ASIA-PACIFIC NETWORK FOR GLOBAL CHANGE RESEARCH

Climate Adaptation Framework
Regional Research Final Report

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An analysis of longer-term (5-10 years) recovery following major disasters in the Asia Pacific Region: Lessons for resilient development.

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Project Overview

Project Duration	:	2015 – 2017 (2 years)
Funding Awarded	:	US$ 39,543 for Year 1; US$ 47,500 for Year 2
Key organisations involved	:	• Stockholm Environment Institute (SEI): Dr. Frank Thomalla, Mr. Michael Boyland and Mr. Agus Nugroho • Unit for Social and Environmental Research, Chiang Mai University, Thailand: Dr. Louis Lebel • National Institute for Science and Technology Policy and Strategy Studies (NISTPASS), Viet Nam: Dr. Bach Tan Sinh • Royal University of Phnom Penh, Cambodia: Dr. Ham Kimkong • Center for Social Development Studies, Chulalongkorn University, Thailand: Dr. Danny Marks, , marksdan05@gmail.com

Project Summary

Key goals of post-disaster response and longer-term recovery efforts in the affected areas have been to 'build back better', to place more emphasis on environmental sustainability, and to strengthen the resilience of communities at risk to be able to cope with and adapt to a range of future environmental changes and risks. This research aims to study whether promises on recovery were kept and followed through over a longer (5-10 year) time period, the lessons were learnt and whether the response of existing loss and damage systems enable or hamper longer-term recovery efforts. This research also aims to confirm on whether the resilience built as intended and whether pathways can be identified through which resilience can be built over the longer-term. The research conducts a critical analysis of the recovery process in four selected case studies of disasters that occurred in the Asia Pacific Region during the last ten years.

Keywords: disasters, long-term recovery, narratives, loss and damage, resilience, Southeast Asia

Project outputs and outcomes

Project outputs:

1. A high impact short paper targeted at decision-makers in the region
2. A high impact research paper in Science, Nature Climate, PNAS or Global Environmental Change.
3. In addition, progress and key insights arising from the project will be communicated regularly through SUMERNET and relevant international and regional fora.

Project outcomes:

1. The characterisation of disaster loss and damage 'systems'

2. An evaluation of their performance against stated objectives/promises
3. A synthesis of the greatest achievements and challenges in building disaster resilience over a 5-10 year time period
4. An identification of the factors that lead to successful long-term approaches of DRR and CCA including strategies for integration into regional planning.

Key facts/figures

- Four long-term recovery cases related to major disasters in Southeast Asia were studied:
  o Local innovations that led to new policies for living with floods in the Mekong Delta in Vietnam following the 2001 Mekong River Floods;
  o Livelihood and infrastructure responses in Prey Veng, Cambodia, after the 2001 and 2011 Mekong River floods;
  o The role of the Panglima Laot, a traditional fisheries management institution, in the recovery process following the 2004 Indian Ocean Tsunami in Aceh Province, Indonesia;
  o The challenges faced by SMEs in a market area following the 2011 floods in Bangkok, Thailand.
- The four disaster case studies represent a range of different characteristics in terms of hazard types (floods and tsunami), scale of impacts, governance systems, social and economic development status, risk, vulnerability, disaster loss and damage systems and recovery narratives.
- The research found a diversity of loss and damage systems which reflected the dominant recovery narratives around the disaster. The case study findings show that efforts to improve the performance of such systems so that they support long-term recovery need to closely consider the causes of vulnerability, intended beneficiaries, the framing of solutions, and issues of governance such as the legitimacy, responsiveness and accountability of authorities.

Potential for further work

This project improved understanding of how decisions and actions undertaken to recover from a disaster influence long-term resilience. Drawing on insights from technical, political and social initiatives to major disasters we found that a diversity of initiatives under a range of types of loss and damage systems were involved in recovery. We also found that efforts to improve their performance need to consider the causes of vulnerability, intended beneficiaries, the framing of solutions, and the legitimacy, responsiveness and accountability of authorities. The study revealed the importance of alternative discourses on the purpose of 'recovery', 'building back better', and 'resilience', for who ultimately benefits and who remains at risk.

We will test the validity of these insights in selected informal settlements in Bangkok, Manila and Jakarta and determine how they can help in building equitable resilience of poor at-risk urban communities. The expected outcomes of the proposed project are fourfold: 1) an identification of the loss and damage systems in coastal urban informal settlements at risk from climate change; 2) an exploration of recovery, disaster risk reduction and adaptation discourses within these communities; 3) an improved understanding of factors contributing to

equitable resilience to coastal hazards in poor urban settlements; and 4) recommendations for policy makers aimed at strengthening inclusive climate resilient development.

