that community is ‘a relatively homogeneous human group within a defined area, experiencing little mobility, interacting and participating in a wide range of local affairs, and sharing an awareness of common life and personal bonds’ (cf with Colclough and Sitaraman 2005). This type of community typically has a strong ‘sense of community’, which refers to a sense of belonging to and identifying with a community, and acts to signify the commitment of community group members. This definition also aligns with Carr’s (2002) ‘sense of place’ and ‘sense of community’ principles of public participation. These principles suggest that communities with a strong sense of place and community seek greater involvement in decision-making processes related to an environmental cause that affects their community and/or place. That said the social characteristics of Indonesian coastal communities, as discussed here, appear to converge with Western understandings of ‘community’ as discussed in Chapter 2. These characteristics then well contribute to an inherent foundation for a conceptual framework by which to develop an effective community engagement for adaptation approach in coastal communities in Indonesia.

We now move to the following section, which further probes the Indonesian history of community participation in environmental management, which is the management ‘envelope’ within which climate change adaptation management is found (as stressed in Chapter 2).

Section 3: History of community participation in environmental management in Indonesia

With environmental problems becoming more noticeable, just as in the West, including industrial pollution, forest degradation and wildlife decimation, the ground was also laid for the environmental movement in Indonesia to emerge in the 1970s (Thorburn 2002). However, the rise of environmental awareness in Indonesia, particularly with regard to wildlife conservation, actually emerged earlier, in the mid-1960s when the World Wildlife Fund (WWF) started its conservation activities for Ujung Kulon National Park (Ahmad 2006). Awareness about the need for conservation continued to grow with student environmental societies in some prominent universities. The formation of these societies was also an implicit way for

students to challenge unfavourable political conflicts and intrigues during the Old Order regime (1959-1965), which tended to ignore social justice and environmental protection. Environmental degradation was particularly accelerated by President Suharto's focus on ameliorating Indonesia's economic situation which had collapsed during Sukarno's reign (Gordon 1998). Massive exploitation of natural resources became the rationale to boost economic development. One significant consequence was that by the late 1980s, Indonesia had lost its forests by nearly one million hectares every year, leading to the increased area of critical land (Dauvergne 1994).²¹

At the same time, from the mid-1970s, environmental issues had come to be considered important, and a part of development plans, although a minor part at this time of strong development (Boardman and Shaw 1995). However, this in turn engendered a growing commitment to protect the environment in Indonesia, which had been triggered in the first place by the 1972 United Nations Conference on the Human Environment held in Stockholm. This had been particularly the case as a follow-up of the government's submission to the meeting on the state of Indonesia's environmental protection. The establishment of Country's General Principle (*Garis-garis Besar Haluan Negara*) in 1973 followed, as one foundation for the formulation of the Second Five-Year National Development Plan (1974-1979) and subsequent plans. This commitment was followed by the Third Five-Year Plan (1979-1984), and further influenced by rising national and international interest on environmental issues (Boardman and Shaw 1995). Nevertheless, environmental issues and protection were still perceived as a secondary priority after economic development.

All in all, environmental management endeavours within the post-Stockholm period represented initial steps to consolidate the country's political will in preparation for articulating the Stockholm conference resolutions. These steps laid the groundwork for establishing institutions designated for environmental affairs as well as the formulation of related Acts, laws and regulations. These were initiated after 1976. The first environment ministry was established in 1978 (Gordon 1998;

²¹ Critical land is defined as land unable to function productively, including its water absorption function (Indonesian Government Law No.76/2008 concerning Forest Rehabilitation and Reclamation).

MOE 2011b). Over the following years, the environment ministry underwent several restructurings until it became the State Ministry of the Environment (MOE).

During its first years of operation, MOE, through its first Minister, Emil Salim, cultivated support from environmental NGOs. This led to the establishment of WALHI (*Wahana Lingkungan Hidup Indonesia*), the Indonesian Environmental Forum, in 1980 as a national umbrella organisation for environmental NGOs (Gordon 1998; Thorburn 2002; Ahmad 2006). Up to this day, WALHI serves as a forum for environmental NGOs for information exchange and to establish cooperation for collective endeavours (Ahmad 2006). Within the same period, MOE also produced the landmark Environmental Management Act 1982 (MOE 2011b).

Indeed, by 1980, environmental NGOs had become quite a pressure group (see for example Eccleston and Potter 1996; Harwell 2000; Okamoto 2001). Their activism had grown through the New Order era in advocating communities to voice their needs and demands about access to natural resources. All these efforts were being disregarded by the government in pursuing development (Okamoto 2001). Advocacy from local communities was often met with armed force (Thorburn 2002). Disputes between communities and government, and sometimes with corporations, on the use of and access to lands and forests were becoming problems that solidified the role of the NGOs to empower local communities to regain their rights to their lands and forests (Okamoto 2001; Nomura 2007). For example, a private pulp and rayon company was taken to court by WALHI at the end of the 1980s for causing pollution and deforestation in North Sumatra. Another notable action was strong opposition to a US-based project exploiting rainforests in Papua (Nomura 2007). With the emergence of the reformation era, government strategy turned even more to cultivate a 'partnership' relationship between NGOs and government in policy implementation (Harwell 2000; Okamoto 2001). This spread to communities where, freed of restriction to speak out, many local communities even formed their own NGOs (Okamoto 2001).

To return now to the Environment Management Act 1982: the passage of this Act highlighted Indonesia's environmental commitment in a legal sense as outlined in the Third Five-Year Plan (Boardman and Shaw 1995). The Act was perceived as the turning point in protecting the 'environment', as was happening more earnestly in developed countries. Previously, the term 'environment' was commonly understood as 'social environment' or 'policy environment'. The term now took on a

new important meaning of legality. The Act was designed as a foundation for future laws and regulations (Boardman and Shaw 1995); as an ‘umbrella act’ for future codification of environmental and related laws and regulations (Hardjasoemantri 1992: 10). For that, it had principles to govern these laws and regulations. Public participation was one of the principles.

Following the Act, various related laws and regulations were promulgated under government departments and agencies. By the early 1990s, Indonesia had ‘the most detailed and extensive environmental regulations’ for a developing country (Boardman and Shaw 1995: 98). The issuance of these laws was also in reaction to NGO criticism about community access to their lands and resources, as mentioned earlier. A number of laws thus dealt with traditional community welfare and resource rights including local community participation in spatial and land-use planning (Thorburn 2002). However, the laws were weak because of a lack of effective enforcement due to unclear delegation of authority and responsibility (Thorburn 2002). This problem tended to stymie the implementation of community participation in the realm of environmental management in Indonesia.

Much of the stimulus for the government’s shift on environmental issues, from specific pollution issues to environment and development, was initiated by Emil Salim, the Minister of the Environment during 1978 – 1993. Salim also emphasised the importance of public participation in the form of consensus building in environmental protection measures, as stipulated in the Environmental Management Act 1982 (Boardman and Shaw 1995). Later in 1986, this led to Environmental Impact Assessment measures, which incorporated community engagement with people potentially affected by any proposed development project (MOE 2011b).

In 1997, the 1982 Act was replaced by Act Number 23, and subsequently in 2009 by Act Number 32. Among other things, the provision of public participation was strengthened. Under this Act, the most up-to-date one, the public is encouraged to play an ‘active’ role in environmental protection and management in various forms including opinion sharing, and addressing grievances and complaints (see MOE 2009). Since this Act, several attempts have been made to strengthen regulations or guidelines further to articulate community participation in direct environmental protection and management; but to date nothing has been officially launched.

It is clear from this section that the emergence of community participation in Indonesia, as elsewhere, emanated from the rise of societal awareness on environmental problems over quite some time and under quite different socio-political eras. This finally led, encouraged by international trends to environmental protection, to the inclusion of environmental protection and conservation in national development plans as further articulated through the establishment of an environmental ministry. The first Environment Management Act (1982), as one of the ministry's exertions, then acknowledged community participation as a key principle for the development and oversight of laws and regulations. Although weak enforcement is still a problem regarding community participation, environmental NGOs continue to play a strong role in instigating community voices. Such action has led to increased community awareness about the importance of community involvement in the environmental decision-making process. Such developments introduce the next section on current *practices* of community participation in environmental management in Indonesia.

Section 4: Current practices of community participation in environmental management in Indonesia

The engagement of local communities in environmental management in the form of a growing number of community-based projects, such as community-based coastal resource management (CBCRM), is now occurring in Southeast Asia, including Indonesia (Crawford et al. 2004; Wever et al. 2012). The following discussion of these projects offers a useful way to community participation in environmental management in Indonesia.

One CBCRM project was conducted in three selected sites in North Sulawesi Province utilising a participatory planning process that consisted of problem identification; planning; planning approval and financing; and implementation, monitoring and evaluation (Tulungen et al. 2000). The project employed a collaborative-management approach that involved local communities, local government, technical experts, and other related local agencies at the provincial, district and sub-district levels. Involved communities were given the authority to decide for themselves which activities best suited their needs and interests.

The initial stage prior to problem identification was community orientation to encourage the whole community to become aware of the project, including its objectives and benefits to the community and the process involved. This was done using three approaches: training the community on measuring the beach profile and on what integrated coastal management is; conducting workshops on development of village management plans; and undertaking cross-village and cross-national comparative studies on coastal management best practices. To ensure the effectiveness of community orientation as well as of the project as a whole, a technical counsellor from outside the village and a village motivator selected from among village members were appointed to help implement the project. Identification of problems and priorities was jointly conducted with the community where empirical predictions on the magnitude of the issues were made by a technical team, while gathering community perceptions on the magnitude of the issues was carried out by the community through inclusive discussion in meetings and workshops. Technical advice was sought from experts when necessary. When all the issues had been identified, they were verified and prioritised by the community and documented as the basis for drawing up village development plans that included an integrated coastal management plan. Effective and legitimate management decision-making was seen to have occurred throughout this experience.

Another CBCRM project was carried out in the Spermonde Archipelago, South Sulawesi, under the Coral Reef Rehabilitation and Management (COREMAP) program, known as COREMAP's community-based marine protected area (COREMAP's CB-MPA) (Glaser et al. 2010). The project also utilised participatory methods — including a seasonal calendar, futures visioning and back-casting in designing the program — which were carried out through focus groups. In addition to local government officials, this project involved three levels: a coordinator at the subdistrict level, a community facilitator at the village level, and a village motivator. However, according to an assessment on the effectiveness of this project, it was not well implemented (see also Wever et al. 2012). A key problem was the weak inclusion of the community in this stage. For example, demarcation of the core and no-take zones for protected areas was undertaken by an external contractor without coordination with local communities. To make matters worse, local communities were not involved in the development of the CB-MPA rules; thus the rules did not include important local economic, social and cultural considerations. In several areas

of the large village, communities were even unaware of the existence of the rules; thus unsustainable fishing practices were still found in the no-take zone. As Glaser et al. (2010) asserted, this was mainly due to lack of time and resources for participatory rule development, a key problem found in setting up adequate community engagement for effective management or policy outcomes (for example, Hindmarsh 2012).

In addition, decentralisation which had been expected to enhance community participation had actually empowered local and regional authorities more instead of local communities as the direct ecosystem users (Wever et al. 2012). Siry's (2011) analysis on decentralisation and the effectiveness of the CBCRM also revealed that implementation of CBCRM has faced several challenges including low community participation and involvement, mismanagement, nepotism and corruption, as a residual impact of the legacy of the centralist New Order regime. Siry (2011) suggested that this situation requires significant willingness for changes from both the community and stakeholders involved in CBCRM.

Yet another example of community engagement was found in marine resource management at Bunaken National Park of North Sulawesi Province in the implementation of management changes (Newman and LeDrew 2005). To determine the zoning plan for Bunaken Island, the approach utilised town hall and focus group meetings involving village stakeholders, including fisherpeople, local scientists, diving operators and community leaders. As a result, the local communities helped establish a management structure, zoning plan and enforcement regulations that worked into their traditional lifestyles. Inclusiveness, legitimacy and good local support were thus demonstrated for effective management (see for example, Beierle 1999; Barnes et al. 2003; Smith 2003; Irvin and Stansbury 2004; Roy and Chatterjee 2006; Richards et al. 2007; Connelly and Richardson 2008; Dietz and Stern 2008; Larsen and Gunnarsson-Ostling 2009; Hindmarsh 2012). Significantly, local knowledge of the marine area played a key role in these management decisions, which also took into account scientific information to help validate and reinforce the decisions (for example, Mathie and Cunningham 2003).

By way of contrast, the disadvantages of non-involvement of communities in local planning and implementation processes were reinforced by the examples of Wakatobi National Park of South-East Sulawesi Province, and in Berau of East Kalimantan Province. Community priorities and views for the implemented uses of

the respective ecosystems were overlooked. This failure to consult led to resistance and subsequent failure in implementation of the marine protected area in those regions (Elliott et al. 2001; Ferse et al. 2010).

Community participation was also introduced in the forest resource management of Kolaka District, South-East Sulawesi. A community forestry program was involved from planning to implementation, including the utilisation and marketing of forest products and maintenance of the forest function (Musadar 2005). However, Musadar (2005) found the program's aim was not well understood by the community. This was because the procedure and process of the program had been implemented by government through third parties without community consultation. Consequently, the community was poorly motivated to become involved in the forestry program. Similarly, community participation was partially implemented in a mangrove forest rehabilitation program in Sambas District, West Kalimantan. A top-down approach dominated particularly at the planning stage, with the community only involved in site selection and schedule setting. This led to only qualified support for the project (Fitriadi et al. 2005).

A stronger example of inclusive community participation was demonstrated in a forest conservation program in Baru Pelepat Village of Jambi Province (Dobesto 2008). Activities included the drafting of village regulations on forest management; assessment on forest biodiversity potentialities; a comparative study on a neighbourhood village, which successfully implemented the program; and re-arrangement of forest boundaries. The local community, through its representatives, was actively involved in all activities and these were all carried out based on community interests and values. For example, the drafting of village regulations on forest management was based on community needs to protect the forest. The needs were identified through community meetings attended by the village-level official, the women's group, customary elders, the youth group and the farmers' group. It was facilitated by a project team consisting of an international research centre on forestry — the Center for International Forestry Research (CIFOR) — a local NGO, and a research centre on law and regional autonomy. The drafting of regulations was carried out by the community through hands-on training on regulation drafting. In assessing biodiversity potentialities, the assessment was carried out by researchers from CIFOR, the project team, and community members representing the village. One comment fed back from the comparative study was the need to have a forest

management team. The team was subsequently formed through another inclusive community meeting of representatives. In addition, and important for legitimacy, the views from other community members that had not been involved in the drafting process were also canvassed by the village-level government. It conducted meetings involving in-depth assessment on forest management in each of the four village hamlets, which made them feel valued and included. In turn, this inclusion led to a higher sense of community ownership on, and commitment to, the regulations.

Community participation was also carried out in a rural water supply and sanitation project in Lombok during 1985-1991 (Indonesia Australia Development Co-operation Program and Australian International Development Assistance Bureau 1991). The project involved the appointment of a community organiser to technically assist the local community in project implementation. Priorities and forms of participation — whether in terms of labour, or financial or material assistance — were suggested by the community, and discussed by community, sanitarian, and local health department representatives with the organiser. The sanitation facilities were planned and constructed by the community, with appropriate technical and material assistance from experts. To maintain and manage the facilities, ‘Water User Groups’ were formed and integrated with the existing village resilience organisation. This process ensured community sense of ownership and responsibility for the facilities, which led to long-term sustainability of the project.

From these examples, despite some shortcomings in project implementation, it is apparent that some quite convincing evidence of effective community participation is found in environmental management in Indonesia, particularly in coastal and forest resource management and water and sanitation projects. Notably, there are also extant practices of local knowledge inserted into managing and conserving the environment in the forestry, agricultural and fisheries sectors. An attempt to compile practices scattered throughout Indonesia was completed in 2001 with the publication of an environment-related traditional knowledge inventory (see Purba 2001). Such a resource invites the revitalisation of local knowledge for greater input into decision-making that integrates such knowledge with scientific and other contemporary knowledge.

From the above focus on environmental management and community participation, the next section traverses first, climate change policies and actions

within the national context that have begun to lay the ground for applying participatory notions to climate change adaptation in Indonesia; and second, emergent practices of community participation for climate change adaptation.

Section 5: Overview of climate change adaptation policies and actions in Indonesia

In investigating national adaptation policies and actions, it is first useful to look at climate change adaptation developments in international circles that connect to Indonesia. With the ongoing failure to achieve any meaningful international mitigation agreements to achieve the objectives of the United Nations Framework Convention on Climate Change (UNFCCC) or the Kyoto Protocol (van Aalst et al. 2008; see Bodansky 2010), adaptation has emerged as a complementary strategy (Smit and Pilifosova 2001; Matczak et al. 2008; van Aalst et al. 2008). This dual strategy is particularly emphasised with the scenario of ‘global GHG emissions [continuing] to grow over the next few decades’ (Metz et al. 2007: 4). Adaptation is now considered a key building block for future climate change management regimes beyond 2012.²² This was confirmed in the Bali Roadmap adopted in 2007, and reinforced in the 2012 Doha Conference of the Parties (COP 18 UNFCCC) and the 2013 COP 19 in Warsaw. At the national level, every country is encouraged to establish or strengthen institutional arrangements relevant to the implementation of adaptation plans and actions. All of these actions need to be undertaken in accordance with the Convention and take into account country-driven and participatory approaches engaging communities and vulnerable groups, which highlight Indonesia’s case.

²² The year 2012 poses as the end of the first commitment period of the Kyoto Protocol. Current international negotiations are paving the way for a new international framework to deliver ‘stringent’ emission reductions (http://unfccc.int/kyoto_protocol/items/2830.php (viewed 13 July 2010)).

Indonesian strategy to respond to climate change

Indonesia's initial response to anthropocentric driven climate change was catalysed by Indonesia's signing of the UNFCCC in 1994 and ratification of the Kyoto Protocol in 2004. Indonesia has since become actively involved in international climate change forums and negotiations, and in 2007 hosted COP 13 to the UNFCCC, which adopted the Bali Road Map outlining various tracks to follow to reach a secure climate future, including adaptation.²³

During the period 1994 and early 2014, several key milestones evidenced Indonesia's commitment to the global effort to cope with climate change at the national level, particularly concerning policy-related actions, as shown in Table 4.1. Perhaps the most significant milestone was the recognition of the climate change issue to mainstream into the national long-term development plan 2005-2025; subsequently translated into medium-term development and annual government work plans (Bappenas 2008a; 2009a). This milestone indicated a growing commitment of Indonesia to balance development with climate change policy responses.

Subsequently, to guide the mainstreaming of climate change issues into development plans, the government produced two major national policy documents: The National Action Plan on Climate Change in 2007 (MOE 2007), and National Development Planning: Indonesia Responses to Climate Change in 2008 (Bappenas 2008a). The first document referred to as RAN-PI, provided initial guidance for multi-sectoral coordination for climate change mitigation and adaptation efforts. The second document — the so-called 'Yellow Book' — serves as a conduit to the former as well as to other development planning documents and the Indonesian Government's annual work plans. This document is intended to ensure that Indonesia's current and future development plans build in responses to climate change issues (Bappenas 2008a). For example, the Yellow Book was regarded as the foundation for the National Medium-term Development Plan (RPJMN) 2010-2014 formulation process in addition to its intention to strengthen and reinforce the National Medium-term Development Plan 2004-2009. The Yellow Book also acknowledged the importance of local actions, and calls for inclusive community participation in developing and implementing mitigation and adaptation strategies.

²³ See: http://unfccc.int/meetings/cop_13/items/4049.php (viewed 28 July 2010).

Table 4.1 Key milestones of Indonesia's climate change actions

Year	Activities
1992	<ul style="list-style-type: none"> • Indonesia signed the UNFCCC¹ • Establishment of National Committee on Climate Change²
1994	<ul style="list-style-type: none"> • Ratification of UNFCCC through Law No.6/1994¹
1999	<ul style="list-style-type: none"> • Submission of First National Communication to UNFCCC³
2003	<ul style="list-style-type: none"> • Revitalization of the National Committee on Climate Change through Ministry of the Environment Decree No.03/2003²
2004	<ul style="list-style-type: none"> • Kyoto Protocol ratification through Law No.17/2004⁴
2005	<ul style="list-style-type: none"> • Establishment of Indonesian Designated National Authority for Clean Development Mechanism through Ministerial Decree No.206/2005⁵
2007	<ul style="list-style-type: none"> • Climate change issue was mainstreamed in the 2005-2025 National Long Term Development Plan through Law No.17/2007 – February 2007⁶ • Publication of National Action Plan on Climate Change (RAN-PI) – November 2007⁷ • Host country to COP 13 UNFCCC – December 2007⁸
2008	<ul style="list-style-type: none"> • Publication of National Development Planning: Indonesia Responses to Climate Change (Yellow Book)⁹ • Establishment of National Council on Climate Change through Presidential Decree No.46/2008¹⁰ • Indonesian commitment to tackle climate change issue was bold by the extension of the former Agency of Meteorology and Geophysics to become Agency of Meteorology, Climatology and Geophysics¹¹
2009	<ul style="list-style-type: none"> • Launching of the Indonesia Climate Change Trust Fund (ICCTF) through Ministry of National Development Planning Decree No.44/2009 – 14 September 2009¹² • President SBY announced Indonesian commitment to curb GHGs emission growth by 26% by 2020 in G20 Summit – 25 September 2009¹² • Enactment of Environmental Law No.32/2009 with the inclusion of climate change issue – 3 October 2009¹³ • Publication of Indonesia Climate Change Sectoral Roadmap (ICCSR) – December 2009¹⁴

Table 4.1 (continued)

Year	Activities
2010	<ul style="list-style-type: none"> • Climate change issue was mainstreamed in the 2010-2014 National Medium Term Development Plan¹⁵ • Establishment of Climate Change Adaptation Unit under the MOE - October 2010¹⁶
2011	<ul style="list-style-type: none"> • Submission of Second National Communication to UNFCCC - 14 February 2011³ • Publication of National Action Plan for GHGs Emission Reduction (RAN-GRK) through Presidential Decree No.61/2011 on 20 September 2011¹⁶ • Publication of the Implementation of National Green House Gases Inventory through Presidential Decree No.71/2011 on 5 October 2011¹⁶ • Establishment of a Task Force for preparation of institution for REDD+¹⁶
2012	<ul style="list-style-type: none"> • Publication of Guidelines for National GHGs Inventory in Energy, Industrial Process and Product Use, Agriculture and Forestry, and Wastes sectors¹⁶ • Establishment of SIGN (National GHGs Inventory System) Centre¹⁶ • Development of MRV system¹⁶ • Development of Regional Action Plan on GHGs emission reduction for 30 provinces¹⁶ • Drafting of Government Regulation on climate change impact control¹⁶ • Establishment of Indonesian IPCC¹⁶
2014	<ul style="list-style-type: none"> • Publication of National Action Plan on Adaptation

Sources: (UNFCCC 2013c),¹ (WWF Indonesia 2009),² (UNFCCC 2013b),³ (UNFCCC 2013d),⁴ (CSR Indonesia 2007),⁵ (Bappenas 2008b),⁶ (MOE 2007),⁷ (UNFCCC 2007),⁸ (Bappenas 2008a),⁹ (DNPI 2012),¹⁰ (BMKG 2012),¹¹ (ICCTF 2012),¹² (MOE 2009),¹³ (Bappenas 2009b),¹⁴ (Bappenas 2010c),¹⁵ RK Hasan 2013, pers. comm., 31 January.¹⁶

In turn, as part of government endeavours toward advancing democratic governance and in implementing regional autonomy, community aspirations have been recognised as an important component in the national development planning system, as stipulated under Act No.25/2004. This Act is the main piece of legislation that governs the inclusion of communities in planning processes through *Musrenbang* or Development Planning Consultation: a stakeholder forum for helping to design national and regional development plans. Downstream at the regional level, procedures for the local level *Musrenbang* is under local government regulation. Following these procedures, drafts of development plans developed by respective authorities — the National Development Ministry and regional

development agencies for the local level — were cited as references to *Musrenbang*. What is meant by the ‘local level’ includes provincial, district/city, sub-district and village levels. With regard to participants of the *Musrenbang*, district and sub-district *Musrenbangs* consist of government agencies, members of the local legislative, NGOs, and village representatives. For village-level *Musrenbang*, in addition to local government officials, more community level components are involved including the community-level government administrative organs (RTs), youth groups, and community leaders.

Another significant achievement in strengthening national actions on climate change was the establishment of the National Council on Climate Change (NCCC) through Presidential Regulation No. 46 Year 2008, and directly chaired by President Yudhoyono. According to this Regulation, the role of the NCCC is to coordinate national efforts related to the climate change issue. These efforts include mitigation, adaptation, transfer of technology and funding; and strengthening Indonesia’s position in international forums. Programs have included drafting of the national action plan on adaptation to climate change, a vulnerability assessment for North Sumatra Province (A Aryoseno 2011, pers. comm., 13 April) and an adaptation science and policy study in collaboration with UKAid in 2010. This study revealed that activities pertaining to adaptation were still very lacking in Indonesia with a key reason being a general lack of understanding about climate change (DNPI and UKAid 2010).

In addition, reinforcing the adaptation policy response was the 2009 National Environmental Law (Law No. 32) concerning environmental protection and management. It gave more attention to climate change compared to the previous Law No. 23 Year 2007, for formulating national, provincial and district environmental protection and management plans, in which climate change is now a pivotal issue. In addition, in 2009, the government produced the Climate Change Sectoral Roadmap (ICCSR — Indonesia Climate Change Sectoral Roadmap). This roadmap identifies and determines priority activities in mitigation and adaptation, as derived from sectoral and cross-sectoral programs identified by all relevant ministries. For mitigation, particular emphasis lies on the forestry, energy, industry, and transportation and waste sectors. For adaptation, the water, coastal areas, agriculture and health are considered important, which aligns well with vulnerability studies (for example, Yusuf and Francisco 2009). Within the time frame of 2010-

2029, the ICCSR is being mainstreamed into the National Medium-term Development Plan 2010-2014. It provides guidance for the development of strategic plans of each ministry and agency (Bappenas 2009b). In addition, Indonesia has attempted to integrate disaster management with climate change policies through the formulation of the national action plan for climate change initiated by the NCCC. This integration has also been part of the ninth priority program in the Medium-term National Development Plan 2010-2014 (BNPB 2011).

As climate change related activities require considerable financing, another significant strategy of Indonesia to boost its climate change activities domestically was the establishment of the Indonesian Climate Change Trust Funds (ICCTF). The Trust was established in September 2009 through the State Ministry of National Development Planning Decree No. 44 Year 2009. The ICCTF, which is led and managed by the government, was established to respond to and support the implementation of the ICCSR. The aims were to attract and manage funding from the private sector and international donors to contribute to climate change mitigation and adaptation initiatives, including ones in coastal areas (ICCTF 2010).

Overall, this effort saw Indonesia ranked 21 out of 56 countries responsible for more than 90 percent of global energy-related CO₂ emissions in the climate change performance index 2011 (Burck et al. 2011). Performance ranking is assessed against indicators of emission-reduction trends (50% weighting), emission level (30% weighting), and national climate policy (20% weighting). The 2011 ranking saw a climb of two places from 2010 and six places from 2009 (Burck et al. 2010). Indonesia's effort to reduce emissions was subsequently increased by the September 2011 Presidential Regulation on National Action Plan (RAN-GRK). The Regulation aims to reduce GHG emissions by 26% with its national budget, or up to 41% with international support by 2020, through action plans, target activities, new locations, and greater ministry responsibility to implement the actions. Agriculture, forestry and peat land, energy and transportation, industry, and waste management are the targeted sectors (GOI-Government of Indonesia 2011). In the following month, October 2011, the President signed the Regulation on the Implementation of National Green House Gases Inventory as Presidential Regulation No. 71 Year 2011. The Regulation stipulates (a) the implementation of a national greenhouse gases inventory, which covers the provision of information pertaining to levels, status and trends of GHG emission and absorption within national, provincial and

municipal levels; and (b) the achievement on GHG emission reductions from national mitigation initiatives.

Although the active and partnership role of local communities in climate change adaptation is stressed in Article 6 UNFCCC (United Nations 1992a), this role is still lacking in Indonesia's national policy. This lack is particularly evident for adaptation measures in marine and fishery sectors, as evidenced in the ICCSR document for these sectors, as well as in the Yellow Book (see Bappenas 2008a; Bappenas 2010a). There is no clear emphasis on community engagement in planned strategies and actions in the ICCSR document (see Bappenas 2009b; Bappenas 2010a). With regard to the Yellow Book, the strategy for adaptation in coastal areas only covers community awareness rising on climate change issues. Likewise, this is the case for Government Regulation No. 64 Year 2010 on Disaster Mitigation in Coastal and Small Islands. Under this regulation, governments — both at the central and local levels — are still playing significant roles in planning and managing coastal and small islands, with no clear indication of the role of community in decision-making processes. This weakness in current policy is borne out in only a couple of emergent participatory practices found in the literature on this topic.

Emergent community engagement practice in climate change adaptation in Indonesia

In 2009, a pilot project on adaptation emerged for perhaps the first time in Indonesia; this took place in the coastal area of Demak, on the North Coast of Central Java Province (Diposaptono 2009). The area had been affected by a rise in sea level. It engaged the local community in aiming to identify and address climate change related issues in Bedono Village, as this village had been permanently inundated due to sea level rise since 2010. Community groups of the affected village, with expert assistance and support from local village government units, identified their problems and needs for, and substance of, a village climate change adaptation management plan.

Another program followed in 2010, the so called *Kampung Iklim* program, or Climate Village, initiated by the Ministry of the Environment. The program aimed to present awards to recognise active participation of village communities in conducting climate change mitigation and adaptation initiatives. The program was

designed to increase community awareness and capacity in implementing local initiatives on mitigation and adaptation activities, and so engage communities in adaptation actions (see MOE 2010b). At the time of writing, adaptation activities had been identified in five villages in five different regions that feature droughts, floods and landslides control; farming related activities; and environmental sanitation and health related activities (MOE 2011a).

Overall, there is little evidence of community participation in activities in Indonesia. This indicates that there is much that needs to be strengthened before communities can be effectively engaged in developing adaptive capacity and resilience to climate change — especially at the populous and highly vulnerable local community level.

Conclusion

This chapter has explored the opportunities for, and current limitations of, community participation in climate change adaptation, and how this has been influenced by the rise and fall of democracy in different political periods of Indonesia's history. The latest period, the reformation era, has provided a heightened opportunity for community participation in environmental management and climate change adaptation, despite very little activity so far in the latter. However, the engagement of local communities in environmental management in the form of a growing number of community-based projects, such as community-based coastal resource management, well indicates the potential for similar activities with regard to adaptation.

Overall, this chapter indicates that the challenges to implementing community participation in Indonesia require considerable effort. Importantly, it is the reformation era that provides the basis for a better approach to realising climate change participation. With its focus on heightened democratic engagement and trends towards regional autonomy in local governance, it lays the basis for the traditional characteristics of Indonesian communities to blossom in this area. Characteristics of communalism, collectivism and grassroots democracy provide good opportunities for community-based projects in achieving adaptive capacity and resilience to climate change. In addition, the government-NGO partnership can be used to good effect to assist such engagement.

Again, such opportunities for community participation in the climate change adaptation context are bolstered by community engagement experiences in other areas like coastal and forest resource management as well as water and sanitation projects, despite some existing shortcomings in implementation. Such shortcomings highlight valuable insights for effective community participation presented in the literature reaccessed in Chapters 2 and 3, particularly with regard to the proposed or preliminary key determinants for effective community participation. Indeed, this chapter revealed characteristics of Indonesian community which align with these preliminary key variables for effective participation — particularly those pertaining to the social capital and local knowledge, and to institutional change as currently being developed in Indonesia under the reform era and decentralisation. Downstream, the applicability of these preliminary key determinants is further assessed through fieldwork in selected areas of Indonesia (as reported and analysed in Chapters 5-8).

The substance of this chapter, overall, suggests a second hypothesis: that the inclusion of community in climate changes adaptation measures requires much stronger commitment from the government and other relevant policy actors, including scientists and NGOs. This hypothesis fortifies the significance of this study as demonstrated by its primary aim to evaluate and suggest appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building in Indonesia.

We now turn to Chapter 5 to introduce and outline the research methodology for the field work component of this research, which was to explore the perspectives of key environmental management and climate change adaptation policy and management actors at central (Jakarta) and local government levels, and local community representatives, for their insights into effective community engagement for adaptation.

Chapter 5

Fieldwork Approach

This chapter describes the fieldwork approach, which is contextualised and informed by the research approach detailed in Chapter 1. There are two, largely, descriptive sections on (i) the techniques of data collection, which coalesce around the semi-structured interview; and (ii) the processes of analysis informed by thematic and narrative analysis.

Section 1: Techniques of data collection

The semi-structured interview

The face-to-face interview was chosen as the best field work technique or method to gather primary data from relevant key policy actors in government and society on their knowledge, understandings and perspectives about what might constitute effective community participation relevant to building adaptive capacity. Local Indonesian data was essential to gather to gain appropriate insights and suggestions on community engagement that reflected on existing and relevant community participation policy and practices in Indonesia.

An interview represents a ‘conversation’ between a researcher (or interviewer) and an interviewee or ‘respondent’ (Gray 2004; Cohen et al. 2007; Warren and Karner 2010; Kumar 2011). The aim of the conversation is to gather information on perspectives or views and attitudes on the issue being studied (Gray 2004). An interview is typically different from other types of conversation in field research as it is informed by specific respondent selection; a set of questions asked of respondents; and the recording of their responses — usually by audio taping and notes (Warren and Karner 2010). Interviews are particularly useful for relatively small scale research in contrast to large scale research where costs can be very high (Gray 2004). Generalising interview findings in small scale research is also easier, as the researcher is choosing ‘a sample that allows for a subject to be accessed from all relevant perspectives’ (Gray 2004: 219).

How the interview is conducted depends on the design of the interview set up by a researcher (Kvale and Brinkmann 2009). This includes the format, content and the order and wording of the questions, as well as the way to ask the questions. The format first involves the selection of a questionnaire-type interview according to research objectives and degree of flexibility required. There are three main types: structured, semi-structured and unstructured (Kumar 2011: 144). Gray (2004) expands on this in referring to structured, semi-structured, non-directive, focused, and informal conversational interviews.

Structured interviews use prepared and standardised questionnaires where the same questions are asked of all respondents (Gray 2004). The inflexible nature of this interview technique makes it appropriate for quantitative research where statistical data are the expected outcome. Unstructured interviews provide the most flexible approach, as the researcher has more freedom in terms of the content, structure, wording and sequence of the questions to be asked (Kumar 2011). Questions are formulated at the time of the interview according to the direction of the discussion between interviewee and interviewer. This reflects the ‘non-directive’, ‘focused’ and ‘informal conversational’ interviews as suggested by Gray (2004), where questions are unplanned, and are formulated spontaneously during the interview. One of the potential pitfalls of this type of interview, however, is the potential for inconsistency in asking questions. An interviewer may ask different questions on the same topic to different sets of people being interaccessed, to result in an incoherent set of data and difficulty in analysing it. A typical outcome is bias (Gray 2004). Although unstructured interviews are applicable to both quantitative and qualitative methodology, the problem of inexact comparability of data sees this type of interview mainly used in qualitative research.

Semi-structured interviews sit between unstructured and structured interviews. Elements contained in semi-structured interviews are found both in unstructured and structured ones, depending on the research topic and objectives (Sarantakos 2005). As such, the semi-structured interview is ‘neither an open everyday conversation nor a closed questionnaire’ (Kvale and Flick 2007: 11). Structured elements are particularly important when the research is being conducted on a diverse range of respondents so as to get comparable data (Bryman 2008). At the same time, to ensure flexibility in questioning and drawing out clarifications or new questions prompted by the interviewee’s responses, the semi-structured

interview is non-standardised. While a list of issues and questions — constructed from research questions and theoretical framework (Hall 2008) — is important to work out for the questionnaire, there is flexibility in utilising the list in the actual interview (Gray 2004; Kvale and Flick 2007; King and Horrocks 2010). This means the researcher may or may not deal with all the initial issues and questions, and can, to reiterate, ask additional questions, add new issues, or change the order of the questions depending on the direction of the interview (Gray 2004; Rapley 2004; Kvale and Flick 2007; Bryman 2008). Most obviously, the semi-structured interview was the most appropriate interview technique to apply to best understand the daily world constructed by respondents' perspectives of the subject under investigation (Kvale and Flick 2007). Accordingly, it was used to answer research questions 2 and 3, again, to grasp respondents' perspectives — informed by their knowledge, understandings and experiences — of community participation practices in environmental management, disaster management and climate change adaptation.

Interview questionnaire construction

The interview questionnaire was developed based on the overarching themes identified from the literature review of (a) existing community participation practices in environmental management, disaster management and/or climate change adaptation; (b) enhancing community participation practices; and (c) key determinants for effective community participation. These three overarching investigative themes were used to construct three sections of the questionnaire informed by 38 questions that also arose out of the literature and which were situated as sub-themes. The respondent's answers were then posed as narratives (see section on data analysis below for more detail). The interview was typically designed to take approximately one hour.