Publications

Thomalla, F., et al. (forthcoming) An APN Chapter in "Addressing the Impacts and Uncertainties in the Development and Climate Change in the Mekong Region". Sustainable Mekong Research Network (SUMERNET). SIRD: Kuala Lumpur (on-going editing).

Thomalla, F., Lebel, L., Boyland, M., Marks, D., Kimkong, H., Bach Tan, S. and Nugroho, A. (forthcoming) *Longer-term recovery following major disasters: Recovery narratives in Southeast Asia.* Regional Environmental Change (accepted for publication).

Boyland, M., Nugroho, A., & Thomalla, F. (2017). *The Role of the Panglima Laot Customary Institution in the 2004 Indian Ocean Tsunami Recovery in Aceh.* In Disaster Risk Reduction in Indonesia (pp. 357-376). Springer International Publishing.

Louis, L. (2014). *Analysis of longer-term recovery following disasters: opportunities for collaboration and methodological issues* [PowerPoint presentation]. Presented at Loss and Damage Workshop, Asia Pacific Forum on Loss and Damage, Kuala Lumpur, Malaysia. 30 September 2014.

Marks, D., & Thomalla, F. (2017). *Responses to the 2011 floods in Central Thailand: Perpetuating the vulnerability of small and medium enterprises?* Natural Hazards, 87(2), 1147-1165.

Thomalla, F., Boyland, M., Johnson, K. and Lebel, L. (2014). *Taking a longer view of recovery in the world's most disaster-prone region.* Outreach Magazine - Stakeholder Forum for a Sustainable Future (3 December 2014).

Presentations

Munich Re and United Nations University Institute for Environment and Security (UNU-EHS) Resilience Academy Capstone Conference, Woodrow Wilson Center, Washington, D.C., USA, 16-19 October 2017. Frank Thomalla chaired a public panel on *Dimensions of Loss and Damage.*

9th International Forum for Sustainable Asia and the Pacific (ISAP2017), Yokohama, Japan, 25 – 26 July 2017. Contribution to a poster presented by APN. Available online: http://www.apn-gcr.org/resources/files/original/5845a4a6013fe7f855a1149c3eb0d33b.pdf

SEI Science Forum 2017, Bangkok, Thailand, 30 – 31 May 2017, Dr. Frank Thomalla presented project synthesis paper *Disaster recovery narratives in Southeast Asia.*

Center for Social and Development Studies (CSDS) Chulalongkorn University Public Seminar on *The Politics of the 2011 Bangkok Floods*, Bangkok, Thailand, 4 May 2017. Presentation by Dr. Danny Marks.

4th TWINSEA International Workshop – Lessons Learnt and Outlook (organized by UNU-EHS and LIPI), Bali, Indonesia, 30 March – 2 April 2017. Link to presentation and SEI blog. The Springer book *Disaster Risk Reduction in Indonesia: Progress, Challenges and Issues* was launched at the workshop and Dr. Frank Thomalla presented the chapter (see below) which is based on the Indonesia case study.

Adaptation Futures 2016, Rotterdam, Netherlands, 12 May 2016. Presentation by Mr. Michael Boyland *on An analysis of longer-term (5-10 years) recovery following major disasters in the Asia-Pacific region: lessons for resilient development* in the session Linking Climate Change Adaptation, Disaster Risk Reduction, and Loss & Damage: Lessons toward Resilient Asia-Pacific Region. Presenter and Rapporteur. Link to presentations and session report.

8th International Conference on Climate Change: Impacts and Response, Hanoi, Viet Nam, 21-22 April 2016. Presentation by Danny Marks on *Longer-term recovery following major disasters in the Asia Pacific: Insights for climate resilient development*.

United Nations Office for Disaster Risk Reduction (UNISDR) Science and Technology Conference on the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030, Geneva, Switzerland, 27–29 January 2016. Poster presentation by Frank Thomalla on *Building Resilience Through Disaster Recovery - Aceh 10 Years on from the Tsunami*. Link to poster.

Asia Pacific Forum on Loss and Damage, Kuala Lumpur, Malaysia, 30 September 2014. Presentation by Louis Lebel on *Analysis of longer-term recovery following disasters: opportunities for collaboration and methodological issues*.

Pull quote

"The topic of assessing and addressing Loss and Damage from human induced climate change is a relatively new and contentious issue in the global negotiations on climate change. One of the reasons is the lack of knowledge of what this means in the context of climate change. This study adds significantly to our understanding from examining past events that have caused loss and damage from climatic events and tracing the outcomes beyond the immediate recovery period. It has provided valuable lessons for addressing loss and damage from climate change going forward. "

Dr. Saleemul Huq, Director, International Centre for Climate Change and Development (ICCCAD), Independent University, Bangladesh.