In more detail: research questions 2 and 3 were addressed in section one of the questionnaire. What I was researching here were (a) the current status of community participation practices in responding to environmental issues, natural disasters and climate change impacts, and (b) what might be appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building with regard to a range of potential climate change events. To meet this aim, section one comprised two types of questions. The first type of

questions inquired about what specific roles the respondents played in relation to the development or practice of community participation (or engagement) on environmental issues, natural disasters, or climate change impacts; these questions took into account the respondents' level of exposure to, and understanding of, community participation practice.

The second type of question probed the most common form of community participation practices related to environmental issues, natural disasters or climate change impacts in Indonesia. The aim here was to collect data and also measure respondents' knowledge, understanding and perceptions about such practices and their effectiveness. These questions also probed respondents' perceptions of the successes and failures of these practices, and their ideas on the factors affecting the success or failure. Respondents were also asked about existing participatory mechanisms, approaches or techniques, and their constraints, if any, and ways to improve them.

Following this, the second section questions probed for suggestions from the respondents for better community participation to respond specifically to *climate change impacts* aimed to answer research question 3; that is, 'What community engagement approaches might best suit addressing climate change adaptation effectively at the Indonesian local community level, including how might existing approaches be strengthened?'.

The questions in the third section fell into three categories (a) the general question 'What sort of things do you think might determine better participation of community in adaptation activities?', (b) ten specific questions that probed the respondents for their perspectives on the applicability of the preliminary key determinants for effective community engagement, and (c) a final follow-up question that finished the questionnaire by asking 'Is there anything else you'd like to raise?' In setting up these questions and the final design of the guide a pilot test was carried out as an important component of questionnaire design.

Pilot testing

A necessary step in developing a questionnaire is a pilot test to ensure its practicality in terms of timing in the asking of questions and the content of questions for coherency and ease of understanding for respondents. The pilot test was conducted

with three people representing three different types of respondent. One worked with the Ministry of Environment of Indonesia, which in this pilot test represented the central government. Another worked in Yogyakarta Province, and has experienced an earthquake, which in this pilot represented the community in a disaster affected area. The third worked with the International Red Cross in Indonesia, which represented NGOs. After the pilot test, significant modifications were made to the draft interview questionnaire to make it more understandable and answerable within the (typical) time frame of one hour per interview.

Initially, the interview questionnaire was designed in three different versions, one for each type of respondent; from government, community and NGOs. However, for comparative analytical reasons, the versions were then combined into a single document applicable to all respondents to provide more meaningful analysis. Another aspect of the interview questionnaire that had to be conducted was to obtain ethical approval under University guidelines.

Ethical considerations

According to the ethical conduct arrangements of Griffith University, in accordance with the *National Statement on Ethical Conduct in Human Research*, I lodged the application for ethical clearance with all related documents to the University's Human Research Ethics Committee well in time before the conduct of the field research was scheduled. It was submitted on 31 January 2012 and approved on 2 February 2012 (GU Ref No: ENV/49/11/HREC). The first part of field research was undertaken from 6-25 February 2012, and the second extended part on community representatives in December 2013. As part of the ethical conduct arrangement, an information sheet about the field research project was developed, approved, and then provided to potential respondents explaining why the research was being conducted and its expected benefits; the voluntary nature of the respondents' involvement; and an assurance of no risks being generated from any involvement in the research; as well as confidentiality of personal identity of respondents in the thesis or publications associated with the research (see Appendix C). To confirm understanding of and acceptance by the respondents of the research arrangements, consent form was developed and provided to the respondents for their signature before interviews were conducted (see Appendix D).

Site selection

Because of the lack of sites available in relation to existing practices of climate change adaptation community engagement, two low-lying regions in Indonesia were selected initially as sample sites for conducting interviews to represent vulnerable areas and also diversity of local knowledge across Indonesia. Jakarta was also chosen to represent central government and other actor-level inquiries (see Figure 5.1). The low-lying regions were Padang Pariaman District in West Sumatra Province of Sumatra Island (Sumbar), and Bantul District in Yogyakarta Special Region Province of Java Island (DIY). The selection of these sites was based on their experience of two of the most devastating earthquakes ever occurring in Indonesia: Sumbar in 2009 and DIY in 2007.

Comparative research attempts to discover general patterns of social behaviour between different places and/or involving different populations (Neuman 2011). At the time of the fieldwork this opportunity was furthered due to additional information received from a local NGO respondent about two emerging adaptation projects at the community level in West Sumatra. One was also in a coastal area in Padang. The other was in a high-lying region in Puluik-puluik of West Sumatra Province, which experienced landslides. These had been selected as pilot projects for the API Perubahan project of Mercy Corps Indonesia. API Perubahan stands for *Adaptasi Perubahan Iklim dan Pengurangan Resiko Bencana untuk Ketahanan* or Climate Change Adaptation and Disaster Risk Reduction for Resilience. The projects aimed to build the capacity of stakeholders from government, communities and private sectors, to contribute towards increasing the resilience of communities' to cope with natural disasters and climate change impacts. This added to the other one high-lying area in Srandakan, Yogyakarta Special Region Province selected, which had experienced landslides. This latter site was a disaster response project of Indonesia Red Cross.

Another opportunity arose after the initial fieldwork had been conducted to draw more on input from community representatives for their perspectives on adaptive management at the local level. An additional six villages were identified as appropriate for interviews. Three of these villages were also in West Sumatra Province, and the other three were also in Yogyakarta Special Region (DIY)

Province. Four villages were selected because of their experiences of earthquakes, with the other two selected because of their experiences of drought. Two were also in a high-lying area: Batipuh Village of West Sumatra and Nglegi Village of DIY Province.



Figure 5.1 Selected field sites for interviews

(● = West Sumatra Province, ● = Yogyakarta Special Region Province).

Source: (CIA 2013)

Initially, the highland area was considered outside the scope of this study. However, the inclusion of highland areas was seen as useful for comparative research as well as extending the application of this research to other topographic regions of Indonesia. In addition, by including both coastal and high-lying areas, diversity of representation was extended to gain a broader understanding of community participation practices in relation to environmental management, natural disaster and climate change adaptation. A summary of the selected sites is presented in Table 5.1.

Table 5.1 Selected sites for interviews

Site	Type of area	Disaster/climate change impact	Reason for selection
West Sumatra Province			
Padang Pariaman District	Low lying area	Earthquake	Initial selected site
Padang	Low lying area	Sea level rise and earthquake	API Perubahan Project
Puluik-puluik	High lying area	Landslides	API Perubahan Project
Batipuh	High lying area	Earthquake	Community-based environmental management pilot project
Bayur Kabung	Low lying area	Drought	Community-based environmental management pilot project
Tunggul Hitam	Low lying area	Earthquake	Community-based environmental management pilot project
Yogyakarta Special Region Province			
Bantul District	Low lying area	Earthquake	Initial selected site
Srandakan	High lying area	Landslides	Indonesia Red Cross project
Serut	Low lying area	Earthquake	Community-based mitigation and adaptation project
Sukunan	Low lying area	Earthquake	Community-based mitigation and adaptation project
Nglegi	High lying area	Landslides, drought	Community-based mitigation and adaptation project

Selection of respondents

Interviews were conducted with (1) policy and management actors from ministries most influential within the central government on the research topic, for example, from ministries of the environment, marine and fisheries, and national development planning, as well as the National Council for Climate Change; (2) policy and management actors most influential with regard to the research topic at the local government level (in selected sample sites) and community leadership; (3) civic leadership with regard to relevant NGOs at both the national and local levels; and (4) community representatives at the local level.

The latter respondents were chosen as the most appropriate ‘group’ to interview at the community level because of their knowledge and experiences of environmental management, climate change issues and natural disaster management, and because currently, climate change management at the community level is navigated by these actors. Although attempted, it was found impractical to involve the everyday citizen such as fishermen as respondents. First, because they have no direct influence in decision-making except in conveying their views to community representatives according to existing decision-making protocols at the village level. Second, the everyday citizen has a very low level of literacy and education, also awareness about climate change issues. Third, diverse local languages at the field work sites also made it difficult to include them, with community representatives were more fluent in Bahasa Indonesia compared to the everyday citizen.

On my attempt to include the everyday citizen, interviews with more grass roots communities were initially attempted. Four fishermen in Padang Pariaman District were interviewed separately. However, irrelevant and rather incoherent answers were given by them to most questions indicating very low knowledge of my research thrust. As they made little sense their responses were not included. I also went to a village in North Jakarta named Kapuk Muara experiencing periodic sea level rise and interviewed three community members. But as this area was found later not to lie within the scope of study, that is, areas in either West Sumatra or Yogyakarta Special Region, these responses were also omitted, even as they resulted in similar responses to the ones I report in the thesis.

I also did a focus group discussion with a group of seven fishermen in Padang Pariaman District, but only two people responded to my interview; others

were mostly silent and signalled they agreed to what these two people responded to during the discussion. These two I included as respondents, where the interview reportage treated them as a single interview because of the complete synergy of their response. Based on these experiences in Padang Pariaman District, I decided to limit the interview in Bantul District of Yogyakarta Special Region to only cover community representatives, which later were expanded from the initial six to 20 after attending a community-based environmental management system project in six different villages — three in West Sumatra and three in Yogyakarta in December 2013. In sum, these respondents formed an adequately representative knowledge and diverse sample of key actors who would well contribute to knowledge on the topic under investigation.

Thus although the interviews were initially designed to number 24 to adequately represent the four groups seen as most appropriate to interview in regard to the actual availability of knowledgeable people on the topic under question, a later opportunity enabled the inclusion of another 14 community representatives to expand the number of interviews to 38. The inclusion of another 14 community representatives was very important as, of course, the (poor and vulnerable) community level is the actual level of society most exposed to the adverse impacts of anthropogenic climate change. In sum, 38 interviews was both manageable as well as seen as adequately representative, because of the tiring field work conditions of Indonesia with regard to both travel and logistics, and the limitations of field sites available, as discussed earlier. Table 5.2 indicates the selected interviewees. The selection of the interviewees aimed to reflect divergent perspectives on the main topic of the research (Bryman 2008) by which to best address the primary aim of this research.

Some interviewees were selected by ‘snowball sampling’, or respondent-driven sampling (Neuman 2011: 269). These interviewees were in addition to contacts I already identified over 10 years as an employee in the Ministry of Environment of Indonesia. Snowballing uses contact networks to increase the number of respondents from different directions to minimise bias of selection; thus an initially small group of respondents can be expanded based on their diverse links to other possible respondents. For example, one new respondent was recruited based on information received from a member of the initial group; the new contact came from a local NGO that had a local community project in climate change adaptation.

In Padang Pariaman District, contacts with local community leaders/representatives were made through information from a respondent of a local government agency, and a local NGO in Bantul District.

Table 5.2 Key actors for interviews

No.	Institution/interviewee
	Central level
1.	Ministry of the Environment (2)
2.	Ministry of Marine Affairs and Fisheries (1)
3.	National Development Planning Agency (Bappenas) (1)
4.	National Council for Climate Change (2)
5.	NGOs (2)
	Local level
6.	Local government (7)
7.	Local NGOs (3)
8.	Community representatives (20)
	Total = 38 respondents

In contrast, respondents from central government and NGOs were selected based on their knowledge and experience, particularly on climate change issues, while for the local level the relevant expertise lay in natural disaster management. With regard to community representatives, selection was based on their position as community leaders as described above. The following section describes in more detail the background of the institutional and community contexts of the selected respondents.

Ministry of Environment (MOE)

The Ministry of Environment had been the national focal point to the UNFCCC prior to the establishment of the National Council on Climate Change in 2007. Major national climate change policies and action plans were developed under the leadership of this ministry. Since 2010, the adaptation unit, previously located in the division that dealt with mitigation, independently operated as a division. Apart from adaptation, the Ministry of the Environment also dealt with community participation issues on other environmental matters.

National Council on Climate Change (NCCC)

As was described in some detail in Chapter 4, the NCCC was established in 2007 to coordinate climate change related activities nationally. The national focal point thus diverted from the MOE to NCCC.

Ministry of Marine and Fisheries

The Ministry of Marine and Fisheries was selected as the key scope of the research was on communities in coastal areas. This Ministry was considered to be at a more advanced stage in the implementation of adaptation activities, especially in coastal areas.

Indonesia Climate Change Trust Fund (ICCTF)

The Indonesia Climate Change Trust Fund (ICCTF) is located in the National Development Planning Agency. This Agency plays an important role in developing national planning, which, in recent years, has mainstreamed climate change issues. The ICCTF was established in September 2009 to coordinate and manage climate-related funding, mostly from donor countries and international organisations for climate-related activities within Indonesia. Interviews with the ICCTF representative aimed to gain a picture of the arrangement of the existing climate-related funding mechanism, in which the decision-making process was obviously embedded.

National and local NGOs

The International Red Cross Federation Indonesia was selected as it had been extensively dealing with natural disaster management in Indonesia. A representative of the first national environmental NGO in Indonesia was also selected as a respondent. At the local level, other prominent NGOs working closely with communities, particularly in the aftermath of disasters. Their experiences in this area offered important inputs for this research.

Regional Agency for Disaster Management

Stimulated by the devastating earthquake and Indian Ocean tsunami in late 2004, a national agency for disaster management was established to respond to the vast number of natural disasters in Indonesia, and to manage processes of recovery. Since then, particularly through the period 2008-2009, regional agencies for disaster

management in provincial and district levels were established to locally manage natural disasters.

Community representatives

Respondents selected at the community level acted in some capacity as community leaders or representatives in community-level associations. Holding such a position, they would be well equipped to discuss community-related issues, including those on practices of participation in decision-making process.

The interview

Most interviews with respondents were conducted in three consecutive weeks in February 2012, but, as signalled above, later in December 2013 another 14 were conducted at the community representative level when information emerged to identify them. The interviews initially began with five interviews in Jakarta in the first week of February 2012 followed by interviews in the second week in Padang Pariaman District (seven respondents), the City of Padang (two respondents), Puluik-puluik Sub-District (one respondent) and Bantul District (five respondents). The remaining initial interviews were conducted in the third week, in Jakarta. In a minor variation, one respondent from a national NGO was accessed in Brisbane (the researcher's research base) as he was undertaking his PhD there at the time of the interviews. Before the interviews were held, the interview package — which included the information sheet, the consent form and the interview questionnaire — was translated into Bahasa Indonesia for best respondent understanding and then disseminated.

To confirm the availability of the respondents for interviewing, an email making initial contact was sent on 1 February 2012 to each prospective respondent. The email explained the research, requested an interview, and included a proposed interview schedule. All interviews were conducted face-to-face. All interviews were audio-recorded, with field notes taken. Some respondents were however difficult to process as they did not wait to answer questions one by one despite my instructions; instead, one response could cover multiple questions. This, in turn, presented some difficulties at the analytical stage where thematic and narrative analyses were central to understanding the responses. Documents unable to be obtained over the internet,

and any up-to-date ones not recently published, were also sought from respondents, especially ones in digital form, to save on excessive luggage. Some of these, where only one copy was available, were photographed with a digital camera.

Section 2: Techniques of data analysis

The interview data was analysed through detailed thematic and narrative analyses in comparison to the more simple version of Owen (1984) applied to the literature review; to identify the overarching themes (or central aspects) of the literature to provide a solid analytical framework to address the key focus and research aims and questions. The most appropriate definition for the thematic and narrative analysis applied in this research is as ‘a data reduction and analysis strategy by which qualitative data are segmented, categorised, summarised, and reconstructed in a way that captures the important concepts within the data set’ (Given 2008: 867; also Coffey and Atkinson 1996; cf. Braun and Clarke 2006; Brown 2009).

How might a theme be detected in this approach? ‘Coding’ is the appropriate technique used for such purpose. Coffey and Atkinson (1996) refer to ‘coding’ as the tagging and labelling of data based on concepts applied in the research (which again are referred to as themes and sub-themes here) (also Gibson and Brown 2009). The respondent’s answers to the questions (or sub-themes) posed in each section of the interview were identified through manual data coding, which then created narrative clusters related to the sub-themes. This coding process uses both inductive and deductive ways of analysing the data, which follows constructivist grounded theory method. Another aspect of the approach was to test hypotheses based on conceptual frames (the themes and sub-themes) that emerged from the literature review. Figure 5.2 clarifies the data analysis process as highlighted in the coloured parts of it, and which is explained in the text below.

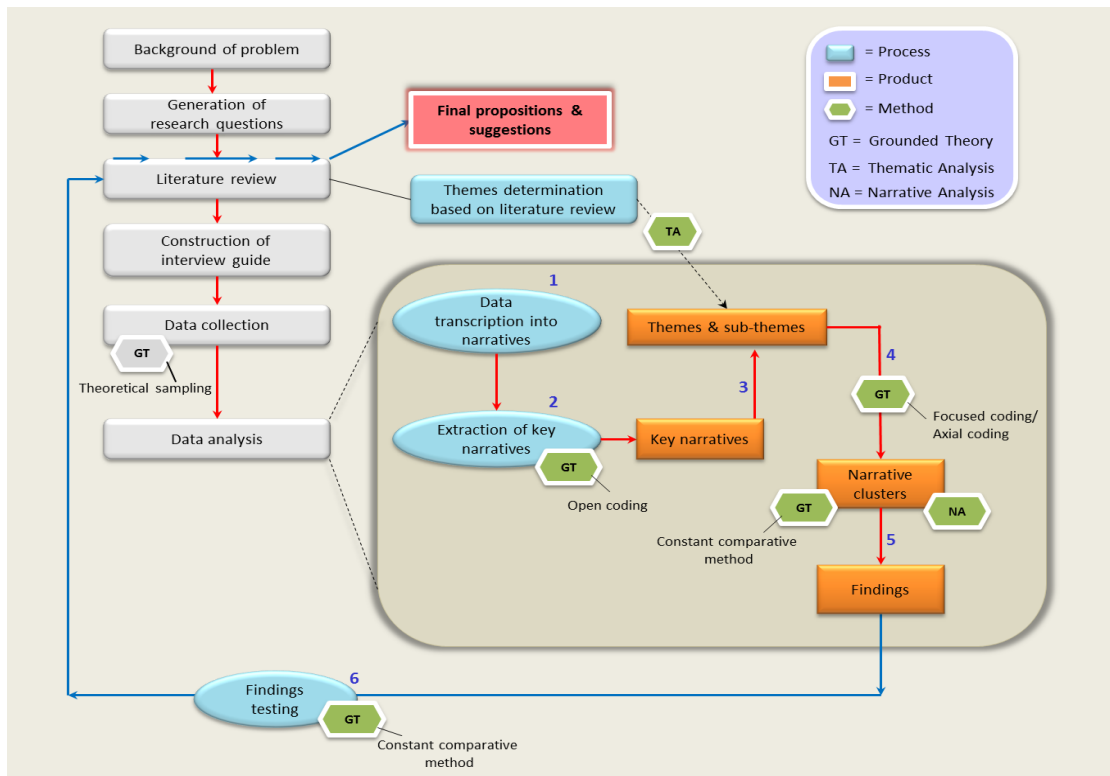


Figure 5.2 Data analysis using thematic analysis and narrative analysis

1. Transcribing the interviews was undertaken in two stages. This meant focusing on the content of what was said in the conversations without taking into account pauses, intonation, rhythm, hesitation or body language, in the process of producing ‘clean’ transcripts (Elliott 2005: 25). This also involved removing repetition, false starts, and non-lexical utterances, or otherwise ‘editing out the messy features of everyday speech’ (Elliott 2005: 52). The second stage was to revisit the transcripts by listening to the interview records to ensure that no important message had been missed in the process.
- 2-4. Narratives were identified by categorising similar responses to the sub-themes to generate narrative clusters (sometimes three to four narratives to each sub-theme), according to categorical narrative analysis (Lieblich et al. 1998), where ‘short sections of the text are extracted, classified, and placed into categories for analysis’ (Elliott 2005: 38).
- 5-6. Findings and any hypotheses generated from the analysis followed (see Chapters 6-9). This stage follows what was suggested by Charmaz (2006: 165) as the constant comparative method of grounded theory with literature review to ‘serve as valuable sources of comparison and analysis’.

Conclusion

In this chapter, the fieldwork analytical techniques were described. Subsequently, the analysis and result finding is carried out over four chapters. First, Chapters 6 and 7 present the responses and first stage of analysis in relation to each separate overarching theme of the interview questionnaire. Second, Chapter 8 presents the second stage of analysis: a detailed analysis of the findings of the three overarching themes together, to derive the main suggestions in Indonesian context for development of effective community engagement for developing adaptive capacity. Third, in Chapter 9, the results of Chapter 8 are compared back to the literature review, and final suggestions are then drawn as to effective community engagement for appropriate adaptive capacity building in vulnerable communities of Indonesia.

Chapter 6

Fieldwork Analysis Stage 1

Theme 1: Existing Community Participation Practices in Environmental Management, Natural Disaster Management and/or Climate Change

Introduction

In following the research approach set out in Chapter 1 and the fieldwork components described above, this chapter and Chapter 7 present the first stage of analysis of fieldwork interviews (38) conducted in Indonesia in February 2012 and in December 2013. The purpose of this chapter and Chapter 7 is to present the analysis of the interviewees' responses on the three key themes of what might effective community engagement involve, as identified in the extensive literature review discussed in Chapters 2-4. In analysing the responses to each thematic section of the questionnaire, I organised the analysis by thematic section: the first one is discussed in this chapter; the other two in Chapter 7. At the start of each thematic analysis, I provide a description of its theme and a table of the theme and its sub-themes (that reflect the questionnaire questions). I then provide a summary discussion of the analysis and findings.

Theme 1: Existing community participation practices

The theme of existing community participation practices explores how community participation is perceived and defined by respondents; and what they had observed, understood or thought about existing community participation practices with regard to environmental issues, natural disasters and/or climate change impacts. This theme relates to Research Question 1, and ultimately the primary aim of the thesis; that is, to evaluate and suggest appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity

building in Indonesia. The four key questions, forming the sub-themes of this theme, are shown in Table 6.1.

Table 6.1 Theme 1 sub-themes

Theme 1: Existing community participation practices	
Sub-Theme 1.1	Definition of community participation
Sub-Theme 1.2	The most common form of community participation practices
Sub-Theme 1.3	Successful and unsuccessful community participation practices
Sub-Theme 1.4	Mechanism/approach for community participation to respond to environmental issues, natural disasters or climate change impacts

Sub-Theme 1.1: Definition of community participation

This sub-theme was considered as the best starting point for addressing the main aim of this thesis. Detecting respondents’ definition of community participation is most important as it relates to understanding the current shaping of the actual practice of community engagement in Indonesia. Such practice may or may not sufficiently represent effective community engagement as it is understood by a variety of relevant actors and in the international literature. Therefore, it is important to understand where the influential policy actors in Indonesia stand on this topic and their divergences and convergences in definition.

Of 38 respondents, 26 (or 68%) responded to this question. The respondents raised three narrative clusters. The percentage weightings of these responses are also presented in Table 6.2 (note that the percentages in all tables are rounded up to the nearest whole number).

Table 6.2 Responses on Sub-Theme 1.1—Definition of community participation

Narrative Cluster	Respondent ID (n = 26)	%
Active involvement in the whole process	G1, G2, G3, G5, NG1, LGS1, LGS2, LGB3, LNGB1, LNGS1, LNGS2, CS9, CB4, CB5, CB7	58
Participation in government-owned program	CB2, CS5, CS8, LGS2, NG2, LGS1, G1, G2	31
Communities propose their needs to the government	LGS4, LGB1, LGB2, CS1, CS2, CB1, CB2	27

Note: G = Government; LG = Local government; LGS = Local government in West Sumatra; LGB = Local government in Bantul; NG = NGO; LNGS = Local NGO in West Sumatra; LNGB = Local NGO in Bantul; CS = Community in West Sumatra; CB = Community in Bantul.

Each narrative cluster is now discussed in turn.

Active involvement in the whole process

Fifty-eight per cent of respondents defined community participation as the *active involvement of community in a whole process of decision-making from planning to implementation and to monitoring*. A central government respondent (G1) was among the respondents who advanced this definition. Various others emphasised this understanding. Two local NGO representatives and one central government representative, for example, perceived that community participation is the active involvement of community to solve their own problems (respondents LNGS1, LNGB1 and G5). A central government official (respondent G2) and local government official (respondent LGB1) highlighted the role of community groups in channelling communities' voices to this understanding. In emphasising the significant role of community, a central government official (respondent G5) suggested government should only play an observer role while helping to ensure proper implementation of a program in response to environmental issues, or natural disaster or climate change impact as its focus (hereafter any mention of 'program' relates to this focus). A typical definition was the response of a government respondent (G3) who highlighted collaborative partnership between government and communities to achieve sustainability of a program:

[Our institution] does not want a top-down [approach] as we care about sustainability [of a program]. [Our institution] and community will collaboratively develop [the program], so that if we were not anymore in charge of the program, the community could continue it by themselves.

Another definition expressed by a local NGO (respondent LNCS2) emphasised the role of community as the actor that should be driving the program, not as its recipient 'object'. In other words, the community should engage in the whole process of decision-making of a program from planning to implementation and monitoring, not just be the passive beneficiary of the program. Other responses highlighted the need to raise community awareness of the problems and their needs to have active participation in a program (respondents LNCS1, G2, G5 and LGB1). Nevertheless, a central government official (respondent G1) argued that such participation would be hindered when a program's activities involved high technology, and/or required the community, especially the poor, to bear the financial costs of them. In this case this respondent suggested that the community could participate in construction works, which might suggest an ambivalence of the respondent's understanding of community participation. This because this respondent previously aligned to Mulligan and Nadarajah's (2008) definition on community participation as active or meaningful inclusive engagement. Indeed, respondent G2 argued that stakeholder misinterpretations on defining community participation were common:

We need to conduct in-depth analysis on existing participation practices so we can have conclusions that such practices are indeed in accordance with the definition of community participation. Often "participation" is seen as limited to any activity involving them [the community] so that attendance is also perceived as participation. This understanding is common among various levels and elements of stakeholders, including NGOs. [Another misunderstanding is where NGOs] are about to conduct a focus group discussion within an advocacy process, they invite their fellow NGOs or friends that are considered to represent the community. This [practice] is seen as sufficient of participation process.

In contrast, a local NGO respondent (LNGS1) opined that participation is not only attendance at a meeting but more how a community expresses its views within the decision-making process. In turn, a non-government respondent (NG2) stressed that because of the heterogeneity of NGOs in terms of their scope and type of activities, they could not be seen to represent the community per se. Similarly, a local non-government respondent (LNGS2) argued that NGOs have their own agendas that are not necessarily based on the needs of the community, thus involvement of NGOs in a project cannot adequately represent the community.

A local government representative asserted the importance of government direction for community participation practices, which was the position also of a local government respondent, LGS1, and a community respondent, CB1:

Community participation still needs to be directed by the government so as to meet government expectations. Although we entrust the community to deliberately express their views, inputs from the government which understand more on the direction of development policy are still required (LGS1).

This understanding appears to align with the suggestions of Carr (2002), Dovers (2005), and Posthumus et al. (2010) for a combination of bottom-up and top-down approaches to ensure adequate community participation involving the representation of all relevant stakeholders (also, Ivey et al. 2004; Pettengell 2010). All community respondents of this view stressed that most of their activities were community-based but currently did not involve government intervention. In most cases, they reported that government became involved after the program had been successfully implemented, and then acknowledged the program for replication by other communities.

Participation in government-owned program

Community participation was understood by 31% of respondents as the involvement of community in government-owned programs, as was typically expressed, for example, by a national NGO respondent, (NG2): ‘Community participation means that government owns a program, government runs it, and then the community participates in it’. Similar views were expressed by three community representatives

(CS5, CS8, CB2) supported this view, for example, CB2 stated: ‘Communities will obey and follow any government direction and initiative as long as it does not incur disadvantage to a community’.

Three local government respondents (LGS2, LGB1, LGB2) also agreed with this understanding of participation by a community in terms of labour or financial contributions to government-initiated community programs. Respondent G1 expressed this understanding as:

Communities in coastal areas are very condensed. If there are tsunamis or extreme waves they will get drowned. One solution is reclamation, and to build stilt houses. Building 2500 houses, it can’t be done through community participation, because of its high cost. For a community to better participate is through mangrove planting because this doesn’t require high technology.

Community proposes their needs to the government

Twenty-seven per cent of respondents — mainly community representatives and local governments — expressed their understanding of community participation as the practice of delivering community-developed proposals on community needs to the *Musrenbang*,²⁴ in processes of regional development planning consultation.

Sub-Theme 1.2: The most common form of community participation practices

Thirty-five respondents mentioned several forms of community participation when asked about the most common form of community participation in environmental issues, including natural disaster or climate change impacts that they have experienced, managed, or been involved with. They were also asked their impression of such forms with regard to any inadequacies or problems in relation to them. These are grouped into three main narrative clusters as shown in Table 6.3.

²⁴ *Musrenbang* or *Musyawah Perencanaan Pembangunan* is a stakeholder forum designing national and regional development plans according to Act No.25/2004 National Development Planning System). The concept of *Musrenbang* was outlined in Chapter 4 in some detail.

Table 6.3 Responses on Sub-Theme 1.2: the most common form of community participation practices

Narrative Cluster	Respondent ID (n = 35)	%
Community-based actions	CB1, CB2, CB3, CB4, CB6, CB7, CB8, CB9, CB11, CS1, CS2, CS3, CS4, CS5, CS6, CS7, CS8, CS9, LGS1, LGS2, LGB1, LGB2, LGB3, LGS4, NG1, NG2, G4, LNGS1	80
Community consultation	G1, G2, G3, NG2, LGS1, LGS2, LGS3, LGS4, LGB1, LGB2, CS4, CS5, CS9	37
Communities as passive beneficiaries	G3, G5, G6, NG2, LGS3, LGS4, LNGS2, LNGB1, CS3, CS5	29

In the following, each narrative cluster is discussed in turn.

Community-based action

Local participation, also known as ‘community-based action’, was considered by 80% of the respondents to be the most common form of participation practiced by communities that were addressing environmental issues, and natural disaster and climate change impacts. Community-based action as mentioned by the respondents includes collective action, also known in Indonesia as *gotong royong* (see Chapter 4) (respondents LGS2, LGB3, LGS4, CS7, CS9, CB1, and CB3); community self-support (respondents CS3, CS7, LNGS1); community-based disaster preparedness (respondents LGS1, CB1); actions by community groups (respondents NG1, LGS1, CS1, CS2, LNGS1, CB2, LGB1, LGB2, LGS4); and/or community actions based on problems faced (CB4, CB6, CB7, CB8, and CB11).

Typically, *gotong royong* is a common form of spontaneous community action carried out in the aftermath of natural disasters such as earthquakes and landslides. For such natural disasters, a collective community-based action would include removing *debris* from homes and cleaning collapsed houses (respondent LGB1), or cleaning up the mess after landslides (respondent CB3). On community self-support, respondent CS3 stated this was carried out in responding to sea level rise, which involved collecting donations from community members and community team actions in building embankments. A local NGO respondent (LNGS1) also stated that an example of community self-support was where community members

with financial capability typically and quickly repaired or rebuilt collapsed houses without expecting government aid.

In turn, community-based disaster preparedness programs mentioned by the respondents mainly responded to tsunamis; for example, evacuation drills. What these respondents meant by ‘community-based disaster preparedness’ was that the community with the guidance of local government and/or local NGOs designed the disaster preparedness program for the community to be carried out independently in the event of any natural disaster. To ensure the effectiveness of this program, periodic evacuation drills, which involved local government, NGOs and the community, were carried out.

Community-based actions were also stimulated by problems faced by community (respondents CB4, CB6, CB7, CB8 and CB11). A community representative (CB4) mentioned that community-based action in his village was triggered in the aftermath of the earthquake, which had destroyed 98% of houses in the village. In the spirit of rebuilding the village as well as in preparedness of future disasters, community started community-based actions, which include identification of problems followed by formation of teams to address identified problems.

The respondents also stated that communities’ utilised traditional and local knowledge handed down over the generations to carry out community-based actions (G4 and NG2). Some examples given were community-based actions in identifying evacuation routes, typically with the guidance of NGOs (respondent LNKS1); securing food stock in adapting to cyclone and building stilt houses in adapting to floods (respondent G4); identifying changing weather patterns (respondent CS1); or identifying the cause of decreasing fish production (respondent NG2). This aligns with Chapter 4, which found local communities in Indonesia uphold a wide range of local knowledge. Further in emphasising the benefit of involving communities, a local NGO respondent (LNKS1) argued that in some cases, involving the community in identifying evacuation routes in their village was not only beneficial for disaster preparedness, but also in other aspects such as to improve access between two villages.

Community groups were found to be an integral part of community-based actions. Two community respondents and a local government official (respondents CS1, CB2 and LGB1 respectively) were of the view that community groups were useful in channelling community voices and needs to government. Respondent CS1

highlighted the significant role of the group leader to ensure the delivery of the group's aspirations to the government, while respondents CS1 and CB2 mentioned that examples of such groups were farmer and fishermen groups. However, respondent CS2, a fisherman group leader in the area, expressed confusion on where to forward proposals from the community. Thus far, the proposals are submitted to government offices, which were assumed relevant to the issue at stake.

Community group participation was common in executing disaster recovery activities such as rebuilding collapsed houses (respondents NG1, LGS1, LNGS1 and LGB2). With regard to the groups for executing disaster capacity building and recovery activities, an NGO representative (respondent NG1) described a training program on how to build earthquake resistant houses. As part of the training session, the groups competed to build houses that most complied with earthquake building codes. Later, in building community houses, the groups played the main role, and were merely supervised by the NGO. However, this respondent suggested, as was also mentioned by other respondents (LNGS1, LGB1, LGB2, and CS3), that degree of community participation might vary according to the severity of the impact of a natural disaster. Further, respondent NG1 suggested that participation increased from emergency response, early recovery, recovery and reconstruction in the aftermath of any particular disaster, through to preparedness for future disasters. Other respondents (LNGS1, LGB1, LGB2, and CS3) highlighted that the more severe the disaster was, the less participation there was of the community, with dependency increasing on the government to provide disaster relief packages.

Respondents also raised several problems involving this form of participation as particularly evidenced by a gradual erosion of *gotong royong* due to several factors. First, the role of community leader, which traditionally played a significant role in promoting *gotong royong*, has weakened over time (respondent LNGS1 and CS4). Second, the increasing flurry of daily activities to earn a living leaves little time for community members to participate in *gotong royong* (respondents CS3, CS4, CS5, CS7, CB5, and LNGB1). Yet, in the case of community self-support, this action was mainly carried out in response to government inaction to community needs (respondents G4, NG2, CS3, CS4, and CS9). Community self-support, however, was paralysed by poverty as the main

reason why the community in Mega Marina²⁵ had not done anything more to respond to sea level rise after the first embankment, built through community donations, was severely damaged due to an earthquake (respondent CS3). Since then, according to this respondent, the community had been desperately seeking government aid to rebuild a better-constructed embankment. However, a local NGO respondent (LNGS1) added that the voluntary spirit of community-based action was also tainted by the approach taken by some NGOs who paid the community for the disaster response works the community had done.

Community consultation

A different form of community participation to that of grass-roots participation was top-down government-initiated consultative practices, referred to here as 'community consultation'. Community consultation was mentioned by 37% of respondents as the most common form of community participation for environmental issues including natural disasters and climate change impacts. A local government respondent (LGS1) explained that in drafting the regional plan for five-year natural disaster management, his agency involved several stages of public consultations before the plan was adopted. This process was in the form of meetings with relevant stakeholders, including representatives of government agencies related to disaster management as well as NGOs. In such public consultations, respondent LGS1 added that the community was typically represented by a community consultative board, NGOs, and the head of sub-district.

Further, a central government official (respondent G1) suggested that community consultation is particularly appropriate for high cost adaptation actions where there is a role for the community in consultation during planning stages. This respondent argued that prior awareness of the community on any issues raised was important in engaging the community in adaptation actions. Such awareness could be raised, as the respondent suggested, by using scenarios on sea level rise and its predicted impacts at the community level. Similarly, a central government official (respondent G2) underlined the need for community awareness and understanding of any issues to avoid rejection of or resistance to community adaptation proposals.

²⁵ A community town house area which has been experiencing periodic sea level rise in Padang, the capital city of West Sumatra.

Some local government respondents (LGS1, LGS2, LGS3, LGS4, LGB1, LGB2) also outlined that the outcomes of community consultation were channelled into development proposals through community representatives by way of the *Musrenbang*. However, respondents LGB1, LGB2, CB8, CS4, and CS9 expressed their concern about the low acceptance of proposed programs through *Musrenbang*. Another constraint raised by a local government respondent (LGS1) was the low level of representativeness of community in *Musrenbang*:

We can't ensure that community leaders who involved in *Musrenbang* were certainly representing and voicing community's aspirations, while community itself has limited capacity and time constraints to deliver their aspirations through *Musrenbang*. The interests of community leader were not necessarily representing community's interests.

With regard to any shortcomings of existing forms of community consultation, an NGO representative (respondent NG1) argued that community consultation could only be effective in community-level meetings rather than at the provincial or district level meeting. This respondent mentioned that provincial and district level meetings aiming to design and plan disaster recovery activities — including knowledge sharing from experts on how to build earthquake-resistant constructions — were attended only by local government agencies, academics and NGOs. At this level of meeting, communities tended to hold back their views and opinions. This respondent opined that this 'silence' was due to a hesitation and lack of confidence of the community in expressing their views in the presence of high government officials. Subsequently, he argued that meetings at the community level would be more effective for meaningful participation of communities.

Communities as passive beneficiaries

Twenty-nine per cent of respondents mentioned that many communities were passive beneficiaries of government, NGO or donor agency projects. Two central government respondents and a national NGO respondent (G5, G6 and NG2 respectively) were of the view that most environmental programs were project-based ones that treated the community merely as objects in the programs, not participants. They highlighted that this top-down and non-participatory approach was initially

designed and planned by ‘external’ stakeholders, including government, NGOs or donor agencies, and that the community took part only in the implementation of programs. A central government officer respondent (G3) reinforced this observation. This officer described how an ongoing local level climate change mitigation and adaptation program of one ministry did not directly involve communities in the planning process of the program. Instead, at the planning stage, communities were involved only in surveys to obtain information regarding the actual conditions of existing mitigation and/or adaptation actions run by the communities. Respondents G5 and NG2 opined that this approach was adopted due to governmental perceptions that government and experts were more knowledgeable than communities on any issue at stake. Thus, the government should take the lead in identifying and initiating solutions or modifications for any government project, as was indicated by respondent NG2:

The government always perceived that they know more and they must initiate [the program], the community must participate. So that following the development of the concept [of the program] the government then introduce [the concept to the community].

A government official (respondent G6) who reinforced this perspective saw the community as having limited access to information and education to enable informed responses, despite the existence of local knowledge.

Another view, expressed by a local NGO respondent (LNGS2), was that passive participation was the result of entrenched top-down governmental and hierarchical decision-making systems that left little opportunity for community members to be involved meaningfully in decision-making processes. This respondent added that such practice was perhaps exemplified where donor-funded programs, such as those related to disaster response programs, had been entirely designed by NGOs, because the NGO was bound to a contract with the donor, thus the program should meet donor targets. In this instance, communities were expected to run the programs with no opportunities provided for them to take part in designing the programs or in decision-making processes. This respondent added that typically, communities accepted the program without objections.

Sub-Theme 1.3: Successful and unsuccessful community participation practices

Analysing successful and unsuccessful practices of community participation and identifying the key determinants for success and failure help us to understand the strengths and weaknesses of existing practices of participation. What then might be lacking at the national and local levels is necessary input for suggesting appropriate participatory strategies at the community level in highly vulnerable areas to inform effective adaptive capacity building in Indonesia. In the following sections this sub-theme is split into Sub-Theme 1.3.a, which looks at successful or high community engagement, and Sub-Theme 1.3.b, which looks at unsuccessful or low community engagement.

Sub-Theme 1.3.a: Successful or high community participation

Eighty-three per cent of respondents (n = 20) suggested key determinants for high community participation, or considered as successful participation, as shown in Table 6.4, as identified by narrative clustering of their responses. In the following, each narrative cluster is discussed in turn.

Understanding the issues

Forty-five per cent of respondents believed that communities participated more in the decision-making process when they understood the risks and issues associated with the environment, natural disasters or climate change. Two non-government respondents (LNGS1 and LNGS2) mentioned that better understanding of risk increases communities' willingness to participate in a program. Scientific simulations, for example, as suggested by a central government respondent G1 and a local government respondent LGB2, could increase community understanding on the issues they faced.

Community leader

The role of community leader was believed by 42% of respondents to influence the success of community participation. One community representative (respondent CB3) opined:

In the aftermath of the earthquake, under the savage conditions, with almost all houses collapsed, no one could think clearly. To overcome the situation [people] built temporary shelters in the village hall yard to evacuate to, and some were settled in the paddy field. The community managed the food supply. A week later aid arrived, and one of us organised the aid by listing the evacuation posts. The aid was organised through one channel, and the work to rebuild the houses was managed through *gotong royong* ... the system was created by the people themselves. The one who raised the idea of creating the system was Mr. Hariyanto; he's a policeman. Perhaps because his house was also totally damaged, this situation motivated him to organise his fellow neighbours' houses also damaged, and indeed he's been a community leader [in the village].

Similarly, a local government respondent, LGS2, revealed the role of a community leader as a model for a tree planting activity in a coastal area, which, in turn, was adopted by all community members in close proximity. Similarly, respondents CS7 and CS9 stressed the important role of community leaders as the model for environmental-related activities. In addition, a local government respondent, LGS3, involved in the API Perubahan project,²⁶ suggested that a participatory approach involving a community leader was imperative for the local community to support the project. A local government official (respondent LGS4) opined that community leaders should include clergy and customary heads to strengthen participation.

Experiencing the problem increases community participation

Thirty-nine per cent of respondents believed that successful community participation could be achieved through hands-on community awareness of posed problems/impacts by way of prior experience of such problems. This awareness would thus motivate experienced communities to actively engage in responding to environmental issues, natural disasters or climate change impacts. A community in Bedono, East Java, for example, agreed to participate in an adaptation program after

²⁶ API Perubahan project was a project of Mercy Corps Indonesia or Climate Change Adaptation and Disaster Risk Reduction for Resilience project. This program aims to build capacity of stakeholders from government, communities and private sectors, to contribute in increasing communities' resilience to cope with natural disasters and climate change impacts.

its village had been permanently inundated by sea level rise. A central government respondent (G1) commented:

Two years prior to the inundation, I came to the village. They only knew about embankment, that's all. I told them no, try to plant mangroves as it could halt the rate [of sea level rise] and also increase fish production ... At that time [the number of mangroves] was still very few, the community banned [mangroves] to be planted in their sea ponds because they were afraid of losing their sea pond coverage if mangroves were planted there. [I] deliberately told them, but they didn't want [to agree]. Within two years [they village] was inundated; they then agreed [to take action and participate].

More responsive was the community in Padang of West Sumatra Province, which built embankments in its area with support from donations from community members. This community had long experienced local sea level rise by way of periodic inundations (respondent CS3). Similarly, a local government respondent LGB2 remarked: 'Tree planting was the government instruction for a wind barrier ... the community participated in the planting program because they had experienced strong winds'.

Mechanism/system in place

Twenty-nine per cent of respondents supported having a participatory mechanism or system in place for successful community participation. A community representative respondent (CB1) mentioned rules on disaster response, set and agreed by the community, would increase participation. Suggestions for inclusion were guidelines (respondent NG1); clear planning on a program understood by all actors (respondent CB3); and procedures, such as for early warning to respond to natural disasters (respondent LGB3). A local NGO respondent (LNGB1) also suggested a participatory community task force, for example, with regard to disaster responses carried out in Plered Sub-District of the Yogyakarta Special Region Province. In turn, a local government respondent (LGS4) argued the need for transparency in any mechanism/system of a program, especially with regard to financial matters to build trust among community members and thus increase participation.

Table 6.4 Key determinants for successful or high community participation

Narrative Cluster	Respondent ID (n = 31)	%
Understanding the issues	G1, G4, NG1, LGB2, LGS1, LGS4, LNGS1, LNGS2, CB5, CB7, CB8, CB10, CB11, CS7	45
Community leader	CB3, CB4, CB5, CB8, CS1, CS4, CS7, CS9, LGS2, LGS3, LGS4, LNGB1, LGB3	42
Experiencing the problem increases community participation	G1, LGB2, CB4, CB6, CB7, CB8, CB9, CB11, CS3, CS4, CS9, LGS4	39
Mechanism/system in place	NG1, CB1, CB3, CB4, CB6, CB8, LGB3, LNGB1, LGS4	29
Approaches taken to engage community	CB2, CB5, CB6, CB8, LNGB1, LGS3, LNGS1	23
The influence of culture and religion	G1, LGS4, CB3, CB10	13
Strong and respectful relationships between government and community	CB2, CB6, LGB3, LGS3	13
Government commitment to program	G5, LGB3	6
Sense of place	G5, LGS4	6

Approaches taken to engage community

A local NGO respondent (LNGB1) repeatedly highlighted the significance of a committed or agreed upon approach, especially a personal approach, to a community in order to have successful community participation. This was echoed by respondent LNGS1 who suggested a persuasive approach was the most effective way to build rapport with the community. This respondent was among the 23% of respondents that mentioned this approach as best. This respondent also advanced the argument that different regions required different approaches to engage them, depending on their values and attitudes. For example, a community in the City of Padang would probably be more approachable through government administration; in Padang Pariaman, an approach through a community leader might be better (respondent LNGS1). As this respondent related:

There was a case when we came to a community and invited them to a meeting to introduce a program, but because we didn't initially embrace

senior customary head in the area, from 70 invitations only three attended the meeting. Realising such ignorance, we then approached the senior customary head, and surprisingly the next day almost all invitees appeared in the meeting.

A local NGO respondent and community respondents (LNGB1, CB5 and CB6) added that following the acceptance of the program by the community, community cadres needed to be appointed and trained to ensure the sustainability of the programs. The example of the role of customary head for an acceptable approach supports the argument of Soemardjan et al. (Soemardjan et al. 1993) that the role of customary head in most cultures in Indonesia is still imperative in bringing together the local community.

The influence of culture and religion

Culture and religion also emerged as an influence on the participation levels of communities (13% of respondents), as advanced by respondent CB3:

The community is still holding the value of being independent and developing their own [plans]. We always remind each other that everything in this village belongs to us, so we have to be responsible for any damage to it. For example, this road, because of its topography, has experienced small landslides. But there were other perceptions in the community that the authorised party for road maintenance was the government ... But this road is a community asset and is the only road we have and if it gets damaged we will lose it, so in this village we are holding this belief that this [road] is ours.

Another respondent of local government (LGS4) also stated that customary law taught the community that *gotong royong* relates to the notion of 'good deed' within Islamic teaching. In addition, two community representatives (CB1 and CB2) argued that their community did not do anything to respond to sea level rise, as it was uncontrollable and perceived as an act of nature, God or fate, and thus unresolvable. Respondent CB1 even associated the sea level rise as the act of *Nyi Roro Kidul*, a legendary Indonesian spirit of Javanese mythology, also known as the Queen of the Southern Sea of Java. With such a belief, this respondent argued that the only person

who could have contact with the Queen and thus ameliorate the problem was the Sultan.²⁷

Strong and respectful relationships between government and community

Thirteen per cent of respondents agreed that the relationship between government and community plays a significant role for high-level community participation. As argued by respondent LGS3, strong and respectful relations between the sub-district government and the community triggered willingness to participate in the API Perubahan project. A similar response stated by community respondent CB2 was that as long as a good working relationship existed between communities and government, communities would follow government programs. A local government officer (LGB3) also mentioned that this kind of ‘partnership’ relationship builds trust amongst the parties, which is crucial for effective participation. A local NGO respondent (LNGS1) opined:

Community does not always crave for government funding but sometimes what they want is only the presence of government in community’s activities to demonstrate government support on community.

Government commitment to program

Six per cent of respondents raised government commitment to a program as a hallmark of high-level community participation. For example, a central government official (G5) argued that successful community engagement worked when the government, especially local government, had a high commitment to support the community. The need for government commitment was also mentioned by a local government respondent (LGB3) as a key determinant in the success of community participation in disaster response activities. The respondent detailed that government commitment in terms of logistics, such as food, water, clothing, medical supplies for disaster relief, and a reserve fund, were necessary to support community engagement. This also reflects the view of Dovers (2005).

²⁷ Sri Sultan is the current monarch of the historic Yogyakarta Sultanate. He is currently also the elected governor of the Yogyakarta Special Region Province.

Sense of place

High positive emotional attachment to one's hometown, community or place was seen as a key motivation of any community to engage in activities in response to environmental issues or natural disaster or climate change impacts, as opined by 6% of respondents. Sense of place means — as mentioned in the literature review of Chapter 2 — how a community attaches psychologically to the area where they live, where a high level of place attachment strengthens community commitment in protecting a place when faced with environmental or other disruptive activities (see Devine-Wright 2009). This was shown, for example, by the experience of the community of Taratak Baru Village of West Sumatra in responding to floods, where the community worked for two days to rebuild the road by hand with the Indonesian Army because of high place attachment of the community to their village (respondent LGS4). A government official also mentioned that the community's sense of ownership of their village provided the incentive to redevelop it (respondent G5).

Sub-Theme 1.3.b: Unsuccessful or low community participation

In turn, 83% of the respondents raised problems that contributed to low community participation practices. Table 6.5 shows seven narrative clusters drawn from respondents as the key determinants attributed to unsuccessful or weaker practices than otherwise might have been. In the following, each narrative cluster is discussed in turn.

Poverty

Thirty-seven per cent of respondents raised poverty as a key factor contributing to low community participation. A government official (G1) made a typical line of argument as such:

Poverty is the main factor for low participation. Even if [the community was] still to be engaged, we need to give them compensation because they are losing their earning [for the day they are engaged in a program].

Table 6.5 Key determinants for unsuccessful or low community participation

Narrative Cluster	Respondent ID (n= 30)	%
Poverty	G1, CB1, LGB2, CB8, CB9, CS3, CS5, CS6, CS9, LGS2, LNGS2	37
Lack of understanding on the issues	NG2, LGS2, CB1, CB7, CB11, CS6, CS7, CS9	27
Approaches taken to engage community	G5, NG1, LGB1, LGB3, LNGB1, LNGS1, CS8	23
Low sense of place	CS3, CB6, CB7, LGS3, NG1	17
Conflict of interest among key players	G4, G5, NG2, LGB2	13
No mechanism in place	G2, CB1, CS2	10
Lack of leadership	CS4, CS5, CS8	10
Increasing flurry of daily activities to earn a living leaves little time for participation	CS4, CB5	7

This problem was echoed by a local government respondent (LNGS2) and by a community representative (CB1) in highlighting that villagers in poor coastal communities found it tough to earn a living, which then resulted in very few community members having sufficient time or willingness to participate in *gotong royong*. Another community respondent (CS3) — in commenting on community reluctance in his area to attend community meetings aiming to solve the problem of tidal wave flooding — also pointed out that the people were low income workers, where earning a living was more important for them. This view was also opined by community respondents CS5 and CS7. In turn, the low financial capacity of any community evokes a community’s dependence on government, as related by a local government official (respondent LGB2):

The community in this area could not do anything to respond to the periodic tidal wave floods that reached the road and collapsed community kiosks, but report to the government. Unfortunately, the government has not had any plan [to respond].

Poverty correlated to low education. This, in turn, a local government respondent (LGS2) opined, hindered the implementation of environmental enhancement programs that required active participation of the community, as they were hardly understood by the community. A respondent from a local NGO (LNGS2) remarked on the role of community leaders as one of the solutions to this problem; for example, to bridge community action with government action or interest. Finally, a central government respondent (G2) argued that low levels of community education also resulted in rejection of project proposals developed by the community related to environmental issues, as the proposals were typically not scientifically acceptable. This respondent then proposed capacity building that included community education and awareness raising and empowerment as a key solution to this important problem.

Lack of understanding of the issues

Twenty-seven per cent of respondents believed that lack of understanding of the issues at stake was a key factor contributing to low community participation. An NGO representative (respondent NG2) illustrated this problem with the example of an unsuccessful tree-planting program. The respondent argued that this failure was because the communities involved were instructed only on how and where to plant the trees, without understanding the objective of the program, which then resulted in low participation rates. Other respondents (LGS2, CB1, CS7 and CS9) from local government and community opined that lack of understanding and awareness created reluctance amongst community members to engage in these activities.

Understanding of any issue was compounded by community culture and low community education, which, in turn, further influenced low participation in disaster response programs. As a local government respondent (LGS1) related:

The community accepts government directions [in building the earthquake-resistant houses], but culture creates deviation in perceptions [of building] so that what the community has done did not conform to government directions.

As respondent LGS1 noted, instead of building the prescribed earthquake-resistant houses, the relevant community tended to build houses that met their need for larger

shelter to fit their extended families, which resulted in them being less resistant to earthquake.

Approaches taken to engage community

Twenty-three per cent of respondents agreed that an inappropriate participatory approach to any community might hinder any meaningful participation of that community and thus lead to unsuccessful or ineffective participation. An NGO representative (NG1) and a local government official (LGB3) critically remarked on the approach some donor agencies or NGOs have taken in delivering aid to affected communities in the aftermath of natural disasters. The agencies and NGOs provided many community needs including reconstruction of communities' houses, but missed the vital local community need to be involved in the decision-making on such provision. In some cases, the community was even paid to carry out disaster recovery works such as reconstruction of their own homes, or in taking part in disaster response simulations. This approach was seen as pampering or patronising the community and thus diminishing community willingness to participate voluntarily and reduce community's initiatives, which then led to a loss of involvement associated with ownership of place and finally to disinterest, resentment and inaction (respondents G5, NG1, LNGB1, LGB1 and LGB3).

Low sense of place

Seventeen per cent of respondents raised the issue of sense of place. Sense of place, however, is less apparent in communities where most residents are tenants who come and go as they like, which became apparent in one coastal area in Padang, the capital city of West Sumatra Province (respondents LGS3, CS3). A community representative (CS3) argued lack of place attachment affected community attendance at community meetings in addressing problems of tidal wave floods (also respondent LGS3). A national NGO (NG1) also associated this problem with status of occupation:

The difficulty [of participation] is that most of them are workers, not local residents, [who] work far from their residence. This makes it difficult to set the time of community consultations or meetings.

Conflict of interest among key players

Thirteen per cent of respondents were of the view that conflict of interest among key players contributed to low participation; for example, between government and community. Conflict over program planning and implementation was the major cause of inconsistencies in aligning government programs to community needs (respondents G5, NG2, LGB2). Disaster response programs in Aceh in northern Sumatra offered good examples of lack of interest because of such conflict and low community participation, according to central government respondent G4. Fuelling the conflict, this respondent added, was that the interests of government and the donors were most often considered more important than those of the community. A further problem for the locals was that foreign technical experts were often hired who could not even speak the local language to design and implement community disaster response programs, which also sharply conflicted with community preferences.

No mechanism in place

Another determinant for low participation, raised by 10% of respondents, was the absence of appropriate mechanisms for participation. One respondent, a central government officer opined:

Community participation has been formulated and recognised in various regulations and acts. The failure was when it was ended in normative level; [we] didn't talk about how to develop the mechanism so as to implement it [the participation] properly (G2).

At the community level, procedures to submit community proposals were also not always in place; thus respondent CS2 — who was a group leader of fishermen — expressed confusion about which government institution he should forward community proposals to.

To address the consequence of low participation because of the lack of an appropriate mechanism for community participation, community respondent CB1 argued that if a community member was not able to participate in *gotong royong*, for example, one appropriate mechanism might be that the person should have to pay

money as compensation. This would act as an incentive to participate, albeit a coercive one that might not be appropriate for poor community members.

Lack of leadership

Ten per cent of respondents mentioned lack of leadership as the main factor for unsuccessful community participation. A community respondent (CS4) opined that community awareness is highly dependent on a leader: ‘Lack of attention of the community leader to community affairs leads to lack of community willingness to participate in a program’.

Similarly, community respondents CS5 and CS8 argued that the absence of a leading figure in a community village decreased social bonding among community members, which respondent CS5 argued needed to be done for adequately nurturing youth groups and increasing their motivation in performing community activities.

Increasing flurry of everyday activities

Respondent CS5 was among seven per cent of respondents who argued that the increasing flurry of a community’s daily economic activities reduced community willingness and concern about undertaking community’s programs. This aspect of community life was also associated with higher individualism and lower ‘togetherness’ among community members, which was, again, seen to contribute to lower participation in community programs.

Sub-Theme 1.4: Mechanism/approach for community participation to respond to environmental issues, natural disasters or climate change impacts

As in Sub-Theme 1.3, Sub-Theme 1.4 also aimed to identify strengths and weaknesses of existing practices of participation, here, through understanding the mechanism/approach of participation. As such, respondents were asked to describe existing mechanisms or approaches for community participation on who initiates participation processes; and constraints to participation; and what might overcome these constraints. Twenty-eight or 74% of respondents provided this sub-theme with two narrative clusters, as shown in Table 6.6. With regard to these narrative clusters, Tables 6.7 and 6.8 then show the constraints in implementing the participation process, and the means for overcoming them, respectively.

Table 6.6 Participation process initiator

Narrative Cluster	Respondent ID (n=28)	%
Government/NGO/donor initiated participation mechanisms and process	G1, G2, G5, G6, LGS1, LGS2, LGS3, LGS4, LNGS1, LNGS2, NG1, NG2, CS5, CS6, CB3, LGB3, LNGB1	61
Community-initiated participation mechanisms and process	CS1, CS2, CS3, CS4, CS7, CS9, CB1, CB2, CB5, CB8, LGB1, LGB2	43

In the following, each narrative cluster is discussed in turn.

Government/NGO/donor-initiated participation mechanisms and process

Sixty-one per cent of respondents mentioned that government, NGOs, or donor agencies designed and initiated the practice and process of community participation. However, only a few respondents answered this question in relation to describing the mechanisms and processes. For example, respondent G1 described the practice and process of community participation based on the case of Bedono Village of Central Java, which was inundated by sea water in 2010 (see also Hartatik 2010). The process began in 2008 when the government received a report from the community on sea level rise. Government officers from the Ministry of Marine and Fisheries then visited the village, conducted awareness-raising meetings with the community regarding sea level rise facing the village, and offered solutions to halt the rate of the sea level rise. The adaptation action was carried out only when the community agreed to do so, which was in the form of mangrove planting, where the community took an active part in the planting activity.

Another NGO representative (LNGS1) mentioned a typical participation process for an early program designed for the recovery from natural disasters: a local NGO in West Sumatra first introduced the program to the community, whose interest in participating led to the community forming groups to implement the necessary action. Typically, group members were selected based on their record of community activities and willingness and commitment to participate in the program. Group representatives under the auspices of the NGO or donor agencies then carried out consultations with the government or NGOs or donor agencies on behalf of the groups. In another case of developing a standard operating procedure (SOP) for

disaster management, this respondent mentioned that a task force consisting of representatives of stakeholders including the community formed to formulate the SOP. Selection of task force members was based on their experience in disaster response related activities and their understanding of related regulations.

Of the API Perubahan adaptation project, all respondents of the local governments (LGS3, LGS4) and community (CS3) mentioned that Mercy Corps had designed and planned the project. When these respondents were questioned about the project, they expressed very poor knowledge of the whole plan, subsequent activities within the project, and its schedule. They explained that they thought it was only a preliminary survey. Local governments and communities were consulted to provide information on potential disaster types in the area; community socio-economic conditions; and local social knowledge. In addition, on which community members might be involved in the program to identify the vulnerability of the area (this activity was termed in the project as ‘Vulnerability and Capacity Assessment’ or VCA). By way of contrast, a local NGO respondent (LNGS2) in this project mentioned that after the initial stage of the VCA the community was also to be involved in identifying the follow-up action plan and in the implementation of the pilot project. At the time of the interview, the project was in the final stage of the VCA.

In turn, a central government officer (respondent G2) described the process carried out in a tree-planting project at the base of the Rinjani Mountain of Lombok, West Nusa Tenggara, initiated by an NGO. It involved identifying suitable times to conduct participation activities such as consultation meetings so that they did not coincide with community working hours. The meetings were designed to raise community awareness and understanding of the meaning of community participation as well as exploring community perspectives and interests, and then delivering the findings to government as the decision maker. However, a central government respondent (G5) suggested that to better match government and community interests on a program, the government program should always begin with a community needs assessment.

Community-initiated participation mechanisms and process

The participation process to voice a community’s views and needs on particular issues was seen by 43% of respondents as being initiated by the community. This

mainly represented proposals submitted to the government on community needs, such as the need for motor boats that would be safe for fishing in any weather conditions. If the government accepted the proposal, community groups held meetings to decide how to implement the project, in this case operating the motor boats by the fishing group (respondent CS1).

In other community related issues such as building a mosque, communities execute the whole process with their own funding (respondent CS7). As mentioned previously, community groups also functioned to reconstruct collapsed houses in the aftermath of disasters like earthquakes (respondents LGB1, LGB2, CB1, and CB2), which community respondents CB4, CB6 and CB8 reinforced in describing how their villages created participation mechanisms to respond earthquake and drought. All respondents again mentioned that the role of community leader was very significant in initiating and coordinating the creation of such mechanisms, as well as in ensuring their implementation. The latter was often organised through teams with different tasks and responsibilities as part of participation mechanisms.

From the responses obtained, four narrative clusters could be identified on the constraints in implementing community-initiated participation processes. These clusters were based on the comments of 79% of the respondents. These clusters are shown in Table 6.7. Some of these constraints are also related to reasons for low participation in the previous section on sub-Theme 1.3.

Poverty

Poverty emerged as the main constraint in implementing participation processes as perceived by 30% of respondents. This was especially the case when community members had to leave work to be involved in any program that required community participation. A typical response was made by a local non-government organisation representative:

Community participation still needs to be enhanced. This is not because the community does not have the willingness [to participate]. Especially in rural areas, they need to secure their life. Other organisations would simply give compensation to the community to participate. But it does not mean that by giving compensation then the community will be willing to attend meetings.

What should be enhanced is how to engage the community without the community expecting any incentive (LNGS1).

Table 6.7 Constraints in implementing participation process

Narrative Cluster	Respondent ID (n = 23)	%
Poverty	G1, CS3, CS6, CS7, LGS2, LNGS1, CB1	30
Low education/capacity	G3, LGS1, LGS2, CS1, CS2, CS6	26
Governance system	G2, G6, NG1	13
No constraints	CB2, LGB3	9

Low education/capacity

Twenty-six per cent of respondents also mentioned low education as an important constraint for implementing participation processes. Without adequate levels of education, misunderstandings of any response program by the community were common, which often led to opposition or resistance by the community. Another issue raised by respondent G3 was the low capacity of local government in running climate related programs when the local government itself did not clearly understand climate change issues because of poor education about them.

Governance system

Thirteen per cent of respondents believed that the system of government and/or donor agencies constrained the level of community participation. A central government official (G2) highlighted this problem,

sometimes the budget schedule was restricted to one or two years, as was also the case with non-government organisations and donor agencies. This, in turn, leads to shortcuts to the outputs, such as in developing a strategy, which disregarded the implementation [of the participation process]. This was coupled with the budgeting system by the government and donor agencies, all delimitating [the participation process].

Compounding this issue for local communities was that they mainly spoke their own language and were illiterate in English. As one central government official (respondent G6) pointed out, a condition for project applications for climate change related program funding through the climate change trust fund (as detailed in Chapter 4), was that they all needed to be written in English. This condition, of course, constrained their participation in applying. In addition, project reports also needed to be written in English for evaluation by donors and governments. Another constraint for local communities, this respondent added, was that although any community could propose funding for climate change related projects, they could not be effectively implemented. This was because community projects were small-scale. Thus, the transaction costs would be high; for example, for project checking, monitoring and evaluation. This, in turn, could reduce the effectiveness of the funding. This respondent then suggested that small-scale projects could be bundled into one large-scale project to lower transaction costs, and in this way seen as more acceptable to funders.

No constraints

Nine per cent of respondents did not see any constraints in implementing participation processes, as long as good working relationships existed between government and communities (respondent CB2). In turn, two narrative clusters were identified from 50% of respondents (n = 12) as key solutions to the constraints mentioned above, as shown in Table 6.8.

Table 6.8 Suggestion for solutions to constraints in implementing participation process

Narrative Cluster	Respondent ID (n = 17)	%
Attachment of participation process with community livelihood activities	G1, G2, G3, G4, LGS2, LNCS1, CB11	41
Approach through community leader	G5, CB1, CB5, CS4, CS7, CS9	35

Attachment of participation processes with community livelihood activities

Forty-one per cent of respondents suggested that any program to respond to environmental issues, natural disasters or climate change impacts needed to align to community livelihoods. This type of program provides motivation for community

members to take part in programs, as they know that they will also obtain economic benefits for their involvement. A local government official (LGS2) highlighted this problem:

Information on environmental issues could also be included in programs from the Department of Marine and Fisheries Affairs, such as the program on government aid of a motorboat to support fishing groups. So there should be supporting programs that are closely related to their livelihood. [Community needs to realise] clear benefits for them, if not they won't participate.

Another example was mentioned by respondent G1 in explaining a strategy to engage a coastal community in a mangrove planting activity to better respond to sea level rise: 'In bad weather fishermen do not go fishing at all, so we can ask them to plant mangroves, it could be an alternative for their livelihood.' In turn, a central government officer (respondent G4) advanced a community livelihood participatory approach to increase understanding and thus participation, by introducing community biogas production from cow manure and from solid waste of the tofu industry.

Approach through community leader

Thirty-five per cent of respondents thought that community reluctance to participate in a response program could be overcome by the role of a community leader in providing an example to the community. A community respondent (CB1, also CS7 and CS9) highlighted this as such: 'The role of community leaders is to give example. If he [sic] only urged the people to act without him [sic] involved [in the action], the people won't participate.' One NGO respondent (LNGS2) argued 'if the community leader resisted the program, the community would inevitably reject the program.'

Discussion of narrative cluster responses to Theme 1 on existing community participation practices

This section, to reiterate, presents the fieldwork findings and the first stage of analysis of key actors' perceptions about existing practices of community

participation (in environmental management, disaster management and/or climate change adaptation). The respondents interviewed provided a number of narrative clusters (or key narratives) in response to the four sub-themes that make up the theme of existing practices of community participation (as Table 6.1 above shows). In this section I discuss each of these narrative clusters. In addition, for Sub-Theme 1.1 on the 'definition of community participation' I include an analysis of the level of understanding each respondent type (for example, government, or NGO etc.) had on community participation to later assist in more accurately informing suggestions for enhanced community participation by respondent type.

I also undertook three cross-connecting analyses for some sub-themes that were seen to interact. The first cross-connecting analysis was undertaken of Sub-Themes 1.1 (on definition of community participation) and 1.2 (on the most common form of community participation practices) in order to understand why certain practices were common instead of others. The second cross-connecting analysis was undertaken between Sub-Themes 1.3.a and 1.3.b on successful/high and unsuccessful/low community participation in order to identify key determinants that influenced the level of success of community participation that existed. The third cross-connecting analysis was undertaken among all the sub-themes of Theme 1 in order to identify key aspects that were needed to be considered in suggesting strategies and mechanisms for better community participation in adaptation in Indonesia.

Narrative clusters

Active involvement of the community in collaboration with government emerged from the government, non-government organisation, and community respondents as what they considered would be most effective to help communities best adapt to climate change impacts. However, to make this workable, these respondents highlighted the need for communities to have better education and awareness on the problems of climate change to understand their needs and capacities better to address them.

Another understanding of community participation included the community level under government-owned programs. These included the participation of a community in terms of labour or financial contributions to government-initiated

community programs, as well as participation in community banking. Table 6.9 shows respondents' responses on community participation definitions.

Another understanding of community participation was associated with what the community level typically practised when delivering proposals on community needs through *Musrenbang*, the regional development planning consultation. Proposals included community requests for programs/activities to enable better community responses to environmental issues, natural disasters or climate change impacts.

Table 6.9 Details on responses of community participation definitions

Respondent	Definition 1: Active participation in the whole process	Definition 2: Participation in government owned program	Definition 3: Community proposes their needs to the government
Central government	4	2	-
Local government	3	2	3
NGO	4	1	-
Community	4	3	4
Total	58%	31%	27%

Government and NGO perspectives informed two alternative circumstances: (i) reflected the actual practice of community engagement in Indonesia as introduced by government and NGOs, and (ii) reflected government and NGO perceptions on how community participation should be in working towards the actualisation of good governance. In opining that community participation involves active involvement of the community, government perspectives were of the view that government sufficiently engaged the community. However, this view was only supported by community respondents from villages that had carried out community-based mitigation and adaptation programs. A central government respondent clarified this matter as a common misinterpretation by government regarding 'community' and 'NGO'. This perhaps explains the small response (20%) of community respondents on the active involvement aspect as it was more their view that communities were more likely to have been excluded from the decision-making process.

Another misinterpretation in the perception or definition of community participation arises from differing understandings of who actually is 'the

community'. In the Indonesian situation, community participation seems mostly represented by local elites including the NGOs (for example, Wever et al. 2012). A rigid example of this misinterpretation over community participation was found in an integrated coastal management (ICM) in Spermonde Archipelago; here, empowerment occurred mostly for local and regional authorities rather than the local community as the ecosystem users (see Wever et al. 2012), which indeed discouraged grassroots community participation in the ICM. Another example was in Nepal in forest conservation which claimed to include active community participation (see Pokharel et al. 2007; Kanel and Acharya 2008). In operation, as assessed by Thoms (2008), community forest groups were instead dominated by local elites, which had the effect of limiting community access to the forest. While this resulted in successful forest conservation, adverse impacts occurred to community livelihoods. Such elite domination of community participation contradicts studies that show the inclusion of local communities or vulnerable groups is beneficial. This is because formal institutions can then better build institutional innovation through deeper understanding of issues according to diverse local knowledge, to help generate transformative processes (Dessai et al. 2004). As such, clear definitions and understandings on the term 'community' and 'community participation' are imperative for all stakeholders in designing adaptation activities in Indonesia.

In turn, the nature or process of community participation was seen as being informed by *various types* of participation practices. Community-based actions were seen as the main type at the community level. These included *gotong royong*, defined as spontaneous collective action; community self-support; community-based disaster responses including responses to environmental-related problems; and actions by community groups. Indonesian communities in responding to natural disasters including earthquakes and landslides traditionally practise *gotong royong*, while community self-support is a response developed within a community over time that typically reflects slow responses of government to community needs. With the rationale of such slow response of the government, community actions were mostly unsustainable, which in some cases ended in resignation to the situation leading to non-participation. Respondent CS3 exemplified the latter:

We've been voicing our aspiration to government, but never received feedback. We already feel that passing our voice to the government is just useless. We've sent two proposals to the mayor regarding the damaged embankments due to earthquake, but there hasn't been any solution from the government. Nevertheless, the proposals were signed by the head of community association, the village chief and customary head. It's clear that no attention paid by the government to our problem. However, government support remains our only hope to solve this issue.

Self-support action by community groups was also a common approach used in early recovery responses in the aftermath of disasters. However, concerning disaster responses, a non-government respondent noted that level of participation varied depending on the severity of the impacts of disaster. The more severe the impact, the less participation the community could commit to, and the more it depended on government help. The latter situation then signifies the need to enhance community resilience to hazards, as well as adaptive capacity as mandated by the Hyogo Framework (see UNISDR 2005). However, in understanding existing forms of community-based responses, community-based actions are insufficient in the context of participation within the spirit of Indonesian regional autonomy (as further discussed in Chapter 8). Most important for regional autonomy, as also supported by Dwipayana and Eko (2003), is for communities not only to participate in the program/project implementation stage but also in the decision-making process so that their views and perspectives on the issues at stake are considered as input. Again, community respondents from villages carrying out adaptation actions agreed that the key factor influencing participation engagement was community leadership.

Community consultation was seen as the second main type of community participation, generally as conducted in conjunction with the Musrenbang, the development planning consultation initiated by local government. In fact, the Musrenbang contains a caveat: some respondents in local level expressed their concern on the low acceptance of their proposed programs through Musrenbang. There was also a general view that most environmental programs were conducted on a project basis that positioned the community as the distant 'object' instead of the involved 'subject' of the program to be actively consulted and included in decision-making.

Three local government respondents — from Bantul District, Padang Pariaman District, and Padang — particularly expressed the view that almost none of the proposals had been approved by the government. This finding tells us that although the Musrenbang was designed by the government to capture community inputs and views on development by engaging them in formulating the development planning, in practice it was merely to fulfill the regulation on procedures for development planning. Far too often, as revealed by respondents, the proposed programs of communities were ignored by government simply on the basis that the program did not match those planned by government.

This argument is supported by a recent study of community perceptions on development outputs in Tangerang City (Pemda Tangerang 2012), which revealed that Musrenbang was merely a government formality to comply with regulations. It was also conducted in a relatively short period, thus hindering meaningful participation of the community including the village level government. The study also revealed that most programs within development plans were initially designed by government departments, and the results of Musrenbang were treated as the complement to the plans. These experiences then informed community perceptions about the Musrenbang as little more than a forum for a community gathering rather than genuine participation in decision-making. This finding can then be seen to align with the ‘participation in government-owned program’ narrative that was mentioned by 30% of respondents (see Table 6.9). This implies that the case of Tangerang City is a common practice in Indonesia. The view of respondent LGB2 clearly reflected this:

Actually this (Musrenbang) is the proper way to channel community proposals to government for a program but maybe because it collided with government programs and limited availability of government budget, or because of other interests, it has been difficult to decide which program to be prioritised. Therefore, there has been a perception in community that Musrenbang, including those at the village level, is not effective.

To respond to this situation, respondent LNGB1 suggested a significant role of NGOs to provide support to the community.

Additionally, the actual participation or involvement of community representatives in Musrenbang was considered questionable. Two community representative respondents (from Padang Pariaman District and Padang) had little knowledge on Musrenbang, even though they resided in areas assumed to have been involved in Musrenbang, or at least in community meetings in discussing community proposals to be submitted through Musrenbang. This could also explain why none of the community respondents (as shown in Table 6.9) supported the ‘community consultation’ narrative. Overall, it seems that little opportunity exists for the active involvement of communities to have any meaningful participation in program plans and implementation. Respondents also argued that this problem was due to government perceptions that government and experts were more knowledgeable, so it was more appropriate for these actors — rather than the people they were providing the programs for — to own and initiate the programs

The three narratives suggested by respondents on the main types of participation can then be seen to inform two general types: (a) bottom-up or community participation initiatives as represented by community-based action; and (b) top-down government or NGO or donor participation initiatives where the community was invited to participate, as particularly informed by community consultation which positioned communities as beneficiaries (also see, Kurniantara and Pratikno 2005). Overall, the variation of responses by the respondents indicates that most central and local government respondents practiced the top-down approach.

The fieldwork also identified key determinants for high and low community participation based on existing participatory practices experienced by the respondents. Accordingly, the determinants the respondents identified for high participation were communities understanding the issues under scrutiny; the role of the community leader; the participatory mechanism/system; experience of the problem impacting on a community; the appropriateness of the approach taken to engage a community; and the influence of culture and religion. Additionally, the strength of respectfulness of relationships between government and communities; government commitment to adaptation programs; and a high community sense of place. Conversely, with some overlapping determinants for high and low participation — as shown in Table 6.11 and discussed below — determinants

identified for low participation were poverty and conflicts of interest among key players.

Some of these determinants aligned with the literature, for example, the role of community leader is influenced by the paternalistic nature of Indonesian society (see Basrowi 2005). For experiencing the problem, Tompkins (2005) found that successful community responses to tropical storm risks were based on the willingness of the community to undertake collective action as informed by past experiences and which had increased community resilience (see also Adger et al. 2003c). Another determinant supported by the literature was ‘strong and respectful relationships between government and community’. This related to ‘linking capital’ as suggested by Wolf et al. (2010) argued that linking capital is related to making good connections to authority or government as important for successful collective actions leading to effective participation. In turn, government commitment to a program was supported by Dovers (2005) who suggested that effective participation can best be achieved through adequate resources including financial, technical, and administrative support. Such resources can help to strengthen the decision-making process to produce better policy outcomes. Finally, high sense of place was aligned with the principle of participation advanced by Carr (2002).

Cross-connecting sub-themes

We now turn to the analysis of cross-connecting sub-themes of the ‘definition’ (Sub-Theme 1.1) and ‘the most common form of participation’ (Sub-Theme 1.2). These are two of the three narrative clusters, and both demonstrate convergences, as shown in Table 6.10. This was shown where ‘the role of community group’ as well as ‘Musrenbang’ appeared as key foci in these narrative clusters, which implies that respondents’ understandings of the definition of community participation aligned with the most common form of existing participation practices (noting some caveats on each of the forms discussed earlier). As such, in addressing the main aim of this research about the need for effective community participation for adaptation, these practices are further focussed on in the comparative analysis of international and Indonesian literatures in Chapter 8.

Table 6.10 Correlations among narrative clusters of Sub-Themes 1.1 and 1.2

Sub-Theme 1.1 – Definition of community participation		Sub-Theme 1.2 – The most common form of community participation	
Narrative cluster	Key focus in the narrative cluster	Narrative cluster	Key focus in the narrative cluster
Active involvement in the whole process	The role of community group	Community-based action	The role of community group
Community proposes their needs to the government	Musrenbang	Community consultation	Musrenbang

Further connections were revealed with high and low community participation, where various key determinants were advanced by the respondents in sub-themes 1.3.a and 1.3.b. In identifying connections between the two sub-themes, four key narratives were suggested as key determinants for high or low participations, as shown in Table 6.11. The two most important were (a) the level of community awareness and understanding on relevant issues under consideration; and (b) approaches taken to engage the community. Lesser key determinants included the need for clear and transparent participatory mechanisms/systems of a program, and high positive emotional attachment of a community to the area where it is located; this was seen as a key motivation of their engagement in protecting their area, often summed up as ‘strong sense of place’ (for example, Hindmarsh 2012).

Table 6.11 Key important narratives derived from Sub-Themes 1.3.a and 1.3.b (determinants for high and low participation)

Key Narrative	% Respondent (n = 38)
Understanding the issues	45
Approaches taken to engage community	29
Mechanism/system in place	26
Sense of place	21

The finding on ‘understanding the issues’ is particularly notable given that three community respondents were of the view that no change in weather patterns

had occurred ever since they lived in their area (see Table 6.12), as also probed in the interviews. This finding tells us that the current limited extent of community-level understandings of climate change issues indicates the need for better understanding if there is to be greater community participation in adaptation actions.

Table 6.12 Community respondents' perceptions on the changing weather patterns

Narrative Cluster	Respondent	% Respondent (n = 5)
No changes on weather pattern	CS1, CB1, CB2	60
There have been changes into worse conditions	CS3, CB3	40

In regard to mechanisms for community participation to respond to environmental issues, natural disasters or climate change adaptation, respondents opined that participation processes were initiated and designed mainly by government or NGOs or donors. Lesser responses were made by the community. However, few respondents believed that the community could better participate in decision-making processes if government and the community relationships were not strong and consistent. Little opinion though was provided on how to do better community consultation.

Poverty and low education were seen as key constraints to participation, the latter at both community and local government levels. Key solutions for overcoming low participation included active and inclusive community participation in partnership approaches with government. These approaches involved community capacity building that included boosting awareness of climate change impacts and problems. To respond to poverty, participation processes and practices were suggested that aligned strongly to community livelihood activities. Finally, as an incentive to encourage voluntary and high levels of participation, community leaders were encouraged to act as role models to demonstrate leadership in how to tackle adverse impacts of climate change and natural disasters.

Finally, as Table 6.13 shows, key narrative clusters of Theme 1 were derived from cross-connecting the different sub-theme narrative clusters; also shown are the evaluations of the existing participation practices of each narrative cluster as to their strengths and weaknesses. These evaluations add to the suggestions already given

for better community participation in climate change adaptation in Indonesia, and inform the downstream analysis in Chapter 8 of the three themes analysed in this chapter and Chapter 7. As can be seen from Table 6.13, seven key narratives were produced from internal cross-connecting the sub-theme narratives of Theme 1. The strengths and weaknesses of each narrative are indicated.

In more detail, community-based actions were seen as the most common form of participation, as strengthened by local knowledge about local issues. However, perhaps again influenced by interpretations of the definition of community participation, these actions were channelled mostly into participation by communities at the implementation stage. Other issues included (a) the unsustainability of community action approaches due to lack of government support, especially in term of financial support; and (b) the weakened role of community leaders in encouraging *gotong royong* for community action. The weakening of *gotong royong* was also influenced by the increasing flurry of community daily activities in search of everyday survival. Such issues could be addressed by enhancing community understandings on the definition of ‘community participation’ and on the issue at stake through better education.

Respondents believed education to be a key factor in determining the level of community participation. Better education, it was suggested, should also include community leaders as role models as a way of assisting poor communities to engage in decision-making processes for action on adaptation. Adequate participatory mechanisms were also seen as necessary for increased community participation, to build on existing local ones. Moreover, the level of sense of place of community should be taken into account in designing participation mechanisms for climate change in particular communities, as sense of place (or place attachment) was typically high for indigenous communities and low for temporary non-indigenous residents.

Table 6.13 Internal cross-connecting narratives of Theme 1

No.	Key Narrative clusters (of the sub-themes)	Strength	Weakness	% Respondent (n = 38)
1	Community-based actions (most common form; initiator)	<ul style="list-style-type: none"> - Encourage community initiatives - <i>Gotong royong</i> as traditional collective action - The role of community group - The use of local knowledge 	<ul style="list-style-type: none"> - Community active role mostly at the implementation stage - The programs mostly unsustainable due to lack of government support (i.e. financially) - Hindered by poverty - Hindered by the increasing flurry of daily activities of community 	71
2	Community education (including understanding the issue) (determinant for high-low participation; constraints)	Scientific simulations created by government institutions or universities have occurred, which are useful to enhance community understanding on climate change issue.	<ul style="list-style-type: none"> - Low level of community understanding on climate change issue - Low level of education of community and local government - Community culture adversely influences community understanding on the issue 	53
3	Participation in government, NGOs, or donor-owned programs (definition; initiator)	- The programs were more sustainable due to sufficient financial support from government	- Mostly refer to the top-down approach and less community participation (i.e. project-based, thus must abide to project rules)	42
4	Community leader (determinant for high participation; suggestion)	Community leaders have traditionally been present in the community		39
5	Participatory mechanism/system in place (determinant for high-low participation; constraints)	Existence of community-participatory mechanism in community	<ul style="list-style-type: none"> - There has not been specific regulations on participation - There have not been procedures on where to submit community proposal 	32

Table 6.13 (continued)

No.	Key Narrative clusters (of the sub-themes)	Strength	Weakness	% Respondent (n = 38)
6	Poverty (determinant for low participation; constraint)	Role of community leaders to encourage participation of poor community	Low community education	32
7	Sense of place (determinant for high-low participation)	High sense of place for indigenous community	Low sense of place for temporary residents	21

The participation of communities in government, NGO or donor-owned programs dominated the definition of ‘community participation’ understood by most respondents, with most programs project-oriented. In the main, communities were involved only at the project implementation stage. This finding suggests that if Indonesia is to achieve the most effective approach to climate change adaptation — that is, bottom-up community participation — then clear and coherent definitions of ‘community’ and ‘community participation’ are important for all stakeholders. The effectiveness of this approach, however, is conditional on the participatory institutional change and support of top-down programs that provide funding.

Chapter 7 will now further the first stage analysis and presentation of fieldwork findings in relation to the second and third themes of enhancing community participation practices and key determinants for effective community participation.

Chapter 7

Fieldwork Analysis Stage 1

Theme 2: Enhancing Community Participation Practices, and

Theme 3: Key Determinants for Effective Participation

Practices

Introduction

The previous chapter dealt with the analysis of the perspectives of key policy and management actors, on existing community participation practices in Indonesian environmental management, disaster management and/or climate change adaptation. This chapter continues the analysis of the 38 interviews — as conducted in Indonesia during the two periods of February 2012 and December 2013 — on the remaining two themes informing the questionnaire. Theme 2 is on enhancing community participation practices and Theme 3 is on the key determinants for effective community participation practices for adaptation. Following the analytical presentation in Chapter 6, I present two sections on each theme. At their beginning I provide a description of the theme under analysis and a table of the theme and the sub-themes that inform it.

The following chapter, Chapter 8, then presents the second and final stage of the fieldwork data analysis. It comprises first, a summary of Themes 1 (from Chapter 6), and Themes 2 and 3 (from Chapter 7); and second, a comparative analysis of their narrative clusters to present an overview of how these clusters are prioritised — or of what is important and less important according to the interviewees' perspectives. These weightings are then compared to the international literature (Chapters 2-3) and the Indonesian literature (Chapter 4) to suggest the final key suggestions to inform effective and appropriate community participation or engagement for local vulnerable communities in Indonesia to help build climate change adaptive capacity.

Theme 2: Enhancing community participation practices

The theme of enhancing community participation practices explores respondents' perspectives on how to achieve such enhancement, and thus how to respond better to climate change impacts. This theme also relates to Research Question 3 of the thesis, and ultimately the primary aim of the thesis: to evaluate, suggest and strengthen appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building in Indonesia.

Two key questions — reflecting Sub-Themes 2.1 and 2.2 of Theme 2 — were asked of interviewees to probe their suggestions on how to enhance community participation practices in relation to programs responding to climate change impacts. The responses are shown in Table 7.1. For most sub-themes, some respondents gave more than one response of sufficient difference to comprise separate narratives. Percentages given below with regard to each sub-theme are an indication of the frequency of a response found in common by 'x' number of respondents of the total 38.

Table 7.1 Theme 2 sub-themes

Theme 2: Enhancing community participation practices	
Sub-Theme 2.1	The best stage in a program to involve a community
Sub-Theme 2.2	Suggestions on aspects to provide better outcomes of community participation

Sub-Theme 2.1: The best stage to involve community in climate change adaptation programs

This sub-theme explored the perspectives of respondents about which stage was best to involve local communities in responding to climate change impacts. Seventy-four per cent of respondents (n = 19) responded to this question and raised one main narrative cluster as shown in Table 7.2 (note that all percentages in all tables indicating percentages have been rounded up to the nearest whole number).

Table 7.2 Responses on Sub-Theme 2.1 - the best stage to involve community

Narrative Cluster	Respondent ID (n = 19)	%
Participation throughout the whole program	G2, G3, G5, G6, LGB3, LGS1, NG1, NG2, LNGS1, LNGS2, CB1, CB3, CS7, CS9	74

Note: G = Government; LG = Local government; LGS = Local government in West Sumatra; LGB = Local government in Bantul; NG = NGO; LNGS = Local NGO in West Sumatra; LNGB = Local NGO in Bantul; CS = Community in West Sumatra; CB = Community in Bantul

In the following, each narrative cluster is discussed in turn.

Participation throughout the whole program

Seventy-four per cent of respondents suggested that the community should participate from the planning to the implementation stage of an adaptation program (hereafter any mention of ‘program’ in this chapter relates to this definitional focus). Various emphases on this view were given. Two central government respondents (G2 and G3) stressed that because climate change impacts would be felt by communities they should be involved in the whole program starting from its planning to implementation. A local government respondent (LGS1) also stressed the importance of government and private sector involvement alongside the community in all aspects of the program, particularly in providing funding to support the program. A non-government (NG1) and community respondents (CS7 and CS9) highlighted:

Communities should be involved from problem identification including the poverty problem, the marginalisation problem and so forth, so we can see the root of the problem, then do the planning until the evaluation [of the program].

Similarly, a non-government respondent (NG2) argued that a community should be engaged in problem identification to stimulate it to identify adaptation actions they might undertake. In addition, a local government respondent (LGB3) emphasised that by knowing and understanding potential impacts or disasters in the area, a community could design, plan and develop programs for risk reduction, and submit proposals to local government, for example, through *Musrenbang*. One

central government respondent (G5) stressed that the community should be part of the solution.

A local NGO respondent (LNGS1) mentioned that community participation should start from a preliminary survey on potential problems and issues. However, this respondent added that although the general framework of the program was typically designed by NGOs, communities should be involved throughout a program cycle through working groups. In addition, a community respondent (CB3) suggested that communities should be involved from the beginning, at the planning stage, where the role of community leader was imperative in engaging the community at this stage.

Sub-Theme 2.2: Suggestions on aspects to provide better outcomes of community participation

Following the question on Sub-Theme 2.1, respondents were asked to suggest particular aspects to provide better outcomes of community participation. Eighteen respondents provided comments on this question and raised four meta-narratives (or narrative clusters) as shown in Table 7.3.

Table 7.3 Responses on Sub-Theme 2.2 - Suggestions on aspects to provide better outcomes of community participation

Narrative Cluster	Respondent ID (n = 18)	%
Community empowerment	G2, G4, G5, LNGS1, LNGS2, LNGB1, LGB3, NG1, NG2, CS3, CB6	61
Appropriate approaches to engage community	NG1, LNGS2, CS5, CS7, CS9, CB5, CB6, CB7	44
Asset-based approach	G3, G4, G5, NG1, NG2, LNGS2	33
Understanding the issue	CS5, CS9, CB6	17
Community leader	CS4, CS9, CB6	17

In the following, each narrative cluster is discussed in turn.

Community empowerment

Sixty-one per cent of respondents agreed that community empowerment was an important factor to provide better outcomes of community participation. Community empowerment, as advanced by respondent G5, promised to reduce a community's dependence on the government and could also shift governmental perspectives on communities as 'subject' rather than 'object' in any particular program being undertaken. For example, a non-government respondent (LNGS1) opined:

Community needs to be treated as subject, not object. The community is the owner of the project and they have their own capacity [to run it]. Included in this capacity is not to marginalise women by positioning them as a vulnerable group unable to do anything. All this time women are vulnerable. But this was because there has been a doctrine about this vulnerability so that they became 'powerless' [by association]. Whereas, when we encourage them, they actually have the capacity [to act]. So that when we motivate them, they would feel engaged.

This gender issue was also raised by a local government respondent (LGB3):

Disaster management is a shared responsibility among all community members. But in practice the men's role is typically dominant. Women actually have great potential; they just have not been empowered. Women care more about their family members than men. Why has this issue not been raised before? If the women are willing to get involve, disaster management would be more effective.

In addition, respondent LNGS1 mentioned that gender equality in community participation was not about the number of men and women involved. Rather and more importantly, it was about the role of gender and the shared roles and responsibilities of men and women. A non-government respondent (NG1) also mentioned the gender issue as a factor that needed to be considered in explaining and determining levels of community participation.

Several other factors supporting community empowerment were raised by respondents. Community awareness on the issues at stake was seen as necessary to

empower the community so their needs could best be identified in effectively addressing such issues (respondents LNGS2 and G2). Alternatively, community identification of the underlying *causes* of the identified issues was raised by respondents NG1, NG2 and LGB3. Of promise was that program objectives could be better agreed among stakeholders and lead to enhanced community empowerment in capacity building, which two central government respondents (G2 and G5) also support.

To achieve an appropriate level of community awareness and empowerment, another central government respondent (G4) suggested that government needed to adjust and simplify its language in delivering information related to climate change or any other environmental or development issues. Better community understanding of programs and their benefits was also reinforced by a non-government respondent (NG1) as a factor informing meaningful community participation.

In turn, two local non-government respondents (LNGS2 and LNGB1) and one community respondent (CS3) argued that government support was necessary to facilitate community adaptation efforts. Respondent CS3 opined that government support could also improve community economic development. Conversely, a non-government respondent (NG2) argued that community assistance and mentoring could only be carried out effectively by NGOs; rather than government. This was because time constraints often plagued governments, while NGOs involvement also demonstrated more flexibility and fraternisation with communities and familiarity with community circumstances and needs. In association, community mentoring was argued as important by respondent NG2 as the community level required more than just socialisation or information dissemination to comprehend issues and be able to take action in building adaptive capacity.

Appropriate approaches to engage communities

Forty-four per cent of respondents suggested that different approaches were needed to engage communities in urban and rural areas. However, coastal communities within urban areas were considered as vulnerable as stand-alone coastal communities, as was also discussed in Chapter 4. Significantly, most coastal communities suffer substantial poverty (Hidayah and Purba 2001), which Yus (2011) found amounted to some 25 per cent of poor people in Indonesia.

In rural areas, one non-government respondent (NG1) argued that farming communities of farmers, for example, had more flexible time to participate in a climate change adaptation program and argued they also held *gotong royong* to facilitate better participation. In contrast, NG1 opined:

In urban areas, many ... are workers and not local residents thus their workplaces are far from their residences such that it becomes difficult to set time [aside] for community consultations or meetings. So that dealing with communities in urban areas is more challenging although sometimes more effective for discussion, as they only accept ideas after lively discussions. The only hurdle is to have their commitment in terms of time. By way of contrast, rural communities tend to accept any idea we suggest [as a given], they perceive us as knowing everything, and thus we can't receive objective feedback from them. Overall, it's more difficult to involve urban communities in labor, but more effective in discussion (respondent NG1).

Therefore, this respondent suggested that for dealing with urban communities it was necessary to arrange the best time to carry out meetings that could be attended by most community representatives, and to design programs with flexible schedules, which could also apply to rural communities. Another suggestion for appropriate engagement was to conduct stakeholder analysis on different cultural groups in communities to determine sufficient representation in community involvement.

Yet another non-government respondent (LNGS2) pointed up the need to take different approaches for urban and rural communities in regard to community mentoring for capacity building. The need for such mentoring was seen to be more intensive for rural communities who had again, for reasons of poverty and lower education, had less capacity to prepare for adaptation. In some alignment to these arguments, community respondents (CS5, CS7, CS9, CB5, CB6, and CB7) suggested that leaders in environmental actions should provide examples to other community members to stimulate them to engage in programs.

Asset-based approach

Thirty-three per cent of respondents mentioned that existing 'community assets' that comprise social assets, capacities and abilities (Kretzmann and McKnight 1993, also

see Chapter 2), which relate to social capital, were important to consider and build on for better adaptive capacity outcomes for adaptation programs. Community participation was important to assess such assets (NG2). A central government respondent (G3) suggested that data on community conditions, especially information that identified asset weaknesses within communities for adaptive capacity was necessary to best plan and implement a program, for example, training or awareness raising activities. This point was supported by another central government official respondent (G5), who believed that when planners knew what communities already had in place, they did not have to assume that programs had to start from scratch, thus saving time, and improving efficiency and cost-effectiveness.

An example of social capacity were simple disaster early warning systems developed at the community level, but which needed more development to address the magnitude of climate change and extreme weather problems, as argued by a non-government respondent (NG1). In addition, respondent G3 advanced:

Government needs to embrace community more, which already has a social system in place, for example, [with regard to] community self-reliance, although a weak one. Government, in turn, must assist in strengthening it. Government support is not merely about visiting a community with money and aid, this doesn't educate the community ... A field finding tells us that communities actually need feedback from us on what they have done for generations. For example, in farming practices there might be weaknesses which need inputs from government.

However, respondent G5 argued that the asset-based approach was still rarely implemented within the dominant top-down-project approach.

Understanding the issue

In close association to responses in the community empowerment narrative cluster above, seventeen per cent of respondents who were also community respondents (CS5, CS9 and CB6) suggested that the level of community knowledge and understanding on the issue at stake was important in engaging communities in a program. Respondent CS9 opined: 'If they [the community] understand the benefit of doing the environmental program, the willingness to participate will become

higher'. Respondent CB6 suggested education and counseling as the best approaches for raising community participation.

Community leader

Seventeen per cent of respondents suggested the role of community leader was a key way to ensure better outcomes of community participation. Community respondent CS4 argued that the appropriate actions taken by community leaders in approaching the community could increase the level of community participation because the community depended on its leader. In addition, community respondent CS9 opined that the role of the community leader was at the least as a role model in acting on environmental actions following community engagement.

Summary of key narrative responses to Theme 2

A convergence was noted in the respondents' suggestions about the best stage at which to involve the community in a program (Sub-Theme 2.1). The majority of respondents agreed that communities need to be engaged throughout the whole decision-making process from program planning to implementation to help communities best adapt to climate change impacts. The main rationale behind this convergence was that these impacts will be felt most at the local scale. Therefore, local communities should be involved in decisions affecting their lives so intimately. Respondents thus suggested that communities be involved from problem identification to evaluation of any program. Problem identification allows better understanding and determination of problems (for example, Dovers 2005), and helps participants formulate plans and actions to address the problems raised.

On suggestions to provide better outcomes of community participation (Sub-Theme 2.2), *community empowerment* by active inclusion in decision-making also emerged as a dominant suggestion by respondents. Here, the respondents underlined the importance to treat communities as *subject* rather than *object* in order to effectively engage the community. Women's empowerment in the context of gender equality was also raised as important in community participation, particularly in relation to the role of gender and shared roles and responsibilities between men and women to respond to climate change impacts.

Respondents also suggested that different approaches for participation need to be adopted for urban and rural communities to ensure adequate participation. This was supported by the argument that rural communities are considered to have more flexibility in time resources than urban communities, and that *gotong royong* in rural communities is still prominent. On the other hand, urban communities are believed to have more knowledge capacity than rural ones on climate change, and typically spark more informed and lively discussion; hence they require less community mentoring for capacity building. In contrast, rural communities, it was suggested, lack a deliberative capacity to engage on most ideas introduced to them, and tend to agree or accept most ideas without dialogue. This could be explained by any number of factors that have already been indicated above and elsewhere, such as lack of education and awareness of climate change issues, and a tendency to agree with experts and decision makers in contexts of status and typically top-down policy approaches. Better community understandings of the issue would then logically enhance community participation. Another way to enhance participation was suggested in demonstrating to the wider community, proven environmental actions by community members or leaders seen as beneficial to stimulate a community.

Community assets were also believed to contribute to better participation of communities in decision-making processes for adaptation programs. Community social actions for survival in a rapidly changing climate posing high human and environmental impacts were among the assets that should be acknowledged by governments or other stakeholders in helping to determine what was needed to enhance participation. Kretzmann and McKnight (1993) and Mathie and Cunningham (2003) advanced the idea that community assets represent specific talents, attributes and skills of individuals as well as the community's social capital. Such capital can boost local community associations, community economic development and local planning. For example, community associations are likely to have the resources to enable good participation in environmental decision-making process through representativeness (see Chapter 2).

In sum, the findings of Sub-Theme 2.2 highlighted the need for the key aspect of capacity building (which could be seen to be informed by key points from the three narrative clusters of Sub-Theme 2.2) to provide better outcomes of community participation assisted by the key aspect of the need for government commitment, as shown in Table 7.4.

Table 7.4 Summary of key points on Sub-Theme 2.2: Suggestions on aspects to provide better outcomes of community participation

Narrative Cluster	Key points derived from respondents' answers	Key aspect
Community empowerment	Women empowerment	
	Community awareness on the issues	Capacity building
	The need on community awareness on issues	Capacity building
	Community identification of problems	
	Community to enhance their capacity	Capacity building
	Government support	Government commitment
	Community mentoring	Capacity building
Appropriate approaches to engage communities	<i>Gotong royong</i> in rural community	
	Community mentoring for capacity building	Capacity building
	Time arrangement that suit communities	
Asset-based approach	Require supplementary action from government: community mentoring	Capacity building Government commitment
	Identification on community assets	
Understanding the issues	Understanding the benefit of undertaking environmental programs Education and counseling as key approaches for better community participation	Capacity building
Community leader	Appropriate way taken by community leader in approaching community The role of community leader as a role model in leading environmental actions	Enhanced community engagement for capacity building

Theme 3: Key determinants for effective community participation practices

Following the opinions and suggestions on how to enhance community participation practices, respondents were prompted to mention key things that might determine better participation of community in adaptation activities that inform the key

determinants for effective community participation of Theme 3: ‘Key determinants for effective community participation practices for climate change adaptation’. Their responses are discussed in the following section, as summarised in Table 7.5.

Table 7.5 Responses on Theme 3: Key determinants for effective community participation practices for climate change adaptation

No.	Narrative Cluster	Respondent ID (n = 32)	%
1	Awareness of the issue	G1, G2, G4, G5, NG2, LNGS2, LNGB1, LGB3, LGS1, LGS4, CS5, CS7, CS9, CB6,	44
2	Leadership in community	G1, G5, G3, NG1, NG2, LNGB1, CB1, CB3, CS1, CS4, CS5, CS7, CS9	41
3	Local knowledge	G1, G2, G4, G5, NG1, LNGS2, LNGB1, CB4, CB6, CB7, CB8	34
4	The role of community groups	G5, G6, CS1, CS4, CS7, CB6, CB7, CB11, LNGB1, LGB3	31
5	Relationships and coordination among actors	G3, G5, NG1, NG2, LNGS1, LNGS2, LGS1, LGS3, LGB3, LNGB1	31
6	Appropriate approaches to engage community	G1, G2, G3, G4, LGS1, LGS2, NG1, LNGS1, LNGB1	28
7	Education level of community	G1, G2, G5, NG1, LNGS1, LNGS2, LGS2, LNGB1, CS9	28
8	Government commitment to program	G2, G5, NG1, LNGS1, LNGS2, CS3, CB3, LGB3	25
9	Administration arrangement and procedure	G3, G6, NG1, NG2, LNGB1, LGS4, CB6, CB8	25
10	Cultural values	G1, G5, LNGS1, LNGS2, CS9	16
11	Prosperity	CB2, CB3, CB10, CS9	12
12	Asset-based approach	G3, NG1, NG2	9

In the following, each narrative cluster is discussed in turn.

Awareness of the issue

Forty-four per cent of respondents mentioned awareness of the issue as the key determinant for effective community participation. Two central government respondents (G4 and G5) believed that community awareness was imperative:

So that they know what they need thus they will put efforts to address it through higher participation in a program (respondent G5).

Similarly, a central government respondent (G2) and also a non-government respondent (LNGS2) believed that community awareness can lead to better understanding of community needs and interests relevant to the issue at stake. This point was echoed by a central government respondent (G1) and a local non-government respondent (LNGB1) to emphasise that community awareness can be raised through appropriate approaches to the community. A central government respondent (G2) opined that community awareness should be raised through serious and systematic efforts ‘not only once or twice visits to community’. In addition, a non-government respondent (NG2) advanced ‘awareness creating’ that included changing behaviour and perspectives.

One local government respondent (LGB3) argued that community awareness of the issue was more influential than community education for better participation:

An educated person might have lack of interest in community matters so that will be difficult for him [sic] to get along with others. But there are less-educated people who care and are willing to cooperate. I think this is more about understanding and awareness of the issue than education.

More awareness by communities might also lead to enhanced community trust and assurance on the benefits of a program, and thus increase participation, as mentioned by respondent LGS1.

Leadership in community

Leadership in communities was advanced by 41% of respondents as another key determinant for effective community participation. A central government respondent (G3) suggested that formal and informal leaders were necessary to sustain a program. Here, this respondent referred to formal leaders as heads of districts and sub-districts, and informal leaders as community leaders. A local NGO (LNGB1) and community representatives (CB1, CS7 and CS9) placed more stress on the role of informal leaders such as community leaders being imperative for effective community participation, to better coordinate a community to participate in a program.

Similarly, another central government respondent (G5) underlined the significant role of the customary head in increasing community participation. This

respondent added that the village leader also played an important role in harmonising relationships among community members to increase participation. Additionally, one local community respondent (CS1) mentioned the necessity to include *ninik mamak*²⁸ or customary heads and elders, who play the roles of leaders, advisors, and mentors to youth, as well as building good relationships with the government. Alternatively, a central government respondent (G1) argued that leadership by heads of community groups was necessary for the effective participation of a community. A non-government respondent (NG2) suggested the notion that ‘bridging leadership’ should also play a role linking the government and communities. This referred to leadership roles played by NGOs, local leaders, religious leaders, artists, athletes, or academics.

Local knowledge

Local knowledge was raised by 34% of respondents as a key determinant for effective community participation. Three central government respondents (G1, G4 and G5) and one non-government respondent (LNGS2) mentioned that the role of local knowledge was important to increase community participation. One NGO respondent (NG1) explained that vulnerability capacity assessment, for example, depends on the extent of a community’s understanding and knowledge about their area. Such knowledge utilisation meant a community would not have to start a program from scratch in responding to climate change impacts being experienced.

However, central government respondents G1, G4 and G5 argued it was of crucial importance to complement local knowledge with scientific information as local knowledge were considered insufficient to best respond to current and projected impacts and trends in climate change. A similar perspective was raised by another central government respondent (G2) who questioned the capacity of local knowledge by itself to address the complex issue of climate change. With regard to this, a central government respondent (G4) suggested:

Government must understand communities and provide awareness about the changing world surrounding them. The very first thing the community needs to realise is that environmental deterioration is inevitable. Earthquakes can’t be addressed by traditional knowledge alone. Traditional values are a

²⁸ *Ninik mamak* is a term used in West Sumatra to define customary heads and elders.

historical path which have been left behind by young generations ... Natural events are actually similar across time, but because the [increasing] vulnerability of the earth [environment], such events can't be predicted anymore. So that with climate change, despite the fact that government is equipped with technology, and on the other hand communities with knowledge on the events, both players experience the impacts. The communities thus need to be supported so that the gap between government and communities is not too big.

The role of community groups

Thirty-one per cent of respondents suggested the role of community groups as a key determinant for effective participation. A local community respondent (CS1) and a central government respondent (G5) argued the benefit of having fishermen groups well engaged so that coastal community voices could be better heard by government (respondent CS1) to solve community problems and eventually become less reliant on government and NGOs (G5). Establishment of adaptive preparedness teams at the community level was also suggested by a local government respondent (LGB3) to enhance participation.

Relationships and coordination among actors

Thirty-one per cent of respondents mentioned that relationships and coordination among climate change stakeholders were crucial for better participation of communities in a program. At the community level, strong interactive relationships among community members were essential to increase the spirit of participation as argued by respondents NG1 and LNGS2. Respondent NG1 argued:

Communities in Yogyakarta [of Yogyakarta Special Region Province] carried out competition among *Rukun Tetangga*, for example, in a village sanitation program, which increased their spirit to participate in the program. One of the winning criteria was the most number of community members in any community involved in the program.

This respondent also stressed the importance of trust within communities, and among communities and other stakeholders such as governments or NGOs.

Partnership with the private sector was also considered by a central government respondent (G3) as necessary to enhance participation at the level of community.

In turn, local government respondent LGS3 stressed that good relations between local government and community was a key factor of community willingness to participate in a program. Respondent LNLS2 also stressed the role of NGOs in building bridges and rapport between communities and the government to sustain project implementation in communities. Another central government respondent (G5) and a non-government respondent (NG2) had common perceptions that NGOs were more effective in achieving program objectives compared to the government, which was hindered by a convoluted bureaucracy to implement programs. Likewise, non-government respondent LNLS1 argued that the role of the government could be complemented by NGOs:

We don't have to wait for government to action. When we [the NGOs] are good in delivering the message to communities, we don't need government ... NGOs need to provoke the community not to wait for government responses ... Instead of waiting for government responses, we need to assure communities that the program is for their own sake thus the communities must start the program by utilising resources they already have in place ...

Coordination among relevant stakeholders was also suggested by a local government respondent (LGB3) to increase the effectiveness of participation. In addition, one local non-government respondent (LNGB1) suggested transparency in terms of openness about the strengths and weaknesses of stakeholders to participate was necessary to foster coordination among stakeholders:

Transparency is important in strengthening coordination. 'I have the function but I don't have money' or 'I have human resources but I don't have money'. These are examples of what should be revealed to initiate coordination.

Lack of coordination among stakeholders was also argued by this respondent as a factor that could easily lead to confusion at the community level through the saturation of repetitive programs introduced by various stakeholders. A central government respondent (G3) also argued that sporadic actions by various

stakeholders could lead to lower community participation, thus again reinforcing the need for program coordination. Having experienced similar problems of climate change impacts among community members, coordination was believed by a local government respondent (LGB3) to enhance the cooperation and collective action of a community, and thus essential for the effectiveness of community participation.

Appropriate approaches to engage community

Twenty-eight per cent of respondents suggested that better community participation could be achieved by introducing programs through appropriate approaches including economy and livelihood approaches. An example of this was given by a central government respondent (G3) who believed that for coastal communities there should be alternative livelihoods suggested for fishermen so as to enhance the participation of these communities. Another central government respondent (G1) exemplified mangrove planting as one alternative for community livelihood. Respondent G3 added that governments should support this effort: 'We can't advance adaptation actions if their economic capacity is not developed'. Respondent LGS1 added '[The] community will actively participate in a program if they do not have to strive for life'. This respondent added that governments, in this respect, should have a strategy to improve prosperity at the community level.

Respondents also asserted that an 'appropriate approach to communities' by those introducing programs was imperative for effective community participation. A central government respondent (G1) suggested that the program enrolment approach at the community level determined the level of participation; for example, by informing the issues faced by communities to better engage in a program. Alternatively, a non-government respondent (LNGB1) stressed the significance of a 'personal' approach in introducing a program. This respondent added that governments or NGOs needed to 'stand in a community's shoes' so as to raise community awareness and enhance participation. Parallel to this view, a central government respondent (G2) suggested that community perspectives were central to achieving meaningful participation.

Additionally, a non-government respondent (NG1) suggested that two-way communication was necessary for better community participation; that is, for government and community members 'speaking to each other' about program issues, needs and capacities, for example. This respondent likewise argued that an

appropriate communication process was also important, especially in dealing with community members reluctant to participate in a program. Appropriate communication posed more opportunities to build trust between communities, the government and NGOs (respondents LNGB1 and LGS1). Interestingly, this view can be seen to align with notion of ‘bonding’, ‘bridging’, and ‘linking’ capital advanced by Putnam (1993) and Wolf (2010).

Education level of community

An overall low education level of Indonesians is another key determinant of ineffective participation in activities related to climate change on climate change as suggested by 28% of respondents. A central government respondent (G1) underscored the significance of a higher education level for effective participation. To achieve an appropriate level of education, a non-government respondent (LNGB1) argued that the role of government and NGOs is imperative to educate communities to increase their adaptive capacity. Another alternative suggested by this respondent was to train community cadres to eventually play key roles in facilitating adaptation programs so that their communities would participate in them. Community cadres, as this respondent argued, will fill information gaps and speak in the common language with the community, thus enhancing community participation.

The importance of community capacity in community participation through education was also raised by a central government respondent (G2):

Talking about community participation, the key factor is not only the community to have the willingness to sit but also to be capable in solving the problem. It's been common that community voices can't become a foundation for other stakeholders, especially scientists. This is what I think need to be strengthened so as to bring up the essence of participation.

One NGO respondent (LNGB1) believed that poorly educated communities tend to hold back their voices; such communities need to be stimulated to contribute. This respondent suggested that another strategy is to get better acquainted with the community so that its members would feel important: ‘We must make all who are involved important’.

Government commitment to program

Twenty-five per cent of respondents agreed that government commitment plays a key role for effective community participation. Of crucial importance is for governments to increase their role in supporting communities, thus enhancing the participation of communities — as argued by central government respondent G5 and community respondent CS3. Another central government respondent (G2) argued that governments needed to include community level actors in formulating their development strategies and policies. Similarly, one non-government respondent (LNGS2) argued that governments should have a high commitment to engage communities, and should know how to engage communities effectively. This should include building a capacity to deliver a high quality of information for community dissemination to raise awareness of adaptation issues.

However, a local government respondent (LGB3) highlighted the long, convoluted bureaucracy of governments that typically acted as a constraint to government programs aimed at the community level, and which would tend to hamper community participation. Therefore, this respondent suggested:

NGOs are more effective than government. Government staffs won't do anything if there was no direction from the upper levels. This is not the case for NGOs; they directly go to communities.

Yet, from the perspective of NGOs, a non-government respondent (NG1) argued that local government commitment was crucial to the effective participation as the government played the role of introducing the NGOs to communities:

When we are about to implement a program in a local area, we need to knock the door of the community, as such government is the gateway to community. If there's no support from local government, the program won't be sustainable.

Administrative arrangement and procedure

Twenty-five per cent of respondents mentioned administrative arrangements and procedures as a key determinant for better community participation. Administrative arrangements, government budget mechanisms and regulation needed to be

synchronised with the interests and needs of communities, argued a non-government respondent (NG2), to achieve effective participation in a program. On the other hand, this respondent argued that government administrative arrangements might also adversely affect the effectiveness of participation:

If a program is funded by a government budget, the project should be registered as a government-owned project, which consequently should follow government administration arrangements. For example, there should be clear ownership as well as written liability on the project, which overall, may hamper flexibility and creativity [of the communities in implementing the project].

In addition, transparency in the distribution of funding as well as in financial reporting was also seen as crucial for better outcomes of community participation (respondent LGS4). Simplification of program administration procedures was also suggested by a central government respondent (G6) so that more communities could design and submit proposals to obtain finance from climate change funds. The need for clearer participation processes was also suggested by a non-government respondent (NG1) as being necessary for better community participation.

Cultural values

Upholding cultural values was also suggested by 16 per cent of respondents as a key determinant for effective participation. The Javanese concept of life as *nrimo*, or acceptance of everything without objection was exemplified by respondents G5 and CS9 as influencing the level of participation by communities. With this concept encouraged, these respondents argued that communities would participate throughout the program. One non-government organisation respondent (LNGS1) argued that the role of *ninik mamak*, or customary heads in West Sumatra, was significant as the main gate to entering the community. This respondent also mentioned that it was necessary to match community participation activities with cultural ceremonies within communities.

A non-government respondent (NG1) also argued that culture determines the effectiveness of community participation:

In Acehese communities [of northern Sumatra], it was found ... they seemed reluctant to outsiders, stubborn, and showed rejection to any idea from outside of them. By way of contrast, communities in Java, for example, of Yogyakarta, were more flexible and more willing to participate, as also apparent in communities in the Padang of West Sumatra because of their strong kinship and *gotong royong* values.

This respondent also stressed that social rules as well as customary norms, especially in terms of kinship, played important roles in determining effective community participation — a suggestion also made by a local government respondent (LGS1).

Another example of cultural values that might affect community participation was raised by a central government respondent (G1) through an example: if the adaptation option was related to the relocation of a community from its ancestral land due to sea level rise. This respondent argued that the government needed to offer alternative options in addressing this problem; for example, by building stilt houses for communities in coastal areas so they can still live in their ancestral land.

Prosperity

Twelve per cent of respondents also mentioned benefits of any particular program as a determinant for better participation. One community respondent (CB2) believed that communities would participate in programs if there were clear or direct socio-economic benefits from a program for communities. This view converged to that of another community respondent (CB3) who stressed:

If by participating in a program could improve community welfare and not create negative implications to community, a community will always be enthusiastic to participate.

Asset-based approach

Nine per cent of respondents believed that community assets were imperative for effective community participation. A non-government respondent (NG2) believed that community strengths — for example, good social capital and local knowledge — were key determinants for effective community participation. The communities,

however, need to be mentored and empowered to find alternatives on top of existing community assets so as to increase their quality of life and adaptive capacities to enhance community participation (respondent NG1).

Summary of key narrative responses to Theme 3

In responding to questions on what key things might determine more-effective community participation practices for climate change impacts, 12 determinants were raised by the respondents. Community awareness on the issue at stake was mentioned by most respondents as the key determinant for meaningful participation in decision-making processes. Respondents argued that many benefits might arise from increased community awareness, especially to instigate community initiatives through better understanding of a community's needs and interests in relation to responding to climate change impacts. This would help build community trust and assurance on the program, thus leading to higher community participation. Subsequently, community leadership was also advanced as important. Most respondents converged on this determinant by underlining the important role of informal leaders such as community leaders, heads of customary and village leaders to harmonise relationships amongst community members and between community and government, to better coordinate the community to engage in a program. Local knowledge was also believed to be important determinants by the respondents. However, such knowledge needed to be adjusted and developed to adequately respond to climate change issues. Here, coordination between government and community was necessary.

Another determinant perceived as imperative for effective community participation was enhancing the capacity of community groups to raise their issues to government. Relationship and coordination within communities and between community and government members, and among community and government members, NGOs, including private sector NGOs, were also considered important for effective community participation. Lack of coordination was seen to significantly reduce participation. Developing appropriate approaches that involve communities by including effective communication and personal approaches when introducing programs, as well as aligning the implementation of programs with community livelihoods, are among the approaches also suggested by respondents.

Other determinants raised by the respondents were a higher level of education was needed of many communities, where educated communities were found to have a better ability to solve problems and be actively involved in a program. For this to be workable, the respondents suggested the importance of government commitment to support community endeavours and to more strongly engage communities in decision-making processes. The role of government and NGOs was considered in educating communities. Respondents raised various key aspects related to government commitment that included commitment to engage the community in the development of strategies and policies, to deliver high quality information to raise community awareness on the issue at stake, and to support a program better through coordination with NGOs. Other determinants for effective community participation suggested by the respondents included participation processes in administrative arrangements and procedures; cultural values and socio-economic issues; clearly explaining the benefits of the program to communities; and providing social asset based approaches.

Conclusion

In probing suggestions on how to enhance community participation practices to respond to climate change impacts, there was a convergence amongst central and local government participants, NGOs, and community representatives that the community level needed to be inclusively involved in decision-making processes of adaptation actions, from problem identification to implementation. At the same time, there was convergence on the suggestion to empower communities, with particular suggestion on improving the role of women in programs. However, considering the relatively low community awareness of climate change problems, as well as lack of adaptive capacity for actions, it would be necessary to work out these issues with the strong support of government and NGOs. In parallel, it was important to acknowledge community assets as a relevant local basis on which to build adaptation actions at the community level, which would also enhance community engagement in programs. Clearly, all these narratives suggest key aspects of communities that were needed to enhance participation.

This chapter also reveals key determinants for effective participation according to respondents' perspectives. These determinants included community

awareness on the issue at stake; community leadership; local knowledge; an enhanced role for community groups; effective relationships and coordination among actors; appropriate governmental and NGO approaches to involve the community in the introduction of programs; community level of education; government commitment; administrative arrangements; culture; livelihood emphasis; and the social asset-based approach. Identifying these key determinants from the respondents' perspectives of course also helps to better identify what is lacking in communities, which thus assists in formulating the best mechanism or strategy for better community participation for adaptation in Indonesia.

In conclusion, this chapter has presented the fieldwork findings and the first stage of analysis of key actors' suggestions with regard to Theme 2, of enhancing community participation practices, and Theme 3, of key determinants for effective participation, both in relation to raising the capacity of vulnerable communities for adaptation. We now move to Chapter 8, which presents the second stage analysis of the thesis. It comprises first, a summary discussion of the thematic results of the three themes; second, identification and analysis of narrative cross connections amongst the three themes; and third, comparison of the main findings of that analysis to the international and national literatures, as presented in Chapters 2, 3 and 4. Key findings are then made, and any hypotheses made already are reassessed and potentially, new ones generated.

Chapter 8

Fieldwork Analysis Stage 2

Building on the prior fieldwork analysis Stage 1 of Themes 1-3, this chapter presents fieldwork analysis Stage 2. Stage 2 is presented in three sections — all of which is also related to the international and national literatures discussed in Chapters 2-4 and elsewhere where applicable — to identify what the fieldwork results appear to reflect and lack in the national context and add to it, to inform effective adaptive capacity building in highly vulnerable areas of Indonesia.

Section 1 presents the findings of the cross-connection (CC) analysis of Themes 1-3 to identify dominant narrative clusters as potential local and community participatory strategies. Section 2 looks at key determinants for effective community participation practices. The analytical method is shown at the left of Figure 8.1 by three green boxes. It involved re-grouping the narrative clusters from the sub-themes across their themes by frequency of respondent mentions (weightings). Section 3 then discusses the findings as to what improved community engagement strategies might best work, be most appropriate, and/or be most needed, in Indonesia at the local level, in answering Research Question 3 of this research and ultimately meeting the primary aim of this thesis.

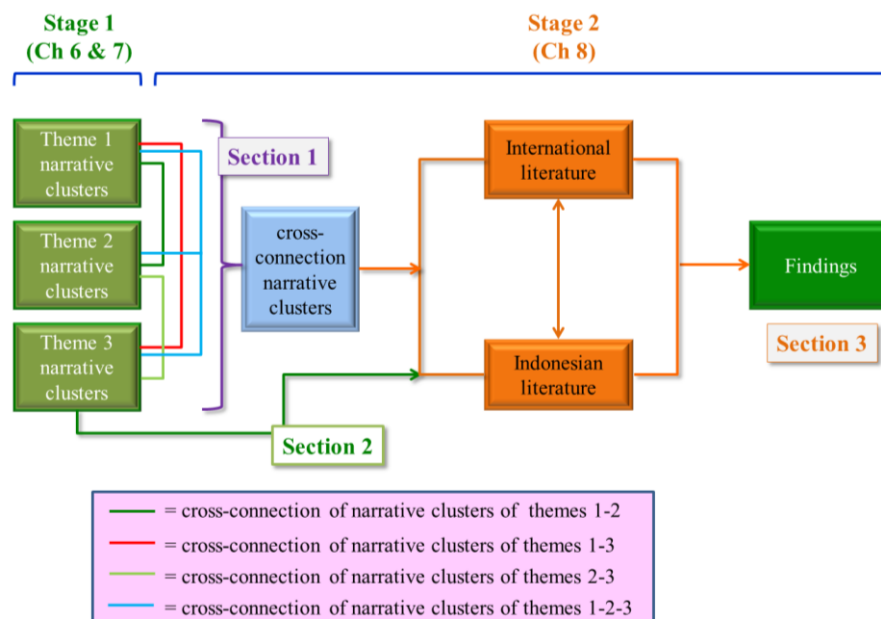


Figure 8.1 Scheme of analysis

Section 1: Fieldwork analysis Stage 2 – cross-connection analysis

Cross-connecting narrative clusters of Themes 1 and 2

The cross-connection of the sub-themes in Theme 1 (of existing community participation practices) with those of Theme 2 (of enhancing community participation practices) sought to assess gaps between current practices and suggestions for improvement. This sought to determine how to enhance the participation practices according to respondents' perspectives, and which of the existing practices were applicable for better participation, or needed strengthening. Four narrative clusters arose from the cross-connecting analysis of these themes, as shown in Table 8.1 in the left-hand column; the sub-themes are then shown in the middle column and the number of respondents per narrative cluster in the right-hand column (the cross-connection process itself is presented in Appendix G).

Table 8.1 Cross-connecting (CC) narrative clusters of Themes 1 and 2

No.	CC Narrative cluster	Corresponding sub-themes of Themes 1 and 2 (number on the bracket indicates the associated theme)	% Respondents (n = 38) in relation to the CC narrative clusters
1	Community-based action	- Most common form (1) - Initiator (1) - Suggestion for better community participation (2)	82
2	Understanding the issues	- Determinants for high participation (1) - Determinant for low participation (1) - Suggestion for better community participation (2)	61
3	Active involvement in the whole process	- Definition (1) - Suggestion for the best stage to involve community (2)	53

In the following, each of these cross-connecting narrative clusters is discussed in turn, which is also discussed in reflection to the international and Indonesian literatures.

Community-based action

As argued by 82% of respondents, community-based action was found to be the most popular factor associated with community participation practices. For example, a central government respondent (G1) opined:

To adapt to the sea level rise is through reclamation and building stilt houses. We need to build 2500 houses, but this could not be done through community participation because it's high cost. Community could participate in mangrove planting because it doesn't require high technology thus low cost.

Here, community participation is obviously understood as the involvement of communities in terms of labour in the implementation stage of a program, which disregarded other important stages in the decision making process, such as formulation and evaluation. This statement therefore reflects an inadequate understanding of *gotong royong* as an inclusive mechanism for participation from formulation to implementation.

In relation to Theme 2, of how to enhance participation practices for adaptation programs, respondents suggested that the community asset-based approach was a good basis for designing programs. This implies that any existing practice or program or system involving community capacity and capability and local knowledge would be acknowledged as potential assets for better community participation to reflect effective community-based approaches (also Kretzmann and McKnight 1993; Mathie and Cunningham 2003). With regard to engagement practices or local knowledge already existing in communities, the respondents also suggested that scientific or technological inputs would be needed to appropriately address climate change problems (also Mathie and Cunningham 2003). Here, the suggestion of collaborative expert/non-expert participatory forums as argued by Hindmarsh (2012) appears imperative for effective participatory practices (Fischer 2002).

In this regard, community assets, community groups and *gotong royong* acting together suggest an integrated approach to support effective community-based actions. Community assets would form the foundation for actions to be discussed by and channelled through community groups, and *gotong royong* would form a means

to implement the actions. Overall, this approach would reflect community-based adaptation (CBA), as well as community risk assessment (CRA) that identifies hazards, vulnerabilities and community capacities to respond to the hazards; and/or participatory scenario development (PSD) that integrates development choices, adaptation options, and local capacities (as discussed earlier in Chapter 3). Moreover, these three approaches are likely to be applicable within the neighbourhood (RT) and resident (RW) associations of Indonesian communities (as referred to in Chapter 4).

Understanding the issues

Community understanding on the risks and issues of disasters, environmental issues and climate change was seen by the respondents as a strong determinant for high participation in adaptation programs, especially to build adaptive capacity, and its lack or absence for low participation. Several examples were presented by the respondents, which align to many referred to in the literature. As Smit and Wandel (2006), Jones and Rahman (2007) and IIED (2011) suggest, CBA that is based on building community capacities empowers communities to better cope with climate change impacts (also Reid et al. 2009). Likewise, Davidson's (1998) *wheel of participation* model seems applicable for this approach where its four levels of 'information', 'consultation', 'participation' and 'empowerment' are selected according to level of community awareness and understanding on the issue at hand. In the case of low awareness and understanding, the 'information' level is needed to raise community awareness and understanding on the issue at hand — here climate change — and then to improve the more active participatory levels that rely on raised awareness.'

With regard to the means of raising community awareness, the literature suggested the scenario thinking workshop approach as a relevant community aid where the perceptions and ideas of communities regarding adaptation issues were gathered (see Gidley et al. 2009: 433). This approach follows the learning-based deliberative one introduced by Daniels and Walker (1996), and might be applied by way of existing community groups in Indonesia. Obviously to make it workable, the generally low education levels of Indonesian coastal communities would need to be enhanced.

These arguments clearly address the current lack of government understanding on this issue as demonstrated by largely top-down programs to communities; these most often limit opportunities for communities to digest information on, or be involved actively in, these programs, which in turn limits their understanding on the risks and issues at stake and also their support for program implementation (for example Diposaptono 2009). However, opportunity for higher participation and greater community impact on government policies is presented by the regional autonomy pledge, which has now existed for more than a decade (see Bunte and Ufen 2009). Furthermore, in 2008 the need for raising community awareness on climate change was recognised by the *Yellow Book* or the *National Development Planning: Indonesia Responses to Climate Change*; although Government Regulation No.64 Year 2010 on Disaster Mitigation in Coastal and Small Islands remains unclear in regard to the role of communities in the decision making process. This indicates that further clarification on this aspect is required in lower level law through to policy implementation. In general, this situation thus poses both opportunity and challenge for Indonesian policy makers to develop greater commitment for participatory systems.

Active involvement in the whole process

Following the respondents' arguments for the enhanced community-based approach, 53% of respondents understood and suggested community participation throughout the whole process of adaptation programs. This narrative cluster — initiated from the 'definition' sub-theme of Theme 1 — cross-connected easily with 'the best stage to involve community' sub-theme of Theme 2. Clearly, it aligns with the definition suggested in the literature on community participation as discussed in Chapters 2 and 3, which involves active participation in decision making with respect to setting goals, formulating policies and the planning and implementation of programs (for example, Midgley 1986: 25). Likewise, within the Indonesian context, Adi's (2007: 27) 'inclusive' definition of community participation is expressed as:

Involvement of community in the process of identifying problems and community assets, in selecting and deciding alternative solutions to the problems, in implementing the solutions, and involvement of community in evaluating the outcomes.

Moreover, this narrative cluster — which focused on ‘active involvement in the whole process’ — emerged from government and NGO respondents, and community representatives which have been undertaking community-based mitigation and adaptation actions in their village. Consequently, for government and NGO respondents, it is likely that the understandings of these respondents — given their background as key environmental actors in Indonesia — were also influenced by the Environmental Act Number 32 year 2009 which, compared to the previous Act, put more emphasis on community participation. While for community respondents, their understanding is likely based on their experience in carrying out the community-based actions.

These respondents also raised several issues for enhancing participation. A key one was collaborative partnership between government and communities and also the private sector. This implies cooperative bottom-up and top-down approaches (see Carr 2002; Dovers 2005; Pettengell 2010; Posthumus et al. 2010), which are also seen as a determinant for successful community-based adaptation (see Swalheim and Dodman 2008), as well as to achieve sustainable development (see Robinson 2004; Bäckstrand 2006; Elliott 2006). The literature on adaptation also highlights the benefit of partnership approaches, as these enable problem solving, capacity building, and access to resources and access to information at all levels (Pettengell 2010).

Other suggestions raised by the respondents were that community groups should play a significant role in channelling communities’ voices to decision makers, and that communities must be treated as active participants (as ‘actors’) in program decision-making — not merely as passive recipients and beneficiaries of programs (see Kretzmann and McKnight 1993; Mathie and Cunningham 2003 that support this notion). Currently, communities are mostly seen by the Indonesian government as passive beneficiaries. For example, government management of coastal and small islands is defined as ‘planning, utilising, monitoring and control of coastal and small islands resources that are carried out through inter-sectoral, government-local government, inland and marine ecosystems, and science and management, in order to improve community welfare’ (Menhukham 2010: 1). In this arrangement, there appears little role for communities to determine what is best or appropriate for their welfare in this area.

As such, associated respondents' suggestions on active participation were that communities not only attend meetings related to decision making but also express their views. In addition, it was suggested that they rectify the misinterpretation about community representativeness in community participation, by clarifying that NGOs do not adequately represent communities; instead, the more appropriate role for NGOs is to help provide a conduit between government and the ordinary citizen. On the one hand, NGOs should help inform government of societal interests, views and concerns, and in turn, help citizens to understand public policy and to be involved in policy formulation processes, for example, in problem identification (Iati 2008). Community-based adaptation, again, seems to best align to these suggestions; for example, Swalheim and Dodman (2008) also outlined that CBA includes the identification of a community's own vulnerabilities and needs to better define the problems it is facing, then to develop solutions and implement appropriate locally supported actions.

Cross-connecting narratives of Themes 1 and 3

Cross-connecting Theme 1 on 'existing community participation practices' with Theme 3 on 'key determinants for effective community participation practices' aimed to identify and assess relevant existing and suggested determinants for enhanced community participation practices for adaptation. Eight narrative clusters emerged in order of mention by respondents, as shown in Table 8.2. The cross-connection process is presented, in detail, in Appendix H. The table shows that seven out of eight, or 88%, of cross-connecting narratives are derived from the determinants for the high community participation sub-theme of Theme 1 on existing participation practices. This analysis finds that most determinants for effective participation — leadership, government commitment, community education, and enhanced approaches to engage community — are already existed in mentions on current practices, but only weakly.

Table 8.2 Cross-connecting narrative clusters of Themes 1 and 3

No.	CC narrative clusters	Associated sub-themes in Theme 1	% Respondents (n = 38) in relation to the CC narrative clusters
1	Understanding the issue	Determinants for high participation practices Determinants for low participation practices	66
2	Leadership in community	- Determinants for high participation practices - Suggestion to overcome constraints	53
3	Appropriate approach taken to engage community	Determinants for high participation Determinants for low participation practices Suggestion to overcome constraints	39
4	Community education/capacity	Constraint to participation	37
5	Mechanism/system in place	Determinants for high participation practices Determinants for low participation practices	34
6	Strong and respectful relationships between government and communities	Determinants for high participation practices	29
7	Government commitment to program	Determinants for high participation practices Suggestion to overcome constraint	21
8	The influence of culture and religion	Determinants for high participation practices	21

A summary explanation on the CC narrative clusters produced from this exercise is presented in the following, which again, are discussed in relation to the international and Indonesian literatures.

Understanding the issue

The narrative cluster of ‘understanding the issue’ was derived from the determinants for high and low participation from the ‘existing practices’ sub-theme of Theme 1 and the suggested key determinants for ‘effective participation practices’ sub-theme of Theme 3. This finding indicates that understanding the climate change issue is imperative as it influences the level of community awareness on the issue which increases participation. Lack of community understanding on the other hand leads to

lower participation, which then adversely influences any community's readiness for anticipatory adaptation (see Few et al. 2006a). Additionally, Steelman and Ascher (1997: 73) found that participants in collaborative decision making need to be competent, interested or knowledgeable about the issue under debate.

Several suggestions were made by respondents to increase community understanding. They included scientific simulations on climate change projections and impacts, and appropriate and systematic community engagement approaches.

These suggestions align with the view of Reid et al. (2009) that the means to increase understanding is through scientific information on the long-term predictions of climate change in addition to local knowledge on historical trends experienced by communities (see also Nyong et al. 2007). Further, this reflects, to some extent, the deliberative participatory approach as suggested by de-Shalit (2000: 163). This approach stresses that government should be transparent in providing relevant information to allow greater community understanding on topics under debate (also Stern and Fineberg 1996; Blowers et al. 2005; Roy and Chatterjee 2006). This approach also aligns with Principle 10 of the Rio Declaration on Environment and Development (UN 1992), and the subsequent Agenda 21 (UNDESA 2009), which endorsed the role of government to provide relevant information to communities in tackling environmental issues.

However, within the Indonesian context, a study called the Adaptation Science and Policy Study (DNPI and UKAid 2010) found that low levels of understanding on climate change issues in Indonesian communities and within the government contributed to lack of adaptation related activity. Statistics also revealed that only about half of the general population might be sufficiently educated — that is, to high school and tertiary education levels (BPS 2010c; d) — to understand climate change impacts. A key challenge for Indonesia is then to raise the level of understanding in both civic and bureaucratic understandings of climate change.

Leadership in community

With regard to 'leadership in community', respondents agreed that community leaders played a vital leadership role for local communities to support adaptation projects and thus help determine the participation of communities in associated decision making processes. In West Sumatra, respondents suggested that community leaders should include clergy and customary heads. The consensus was that

community leaders should play the roles of brokers, advisors and mentors in building good relationships with government, as well as in sustaining any program.

However, the findings also found two contrasting strands. First, the role of community leader was found favourable to the effectiveness of community participation for climate change adaptation, for example, in a CBA project in Samoa. The project applied a village-based approach that empowered local knowledge and experiences under the direction of a community leader (see Gero et al. 2011: 109). This led to acceptance of the project by the community. This result also aligns with the argument of Berkes et al. (2000) that local knowledge should include an institutional aspect so as to provide leaders and rules for social regulation. However, in considering the paternalistic nature of Indonesian communities as strongly influenced historically by Javanese culture in the Old and New Orders particularly (Bourchier and Hadiz 2003; Basrowi 2005), too much reliance on one person as a leader might also lead to a lack of initiatives and creativity of community members to initiate and sustain a program.

Appropriate approach taken to engage communities

Arguments were also raised by the respondents concerning the significance of approaches taken to engage communities — which of course affects the level of community participation. Personal and persuasive approaches were suggested as the most effective to build rapport with communities in introducing adaptation programs, to facilitate active participation in decision making from formulation to implementation. This approach appears to align with that of Miller's (2006: 201); Miller supports the deliberative dialogue approach to arrive at mutual understandings of divergent views that reflect the complexity and cross-sectoral nature of adaptation issues.

Program introduction through economy/livelihood approaches was also seen by the respondents to be an effective way to involve communities in adaptation programs. Integrating economic and livelihood issues was also suggested by Christian Aid (2009) and Ruiz (2010) by way of participatory vulnerability and capacity assessment (PVCA), which integrates disaster risk reduction tools into livelihood programs. This tool enables communities to develop a 'most-likely' scenario of future climate change and its impacts on livelihoods, which helps to

empower disadvantaged people to analyse their problems and suggest their own solutions and results in active support for the resulting participatory programs.

Community education/capacity

Within Theme 1, this narrative cluster was found important in regard to the ‘constraints to implementing participation processes’ sub-theme. Respondents commented that low community education led to misunderstanding and ignorance of any response program, and thus community opposition or resistance to it. In contrast, higher education level increased the community capacity to understand, which enabled active community participation in decision making processes to better address their problems. The respondents’ views aligned to that of Pittock’s (2005: 146), who argued that improved education was required to enhance the capacity to adapt. To make this work well, respondents suggested that the role of government, NGOs and community cadres was imperative to educate communities in building their adaptive capacity. However, local government — which might be expected to be the main actor to educate and build community adaptive capacity — was also found by respondents to be lacking in capacity to run climate change programs which, they argued, needed strengthening to ensure effective adaptation programs and high community participation (see Agrawal and Gupta 2005) .

Associated with these arguments were those that stressed enhanced education to achieve the ‘vulnerability reduction approach’ to development, as was also discussed by Schipper (2007: 7; see also Ayers and Huq 2009). The vulnerability reduction approach to development is meant to reduce vulnerability to the adverse impacts of climate change. Article 6 of the UNFCCC supports this approach in its call to all Parties to the Convention to respond to the adverse effects of climate change by promoting education, training and public awareness, thus enhancing the adaptive capacity of communities. In this regard, the UN Training Service Platform on Climate Change, UN CC:Learn (United Nations 2009b) — a collaborative initiative of 33 multilateral organisations which supports member states, UN agencies and other development partners in designing and implementing country-driven, results-oriented and sustainable learning to address climate change — was established at the Copenhagen climate change conference for the implementation of Article 6.

Indonesia participated in the CC:Learn project as a pilot country in developing its National Strategy to Strengthen Human Resources and Skills to Advance Green, Low Emission and Climate Resilient Development 2012-2013 (United Nations 2013). The development of this National Strategy involves a multi-sectoral and multi-stakeholder process to strengthen the capacities of national institutions to deliver climate change learning. For example, a planning workshop was conducted in 2012 to discuss key strategies and work plans involving government, the private sector, education institutions, NGOs, and international development partners (United Nations 2013).

Mechanism/system in place

Also considered necessary for successful community participation were appropriately designed mechanisms and processes for any adaptation program to succeed at the local level. These, it was argued by respondents, should include rules, guidelines and procedures to inform a clear, transparent and understandable program for all involved actors. In the literature, many scholars align to these arguments. Paavola (2007), for example, argues that rules are important as they determine and sustain whose interests are recognised and who is to be involved in the decision making process, as well as the procedures to be followed, which Young (1994) and Adger et al. (2003b) endorse especially for more effective community participation in environmental management (also Kiser and Ostrom 1982; Barnes et al. 2003). Kemp and Loorbach (2003) and Rotmans et al. (2001) suggest transition management mechanisms and processes that adapt the existing management or planning system rather than creating a new one. This approach gradually aims to transform the system by progressively adding new elements to address specific problems, an approach that intimately develops better community engagement as one such mechanism. In turn, Folke et al. (2002) and Patwardhan et al. (2009) argue that system mechanisms play a key role in helping behavioural and attitudinal change, for example, through changes in legislation or organisational (including participatory) arrangements that place priority on building responses to climate change impacts. Indonesia has shown some attempt at this type of system change through the inclusion of the climate change issue into the Environmental Law No. 32/2009. Simplification of government administrative arrangements was also argued

by the respondents as necessary to enable more effective participation, particularly to enhance community access to climate change funding and programs.

Conversely, procedural, administrative and policy weaknesses — such as insufficient or over-structured engagement procedures, poorly-timed processes within a decision-making cycle, and unreasonable expectations placed on participants — which nurtured the likelihood of failure were seen to provoke community distrust of government agencies and/or developers (Richards et al. 2007; Harding et al. 2009). Such weaknesses and the associated public distrust, however, has been a long-standing challenge for Indonesia given the legacy of the New Order regime and its top-down administrative arrangements for development projects. Nevertheless, procedure for change is building at this time as initiated and stipulated under the Presidential Regulation No. 81/2010, Grand Design for Bureaucracy Reform 2010-2025 (Kempan 2010). Internal regulatory reforms of government institutions are also expected to place greater attention on community participation in climate change actions.

Strong and respectful relationships between government and communities

Good relationships and coordination among climate change stakeholders was also argued by respondents as being crucial for more effective participatory decision making processes, both between communities and government and within communities. Such arguments align to those of Dietz and Stern (2008: 51) who found such developments stimulated engagement in the whole aspect of decision making. In turn this engendered all parties to improve their knowledge and understanding on the issues at hand and resulted in more legitimate and effective decision making (see Blackstock et al. 2007). Synergistic linkages between and within groups of communities and between communities and government were also stressed by a number of researchers to strengthen the adaptive capacity of the communities (Olhoff 2002; Adger 2003; Gidley et al. 2009; Smith et al. 2009). Moreover, good cooperation between government and communities and other stakeholders was found to facilitate the mainstreaming of climate protection goals into policy (Bulkeley and Betsill 2005). For example, on the general developmental issue concerning Indonesia, the Community Empowerment Board (LPM) was seen to strengthen community and government relationships in terms of governance, development and community prosperity (see for example, Pemkot Bandung 2005).

The need for good cooperation was also highlighted by the respondents on the role of NGOs in bridging communities and government for effective implementation of community participation and ultimately the project being implemented. This role of NGOs also aligned with the view of Iati (2008) as helping inform government of societal interests, views and concerns and, in turn, helping communities understand public policy and be involved in policy formulation processes. Indeed, in today's reformation era, NGOs have more actively become government's partner in policy implementation (Harwell 2000; Okamoto 2001). Again, perhaps this is the root of the misinterpretation of the definition of community participation; that is, as NGOs representing communities (respondent G2).

Government commitment to program

'Government commitment to climate change adaptation programs' was clearly seen by the respondents as a key determinant for high participation in the sub-themes on 'existing participation' and 'suggestions to overcome constraints'. High government commitment, especially at the local level, was then seen as significant to support communities. Suggestions of support included helping build community adaptive capacity and enhanced community engagement, simplifying bureaucracy, and community support in terms of logistics and funding, to address significantly disruptive events like natural disasters.

Furthermore, as also informed by the narrative cluster of 'understanding the issue' (discussed earlier), the role of government was seen to deliver a high quality of information to raise awareness of adaptation issues (see United Nations 1992a; Stern and Fineberg 1996; Blowers et al. 2005; Roy and Chatterjee 2006; UNDESA 2009). This imperative was seen in Indonesia's 2005 Climate Field School to improve farmers' knowledge on climate change including the application of climate information to increase their adaptive capacity (Winarto et al. 2008; Winarto et al. 2009). Stronger commitment to engage communities in environmental activities was also placed firmly on the policy agenda by the Indonesian Environmental Act Number 32 year 2009.

The influence of culture and religion

Culture and religion have strongly influenced the Indonesian way of life. Respondents' comments could be seen to exemplify this influence. For example, 21 per cent of respondents argued that community inaction on the adverse environmental impacts was due to community beliefs that such impacts were uncontrollable and perceived as acts of nature and God, which located them beyond any community capacity to resolve them. Similarly, other cultural values have had impacts on influencing the participation of communities, such as acceptance of how things are without objection, otherwise known as *nrimo* in Javanese culture. This particular cultural value goes back to feudal-paternalistic times (Wibowo and Nogi 2004), which tend to constrain active community participation in decision making processes. On the other hand, *gotong royong*, which has also been handed down through generations, seems to have been more influential in fostering the 'good deed' (within Islamic teaching); so it has facilitated a more active engagement of community members to help each other and the community in general, for example, responding more energetically to natural disaster, especially in the aftermath.

According to Carr (2002), local culture is part of local knowledge which plays an important role in fostering effective community participation. However, cultural constraints on participation stress the need for institutional change to prompt more active engagement stimulated by changes in behaviour and values (Rotmans et al. 2001; Fokkema et al. 2005; Kemp et al. 2007). In this case, improved community education levels seem imperative for such change and system transformations towards effective adaptive capacity.

Cross-connecting narratives of Theme 2 and 3

Two narrative clusters emerged from cross-connecting Themes 2 and 3. Both are suggested as key determinants for effective community participation. In the following, each CC narrative cluster is discussed in turn.

Table 8.3 Cross-connection narratives of Themes 2 and 3

No.	CC narrative cluster	Associated sub-themes in Theme 2	% Respondents (n = 38) in relation to the CC narrative clusters
1	Appropriate approach taken to engage community	Suggestion for better CP	42
2	Asset-based approach	Suggestion for better CP	16

Appropriate approach taken to engage community

Several respondents pointed out the significance of having an appropriate approach to communities if they are to be effectively engaged in decision making processes. It was important, however, to distinguish different approaches for urban and rural communities as urban communities were more educated and informed and willing to actively participate, which was the opposite for rural communities (see Walmsley 2006). Rural communities dominate the country with over 50% of the population living in rural areas (BPS 2010e).

Asset-based approach

Respondents also argued that existing community assets were important to inform better outcomes of community participation. Indeed, in this regard it was suggested that considering the current insufficiency of community responses to address the current and future predicted impacts of climate change, complementary actions from government such as mentoring and training were required. These suggestions align with the asset-based approach suggested by Kretzmann and McKnight (1993) for community input into policy development and activities that lead to effective community-based efforts.

A significant Indonesian cultural asset at the community level for participation for community input, to reiterate, is *gotong royong* or the traditional way of mutual cooperation. Other cultural aspects such as local knowledge are also assets that already inform the Indonesian environment-related traditional knowledge inventory (see Purba 2001). However, both of these cultural assets require strengthening, as discussed earlier. The spirit of *gotong royong* needs to be heightened, while the existing local knowledge requires scientific adjustments to appropriately adapt to climate change.

Cross-connecting narratives of Themes 1, 2 and 3

Cross-connecting narratives across Themes 1, 2 and 3 aimed to identify narrative clusters that appeared dominant in their sub-themes as important factors to evaluate, and thus suggest appropriate participatory strategies. Table 8.4 shows two CC narrative clusters.

Interestingly, the cross-connecting narrative clusters of Themes 1, 2 and 3 fall into one single narrative cluster: ‘understanding the issues’ (see Appendix J for overall results of the fieldwork), which is closely related to level of education. This finding confirms the significance of education for Indonesian communities for better participation in decision making process of adaptation activities. However, it appears a significant challenge for Indonesia, given that in 2011 only 29.44% of the Indonesian population completed high school (BPS 2011). In addition, not many high school graduates could continue to tertiary education due to its high costs (Utomo 2012). These outcomes indicate that the quality of well-educated human resources in Indonesia is too low if Indonesia is to ensure adaptive capacity, and education is therefore a key issue that must be addressed. However, informal education such as NGO training programs and awareness rising already reflect alternatives to improve community understanding on the issues at stake.

Table 8.4 Cross-connecting (CC) narrative clusters of Themes 1, 2 and 3

No.	CC narrative cluster	Corresponding sub-themes (number in bracket indicates the theme)	% Respondents (n = 38) in relation to the CC narrative clusters
1	Understanding the issues	<ul style="list-style-type: none"> - Determinant for high participation (1) - Determinant for low participation (1) - Suggestion for better community participation (2) - Key determinants (3) 	66

Section 2: Analysis on Theme 3 on key determinants for effective community participation practices

This section specifically analyses Theme 3 to test the hypothesis that institutional change, local knowledge, and social capital are key *interactive* determinants of effective community engagement for a conceptual framework by which to develop an effective community engagement for an adaptation approach. To test the hypothesis, the narrative clusters as presented in the left column of Table 8.5 were re-grouped into key determinant clusters as indicated in the right column of Table 8.5. Starting with local knowledge, narrative clusters 7 and 10 informed this determinant. Narrative clusters 2, 3, 9 and 11 were all seen to inform ‘social capital’, while narrative clusters 4 and 8 inform ‘institution’. Similarly, other narrative clusters were re-grouped based on their similarity in meanings or key aspects embedded in them. Hence, narrative clusters 1 and 5 fell into ‘education’, narrative cluster 12 into ‘socio-economic issues’, and narrative cluster 6 for ‘government commitment’.

Table 8.5 Responses on Theme 3 — Grouping of the key determinants for effective community participation practices based on the key preliminary determinants found in the literatures

No.	Narrative clusters of Theme 3	Key determinant clusters	%
1	Awareness of the issue	Education	45
2	Relationships and coordination among actors	Social capital	45
3	Leadership in community	Social capital	41
4	Appropriate approach taken to engage community	Institution	41
5	Education level of community	Education	36
6	Government commitment to program	Government commitment	36
7	Local knowledge	Local knowledge	32
8	Administration arrangement and procedure	Institution	27
9	The role of community groups	Social capital	23
10	Cultural values	Local knowledge	18
11	Asset-based approach	Social capital	14
12	Prosperity	Prosperity	9

This re-grouping of narrative clusters to six key clusters is shown in Table 8.6. The weightings of the respondents on the narrative clusters reflect the order of the narrative clusters. Analysis of these finding is now discussed.

Table 8.6 Final key determinants

No.	Final key determinants	% Respondents (n = 22)
1	Social capital	68
2	Education	59
3	Institution	54
4	Local knowledge	36
5	Government commitment	36
6	Prosperity	9

The results show that the three preliminary key determinants for effective community participation also appear as the key determinants for effective participation ensuing from the fieldwork, with some divergences. The fieldwork placed an emphasis on social capital which aligns with the Indonesian literature (of Chapter 4). This saw the reordering of social capital from being the second-placed determinant to the first-placed. Such emphasis in the Indonesian literature also aligns with the history of traditional Indonesian community characterised by democracy, collectivism and *gotong royong*, which all refer implicitly to social capital. Examples included neighbourhood associations and community cooperatives (for example, Sullivan 1991; also Soemardjan et al. 1993), as a basis for community bonding and consensus-building participatory actions (Putnam et al. 1993). Also of note is that education emerged from the fieldwork to have the second highest emphasis as a key determinant of community participation in the regrouping process. This finding also aligns with the most mentioned narrative in the fieldwork of ‘determinants for high and low participation’ in Theme 1; and with the emphasis in Theme 2 on community education for eventually heightening community adaptive capacity in coping with climate change impacts; as well as with the most mentioned narrative resulted from cross connecting all the themes.

Another compelling result of the fieldwork is that ‘government commitment’ received the same weighting as ‘local knowledge’ (36%), which suggests its importance in the national policy context as a key determinant for effective

participation for adaptation. ‘Government commitment’ was a key point of Theme 2. It aligns with the argument of Carr (2002) and Dovers (2005) that active participation by a community in itself is insufficient for effective and sustainable decision making. Instead, such participation also requires good community interaction with its local knowledge and with government agencies and policy makers. In addition, financial capacity to boost education and thus adaptive capacity needs government commitment. An argument underpinning the need for such interaction was that in many cases, government programs did not align with the needs and conditions of communities. This failure was exemplified by local government respondent (LGB2) who mentioned that when a government program provided a cold storage facility for fisheries to one community, its ability to support electricity costs associated with the facility was not assessed, or even considered, by the government program. A similar case was mentioned by a community representative respondent (CS1) that once ships were provided by another local government program for fishermen, the size of the engines exceeded the ability of the community to pay for the fuel to run them. Finally, the respondents mentioned prosperity (otherwise poverty) levels as significantly affecting the participation level of communities (BPS 2010c; d; Hidayah and Purba 2001; Yus 2011).

Section 3: Conclusion of findings

In meeting the primary aim of this thesis — that is, to evaluate and suggest appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building in Indonesia — this chapter presented the analysis of the results of the fieldwork through a cross-connection technique of interrogating the themes as primary inputs to generate appropriate suggestions. These emerged both from the literature (Chapters 2-4) and the fieldwork and their interaction.

In the fieldwork, several narrative clusters emerged from each theme as well as from the cross-connection within and between the themes. An assessment of the important key narratives through cross-connecting Themes 1 and 2 produced three CC narrative clusters: community based action, understanding the issues, and active involvement in the whole process. In turn, cross-connecting Themes 1 and 3 produced eight CC narrative clusters: understanding the issue, leadership in

community, approach taken to engage community, community education, appropriate mechanisms and systems in place, strong and respectful relationships between government and community, government commitment to programs, and the influence of culture and religion. In turn, cross-connecting Themes 2 and 3 as key determinants for effective participation produced two narratives: the ‘appropriate’ approach to engage communities, and the asset-based approach. Finally, in regard to cross-connection of Themes 1, 2, and 3, one CC narrative cluster referring to education was produced: (better) understanding the issues.

In addition to these findings and in combination with the literature reviews (Chapters 2-4), several key points also seem evident as further suggestions for informing the primary aim of the thesis. First, community involvement should not be misinterpreted as primarily the involvement of NGOs in a program. Second, community-based adaptation, community risk assessment and participatory scenario development seem highly relevant for Indonesian communities. However, some aspects require strengthening for this to be workable, including the integration of community assets, community groups, and *gotong royong*. Third, the ‘wheel of participation’ model appears appropriate to address various levels of community understanding on climate change adaptation. Fourth, a significant shift of government perceptions from communities as mere objects or passive beneficiaries, to communities as dynamic actors in decision making appears obvious for better community participation. Fifth, level of education — as the primary determinant for effective community engagement revealed in both the Indonesian literature and fieldwork — indicates its importance in the national and local Indonesian context as a key determinant for enhanced community participation. Sixth, while it is important for community leaders to encourage communities to participate in decision making processes, more reliance for input needs to be placed on community members to provide initiatives and creativity in adaptation programs. Seventh, participatory vulnerability and capacity assessment — particularly in relation to livelihood — appears an appropriate approach to introduce adaptation programs to communities.

Finally, in response to Theme 3 of the key determinants for effective community participation — and by comparing the key preliminary determinants that emerged from the three literatures reassessed of environmental management, sustainable development, and climate change adaptation (Chapters 2-4) to those that emerged in the fieldwork — six *final* key determinates emerged: social capital,

education, institutional change, local knowledge, government commitment, and socio-economic issues or prosperity. We now move to Chapter 9, which presents a summary of the findings, implications for future research, and a reflective account of the research process.

Chapter 9

Conclusion

Introduction

This chapter provides concluding comments on the research undertaken for this thesis. The aim — to improve the involvement of local Indonesian communities in highly vulnerable areas in planning for the impacts of climate change — was pursued by identifying and evaluating existing strategies in the light of the literature on the topic, and opinions obtained from 38 respondents whose range of experience could contribute to improved solutions. From these inputs, suggestions for improvements were derived. The chapter starts with a brief review of the challenge of climate change impacts to Indonesia in regard to the need to develop such participatory strategies. The chapter then stresses the need for the urgent development of means to engage communities in climate change adaptation decision-making processes. The argument is then furthered in addressing the research questions — identified at the outset of the research to ultimately meet the primary aim of this thesis (and as discussed below) — through a summary of the literature and the findings. The chapter then concludes with a reflection on the research method, and suggestions for future research.

As mentioned in Chapter 1, climate change impacts in Indonesia seem quite emergent as a series of extreme weather events adversely affecting Indonesia's socio-economic development (see MOE 2010a). These have occurred particularly in the coastal zone, which has been the focus of this research in relation to vulnerable local communities. Increased sea temperatures and sea level rise have led to biophysical impacts, which have then led to socio-economic impacts. For example, impacts have included changes to both wet and dry seasons during El Niño, and these have negatively affected crop production and increased the risk of forest fires. More broadly, such impacts may affect 84 million people, or 35% of the Indonesian population (BPS 2010b), who are employed in agriculture, forestry and fisheries.²⁹ The vulnerability of these people to such impacts is augmented by extreme poverty

²⁹ Based on the 2012 survey on national workforce by main industry. See: http://www.bps.go.id/tab_sub/view.php?tabel=1&daftar=1&id_subyek=06¬ab=2.

levels in Indonesia, where some 18% of the population live on less than US\$1.25 a day and 46% live on less than US\$2 per day (World Bank 2013). This situation makes any ‘escape’ from such impacts highly unlikely, unless adequate government–community initiatives are hastily developed to address them in both an anticipatory and reactive way.

It has thus been recognised internationally that coping with climate change requires whole-of-society action approaches (for example, UNFCCC 2010; UNFCCC 2013a). The significance of this line of attack is also perhaps seen through several international agreements aiming to boost adaptation actions, including the Cancun Adaptation Framework and the Nairobi Work Program (see UNFCCC 2010). The Cancun Adaptation Framework, for example, states five ‘clusters’ of enhanced actions: implementation, support, institutions, principles and stakeholder engagement. Stakeholder engagement that includes local communities is seen as an important factor for success in addressing the challenges of adaptation (see World Economic Forum 2013).

In this context, in Indonesia, the existing problem of very weak community engagement is a major environmental management gap for local decision-making input and action on adaptation, and one that urgently needs addressing and strengthening. As such, the key focus of the research was on what might represent effective participatory community engagement for adaptation in the Indonesian governance context. Given this significant gap in such an important area, the research was thus also seen as being significant and original in contributing to fundamental knowledge about it, and in aligning with prominent international agreements, including the Copenhagen Accord 2009, the 2012 Doha Climate Gateway strategy, and the 2013 Warsaw Outcomes, as well the burgeoning international literature on adaptation.

Informing this focus we recall was the primary aim to identify, evaluate and thus suggest or propose appropriate participatory strategies at the local and community levels for highly vulnerable areas in Indonesia. In turn, the secondary aims were to:

- (1) Identify and analyse existing community engagement policies and practices in the international and Indonesian contexts relevant to adaptation.

- (2) Undertake a comparative analysis of the above policies and practices in national and international contexts of developed and developing countries for policy ideas and development.
- (3) Identify where improved community engagement strategies might best work, be most appropriate, and/or be most needed, in Indonesia at the local level.

Three research questions informed these aims:

- (1) What participatory strategies best inform Indonesian community engagement in climate change adaptation responses?
- (2) What are the existing community engagement policies and practices in Indonesian environmental management and climate change adaptation policy and actions?
- (3) What community engagement approaches are most appropriate for implementing climate change adaptation at the local level in Indonesia, and how could they be strengthened?

That said, this concluding chapter now presents the following two sections in addressing these research questions. Section 1 addresses the three research questions in turn. Question 1 is addressed by the international literatures of Chapters 1 and 2 only. Question 2 is addressed by synthesising the key points and findings of the relevant literature review (from Chapter 4) for each question to the relevant fieldwork findings (from Theme 1, Chapter 6). Finally, Question 3 is addressed mainly by the fieldwork findings of Themes 2 and 3, Chapter 7, and Chapter 8, but complemented by the literature review.

In turn, Section 2 concludes the chapter, and also this thesis, by discussing the contribution of this thesis to knowledge, reflecting on the research method, and the implications for future research for adaptation policy development, and some concluding remarks. To assist the reader, Figure 9.1 depicts the conceptual framework of the chapter.

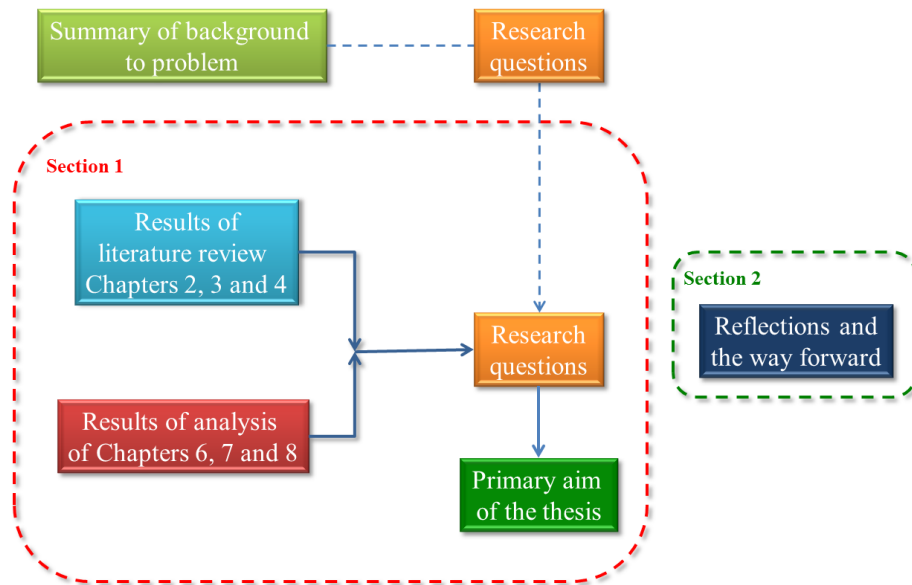


Figure 9.1 Scheme of Chapter 9

Section 1: Summary of findings in addressing the research questions

Addressing Research Question 1: Participatory strategies that best inform Indonesian community engagement in adaptation responses (informed by Chapters 1 and 2)

The literature review in Chapters 2 and 3 clearly highlighted several key points that inform participatory strategies that best inform Indonesian community engagement to best respond to climate change impacts. These key points include appropriate definitions of ‘community’ and ‘community participation’; approaches to, and the principles of community participation; and preliminary key determinants for effective community participation. Together, these key points provide the basis for developing participatory strategies considered most appropriate for adaptation responses in Indonesia.

Appropriate definitions of ‘community’ and ‘community participation’ are imperative as they provide the foundation for designing the participatory strategies to best fit the Indonesian situation, from selecting participants to processes of participation. A general definition of community participation in adaptation considered most appropriate for the Indonesian case can be constructed from the various literatures reviewed:

The process of working collaboratively in decision-making typically involves poor populations who live in high-risk areas with a strong dependence on climate-sensitive resources such as water and food resources. This process reflects collective goals and actions to address climate change impacts and constitutes setting goals, formulating policies, and planning and implementing economic and social development programs.

In regard to methods for achieving community participation, various approaches were found in the literature review. Each one might be applicable to the Indonesian situation, either alone or in tandem, depending on the issue and the community's circumstances. The deliberative approach was identified as the most prominent contemporary way of generating community participation as it offers open, transparent and respectful dialogue among participants in exchanging views to gain better understanding of those views and on the issue at stake (see for example, Habermas 1996; Cohen 1997; Rawls 1999; Dryzek 2002; Chambers 2003; Blowers et al. 2005). Another useful method identified as important for developing countries was the 'adaptation as development' approach (for example, Schipper 2007; Ayers and Forsyth 2009). This approach supports the idea that adaptation should become a strong complement for development which deals with the social and developmental needs of the highly vulnerable poor communities. This is meant to reduce vulnerability as well as the adverse impacts of climate change.

Also highlighted in the literature is the importance of integrating adaptation and disaster risk reduction approaches (see Mitchell and Aalst 2008; Venton and La Trobe 2008; Schipper 2009; Mercer 2010). Various tools included (a) participatory vulnerability and capacity assessment that integrates disaster risk reduction into livelihood programs; (b) community risk assessment that identifies hazards, vulnerabilities and community capacities to respond to the hazards; (c) participatory scenario development that integrates development choices, adaptation options, and local capacities; and (d) community-based adaptation that adopts adaptation as a development approach. From the examples of such tools used in many developing countries, it was found that they adopt a combination of the learning-based participation approach and the deliberative participatory approach. The two combined approaches allow a community not only to receive information, but also to

best learn about the problem under scrutiny by deliberatively analysing it to find solutions appropriate to their interests and needs.

Also useful for helping such participatory approaches to be effective, Carr (2002) identified four principles of public participation with regard to the local community level: a 'sense of place', a 'sense of community', 'local empowerment', and a 'knowledge system'. Ideally, informed by other literature, sense of community and place should be strong, local empowerment and knowledge should be maximised, and participation should be genuine, clear, sustained, transparent, flexible and appropriately resourced.

Despite the many benefits offered by enhanced community participation — including more acceptable decisions in local contexts; improved quality and legitimacy of decisions through educating, informing and empowering local communities; valuable local feedback on government programs; and making decisions cost-effective — limitations and challenges to effective participation still exist, and these need to be taken into account in designing appropriate participatory strategies. A sufficient number of participants, as well as diversity in representation, are needed for effectiveness; also important is the deliberative capacities of the participants; for example, competence, interest and knowledge about the issue being addressed. Another challenge is resistance to increasingly stronger bottom-up participation, which is typically influenced by long-held top-down and expert-driven styles of environmental management.

Finally, among the most significant findings of the literature review were the three preliminary key determinants for effective community participation in the environmental management, sustainable development and climate change adaptation literatures: 'institutional change', 'local knowledge', and 'social capital'; these rose well above the other aspects or determinants for effective community participation mentioned. This then informed the early hypothesis that institutional change, local knowledge, and social capital forms an inherent foundation for a conceptual framework by which to develop an effective community engagement for an adaptation approach.

For communities to be more actively and effectively included in decision-making processes, institutional change was needed; specifically, overly top-down systems had to be modified and new, appropriate institutions had to be formed at the local level (for example, Kiser and Ostrom 1982; Dovers 2005; Hillman and Howitt

2008). In association, local knowledge enabled the active participation of local communities using their local knowledge to better address a local environmental problem through formulating solutions they considered to be appropriate (for example, Kretzmann and McKnight 1993; Stern and Fineberg 1996; Carr and Halvorsen 2001). In turn, strong social capital contributed to robust social interactions in communities, thus facilitating effective community participation (for example Gittel and Vidal 1998; Wolf et al. 2010). Outcomes of placing more emphasis on these three aspects or determinants of effective decision-making are evidenced in both developed and developing countries, where community participation demonstrates a positive contemporary approach to the decision-making process. Such evidence makes it clear that inclusive community participation based on fostering institutional change, local knowledge and social capital is important for effective climate change adaptation.

In investigating how these participatory strategies — as well as the preliminary key determinants — worked in the Indonesian context, the ensuing section answers Research Question 2 on existing policies and practices in environmental management and climate change adaptation contexts.

Addressing Research Question 2: Existing community engagement policies and practices in Indonesian environmental management and climate change adaptation policy and actions (informed by Chapter 4 and Theme 1, Chapter 6)

Fluctuations of Indonesian democracy from the colonial to the contemporary reformation era still largely define key characteristics of Indonesian society — especially those that influence community participation styles as largely passive rather than active. Given the strong legacy of past authoritarian regimes of top-down centralised planning, which still linger and have traditionally involved limited citizen participation in decision-making processes, active community participation remains a considerable challenge for Indonesia (for example, Siry 2011; Wever et al. 2012). However, despite lingering authoritarianism, the opportunity for stronger community participation in Indonesia is unfolding, informed by the enduring traditional community characteristics of democracy, collectivism and *gotong royong*. An additional layer that assists in reworking such opportunity is offered by the social characteristics of Indonesian coastal populations, such as strong sense of

place and community. These characteristics would help to form a foundational framework by which to develop effective community engagement for climate change adaptation in coastal communities in Indonesia. Nevertheless, institutional change as discussed above is also needed in terms of facilitative policy development and support for active community participation.

To some extent, the seeds for such institutional change have been planted in terms of environmental management, within which climate change adaptation is situated. In attempting to engender the reform era aims of the decentralisation of Indonesia — which enable stronger participatory, transparent, responsive and accountable policy making processes — some revision of laws and regulations to accommodate the whole-of-society approach have been undertaken (for example MOE 2009). The most up-to-date Environmental Act, and some other laws and regulations related to environmental and disasters issues, encourages the active role of the public in environmental protection and management, including gathering public opinion and addressing grievances and complaints. Nevertheless, weak implementation of the Act and remnants of old authoritarianism undermine change, such that active community participation remains weak.

With regard to climate change, moves here to strengthen Indonesian policy include the ratification of the Kyoto Protocol in 2004, the establishment of the National Council on Climate Change (NCCC) in 2008, and a climate change adaptation division under the Ministry of Environment in late 2010. Nevertheless, several policies which attempted to balance mitigation and adaptation actions — such as the National Action Plan on Climate Change, the National Development Planning: Indonesia Responses to Climate Change, and the Indonesia Climate Change Sectoral Roadmap — demonstrate a lack of emphasis on community engagement, while the role of central and local levels of government remain dominant in decision-making. Overall, it is clear that existing policies pertaining to adaptation tend to stymie the implementation of community participation in the realm of adaptation.

However, despite shortcomings in project implementation for community engagement, the literature identified some effective participation practices in environmental management in Indonesia, particularly in coastal and forest resource management as well as in water and sanitation projects. Extant practices of local knowledge are also evident in environmental management, in the forestry,

agricultural and fisheries sectors. That mirrors the argument in the literature for the revitalisation of local knowledge to integrate with scientific and other contemporary knowledge for greater input into decision-making. However, in current adaptation activities, little evidence is found of community participation.

That said, the fieldwork findings on existing participation practices in environmental management and disaster management reveal important strengths and weaknesses to build on and address for enhanced community participation. Most respondents' understanding on community participation indicated convergence with the definition of community participation offered by the literature, which defines community participation as active involvement of the community in the whole process of decision-making (for example Midgley 1986). However, given the divergence of respondents' definitions and understandings on the terms 'community' and 'community participation' it is evident that some convergence is needed on these aspects. At the same time, there was convergence among the respondents that existing grass-root actions were recognised as the most common form of participation, but that the governmental top-down-like approach was still dominating participation practices for programs and projects. This situation thus diverges from the context of participation within the new directions of Indonesian regional autonomy (see, for example, Usman 2002; Siry 2006).

The fieldwork also found that existing community participation practices were hindered by prosperity levels in regard to high poverty; lack of understanding on the issue; inappropriate approaches to engage communities; low sense of place; conflicts of interest among key players including government, NGOs, and community; the absence of appropriate participatory mechanisms; lack of leadership; and increasing flurry of daily activities to earn a living leaves little time for participation. In addressing poverty, a key suggestion by respondents was attaching the participation process to community livelihood activities. Another was enhancing education to elevate the understanding of climate change issues. Adequate participatory mechanisms were also seen as necessary to increase community participation, both set by external and internal actors.

Considering the paternalistic nature of Indonesian communities, the role of community leaders as role models was also suggested to assist communities to engage in decision-making processes on adaptation. Moreover, whether communities were experienced or not in addressing extreme weather events, their

engagement needed to be supported — by both government commitment and appropriate approaches. Further, the culture and religion of communities, as well as their existing relationships with the government, all influenced the level of participation and so needed to be carefully considered. Finally, the level of sense of place of community was seen as needing to be taken into account in designing participation mechanisms for climate change, as sense of place was typically high for indigenous communities and low for temporary residents, which affected different rates of participation.

Informed by these existing practices found in the literature and fieldwork results — and informed by the spectrum of participation devised by the International Association for Public Participation (see IAP2 2007a) and Davidson’s wheel of participation (see Davidson 1998) — it can be seen that the level of community participation in Indonesia is typically at the ‘inform’, and to some extent the ‘consult’, levels on this spectrum, which indicate weak community engagement.³⁰ Although the IAP2 suggests that each level is legitimate, a higher level of participation than these two low levels is desirable for effective and sustainable outcomes, as the theoretical arguments of the literature review (in Chapters 2 and 3) also tell us. Even at the basic ‘inform’ level of information provision, much work needs to be done to ensure adequate levels of understanding, considering (a) the low levels of education and literacy of Indonesian communities and (b) the lack of good understanding and capacity of local government on climate change issues required in coordinating actions and facilitating community involvement in adaptation programs.

³⁰ ‘Inform’ refers to providing the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions’, with the promise to community that ‘we will keep you informed’. ‘Consult’ refers to obtaining public feedback on analysis, alternatives and/or decision, with the promise to community that ‘we will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision’ (IAP2 2007a).

Addressing Research Question 3: Community engagement approaches that are most appropriate for implementing climate change adaptation effectively and sustainably at the local level in Indonesia (informed by Themes 2 and 3, Chapter 7, and Chapter 8)

Building on the results of the literature review and the fieldwork, and also informed by the responses to Research Questions 1 and 2 above, several key findings emerged to inform suggestions for effective community engagement approaches for Indonesian communities to best adapt to climate change in Indonesia. Several factors were found to enhance participation while several others are seen to need addressing as they hinder participation. As such, Table 9.1 presents a set of suggested aspects to effectively engage communities for climate change adaptation; these include basic understandings on the definitions of ‘community’ and ‘community participation’, forms of participation, level of participation, factors to enhance participation, and factors that hinder participation. In regard to factors that enhance or hinder participation, the suggestions consist of factors related to actors and participatory mechanisms and systems.

Table 9.1 Suggestions on aspects for effective community participation for climate change adaptation in Indonesia

<p>Basic understandings:</p> <ul style="list-style-type: none">• That a ‘community’ in a general sense is defined as a ‘social unit’ in a ‘place’, as an integral part and configuration of the way of life, and reflects collective goals and actions• That a community in Indonesia typically includes a poor majority with little access to resources and power• That community is an actor, not an objective/passive beneficiary• That participation in decision-making involves all stages of a program from setting its goals, to formulating, planning and implementing it• That community involvement is not to be misinterpreted as the involvement of NGOs representing community in a program.
<p>Forms of participation:</p> <p>Include community-based adaptation, participatory vulnerability and capacity assessment, community risk assessment, and participatory scenario development.</p>

Table 9.2 (continued)

<p>Level of participation:</p> <p>Follows the participation spectrum of IAP2 (2007a) that includes ‘inform’, ‘consult’, ‘involve’, ‘collaborate’ and ‘empower’, and/or Davidson’s (1998) wheel of participation that includes ‘information’, ‘consultation’, ‘participation’ and ‘empowerment’. For Indonesia, the level must start from the ‘inform’ level and progress to the collaborative in a mix of these levels where appropriate.</p>			
<p>Factors to be considered to enhance participation:</p>			
<p>Actor</p>		<p>Mechanism/system</p>	
<p>Community</p>	<p>Government</p>	<p>Approach</p>	<p>System</p>
<ul style="list-style-type: none"> • Understanding the issues/ education/ capacity building • Experiencing the problem increases community participation • The influence of culture and religion • Sense of place • Strong and respectful relationships between government and community 	<ul style="list-style-type: none"> • Strong and respectful relationships between government and community • Government commitment and support to project/ program 	<ul style="list-style-type: none"> • The role of community leader • Approaches to engage community, e.g. community-based action, the asset-based approach, the participatory approach, learning-based approach and the deliberative • Attachment of participation process with community livelihood Community empowerment 	<ul style="list-style-type: none"> • Participatory mechanism/ system • Participation throughout the whole program: integration of community assets, community group, and <i>gotong royong</i> within a full cycle of an adaptation program.
<p>Factors hindering participation (with indication of related aspect):</p>			
<ul style="list-style-type: none"> • Prosperity/Poverty (actor) • Inappropriate approaches to engage community (mechanism) • Conflict of interest among key players (actor) • Lack of understanding on the issues/low education or capacity (actor) • Low sense of place (actor) • No mechanism in place (mechanism) • Increasing flurry of daily activities to earn a living leaves little time for participation (actor). 			

In addition, the final key determinants generated by comparing the preliminary key determinants derived from the literature review with the fieldwork

findings are important to consider in developing an effective community engagement for adaptation approach or framework, as shown in Table 9.2.

Table 9. 3 Key determinants for effective community participation

No.	Key determinant
1	Social capital
2	Education
3	Institutional change
4	Local knowledge
5	Government commitment
6	Prosperity

In further discussing this final set of determinants to develop an effective community engagement for an adaptation approach or framework, the characteristics of traditional Indonesian democracy, collectivism and *gotong royong* offer good opportunity for contemporary Indonesian communities to enhance social capital, the first final key determinant. A good knowledge basis for consensus-building and forming partnerships in participatory actions in relation to existing experiences is apparent; for example, in relation to either natural disasters, or climate change impacts, which natural disasters are also seen to inform.

In turn, education, especially related to climate change, is highlighted in the literature as important to best enable active public participation. Further, in regard to the Indonesian case, sufficient education in just a general sense is required to minimise misunderstanding of any adaptation program which, if not mitigated, can lead to opposition or resistance to a program by poorly educated communities. An adequate level of education is also needed for communities to understand the importance of their participation, as well as to better understand their needs and capacities related to adaptation programs, and to integrate their local knowledge with scientific and factual information. Such knowledge integration, it is argued, can lead more appropriately to changing local behaviour and reducing climate change risks than if such knowledge were not integrated. However, such aspects of adequate education for communities are also seen as applicable for local governments to more effectively run climate related programs.

The literature also points out how institutional change that is supportive of participatory governance approaches contributes to higher levels of community participation. Such change is needed to ensure effective participation through clearer identification of the roles and responsibilities of the main actors, as well as the empowerment of local communities in adaptation decisions. Changes in institutions or organisations at the local level especially are seen to improve community resilience, which is also influenced by stronger social capital and cohesion. Although still in its infancy, Indonesia has indicated its willingness to move towards inclusive adaptation that features a stronger role of communities. However, greater political commitment is needed from government to ensure adequate and appropriate levels of implementation, particularly to realise the benefits of community-based adaptation actions. For the latter to be effective, just like higher community participation, levels of community prosperity also need heightening. In sum, the key determinants — along with the aspects listed in Table 9.1 — provide important components of a participatory community engagement framework for Indonesian key actors to arguably best achieve adaptive capacity to climate change at the local and community levels.

Section 2: Reflections and the way forward

Contribution to knowledge

The literatures reviewed in this study of community participation — selected to cover environmental management, sustainable development and climate change adaptation — offer an integrated understanding of community participation that is particularly relevant in the context of developing countries, which thus makes a relevant contribution to knowledge in this context. This is especially the case in regard to Indonesia, where this research has not been conducted in any depth before, indeed it also offers the first empirical survey of central and local government officials, NGOs and local community representatives on community engagement for climate change adaptation; thus the research makes both a significant and original contribution to knowledge as well. This is also the case with the research informing existing policy and management approaches of government in a new democratic era; the main focus of this study has been in considering the role of government to

formulate and implement participatory climate change programs in partnerships with NGOs and communities, who likewise are also informed. Notably, while environmental management is the policy and management ‘envelope’ of sustainable development and climate change adaptation, sustainable development serves as the cornerstone for the development agenda of developing countries. It is thus important to consider for major policy and management initiatives as proposed by this research. This is also because adaptation has emerged as a crux of the contemporary socio-economic and environmental challenges for developing countries to address with regard to development and its sustainability.

In addition, the contribution to knowledge embraces the notion of community engagement as emergent in the climate change adaptation realm, again particularly in the case of developing countries. Furthermore, the findings on the key determinants identified and evaluated in this research further indicate a significant and original contribution to knowledge; useful not only in climate change adaptation but also in wider issues related to environmental management, for both developing and developed countries to consider.

Reflections on research method

Approaching this research from a disaster risk and adaptive capacity point of view, particularly in the selection of the field sites, yielded highly useful and relevant interviews with respondents who contributed ideas based on a wide range of experience. This approach was supported in particular by the community representatives interviewed. Their experiences in relation to natural disasters offered unique viewpoints on the topic of community participation as the crux of this research, which, in turn, contributed significantly to its success. The flexibility and insights offered by the constructivist grounded theory approach for collecting and analysing data was particularly useful.

The selection of the two fieldwork areas of West Sumatra Province and Yogyakarta Special Province of Java also worked well. They offered representativeness of the vast archipelagic area and myriad cultures of Indonesia; in particular, they reflect the two main streams of Indonesian culture in relation to Javanese and Melayu democratic patterns that influence the diversity of Indonesian culture on community participation. This coverage contributed substantially to the

eventual suggestions about the future formulation of climate change adaptation management and action in the context of decentralisation and local autonomy, where one single national pattern is inadequate in representing such a vast governance landscape.

That contribution highlighted the useful combination of the international and Indonesian literature reviewed, and the local fieldwork research undertaken — a combination that helped identify and evaluate what might be effective community participation and engagement for adaptation of vulnerable communities in the coastal zone of Indonesia. The result — which suitably addressed the goal and aims of the research — was the identification and proposal of a climate change adaptation community engagement approach or framework in key areas to build a foundation to formulate and implement. This then poses ideas and implications for further research.

Implications for future research

The findings of this thesis provide an important basis for future research. New suggestions have been made for an approach that will yield enhanced community engagement in adaptation policies in Indonesia, based on a comprehensive literature review and a sample of 38 interviewees, from central and local governments, NGOs and local community representatives (predominantly from coastal communities). It is now important to build on this platform to refine and develop it in regard to the wider community. There is a rich diversity of gender, religious, ethnic and cultural influences throughout Indonesia, and these may well affect how a wide variety of local communities react to adaptation policies. While the focus of this research has been largely on highly vulnerable coastal communities, with some highland areas included because of their community engagement and disaster experiences; inland lowland communities will have their own needs in responding to climate change that need to be identified for a whole of Indonesia response. Clearly, there is a need for further engagement activities to be carried out throughout Indonesia, which involve more existing and potential adaptation actors, especially at the local level.

In addition, perhaps a limitation of the research was its institutional and key policy actor investigative framework, although adopted as appropriate for the research thrust. An approach perhaps embracing a more critical analysis on the form

and role of community engagement within the political economy approach of North-South issues might also be beneficial in revealing greater insights with regard to aspects like stronger sustainability approaches as informed by local issues of poverty, social justice and equity, and gender. However, this approach, even though poverty was mentioned and addressed in some regard here, was not seen as appropriate for this research as it was specifically engaged with the existing Indonesian policy and management terrain in addressing community engagement for adaptation — an urgent practical consideration as much as a theoretical one. Over time, it is posited, the stronger sustainability context may well emerge faster given the potential of climate change to pressure change, and thus community engagement at the local level may well be more empowered in tandem.

In this context, the gender issue is particularly notable in relation to gleaning more understanding of how community engagement might be more effective at the local level in Indonesia. Such research is emergent, especially in development studies based on critical theory. In addition, researching more the role of religion may also be useful within the Indonesian context. Although Indonesia is dominated by Islam as a religion embraced by 87% of the population (BPS 2010b), Indonesia officially recognises five other religions: Protestantism, Catholicism, Hinduism, Buddhism and Confucianism. Such religious diversity, compounded by 1000 ethnic groups, significantly influences Indonesia's socio-politic, economic and cultural life (for example, Diprose 2009), and suggests a rich area for future research on this aspect in relation to devising more effective community participation in Indonesia.

Furthermore, space and time constraints limited the fieldwork of this research to Indonesia; yet other developing countries in Asia — like Bangladesh, which is at the forefront of community-based action approaches (for example Ayers and Forsyth 2009) — and elsewhere, promise a rich source of other practical applications and experiences from which we might learn much. In addition, a deeper focus on how community participation in climate change adaptation is negotiated within the international climate change forum, such as UNFCCC, would be beneficial — especially in terms of international aid programs devised for this aspect in developing countries, and the programs' 'real' appropriateness for vulnerable local communities. Such research would be beneficial to inform the development of national policies and actions related to climate change adaptation.

Concluding remarks

Indonesia appears to be on the brink of severe climate change related impacts. Although the notion of enhanced community participation has been raised in Indonesia over the last decade alongside increasing participatory governance trends worldwide, it requires significant strengthening in both scope and form to meet the contingencies of climate change adaptation, particularly in relation to the vulnerable coastal zone. Effective community participation in climate change adaptation decision-making will greatly enhance the adaptive capacity of local communities to cope with climate change and also contribute to sustainability. In practice, such outcomes are now evidenced in both developed and developing countries where active community participation has demonstrated a positive contemporary approach to decision-making process in a number of areas, including emergent ones in climate change adaptation. Such evidence makes it clear that inclusive or effective community participation is important for Indonesia to develop as a priority policy or management area to enable successful climate change adaptation.

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Appendices

Appendix A

List of References of the Key Determinants for Community Participation

The following table lists the details of the three literatures of environmental management, sustainable development and climate change adaptation by author, year, scope and the identification of the determinants for effective community participation that emerged from each article, and how many times the determinant was mentioned in the articles which inform the frequency of the key preliminary determinants shown in Tables 2.1, 3.1, and 3.3.

Environmental Management

No.	Author	Year	Scope		Determinants
			Subject	Area	
1	Hophmayer-Tokich and Krozer	2008	PP in rural area water management	North Sea, Europe	Local knowledge (1)
2	Irvin and Stansbury	2004	Environmental management	US	Technical and social understanding
3	Wagenet and Pfeffer	2007	Water management/environmental planning	US	Funding; educated public
5	McGurk et al.	2006	Stakeholder advisory committee in forest management	Canada	Information sharing; communication
6	Kaji	2012	Citizen participation in the pollution control	Japan	Expert and citizen partnership
7	Harding et al.	2009	Environmental decision making	Australia	
8	Carolan	2006	Ecological representation in deliberation	US	Knowledge (2)
9	Gooch	2009	Community-based natural resource management	Australia	Capacity to access resources; human resources
10	Hartley and Robertson	2009	Stakeholder collaboration in fisheries research	US	Fishermen's and scientists' knowledge (3)
11	Stern and Fineberg	1996		Theory	Local knowledge (4)
12	Carr and Halvorsen	2001			Local knowledge (5)
13	Fischer	2002	Environmental decision making		Local knowledge (6)

No.	Author	Year	Scope		Determinants
			Subject	Area	
14	Corburn	2003	Environment and health issues	US	Local knowledge (7)
15	Dietz and Stern	2008	Environmental assessment	Theory	
16	Knudtson and Suzuki	1992		US	Local knowledge (8)
17	Spink et al.	2010	River rehabilitation	Australia	
18	Mitchell	1997	Environmental management		
19	Christoff	1996			
20	Nelson and Agrawal	2008	Community-based NRM	Sub-Saharan Africa	Institutional change (1)
21	Posthumus et al.	2010	Soil conservation programs	Peruvian Andes	Social capital (1)
22	Fiorino	1990	Environmental risk	US	Institution (2)
23	Newig	2007	Environmental management	Europe	Institution (3)
24	Kapoor	2001	Environmental management	Nepal; Canada	Institution (4)
25	Agrawal and Gibson	1999	Natural resource conservation	Theory	Institution (5)
26	Shrestha and McManus	2008	NRM: community forest	Nepal	Institution (6)
27	Tosun	2006	NRM through tourism	Turkey	Institution (7)
28	Bouma et al.	2008	Community resource management	India	Social capital (2)
29	Brunckhorst	2002	Ecological system	Australia	Institution (8)
30	Gibson and Koontz	1998	Community-based forest management	Southern Indiana, US	Institution (9)
31	Cleaver	2000	Communal water resource management	Zimbabwe	Institution (10)
32	Pretty	2003	NRM	Various countries (Australia, Brazil, Guatemala, Honduras, India, Kenya, US	Social capital (3)
33	Somanathan et al.	2002	Forest conservation	India	Social capital (4)
34	Varughese and Ostrom	2001	Community forest	Nepal	Social capital (5)
35	Poteete and Ostrom	2004	Forest management	US, Himalaya, Africa, Asia, Latin America	Social capital (6)
36	Bdour et al.	2008	Air pollution assessment	Jordan	Other (technical expert)
37	Lynn and Busenberg	1995	Environmental policy and management	US	Other (role of facilitator; method of meetings; etc)
38	Hillman and Howitt	2008	NRM	Australia	Institutional change (11)

No.	Author	Year	Scope		Determinants
			Subject	Area	
39	Gómez-Baggethun and Kelemen	2008	Social-ecological system: ecosystem services	Spain; Hungary	Institutional change (12)
40	Mitchell	1997	River management	US; Botswana	Other (participants; benefits to all partners; communication mechanism; adaptability; integrity, patience, and perseverance by partners)
41	Muro and Jeffrey	2008	NRM	Theory	Social learning
42	Austin and Eder	2007	Community-based resource management (CBRM)	Philippines	Roles of government and NGOs; relationships with NGOs
43	Priscoli	2004	Water resource management	US	Empowerment; open access to government
44	Buchy and Race	2001	NRM	Australia	Limited resources (skills, time, finance); representativeness of stakeholder
45	Robinson et al.	2001	Forest management	Canada	Institution (13)
46	Wellstead et al.	2003	Forest management	US	Representation
47	Parto et al.	2007	Waste management	Netherlands	Institutional change (14)
48	Sneddon and Fox	2007	River management	Mekong River	Institutional change (15)
49	Gruber	2010	CBNRM		Social capital (7); partnership; resources and equity; communication and information dissemination; Research and information development; devolution and empowerment; public trust and legitimacy; leadership; enabling environment

No.	Author	Year	Scope		Determinants
			Subject	Area	
50	SANDEE	2007	Watershed management	India	Financial and project management control; leadership; informed about post-project requirement
51	Ferse et al.	2010	Marine protected area	Indonesia	Local knowledge (9); institution (16)
52	Kanel and Acharya	2008	Community forestry	Nepal	Institution (17)
53	Berkes et al.	2000	Adaptive resource management	Canada	Local knowledge (10)

Sustainable Development

No.	Author	Year	Scope		Determinants
			Subject	Area	
1	Smith	2008	Sustainable water management	India	Local knowledge (1)
2	Peake and Smith	2009		Theory	Local knowledge (2)
3	Lehtonen	2004	Env-social interface of SD		Social capital (1); institution (1)
4	Devine-Wright et al.	2001	Renewable energy	UK	Social capital (2)
5	Brooks	2007	Community prosperity	Australia	Social capital (3)
6	Rydin and Holman	2004	Env management and sustainable development	UK	Social capital (4)
7	Dovers	2005	Environmental policy		Social capital (5)
8	Bebbington	1999	Rural livelihood and sustainability	Latin America	Social capital (6)
9	Fokkema et al.	2005		The Netherlands	Institution (2)
10	Kemp and Loorbach	2003	Transition management		Institutional change (3)
11	Parto et al.	2007	Waste sub-system	The Netherlands	Institutional change (4)
12	Rotmans et al.	2001	Public policy		Institutional change (5)
13	Sondeijker et al.	2006	Transition management		Institutional change (6)
14	Seyfang and Smith	2007	Grassroots innovations		-
15	Bäckstrand	2006	Stakeholder democracy		-
16	Fisher and Green	2004	Global governance for sustainable development		-
17	Cuthill	2002	CP, local government and SD	Australia	Empowerment (1)

No.	Author	Year	Scope		Determinants
			Subject	Area	
18	Laessoe	2007	CP and SD	Denmark	Empowerment (2)
19	Adger et al.	2003	Nature conservation	UK	Institution (7)
20	Fraser et al.	2006	Forest management; desertification	Canada, Botswana, UK	Local knowledge (3)
21	Toledo	1997	Development at village community level	Mexico	
22	Meadowcroft	2004			Adequate representation; knowledge (4)
23	Elliott	2006			
24	Stiglitz	2002			
25	Edwards and Onyx	2007	Social capital and sustainability	Australia	Social capital (7)
26	Rydin and Holman	2004	Social capital and SD	UK	Social capital (8)
27	Li	2006	Sustainable ecotourism	China	Institution (8)
28	Cornwall	2004	General development		Representativeness; accountability; institution (9)
29	Bamberger	1986	General development planning		Government commitment; local knowledge (5); financial resource; education; participation approach
30	Botes and Van Rensburg	2000	General development	South Africa	Local knowledge (6); communication; empowerment
31	Mulligan and Nadarajah	2008	Community-engaged research	Australia	Commitment; community group; clarity of goals
32	Enserink and Koppenjan	2007	Sustainable urbanization	China	Institution (10)
33	Vedeld	2000	Village politics	West Africa	Collective action; institutional change (11)
34	Pomeroy	1995	Sustainable coastal fisheries management	South East Asia	Institution (12)

Climate change adaptation

No.	Author Year	Year	Scope		Determinants
			Subject	Area	
1	Keys et al.	2010	Climate change		Social capital (1)
2	Beckman	2008	Climate change		Institutional change (1)
3	Riedlinger and Berkes	2001	CCA	Canada	Local knowledge (1)
4	Duerden	2004	CCA	Canada	Local knowledge (2)
	Fritze et al.	2009	CCA	General	Clarity of purpose; communication; understand the participants; delivering change; honesty; inclusiveness; fairness; realism.
5	Zimmerman	2005	Global climate change policy	Arctic	Local knowledge (3)
6	Nyong et al.	2007	Climate change mitigation and adaptation strategies	African Sahel	Local knowledge (4)
7	Palakudiyil and Todd	2003			Local knowledge (5)
8	Larsen and Gunnarsson-Ostling	2009	Climate scenario and citizen participation	Europe	Expert engagement
9	Adger et al.	2009	Social limits to CCA	Norway	Perception on issue (1); local knowledge (6); experience
10	Stanley	2010	Social inclusion and CCA	Australia	Social capital (2)
11	Bizikova et al.	2009	Participatory scenario development for CCA	Hungary; Ghana	Local knowledge (7)
12	Warrick	2009	Community-based adaptation	Vanuatu	Local knowledge (8)
13	Berger et al.	2009	Participatory rice variety selection	Sri Lanka	Local knowledge (9)
14	Kelman et al.	2009	CBA	SIDS	Local knowledge (10)
15	Armitage	2005			Institutional design (2)

No.	Author Year	Year	Scope		Determinants
			Subject	Area	
16	Sherwood and Bentley	2009	Adaptation in highland farming	Andes, South America	Approach; the use of local knowledge (11); adds value to community experience; community control over curriculum; quick and tangible success
17	Ebi and Semenza	2008	CBA-public health adaptation	US; Canadian North	Social capital (3)
18	Uitto and Shaw	2006	CBA in developing countries	Vietnam	Community empowerment; build on existing system (institution) (3)
19	van Aalst et al.	2008	Participatory community risk assessment	Costa Rica; Zambia; Cambodia;	Local knowledge (12); awareness on the issue (2); information about climate trends;
20	Matczak et al.	2008	Institution for CCA	Hungary	Institution (4)
21	Tryhorn and Lynch	2010	Decision process appraisal for CCA	Australia	Community leader; integration of local knowledge and science
22	Iati	2008	Civil society and CCA	Pacific Countries	Community traditional leader; religion
23	Pelling and High	2005	Social learning and CCA	UK	Institution (5)
24	O'Riordan and Jordan	1999	Institution, cc and cultural theory	UK	Institution (6)
25	Adger	2001	Social capital and CC	US; Eastern Caribbean	Social capital (4)
26	White and Wall	2008	Attitudes towards CC	UK	Level of understanding on the issue of climate change (3)
27	Adger	2003	Social capital and CCA in coastal area	Southeast Asia; Caribbean	Social capital (5)

No.	Author Year	Year	Scope		Determinants
			Subject	Area	
28	Few et al.	2006	Public participation and CCA	UK	Community understanding on cc issue (4); involvement of appropriate people from the start; participation beyond consultative approach; involving small group; time
29	Gidley et al.	2009	Participatory futures methods	Australia	Appropriate approach/method
30	Ivey et al.	2004	Adaptation to climate-induced water shortage	Canada	Collaboration with other stakeholders; clarification of roles and responsibilities;
31	Wilson	2006	CCA at local level	UK	Partnerships
32	Wolf et al.	2010	Heat waves and CCA	UK	Social capital (6)
33	Blanco	2006	Local initiatives and CCA in land restoration and water management	Various developing countries	Local knowledge (13); understanding the risk (5); close the gap of information
34	Shaw	2006	Inter-linkages of environment, disaster and human security	Asian region	Institutionalisation (7)
35	Tompkins and Adger	2004	Adaptive management and resilience to climate change	Trinidad and Tobago	Social capital (7)
36	Capetola	2008	CC and social inclusion	Australia	Social inclusion (8)

Appendix B

Letter for initial contact to potential interviewees in English and Bahasa Indonesia



Address of potential participant

Date

Dear xx

RE: Request for potential interview for a project on community participation for effective climate change adaptation in Indonesia

First, please excuse me sending you an email as this form of communication offers more efficiency than corresponding by formal letter. I am contacting you as a potential interviewee for a reasearch project I am conducting called *Community participation, sustainability, and environmental management: building local adaptive capacity for effective climate change adaptation in Indonesia*, which has funding support of the Australian Leadership Awards Scholarship (ALAS) offered to me, and the Griffith School of Environment. I have identified you from the literature or been referred to you by xxx (will be specified at the time of sending the correspondence). This research is part of a PhD research project, whic is being supervised by Associate Professor Richard Hindmarsh of the Griffith School of Environment, Griffith University, Brisbane, Australia.

The project addresses the policy challenge of developing and implementing climate change adaptation with an adequate level of adaptive capacity, with clear climate change threats to Indonesia's economy, society, and environmental security in a range of sectors. Designing and implementing effective and sustainable environmental management practices for adaptation requires a well thought-out strategic approach, which again needs strengthening in relation to a number of areas, including the role of local communities, the important role of which has been recognised internally and also stressed by United Nations Framework Convention on Climate Change (UNFCCC). The problem of very weak community engagement poses as a major policy or environmental management gap for Indonesia's climate change adaptation policy response so far; one that needs addressing and strengthening. The primary aim of my research is then to evaluate and suggest appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building in Indonesia.

At this stage of research, I am seeking information on how applicable community engagement is at the local level in the context of climate change adaptation, and in what circumstances; for example, what it might involve, and how could it be strengthened in the Indonesian governance context. For this purpose, the interview will discuss your understanding, views and ideas on community participation in decision making process within environmental management context, especially with regard to climate change adaptation for vulnerable community in coastal area. I aim to interview approximately 20 interviewee representing government from central and local levels, community representatives at the local level, and NGOs at the central and local levels.

I would thus like to arrange an interview with you if you are willing or a representative of your organisation that can speak on these matters. It will be a face-to-face interview, by way of a semi-structured questionnaire, or approximately one-hour duration on your perspectives on some key aspects concerning this project to better inform appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building in Indonesia. There are no risks arise from your involvement in this research as your identity will be kept strictly confidential including in research publications or conference/workshop presentations or in any other form of information dissemination that results from the project. That is, your confidentiality will be ensured.

I am also seeking hard data about the area and if you have any papers or reports that you think are relevant to the topic I would interested in being sent them or in picking them up during my visit. I plan to be in Indonesia during mid February to the end of March 2012.

Please contact me to arrange a meeting at your earliest convenience, also to suggest a period of time that your interview might best suit. However, if you are not interested or unavailable during this time would you please suggest another person that might represent your organisation and/or who you think might be relevant to my project. If so, can you provide email contacts for efficiency. Thankyou for your help.

Yours sincerely,

Meuthia A Naim
PhD Candidate
Griffith School of Environment
Griffith University, Nathan 4111
Brisbane, Australia
Ph: +61 422089493
Email: meuthia.naim2@griffithuni.edu.au

Brisbane, 1 Februari 2012

Kepada yth.:
di Jakarta

Subj.: Permohonan wawancara untuk studi penelitian mengenai partisipasi masyarakat untuk adaptasi perubahan iklim di Indonesia

Melalui surat ini saya bermaksud untuk meminta kesediaan Ibu untuk berkenan menjadi responden dalam wawancara terkait studi penelitian saya dengan topik *Community participation, sustainability, and environmental management: building local adaptive capacity for effective climate change adaptation in Indonesia* yang saat ini sedang saya lakukan.

Penelitian ini merupakan bagian dari program doktoral yang sedang saya lakukan di Griffith School of Environment (Griffith University, Brisbane, Australia), di bawah supervisi Associate Professor Richard Hindmarsh, dan didanai melalui skema beasiswa *the Australian Leadership Awards Scholarship (ALAS)*.

Penelitian ini bertujuan untuk mempelajari tantangan yang dihadapi Indonesia dalam membangun dan menerapkan kegiatan-kegiatan terkait adaptasi perubahan iklim dengan kapasitas beradaptasi yang memadai, dengan menyadari ancaman perubahan iklim bagi ketahanan ekonomi, masyarakat dan lingkungan di Indonesia. Mengingat pentingnya peran masyarakat lokal dalam pendekatan kemitraan dengan pemerintah, tujuan utama penelitian saya, oleh karena itu, adalah untuk mengevaluasi dan memberikan usulan terhadap strategi partisipasi yang sesuai untuk masyarakat yang tinggal di daerah dengan kerentanan tinggi terhadap dampak perubahan iklim di Indonesia (seperti di daerah pantai). Strategi ini diharapkan dapat membantu meningkatkan kemampuan masyarakat dalam beradaptasi secara efektif terhadap dampak perubahan iklim di Indonesia.

Wawancara yang akan saya lakukan bertujuan untuk memperoleh informasi (terutama pemahaman dan persepsi) dari pelaku-pelaku kunci dalam hal kebijakan di Indonesia di tingkat pusat dan daerah, serta wakil dari masyarakat, mengenai bagaimana permasalahan partisipasi masyarakat tersebut dapat ditangani, dalam konteks penerapan saat ini terkait pengelolaan lingkungan, manajemen bencana dan adaptasi perubahan iklim.

Sehubungan dengan itu, jika Ibu berkenan saya bermaksud untuk menjadwalkan wawancara dengan Ibu. Wawancara akan dilakukan selama lebih kurang satu jam. Tidak ada resiko yang muncul dari keterlibatan Ibu dalam penelitian ini mengingat bahwa identitas Ibu akan sangat dijaga kerahasiaannya dalam publikasi penelitian maupun seminar/lokakarya atau bentuk publikasi lainnya yang dihasilkan dari penelitian ini.

Dalam penelitian ini saya juga melakukan penelusuran terhadap dokumen-dokumen yang terkait dengan topik tersebut. Oleh karena itu jika Ibu memiliki makalah/artikel atau laporan yang menurut Ibu terkait dengan topik tersebut, saya akan sangat berterima kasih jika dapat memperolehnya pada saat kunjungan wawancara saya nanti. Penelitian ini akan dilaksanakan pada bulan Maret 2012.

Saya juga melakukan korespondensi dengan beberapa calon responden lainnya di beberapa tempat di Indonesia dan melakukan penjadwalan untuk wawancara dengan responden-responden tersebut. Oleh karena itu, mohon kesediaan Ibu untuk dapat mengusulkan waktu yang sesuai bagi Ibu dalam bulan Maret 2012 (diharapkan mulai minggu ke-2 bulan Maret).

Demikian disampaikan, atas perhatian dan kerjasama Ibu saya ucapkan terima kasih.

Salam,

Meuthia A Naim, PhD Candidate

Griffith School of Environment, Griffith University, Nathan 4111, Brisbane, Australia

Ph: +61 422089493; Email: meuthia.naim2@griffithuni.edu.au

Appendix C

Information Sheet in English and Bahasa Indonesia



RESEARCH PROJECT

Community participation for Effective Climate Change Adaptation in Indonesia

INFORMATION SHEET

Research Team

Meuthia A Naim
PhD Candidate, Griffith School of Environment
Griffith University
Contact phone: +61-422089493
Contact email: meuthia.naim2@griffithuni.edu.au

Dr Richard Hindmarsh (Co-primary investigator)
Associate Professor
Griffith School of Environment
Griffith University

Why is the research being conducted?

The climate change adaptation literature overwhelmingly calls for whole-of-society responses (for example, IPCC Third Assessment Report 2007). Central to whole-of-society responses are partnership approaches that also involve developing strong/appropriate community engagement strategies at the local level. The local level in Indonesia (as in many other places) is the most vulnerable societal level, especially in the coastal zone where climate change impacts are expected to be the worst. It is this area of 'local partnership' at the most vulnerable societal level that informs the research problem I am addressing. In sum, the primary aim of my research is to evaluate and suggest appropriate participatory strategies at the local and community levels in highly vulnerable areas to inform effective adaptive capacity building in Indonesia.

This research is part of a PhD research project I am undertaking, which is supervised by Associate Professor Richard Hindmarsh of the Griffith School of Environment (Griffith University, Brisbane, Australia). The research is funded jointly by the Australian Leadership Awards Scholarship (ALAS) (as awarded to Meuthia Naim), and the Griffith School of Environment.

What participants will be asked to do

You will be asked to be interviewed face-to-face, by way of a semi-structured questionnaire, of approximately one-hour duration. The interview will discuss your understandings, views and ideas on community participation in decision making process within the environmental management context with respect to climate change adaptation for vulnerable community in coastal area, especially with respect to disaster management and any other experiences that might inform this area. Topics include how developed are existing community participation processes/practices related to environmental issues, including natural disaster and climate

change impacts in Indonesia; the benefits and limitations of community participation; and what might inform better community participation for partnership approaches to best develop adaptive capacity. The data will inform publications and conference/workshop presentations, as well as reports for policy learning in Indonesia.

The basis by which participants will be selected or screened

Participants are selected on the basis of being the key and most relevant policy actors in the development and/or design of, or practice in, community participation related to environmental issues, natural disaster or climate change impacts. Respondents will include (1) representatives from ministries most influential within the central government on the research topic; (2) individuals most influential with regard to the research topic at the local government level (in selected sample sites), (3) local community representatives; and (4) relevant NGOs at both the national and local levels.

The expected benefits of the research

The results of this study are expected to contribute significantly to the development of climate change adaptive capacity building at the local level in Indonesia. Considering the cultural diversity and large population in vulnerable communities across the country, and especially in the coastal zone, well-thought out strategies need to be developed to effectively engage local communities in climate change adaptation. As such, it is the goal of this research to inform how governments might best formulate a strategic vehicle towards sustainable environmental management of Indonesia's climate change adaptation at the local and community levels partnered through appropriate community engagement approaches.

Risks

No risks are foreseen from your involvement in this research as your identity will be kept strictly confidential in research publications or conference/workshop presentations or any other form of information dissemination that results from the project.

Confidentiality

Confidentiality is ensured by the use of codes that will be assigned to the interview consent form. Transcription data will be securely stored in a locked filing cabinet away from other research documents for a maximum period of five years (after which the data will be destroyed), to which I will have the only access to. Tape recording of the interview, if consented to, will not be used for any other purpose and will be destroyed immediately after transcription. No personal identifiers will be recorded on the interview sheet or transcription materials, only your assigned code. Interview notes and the taped interview will be transcribed as soon as possible after the interview deleting reference to personal identifiers and referring to the participant's code only.

Voluntary participation

Participation is voluntary and will not have any effect upon your relationship with your organisation. You are free to withdraw from the study at any time.

Feedback

In due course, you will be provided with the overall results of the research, typically in the form of publications including a project report and academic publications.

The ethical conduct of this research

Griffith University conducts research in accordance with the *National Statement on Ethical Conduct in Human Research*. If you have any concerns or complaints about the ethical conduct of the research project, please contact me, Meuthia A Naim (see contact details above). I will assure that the Manager Research Ethics will be promptly notified of any concerns received with regards to the ethical conduct of the research.

Privacy statement

The research does not involve access to, collection or generation of identified personal information.

Questions/further information

If there are any queries of the participant related to these matters, please contact me: see contact details above.



**Studi Penelitian:
Partisipasi masyarakat dalam pelaksanaan adaptasi perubahan iklim
yang efektif di Indonesia**

Lembar Informasi

Tim Peneliti

Meuthia A Naim
Kandidat Doktor, Griffith School of Environment
Griffith University
Tel: +61-422089493
Email: meuthia.naim2@griffithuni.edu.au

Dr Richard Hindmarsh (Peneliti Kedua)
Associate Professor
Griffith School of Environment
Griffith University

Tujuan penelitian

Literatur mengenai adaptasi perubahan iklim telah mengusulkan pendekatan yang melibatkan seluruh lapisan masyarakat dalam beradaptasi terhadap perubahan iklim (sebagai contoh, IPCC Third Assessment Report 2007). Yang menjadi fokus dalam pendekatan ini adalah pendekatan kemitraan yang juga melibatkan pengembangan strategi-strategi partisipasi masyarakat yang sesuai untuk diterapkan pada tingkat lokal. Di Indonesia (seperti juga di banyak tempat lainnya), pada tingkat lokal inilah masyarakat yang paling rentan berada, terutama di daerah pantai di mana dampak perubahan iklim diperkirakan paling buruk. 'Kemitraan lokal' pada masyarakat yang rentan inilah yang melatar belakangi penelitian ini. Singkatnya, tujuan utama penelitian ini adalah untuk mengevaluasi dan memberikan saran terhadap strategi partisipasi yang sesuai untuk masyarakat di tingkat lokal di daerah-daerah yang rentan terhadap dampak perubahan iklim di Indonesia. Strategi ini diharapkan dapat membantu meningkatkan kemampuan masyarakat dalam beradaptasi secara efektif terhadap dampak perubahan iklim di Indonesia.

Penelitian ini adalah bagian dari penelitian dalam program doktor yang sedang saya ambil di School of Environment, Griffith University, Australia, di bawah bimbingan Assoc. Prof. Richard Hindmarsh (Pembimbing Utama) dan Dr. Jo-Anne Ferreira. Penelitian ini didanai oleh skema beasiswa Australian Leadership Awards Scholarship (ALAS), dan the Griffith School of Environment, Griffith University, Brisbane, Australia.

Apa saja yang diharapkan dari responden

Bapak/Ibu/Saudara akan saya wawancarai dengan menggunakan metode kuesioner selama lebih kurang satu jam. Di dalam wawancara ini, saya akan mendiskusikan pemahaman, pandangan dan ide-ide Bapak/Ibu/Saudara mengenai partisipasi masyarakat dalam proses pengambilan keputusan dalam konteks pengelolaan lingkungan, terutama yang terkait dengan adaptasi perubahan iklim yang dilakukan oleh masyarakat yang rentan di daerah pantai, yang juga terkait dengan pengelolaan bencana dan kejadian-kejadian lainnya yang berhubungan dengan masalah ini. Topik yang akan dibahas dalam wawancara ini antara lain mencakup sejauh mana pengembangan proses/praktek-praktek partisipasi masyarakat yang ada saat ini yang berkaitan dengan masalah lingkungan, termasuk bencana alam dan dampak perubahan iklim di Indonesia; keuntungan dan hambatan partisipasi masyarakat; dan hal apa

saja yang dapat meningkatkan partisipasi masyarakat dalam pendekatan kemitraan sehingga dapat membantu meningkatkan kemampuan masyarakat untuk beradaptasi terhadap dampak perubahan iklim. Data yang diperoleh dari wawancara ini akan disampaikan dalam bentuk publikasi serta presentasi dalam seminar/lokakarya, selain juga dalam bentuk laporan untuk pengembangan kebijakan di Indonesia.

Dasar pemilihan responden

Responden dipilih dengan pertimbangan bahwa responden tersebut merupakan pemain kunci baik dalam pelaksanaan di lapangan maupun dalam pembuatan kebijakan terkait dengan pengembangan, perancangan dan/atau penerapan partisipasi masyarakat dalam penanganan masalah lingkungan, bencana alam atau dampak perubahan iklim. Responden berasal dari (1) wakil dari kementerian terkait dengan topik penelitian; (2) pihak perseorangan di tingkat daerah (di daerah tempat lokasi penelitian) yang terkait dengan topik penelitian; (3) wakil masyarakat; dan (4) lembaga swadaya masyarakat di tingkat pusat dan daerah.

Hasil yang diharapkan dari penelitian

Hasil penelitian ini diharapkan dapat berkontribusi pada pengembangan kemampuan beradaptasi pada tingkat lokal di Indonesia. Dengan mempertimbangkan keragaman adat dan budaya serta besarnya jumlah populasi masyarakat di daerah pantai yang rentan terhadap perubahan iklim, maka perlu dikembangkan suatu strategi untuk melibatkan masyarakat secara efektif dalam kegiatan adaptasi perubahan iklim. Oleh karena itu, hasil penelitian ini diharapkan dapat menjadi bahan masukan bagi pemerintah dalam memformulasikan strategi untuk mencapai pengelolaan lingkungan yang berkelanjutan, terutama dalam konteks adaptasi perubahan iklim pada tingkat lokal dan masyarakat melalui pendekatan-pendekatan partisipasi masyarakat.

Resiko bagi Anda

Tidak ada resiko yang muncul dari keterlibatan Bapak/Ibu/Saudara dalam penelitian ini mengingat bahwa identitas Bapak/Ibu/Saudara akan sangat dijaga kerahasiaannya dalam publikasi penelitian maupun seminar/lokakarya atau bentuk publikasi lainnya yang dihasilkan dari penelitian ini.

Kerahasiaan

Kerahasiaan dijamin melalui tata aturan sebagaimana tercantum dalam lembar persetujuan yang akan Bapak/Ibu/Saudara tanda tangani. Data yang nantinya akan ditranskripsi akan disimpan secara aman dan terpisah dari dokumen-dokumen penelitian lainnya selama periode paling lama lima tahun (di mana setelah periode tersebut data akan dimusnahkan), dan hanya saya yang memiliki akses terhadap data tersebut. Rekaman hasil wawancara, jika disetujui untuk melakukan rekaman, tidak akan digunakan untuk kepentingan lain dan akan dimusnahkan segera setelah transkripsi. Tidak akan ada data pribadi yang tercatat pada lembar wawancara ataupun bahan-bahan transkripsi kecuali kode tertentu yang diidentifikasi untuk Bapak/Ibu/Saudara. Catatan-catatan yang dihasilkan dari wawancara serta rekamannya akan segera diolah setelah wawancara berlangsung dan data-data pribadi akan dihapus dan digantikan dengan kode tertentu.

Keterlibatan sukarela

Keterlibatan Bapak/Ibu/Saudara dalam penelitian ini adalah bersifat sukarela dan tidak akan mempengaruhi hubungan Bapak/Ibu/Saudara dengan organisasi tempat Bapak/Ibu/Saudara bekerja. Kalaupun Bapak/Ibu/Saudara telah memutuskan untuk mengambil bagian dalam penelitian ini, Bapak/Ibu/Saudara masih dapat mengundurkan diri setiap saat tanpa perlu memberikan penjelasan dan tidak ada risiko untuk itu.

Umpan balik

Setelah penelitian ini, Bapak/Ibu/Saudara akan menerima hasil keseluruhan dari penelitian ini, biasanya dalam bentuk publikasi termasuk laporan penelitian dan publikasi akademik.

Etika pelaksanaan penelitian

Griffith University melaksanakan penelitian yang sesuai dengan *National Statement on Ethical Conduct in Human Research*. Jika Bapak/Ibu/Saudara mempunyai keluhan mengenai pelaksanaan etik penelitian ini, mohon menghubungi saya, Meuthia A Naim. Saya akan menjamin keluhan tersebut disampaikan dengan tepat ke Manajer *Research Ethics* di Griffith University.

Pernyataan Kerahasiaan

Penelitian ini tidak melibatkan akses kepada, pengumpulan atau pembuatan informasi pribadi.

Pertanyaan/informasi lebih lanjut

Setiap pertanyaan terkait dengan penelitian ini dapat ditujukan pada saya, Meuthia A Naim, pada telepon +62-21-7430208 (Jakarta) atau +61422089493 (Brisbane), atau melalui email: meuthia.naim2@griffithuni.edu.au.

Appendix D

Consent Form in English and Bahasa Indonesia

Community Engagement for Effective Climate Change Adaptation in Indonesia

CONSENT FORM

Research Team

Meuthia A Naim
Griffith School of Environment, Griffith University
PhD Candidate
Ph: +61 422089493
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Assoc. Professor Richard Hindmarsh
Griffith School of Environment, and
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Griffith University
Nathan 4111, QLD – Australia
Ph: +61-7-373 57517; Fax: +61-7 373 56717
Email: r.hindmarsh@griffith.edu.au

In signing below, I confirm that I have read and understood the information package and in particular note that:

- I understand that my involvement in this research will include answering an interview which addresses certain aspects of the project;
- I have had any questions about the project answered to my satisfaction;
- I understand the risks involved;
- I understand that there will be no direct benefit to me from my participation in this research;
- I understand that my participation in this research is voluntary;
- I understand that any third party will not know my participatory status in this research;
- I understand that my response for the interview will not to be disclosed to any third party (only research team will have right to use the information and only aggregated results will be reported to PhD thesis);
- I agree to being tape-recorded (if not, please strike out this sentence), and my personal identifiers will be kept confidential;
- I understand that if I have any additional questions I can contact the research team;
- I agree to participate in the project;
- I understand that I am free to withdraw at any time, without comment or penalty;

I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on 3735 5585 (or research-ethics @griffith.edu.au), or can contact Meuthia A Naim (meuthia.naim2@griffithuni.edu.au), if I have any concern about the ethical conduct of the project.

Name:

Signature: **Date:**

.....

**Studi Penelitian:
Partisipasi masyarakat dalam pelaksanaan adaptasi perubahan iklim
yang efektif di Indonesia**

LEMBAR PERSETUJUAN

Tim Peneliti

Meuthia A Naim
Griffith School of Environment, Griffith University
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Email: meuthia.naim2@griffithuni.edu.au

Assoc. Professor Richard Hindmarsh
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Saya yang bertanda-tangan di bawah ini menyatakan bahwa saya telah membaca dan memahami isi yang tertera pada Lembar Informasi, dan menyatakan hal-hal sebagai berikut:

- Saya bersedia menjawab semua pertanyaan yang diberikan;
- Saya memahami resiko yang timbul dari keterlibatan saya dalam penelitian ini;
- Saya memahami bahwa saya tidak mendapatkan manfaat secara langsung dari penelitian ini;
- Saya memahami bahwa keikutsertaan saya adalah sukarela;
- Saya memahami bahwa apabila ada pertanyaan tambahan atau klarifikasi lebih lanjut tentang penelitian ini saya bisa menghubungi tim peneliti;
- Saya setuju bahwa wawancara ini akan direkam, dan memahami pula bahwa identitas saya akan dijaga kerahasiaannya;
- Saya memahami bahwa saya bisa menghubungi Meuthia A Naim melalui meuthia.naim2@griffithuni.edu.au, apabila saya berkeberatan dan memiliki keluhan mengenai pelaksanaan etik penelitian ini; dan
- Saya setuju untuk berpartisipasi dalam proyek ini.

Nama:

.....

Tanda tangan:

.....

Tanggal:

.....

Appendix E

Interview Guide in English and Bahasa Indonesia

Date of interview:	Time:
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INTERVIEW GUIDE

Community Engagement for Effective Climate Change Adaptation in Indonesia

Thank you for your time for, and interest in, this interview and its important topic. As indicated in the information sheet I sent you, I will be interviewing you for about an hour about what might comprise community engagement for effective climate change adaptation in Indonesia. However, since climate change adaptation is still a new issue in Indonesia, and maybe not that much has been done yet, in my questions I also ask about the broader context of community engagement and environmental management and natural disaster management in general, before reflecting on climate change impacts. As you no doubt are aware, floods, extreme drought, and tidal wave floods in coastal areas are among the types of climate change impacts faced by Indonesia. As you may recall again from the information sheet, I am researching in particular what might be appropriate participatory strategies at the local and community levels in highly vulnerable areas (which especially lie in the coastal zone) to inform effective adaptive capacity building in Indonesia, with regard to a range of predicted climate change events, e.g low to high level impacts. Before we start with the two areas I want to ask you about, which I will come to, I first want to ask you some background questions about what specific roles you have played in relation to development or practice of community participation (or engagement) processes/practices in environmental issues, natural disasters, or climate change impacts, and over what period of time?

1. Background information on respondent

- 1.1. How long have you been working/living in this institution/area?
- 1.2. What is your position in this institution/community?
- 1.3. Have you engaged in community participation processes/practices? (if so whereabouts?)
- 1.4. Have you developed/designed community participation processes/practices? (if so whereabouts and with whom or what type of organisation?)
- 1.5. Have you developed policy/guidance for community participation processes/practices? (if so what type of policy/guide?)

- 1.6. Have you served as a representative of an organisation or community involved in community engagement processes/practices? (if so which one/s or what types?)
- 1.7. Performed any other function you consider relevant to this topic?

Ok, given that, there are 2 broad areas of the interview that I would like to discuss with you:

- a. What you have observed or think about existing community participation practices in environmental issues, including natural disasters (*such as earthquake*) or climate change impacts (*such as floods, tidal wave floods in coastal areas*).
- b. Drawing on this experience, what you believe is needed to achieve better community participation for environmental issues, especially climate change adaptation.

Ok, turning to the first area of:

2. Existing community participation practices related to environmental issues, natural disaster or climate change impacts in Indonesia

- 2.1. First of all, with a variety of definition of community participation in the literature, what exactly is your understanding of what community participation is?
- 2.2. What has been the most common form of community participation in environmental issues, including natural disaster or climate change impacts that you have experienced, managed, or been involved with? [*Probe: has this changed regarding the severity of the impact in terms of population, degree of threat and preparedness?*]
- 2.3. What is your overall impression of these processes and practices of local community participation in respond to environmental issues and outcomes that have resulted from this regarding any inadequacies or problems?
[*Probe: Is it the same with the responses to natural disasters and climate change impacts?*]

- 2.4. Has such engagement, even limited ones, been good for responding to such environmental issues or not? Why? [*Probe: Also in natural disasters and climate change impacts?*]
- 2.5. Are you aware of or can you describe any successful community participation practices in respond to environmental issues, or natural disasters or climate change impacts?
- 2.6. To what do you attribute regarding this success? What are the key determinants? (*e.g. institutional arrangement, policy, cultural factors, nature of community*)
- 2.7. Do you know of any community participation practices in respond to environmental issues, or natural disasters or climate change impacts that have failed?
- 2.8. To what do you attribute regarding this failure? What are the key determinants? (*e.g. institutional arrangement, policy, cultural factors, nature of community*)
- 2.9. Regarding the benefits, who do you think to have mainly benefitted from such engagement?

Turning to mechanisms or approaches for community participation to respond to natural disaster:

- 2.10. Who initiates/designs the community participation process?
- 2.11. What sort of mechanism is involved in the process? [*Prompt: processes, methods, techniques*]
- 2.12. Are you aware of any constraints in implementing the process? [*Prompt: barriers: literacy, education about the topic, political willingness, resources. etc*]
- 2.13. Can you think of anything else that might constrain the process?
- 2.14. What sorts of things are necessary to overcome such constraints?
- 2.15. How do you evaluate the success or failure of the mechanism?

Ok, given this experience on existing processes/practices of community participation in environmental issues, including natural disasters and climate change impacts, I want to now turn to the final section of what would have been, or is, needed to get better results.

3. Suggestion for better community participation to respond to climate change impacts

Prompt: *But first to provide the context in which I want you to reflect on, I want to bring you back to what I have said in information sheet, that the international literature (for both developed and developing countries) promotes whole-of-society approaches as the best approach for climate change adaptation. In this, there is a strong role for community participation at the local level. So in that context...*

3.1. How do you think local communities might best be involved in responding to climate change impacts?

[Prompt: the stage: whether in strategies or policy development, before or after the occurrence of actions.]

3.2. What sort of things do you think might determine better participation of community in climate change adaptation activities? (e.g. policy, institutional arrangement, planning processes), and why? *[Prompt: this could be dependent on impact]*

3.3. Ok well now let's turn to some key things that have been brought up in the literature in addressing this topic which I'd like to get you response to

To help you in this, I'm going to suggest a few key ones for to remark on, to which at the end you may suggest anything else.

E.g. in turn slowly

3.4. Commitment from government to engage community (*including policy*)?

3.5. Codes of conducts, norms of behaviour, statute law, common law (*these refer to institutional change*)?

3.6. What about local knowledge, or traditional ecological knowledge?

3.7. The level of community awareness/understanding/education on the issue?

3.8. What about interactive relations amongst actors, including individuals, and organisations and institutions that perform collective actions?

3.9. The role of experts in regard to facilitating/developing effective community engagement?

3.10. Resource availability (time, money, infrastructure)?

3.11. What about leadership in the community?

3.12. The process/mechanism of participation (*including confidence in process, two-way information/transparency, clear roles, clarity of goals*)?

3.13. The actual representation of affected community in decision-making or lack thereof?

3.14. Is there anything else you'd like to raise?

3.15. Are there particular types or mechanisms of community participation you think would provide better outcomes? (*e.g. More involvement of the local community in climate change adaptation*).

3.16. What sort of things do you think community in this area have in contributing to better participation of community in climate change adaptation activities? (*e.g. local knowledge*).

4. Documentary information

Is there documentary information available in relation to the cases/experiences/practices we've been discussing? Are you aware of any other sources of information about community engagement processes/practice that we have been discussing?

Ok, that's it: many thanks for your time and useful information. And as I indicated in the information sheet in due course, you will be provided with the overall results of the research, typically in the form of publications including a project report and academic publications.

Tanggal wawancara:	Waktu:
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PANDUAN WAWANCARA

Partisipasi masyarakat dalam pelaksanaan adaptasi perubahan iklim yang efektif di Indonesia

Terima kasih atas waktu Bapak/Ibu/Saudara pada wawancara ini serta ketertarikan pada topik penelitian yang cukup penting ini. Sebagaimana disampaikan pada lembar informasi yang telah saya kirim, saya akan mewawancarai Bapak/Ibu/Saudara selama lebih kurang satu jam mengenai hal apa saja yang mempengaruhi partisipasi masyarakat dalam pelaksanaan adaptasi perubahan iklim yang efektif di Indonesia. Namun, mengingat adaptasi perubahan iklim masih merupakan isu baru di Indonesia, dan mungkin saja masih belum banyak yang telah dilakukan di area ini, maka pertanyaan-pertanyaan saya dalam wawancara ini akan merujuk pada partisipasi masyarakat dalam konteks yang lebih luas yang terkait dengan pengelolaan lingkungan dan bencana alam secara umum, sebelum akhirnya mengacu pada dampak perubahan iklim.

Sebagaimana yang Bapak/Ibu/Saudara sudah tahu bahwa banjir, kemarau yang berkepanjangan, serta banjir rob di daerah pantai adalah sebagian dari dampak perubahan iklim yang dialami Indonesia. Sebagaimana telah disampaikan pada lembar informasi, **penelitian saya terutama ditujukan** untuk membangun strategi terbaik untuk partisipasi di tingkat lokal dan masyarakat pada daerah yang sangat rentan terhadap dampak perubahan iklim (terutama di daerah pantai), sehingga dapat meningkatkan kemampuan beradaptasi masyarakat terhadap dampak perubahan iklim.

Sebelum kita memulai, **pertama-tama saya akan menanyakan beberapa pertanyaan dasar mengenai peran khusus Bapak/Ibu/Saudara terkait dengan pengembangan atau penerapan proses/praktek partisipasi masyarakat dalam isu lingkungan, bencana alam, atau dampak perubahan iklim.**

2. Latar belakang informasi responden

- 4.1. Sudah berapa lama Bapak/Ibu/Saudara bekerja/tinggal di institusi/daerah ini?
- 4.2. Apa posisi Bapak/Ibu/Saudara pada institusi/masyarakat?
- 4.3. Pernahkan Bapak/Ibu/Saudara terlibat dalam proses/pelaksanaan partisipasi masyarakat? (Jika pernah, di mana dan kapan?)
- 4.4. Apakah Bapak/Ibu/Saudara pernah terlibat dalam pengembangan/perancangan proses/pelaksanaan partisipasi masyarakat? (Jika pernah, di mana dan bekerja sama dengan pihak atau organisasi mana?)
- 4.5. Apakah Bapak/Ibu/Saudara pernah terlibat dalam pengembangan kebijakan/panduan untuk proses/pelaksanaan partisipasi masyarakat? (Jika pernah, apa jenis kebijakan/panduannya?)
- 4.6. Apakah Bapak/Ibu/Saudara pernah mewakili sebuah organisasi atau masyarakat yang terlibat dalam proses/pelaksanaan partisipasi masyarakat? (Jika pernah, di mana dan pada jenis kegiatan apa?)

- 4.7. Apakah Bapak/Ibu/Saudara pernah melakukan peran lainnya yang menurut Bapak/Ibu/Saudara terkait dengan topik ini?

Baiklah, berdasarkan pertanyaan-pertanyaan yang baru saja saya tanyakan, ada **dua area besar dalam wawancara ini** yang ingin saya diskusikan dengan Bapak/Ibu/Saudara, yaitu:

- a. Apa saja yang sudah Bapak/Ibu/Saudara amati atau apa pendapat Bapak/Ibu/Saudara mengenai pelaksanaan partisipasi masyarakat yang ada saat ini terkait dengan isu lingkungan, termasuk dalam menangani bencana alam (*seperti gempa bumi*) atau dampak perubahan iklim (*seperti banjir, banjir rob di daerah pantai*).
- b. Berdasarkan pengalaman tersebut, hal-hal apa saja menurut Bapak/Ibu/Saudara yang diperlukan untuk meningkatkan partisipasi masyarakat dalam menangani isu lingkungan, terutama yang terkait dengan adaptasi perubahan iklim.

Baiklah, sekarang saya akan masuk ke butir pertama, yaitu mengenai:

5. Pelaksanaan partisipasi masyarakat yang ada saat ini terkait dengan penanganan isu lingkungan, bencana alam atau dampak perubahan iklim di Indonesia

- 5.1. Pertama-tama, mengingat banyaknya definisi ‘partisipasi masyarakat’ yang ditemukan di literatur, apa persisnya pemahaman Bapak/Ibu/Saudara mengenai partisipasi masyarakat?
- 5.2. Apa **bentuk atau pola partisipasi masyarakat yang paling umum** terkait dengan penanganan isu lingkungan, termasuk bencana alam atau dampak perubahan iklim **yang pernah Bapak/Ibu/Saudara tangani, kelola, atau terlibat di dalamnya?** [*Probe: apakah bentuk atau pola partisipasi ini berbeda-beda berdasarkan tingkat keparahan dampak terkait dengan jumlah masyarakat yang terkena dampak, tingkat ancaman bencana serta tingkat kesiapan dalam menghadapinya?*]
- 5.3. Bagaimana **tanggapan Bapak/Ibu/Saudara** terhadap proses dan penerapan partisipasi masyarakat dalam menangani **isu lingkungan** tersebut serta **apakah terdapat kendala** dan masalah dalam hal partisipasi masyarakat ini? [*Probe: Apakah yang Bapak/Ibu/Saudara jelaskan ini juga berlaku dalam hal penanganan bencana alam dan dampak perubahan iklim?*]
- 5.4. Apakah **bentuk partisipasi tersebut**, walaupun dalam tingkat yang sangat rendah, **menguntungkan** dalam penanganan masalah lingkungan tersebut, **atau sebaliknya? Mengapa?** [*Probe: Apakah yang Bapak/Ibu/Saudara jelaskan ini juga berlaku dalam hal penanganan bencana alam dan dampak perubahan iklim?*]
- 5.5. Apakah Bapak/Ibu/Saudara mengetahui atau dapat **menjelaskan contoh sukses pelaksanaan partisipasi masyarakat** dalam menangani isu lingkungan, atau bencana alam, atau dampak perubahan iklim?
- 5.6. **Hal apa saja** menurut Bapak/Ibu/Saudara **yang mempengaruhi keberhasilan ini?** Apa faktor-faktor penentu keberhasilan tersebut? (*e.g. institutional arrangement, policy, cultural factors, nature of community*)

- 5.7. Apakah Bapak/Ibu/Saudara mengetahui atau dapat menjelaskan **contoh kegagalan** pelaksanaan partisipasi masyarakat dalam menangani isu lingkungan, atau bencana alam, atau dampak perubahan iklim?
- 5.8. Hal apa saja menurut Bapak/Ibu/Saudara **yang mempengaruhi kegagalan tersebut?** Apa faktor-faktor penentu kegagalan tersebut? (*e.g. institutional arrangement, policy, cultural factors, nature of community*)
- 5.9. **Berkaitan dengan keuntungan partisipasi masyarakat, siapa** menurut Bapak/Ibu/Saudara **yang memperoleh keuntungan paling besar** dari partisipasi masyarakat tersebut?

Sekarang mengenai mekanisme atau pendekatan untuk partisipasi masyarakat dalam menangani isu lingkungan, bencana alam, atau dampak perubahan iklim:

- 5.10. Siapa yang memulai/merancang proses partisipasi masyarakat tersebut?
- 5.11. Mekanisme apa yang terlibat dalam proses tersebut? [*Prompt: processes, methods, techniques*]
- 5.12. Apakah ada **hambatan** dalam penerapan proses tersebut? [*Prompt: hambatan-hambatan seperti: tingkat melek huruf, pemahaman mengenai masalah, kemauan politik dari pemerintah, sumber daya. etc*]
- 5.13. Adakah menurut Bapak/Ibu/Saudara hal lainnya yang dapat menghambat proses tersebut?
- 5.14. **Hal-hal** apa saja yang diperlukan **untuk mengatasi hambatan-hambatan** tersebut?
- 5.15. **Bagaimana** Bapak/Ibu/Saudara **mengevaluasi atau menilai keberhasilan atau kegagalan** dari **mekanisme/proses** tersebut?

Baiklah, dari penjelasan mengenai proses/pelaksanaan partisipasi masyarakat dalam menangani isu lingkungan, termasuk bencana alam dan dampak perubahan iklim, sekarang kita **memasuki bagian terakhir dari wawancara ini**, mengenai **hal-hal yang diperlukan untuk memperoleh keluaran yang lebih baik**.

6. Usulan untuk pelaksanaan partisipasi masyarakat yang lebih baik dalam menghadapi dampak perubahan iklim

Prompt: Namun sebelumnya, saya ingin mengingatkan kembali mengenai hal yang sudah disebutkan juga di lembar informasi, literatur menyatakan bahwa baik bagi Negara maju maupun berkembang, pendekatan yang melibatkan seluruh lapisan masyarakat merupakan pendekatan terbaik untuk adaptasi perubahan iklim, di mana di dalamnya terdapat peran yang kuat dari partisipasi masyarakat. Sehingga dalam konteks ini....

- 6.1. **Bagaimana cara terbaik** menurut Bapak/Ibu/Saudara **agar masyarakat setempat dapat terlibat** dalam menghadapi dampak perubahan iklim? How do you think local communities might best be involved in responding to climate change impacts?
[*Prompt: tahapannya: apakah pada tahap pengembangan strategi atau kebijakan, sebelum atau setelah terjadinya dampak, dll.*]
- 6.2. **Hal-hal apa** saja menurut Bapak/Ibu/Saudara **yang menentukan meningkatnya partisipasi** dalam kegiatan adaptasi perubahan iklim? (*misal*

kebijakan, institutional arrangement, planning processes), dan mengapa?
[*Prompt: this could be dependent on impact*]

- 6.3. Bagaimana menurut Bapak/Ibu/Saudara mengenai **hal-hal kunci** yang dibahas di **dalam literatur** di bidang ini yang mempengaruhi efektifitas partisipasi masyarakat dalam beradaptasi terhadap dampak perubahan iklim, misalnya seperti:

To help you in this, I'm going to suggest a few key ones for to remark on, to which at the end you may suggest anything else.

E.g. in turn slowly

- 6.4. **Komitmen dari pemerintah** untuk melibatkan masyarakat (*including policy*)?
- 6.5. **Aturan sosial yang berlaku**, norma adat, aturan hukum (*these refer to institutional change*)?
- 6.6. Bagaimana mengenai **pengetahuan atau kearifan lokal**?
- 6.7. Tingkat kesadaran/pemahaman/pendidikan masyarakat terhadap isu?
- 6.8. Bagaimana dengan **hubungan interaktif di antara para pelaku**, termasuk perorangan, organisasi dan instansi **yang melaksanakan kegiatan secara kolektif** (collective actions)?
- 6.9. **Peran tenaga ahli** dalam memfasilitasi/mengembangkan partisipasi masyarakat yang efektif?
- 6.10. **Ketersediaan sumber daya** (time, money, infrastructure)?
- 6.11. Bagaimana halnya dengan **kepemimpinan dalam masyarakat**?
- 6.12. **Proses/mekanisme partisipasi** (*including confidence in process, two-way information/transparency, clear roles, clarity of goals*)?
- 6.13. **Tingkat keterwakilan masyarakat** yang terkena dampak dalam proses pengambilan keputusan?
- 6.14. Adakah hal lainnya yang ingin Bapak/Ibu/Saudara tambahkan?
- 6.15. **Apakah ada jenis atau mekanisme tertentu** dari partisipasi masyarakat yang menurut Bapak/Ibu/Saudara **dapat menghasilkan keluaran yang lebih baik**? (*e.g. More involvement of the local community in climate change adaptation*).
- 6.16. **Hal-hal apa** saja menurut Bapak/Ibu/Saudara yang **dimiliki masyarakat** di daerah yang terkena dampak yang **dapat mendukung partisipasi masyarakat yang lebih baik** dalam melaksanakan kegiatan adaptasi terhadap perubahan iklim? (*e.g. local knowledge*).

7. Informasi mengenai dokumen

Apakah tersedia informasi dalam bentuk dokumen terkait dengan kasus/pengalaman/praktek-praktek yang baru saja kita diskusikan? Apakah Anda mengetahui sumber informasi lainnya mengenai proses/praktek partisipasi masyarakat sebagaimana yang baru saja kita diskusikan?

Baiklah, terima kasih banyak atas waktu dan informasi yang sangat bermanfaat. Dan seperti yang sudah saya sampaikan pada lembar informasi, hasil penelitian ini akan disampaikan ke Anda, biasanya dalam bentuk publikasi termasuk laporan proyek dan publikasi akademik.

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Community proposes their needs to the government	V				V G1, G2, G5, G6, LGS1, LGS2, LGS3, LGS4, LNGS1, LNGS2, NG1, NG2, CB3,CS5, CS6, LGB3, LNGB1 (17)						G1, G2, G5, G6, LGS1, LGS2, LGS3, LGS4, LNGS1, LNGS2, NG1, NG2, CB2, CB3, CS5, CS6, LGB3, LNGB1	18	47
Sub-theme 1.2: Most common form													
Community- based actions		V CB1,CB2, CB3, CS1,CS3, CS4,CS5, CS6,CS7, CS8,CS9, LGS1, LGS2, LGB1, LGB2, LGB3, LGS4, NG1, NG2, G4, LNGS1 (21)			V CS1, CS2, CS3, CS4, CS7, CS9, CB1, CB2, CB5, CB8, LGB1, LGB2 (11)						CB1, CB2, CB3, CS1,CS2, CS3, CS4, CS5, CS6, CS7, CS8, CS9, LGS1, LGS2, LGS4, LGB1, LGB2, LGB3, NG1, NG2, G4, LNGS1	22	58

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Community consultation		v											
Communities as passive beneficiaries		v											
Sub-theme 1.3.1: Determinant for success													
Understanding the issues			V G1, G4, NG1, LGB2, LGS1, LGS4, LNGB1, LNGB2, CB5, CB7, CB8, CB10, CB11, CS7	V NG2, LGS2, CB1, CB7, CB11, CS6, CS7, CS9		G3, LGS1, LGS2, CS1, CS2, CS6					G1, G3, G4, NG1, NG2, LGB2, LGS1, LGS2, LGS4, LNGB1, LNGB2, CS1, CS2, CS6, CS7, CS9, CB1, CB5, CB7, CB8,CB10, CB11	22	58
Sub-theme 1.3.1: Determinant for success													
Community leader			V CB3, CS1,CB4, CB5, CB8, CS4,CS7, CS9, LGS2, LGS3, LGS4, LNGB1, LGB3				V G5, CB1, CB5, CS4, CS7, CS9				G5, CB1, CB3, CB5, CS1, CB4, CB8, CS4, CS7, CS9, CS1, LGS2, LGS3, LGS4, LNGB1, LGB3	16	42

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub-theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Government commitment to program			V G5, LGB3										
Sense of place			V G5, LGS4	V CS3, CB6, CB7, LGS3, NG1							G5, CS3, CB6, CB7, LGS3, LGS4, NG1	7	18
Sub-theme 1.3.2: Determinant for fail													
Poverty				V G1, CB1, CB8, CB9, CS3, CS5, CS6, CS9 LGB2, LGS2, LNGS2		V G1, CS3, CS6, CS7, LGS2, LNGS1, CB1					G1, CB1, LGB2, CS3, CS6, CS7, CB8, CB9, CS5, CS6, CS9 LGS2, LNGS1, LNGS2	14	37
Approach to community			V	v						v			
Conflict of interest among key players				v									
Lack of understanding on the issues			v	v						v			
Low sense of place			v	v									

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub- theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definitio n of CP	Most commo n form	Det for success	Det for fail	Initiator	Cons- traint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determi- nant			
No mechanism in place			v	v									
Sub-theme 1.4: Mechanism/approach for community participation													
Sub-theme 1.4.1: Program initiator													
Government/NGO/ donor	v				v								
Community		v			v				v				
Sub-theme 1.4.2: Constraints													
Poverty				v		v							
Low education/ capacity						V G3, LGS1, LGS2, CS1, CS2							
Governance system			v	v		v				v			
No constraints						v							
Sub-theme 1.4.3: Suggestion to overcome constraints													
Attachment of participation process with community livelihood							V G1, G2, G3, G4, LGS2, LNLS1						
Approach through community leader			v				v						
Theme 2													
Sub-theme 2.1: Best stage to involve community													
Participation throughout the whole program	v							v					

Appendix G

Matrix Cross-connection of Themes 1 and 2

	Theme 1							Theme 2		Theme 3	Respondent	F (# of resp, n=38)	%
	Sub-theme 1.1	Sub-theme 1.2	Sub-theme 1.3.1	Sub-theme 1.3.2	Sub-theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Suggestion for best stage to involve community	Suggestion for better CP	Key determinant			
Theme 1													
Sub-theme 1.1: Definition of CP													
Active involvement in the whole process	v G1, G2, G3, G5, NG1, LGS1, LGS2, LGB3, LNGB1, LNGS1, LNGS2, CS9, CB4, CB5, CB7 (15)							V G2, G3, G5, G6, LGB3, LGS1, NG1, NG2, LNGS1, LNGS2, CB1, CB3, CS7, CS9 (14)			G1, G2, G3, G5, G6, LGS1, LGS2, LGB3, LNGB1, LNGS1, LNGS2, NG1, NG2, CB1, CB3, CB4, CB5, CB7, CS7, CS9,	20	53
Community proposes their needs to the government	v												
Participation in government-owned program	V CB2, LGS2, NG2, LGS1, G1, G2 (6)				V G1, G2, G5, G6, LGS1, LGS2, LGS3, LGS4, LNGS1, LNGS2, NG1,								

					NG2,CS5, CS6, CB3, LGB3, LNGB1 (17)								
	Theme 1						Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%	
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.2: Most common form													
Community- based actions		V CB1, CB2, CB3, CB4, CB5, CB7, CB9, CB11, CS1, CS2, CS3, CS4, CS5, CS6, CS7, CS8, CS9, LGS1, LGS2, LGS4, LGB1, LGB2, LGB3, NG1, NG2, G4,			V CS1, CS2, CS3, CS4, CS7, CS9, CB1, CB2, CB5, CB8, LGB1, LGB2 (12)				V G3, G4, G5, NG1, NG2, LNGB2 (6)		CB1, CB2, CB3, CB4, CB5, CB7, CB9, CB11, CS1, CS2, CS3, CS4, CS5, CS6, CS7, CS8, CS9, LGS1, LGS2, LGB1, LGB2, LGB3, LGS4, NG1, NG2, G3, G4, G5, LNGB2 LNGB1	30	79

		LNGS1 (27)											
Community consultation		v											
Communities as passive beneficiaries		v											
Sub-theme 1.3.1: Determinant for success													
Understanding the issues			V G1, G4, NG1, LGB2, LGS1, LGS4, LNGS1, LNGS2, CB5, CB7, CB8, CB10, CB11, CS7 (14)	V NG2, LGS2, CB1, CB7, CB11, CS6, CS7, CS9 (8)					V CS5, CS9, CB6 (3)		G1, G2, G4, NG1, NG2, LGB2, LGB3, LGS1, LGS2, LGS4, LNGS1, LNGS2, CB1, CB5, CB6, CB7, CB8, CB10, CB11,CS5, CS6, CS7, CS9	23	61

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.3.1: Determinant for success													
Community leader			V CB3, CB4, CB5, CB8, CS1, CS4, CS7, CS9, LGS2, LGS3, LGS4, LNGB1, LGB3 (13)				V G5, CB1, CB5, CS4, CS7, CS9 (6)						
Experiencing the problem increases community participation			v										
Participatory mechanism/system in place			V NG1, CB1, CB3, CB4, CB6, CB8, LGB3, LNGB1, LGS4 (9)	V G2, CB1, CS2 (3)		V G2, G6, NG1 (3)							

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Approaches to engage community			V CB2, LNGB1, LGS3, LNGB1 (4)	V G5, NG1, LGB1, LGB3, LNGB1, LNGB1, CS8 (7)									
The influence of culture and religion			V G1, LGS4, CB3, CB10 (4)										
Strong and respectful relationships between government and community			V CB2, CB6, LGB3, LGS3										
Government commitment to program			V G5, LGB3										
Sense of place			V G5, LGS4	V CS3, LGS3, NG1									

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.3.2: Determinant for fail													
Poverty				V G1, CB1, CB8, CB9, CS3, CS5, CS6, CS9, LGB2, LGS2, LNGS2 (11)		V G1, CS3, CS6, CS7, LGS2, LNGS1, CB1 (7)							
Approach to community			V	v									
Conflict of interest among key players				v									
Lack of understanding on the issues			v	v									
Low sense of place			v	v									
No mechanism in place			v	v									

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub- theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most commo n form	Det for success	Det for fail	Initiator	Cons- traint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determi- nant			
Sub-theme 1.4: Mechanism/approach for community participation													
Sub-theme 1.4.1: Program initiator													
Government/NGO/ donor	v				v								
Community		v			v				v				
Sub-theme 1.4.2: Constraints													
Poverty				v		v							
Low education/ capacity													
Governance system			v	v		v				v			
No constraints						v							
Sub-theme 1.4.3: Suggestion to overcome constraints													
Attachment of participation process with community livelihood							V G1, G2, G3, G4, LGS2, LNGS1, CB11 (7)			V G1, G2, G3, G4, LGS1, LGS2			
Approach through community leader			v				v			v			

Appendix H

Matrix cross-connection of Theme 1 and 3

	Theme 1							Theme 2		Theme 3	Respondent	F (# of resp, n=38)	%
	Sub-theme 1.1	Sub-theme 1.2	Sub-theme 1.3.1	Sub-theme 1.3.2	Sub-theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Theme 1													
Sub-theme 1.1: Definition of CP													
Active involvement in the whole process	v G1, G2, G3, G5, NG1, LGS1, LGS2, LGB3, LNGB1, LNGS1, LNGS2 (11)							V G2, G3, G5, G6, LGB3, LGS1, NG1, NG2, LNGS1, LNGS2, CB1, CB3 (12)					
Community proposes their needs to the government	v												
Participation in government-owned program	V CB2, LGS2, NG2, LGS1, G1, G2 (6)				V G1, G2, G5, G6, LGS1, LGS2, LGS3, LGS4, LNGS1, LNGS2, NG1, NG2, CB3, LGB3, LNGB1 (15)								

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.2: Most common form													
Community-based actions		V CB1, CB2, CB3, CS1, LGB3, CS3, LGS1, LGS2, LGB1, LGB2, LGB3, LGS4, NG1, NG2, G4, LNGS1 (16)			V CS1, CS2, CS3, CB1, CB2, LGB1, LGB2 (7)				V G3, G4, G5, NG1, NG2, LNGS2 (6)				
Community consultation		v											
Communities as passive beneficiaries		v											

	Theme 1							Theme 2		Theme 3	Respon-dent	F (# of resp, n=38)	%
	Sub-theme 1.1	Sub-theme 1.2	Sub-theme 1.3.1	Sub-theme 1.3.2	Sub-theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.3.1: Determinant for success													
Understanding the issues			V G1, G4, NG1, LGB2, LGS1, LGS4, LNGS1, LNGS2, CB5,CB7, CB8,CB10, CB11, CS7 (14)	V NG2, LGS2, CB1, CB7, CB11, CS6, CS7, CS9 (8)						V G1, G2, G4, G5, NG2, LNGS2, LNGB1, LGB3, LGS1, LGS4, CS5, CS7, CS9, CB6 (14)	G1, G2, G4, G5,NG1,NG2, LNGS1, LNGS2, LNGB1, LGB2, LGB3, LGS1,LGS2, LGS4, CS5, CS6, CS7, CS9, CB1, CB5, CB6, CB7, CB8, CB10, CB11	25	66
Community leader			V CB3, CB4, CB5, CB8, CS1, CS4, CS7, CS9, LGS2, LGS3, LGS4, LNGB1, LGB3 (13)				V G5, CB1, CB5, CS4, CS7, CS9 (6)			V G1, G5, G3, NG1, NG2, LNGB1, CB1, CB3, CS1, CS4, CS5, CS7, CS9 (13)	G1, G5, G3, NG1, NG2, LNGB1, CB1, CB3, CB4, CB5, CB8, CS1, CS4, CS5, CS7, CS9, LGS2, LGS3, LGS4, LGB3	20	53
Experiencing the problem increases community participation			v										
The influence of culture and religion			V G1, LGS4, CB3, CB10 (4)							V G1, G5, LNGS1, LNGS2, CS9 (5)	G1, G5, LGS4, LNGS1, LNGS2, CB3, CB10, CS9	8	21

	Theme 1							Theme 2		Theme 3	Respon-dent	F (# of resp, n=38)	%
	Sub-theme 1.1	Sub-theme 1.2	Sub-theme 1.3.1	Sub-theme 1.3.2	Sub-theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Approaches to engage community			V CB2, CB5, CB6, CB8, LNGB1, LGS3, LNGS1 (7)				V G1, G2, G3, G4, LGS2, LNGS1, CB11 (7)			V G1, G2, G3, G4, LGS1, LGS2, NG1, LNGS1, LNGB1 (9)	G1, G2, G3, G4, NG1, LNGS1, LGS1, LGS2, LGS3, LNGB1, CB2, CB5, CB6, CB8, CB11	15	39
Strong and respectful relationships between government and community			V CB2, LGB3, LGS3 (3)							V G3, G5, NG1, NG2, LNGS1, LNGS2, LGS1, LGS3, LGB3, LNGB1 (10)	G3, G5, NG1, NG2, LNGS1, LNGS2, LGS1, LGS3, LGB3, LNGB1, CB2	11	29
Government commitment to program			V G5, LGB3 (2)							V G2, G5, NG1, LNGS1, LNGS2, CS3, CB3, LGB3 (8)	G2, G5, NG1, LNGS1, LNGS2, CS3, CB3, LGB3	8	21
Sense of place			V G5, LGS4	V CS3, LGS3, NG1									

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub-theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.3.2: Determinant for fail													
Poverty				V G1,CB1 LGB2, CS3, LGS2, LNGS2		V G1, CS3, LGS2, LNGS1, CB1							
Approach to community			V	v						v			
Conflict of interest among key players				v									
Lack of understanding on the issues			v	v						v			
Low sense of place			v	v									
No mechanism in place			v	v									
Sub-theme 1.4: Mechanism/approach for community participation													
Sub-theme 1.4.1: Program initiator													
Government/NGO/ donor	v				v								
Community		v			v				v				
Sub-theme 1.4.2: Constraints													
Poverty				v		v							
Low education/ capacity						V G3, LGS1, LGS2, CS1, CS2, CS6 (6)				V G1, G2, G5, NG1, LNGS1, CS9,LNGS 1, LNGS2, LGS2, LNGB1 (9)	G1, G2, G3, G5, NG1, LNGS1, LNGS2, LGS1,LGS 2, LNGB1, CS1, CS2, CS6, CS9	14	37
Governance system			v	v		v				v			

Appendix I

Matrix Cross-connection of Theme 2 and 3

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub-theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Theme 2													
Sub-theme 2.1: Best stage to involve community													
Participation throughout the whole program													
Sub-theme 2.2: Suggestion for better CP													
Community empowerment									v				
Asset-based approach									V G3, G4, G5, NG1, NG2, LNGS2	V G3, NG1, NG2	G3, G4, G5, NG1, NG2, LNGS2	6	16
Different approach for urban and rural communities									V NG1, LNGS2, CS5, CS7, CS9, CB5, CB6, CB7 (8)	V G1, G2, G3, G4, NG1, LNGS1, LGS1, LGS2, LNGB1 (9)	G1, G2, G3, G4, NG1, LNGS1, LNGS2, LGS1, LGS2, LNGB1, CS5, CS7, CS9, CB5, CB6, CB7	16	42

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub- theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most commo n form	Det for success	Det for fail	Initiator	Constrain t	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinan t			
Theme 3													
Key determinant for effective CP													
Awareness on the issue										v			
Leadership in community										v			
Appropriate approach to community										v			
Education level of community										v			
Government commitment										v			
Relationships and coordination among actors										v			
Local knowledge										v			
Partnership										v			
Administration/proce dure										v			
The role of community groups										v			
Asset based approach										v			
Cultural values										v			
Socio-economic issues										v			
Clear benefits of the program										v			

Appendix J

Matrix Cross-connection of Theme 1, 2 and 3

	Theme 1							Theme 2		Theme 3	Respondent	F (# of resp, n=38)	%
	Sub-theme 1.1	Sub-theme 1.2	Sub-theme 1.3.1	Sub-theme 1.3.2	Sub-theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Theme 1													
Sub-theme 1.1: Definition of CP													
Active involvement in the whole process	v G1, G2, G3, G5, NG1, LGS1, LGS2, LGB3, LNGB1, LNGS1, LNGS2, CS9, CB4, CB5, CB7 (11)							V G2, G3, G5, G6, LGB3, LGS1, NG1, NG2, LNGS1, LNGS2, CB1, CB3, CS7, CS9 (14)					
Community proposes their needs to the government	v												
Participation in government-owned program	V CB2, LGS2, NG2, LGS1, G1, G2 (6)				V G1, G2, G5, G6, LGS1, LGS2, LGS3, LGS4, LNGS1, LNGS2, NG1, NG2,								

					CB3, LGB3, LNGB1 (15)								
	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.2: Most common form													
Community-based actions		V CB1, CB2, CB3, CS1, LGB3, CS3, LGS1, LGS2, LGB1, LGB2, LGB3, LGS4, NG1, NG2, G4, LNGB1 (16)			V CS1, CS2, CS3, CB1, CB2, LGB1, LGB2 (7)				V G3, G4, G5, NG1, NG2, LNGB2 (6)				
Community consultation		v											
Communities as passive beneficiaries		v											

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.3.1: Determinant for success													
Understanding the issues			V G1, G4, NG1, LGB2, LGS1, LGS4, LNGB1, LNGB2, LNGB3, LNGB4, LNGB5, LNGB6, LNGB7, LNGB8, LNGB9, LNGB10, LNGB11, LNGB12, LNGB13, LNGB14 (14)	V NG2, LGS2, CB1, CB7, CB11, CS6, CS7, CS9 (8)					V CS5, CS9, CB6 (3)	V G1, G2, G4, G5, NG2, LNGB1, LNGB2, LNGB3, LNGB4, LNGB5, LNGB6, LNGB7, LNGB8, LNGB9, LNGB10, LNGB11, LNGB12, LNGB13, LNGB14 (14)	G1, G2, G4, G5, NG1, NG2, LNGB1, LNGB2, LNGB3, LNGB4, LNGB5, LNGB6, LNGB7, LNGB8, LNGB9, LNGB10, LNGB11, LNGB12, LNGB13, LNGB14 (14)	25	66
Community leader			V CB3, CS1, LGS2, LGS3, LGS4, LNGB1, LNGB3				V G5, CB1			V G1, G5, G3, NG1, NG2, LNGB1, CB1, CB3, CS1			

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub-theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Participatory mechanism/system in place			V NG1, CB1, CB3, LGB3, LNGB1, LGS4 (6)	V G2, CB1 (2)		V G2, G6, NG1 (3)				V G3, G6, NG1, NG2, LNGB1, LGS4 (6)			
Experiencing the problem increases community participation			v										
Strong and respectful relationships between government and community			V CB2, LGB3, LGS3							V G3, NG1, LNGB1, LNGB2, LGS1, LGS3, LGB3, LNGB1			
Government commitment to program			V G5, LGB3				G3, G4, G5, NG2, LNGB2, LNGB1, CS3			V G2, G5, NG1, LNGB1, LNGB2, CS3, CB3, LGB3			
Sense of place			V G5, LGS4	V CS3, LGS3, NG1									

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub-theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 1.3.2: Determinant for fail													
Poverty				V G1, CB1, LGB2, CS3, LGS2, LNGS2		V G1, CS3, LGS2, LNGS1, CB1							
Approach to community			V	v						v			
Conflict of interest among key players				v									
Lack of understanding on the issues			v	v						v			
Low sense of place			v	v									
No mechanism in place			v	v									
Government/NGO/ donor	v				v								
Community		v			v				v				

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub- theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub- theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most commo n form	Det for success	Det for fail	Initiator	Constrain t	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinan t			
Sub-theme 1.4.2: Constraints													
Poverty				v		v							
Low education/ capacity						V G3, LGS1, LGS2, CS1, CS2, CS6 (6)				V G1, G2, G5, NG1, LNGS1, LNGS2, LGS2, LNGB1, CS9 (9)			
Governance system			v	v		v				v			
No constraints						v							
Sub-theme 1.4.3: Suggestion to overcome constraints													
Attachment of participation process with community livelihood							V G1, G2, G3, G4, LGS2, LNGS1			V G1, G2, G3, G4, LGS1, LGS2			
Approach through community leader			v				v			v			
Theme 2													
Sub-theme 2.1: Best stage to involve community													
Participation throughout the whole program	v							v					

	Theme 1							Theme 2		Theme 3	Respon- dent	F (# of resp, n=38)	%
	Sub- theme 1.1	Sub- theme 1.2	Sub-theme 1.3.1	Sub- theme 1.3.2	Sub- theme 1.4.1	Sub-theme 1.4.2	Sub-theme 1.4.3	Sub-theme 2.1	Sub-theme 2.2				
	Definition of CP	Most common form	Det for success	Det for fail	Initiator	Constraint	Suggestion to overcome constraint	Best stage to involve community	Suggestion for better CP	Key determinant			
Sub-theme 2.2: Suggestion for better CP													
Community empowerment									v				
Asset-based approach		v			v				v				
Different approach for urban and rural communities									v				
Theme 3													
Key determinant for effective CP													
Awareness on the issue			v	v						v			
Leadership in community			v				v			v			
Appropriate approach to community			v	v						v			
Education level of community						v				v			
Government commitment			v							v			
Relationships and coordination among actors			v							v			
Local knowledge										v			
Partnership										v			
Administration/procedure			v	v		v				v			
The role of community groups										v			
Asset based approach										v			
Cultural values			v							v			
Socio-economic issues										v			