Acknowledgments

1. Introduction

Major disasters trigger complex social, ecological, and political responses that can be relatively short-lived and discrete, or continue to unravel and interact for a decade or more. The extent to which the recovery process is successful in building resilience of different social groups to future disasters seems to depend upon whether or not the post-disaster 'windows of opportunity' for more transformative change can be exploited, and if so by whom (Birkmann et al., 2010). Such opportunities are easier to grasp if you have prepared for them, have resources, and are supported by a network or coalition (Olsson et al., 2006). One way to build coalitions and change beliefs is through attractive stories or narratives (Shanahan et al., 2011). Disaster recovery narratives may play an important role in building support for particular approaches to recovery.

The early restoration (ER) narrative argues that it is important to replace lost assets and get lives back to normal as quickly as possible. It is a popular idea that fits the need for authority to be seen to be taking immediate action. In this narrative disaster response and long-term recovery initiatives are kept separate (Ingram et al., 2006). The response to the 2010 earthquake in Haiti, for example, gave high priority to providing shelter quickly, creating new settlements, rather than having residents returning to a neighbourhood made safer and less at risk (Sanderson et al., 2014). The problem is not only for infrastructure, however. After the 2006 earthquake in Yogyakarta, livelihoods which were insecure pre-disaster were re-habilitated rather than replaced (Joakim and Wismer, 2015). The problem with this short-term approach is that it can easily re-create the social and economic vulnerabilities which contributed to the disaster in the first place.

The linking relief, rehabilitation and development (LRRD) narrative focuses upon reducing the gaps between humanitarian aid and development cooperation (Mosel and Levine, 2014). Doing so should reduce the trade-offs between addressing short-term needs and longer-term development aspirations (IOB, 2013). This narrative is articulated primarily by aid agencies, the heroes, while blame is laid upon the hazard. While the goal sounds attractive, it has been difficult to put into practice (Audet, 2015). One reason is that development assistance does not always follow humanitarian aid; another is that the various activities may occur in parallel rather than as a series of steps.

The build back better (BBB) narrative – the guiding principle of the 2004 Indian Ocean Tsunami recovery – as put by Bill Clinton, UN Special Envoy for Tsunami Recovery, promises to make sure that the recovery process accomplishes more than just restoring what was there before (Fan, 2013). It can mean placing more emphasis on environmental sustainability, improved livelihood choices, ending civil conflicts and ensuring a fairer distribution of both risk and assistance; but it also might mean stronger buildings and higher flood-walls or other technical fixes. The attraction of this narrative is that it can mean almost anything, as different actors define 'better' in their own ways to fit their own agendas (ibid). This narrative is used by a range of stakeholders, and thus there are many heroes. One constraint is that an individual may feel more secure or happy with a return to what they were doing before, i.e. as the ER narrative promises (Daly, 2015); another is that the power structures which make some groups vulnerable may not be easy to alter and thus constraint efforts at making things 'better', as shown in case of northern and eastern Sri Lanka after the 2004 tsunami (Khasalamwa, 2009). In the last decade, a number of scholars (e.g. Klein, 2007), Gotham 2008, Gunewardena and

Schuller 2008) have argued that governments have used the BBB narrative to promote private neoliberal, capitalist interests, which affected populations might be less likely to accept under normal conditions. Thus, disaster recoveries have become opportunities for profit-making and corporate restructuring of societies. Klein (2007) used the term 'disaster capitalism' to encapsulate these post-disaster practices. (Loewenstein, 2015) details numerous examples of post-disaster profiteering by international corporations, most notably after the 2010 earthquake in Haiti.

The empower local communities (ELC) narrative treats disaster recovery as a political process in which local communities need to be empowered so that their underlying vulnerabilities and root causes of disasters will be addressed. The state and corporations are typically portrayed as villains, and non-governmental organisations (NGOs) and communities as heroes. Blame is laid on socio-economic structures. Close attention is paid to the interaction between aid agencies and local communities (Daly, 2015). One problem is that altering power structures can be quite challenging; another is that actions at higher levels and with the state may also be needed. The recovery of New Orleans after Hurricane Katrina, for instance, was hampered by the lack of elites committed to the city that could have provided the necessary leadership for an effective recovery (Hobor, 2015).

It is not clear what influence these common narratives have on recovery policy and practices, or longer-term outcomes in specific contexts. Most studies of major disasters focus on the impacts of the event and the short-term responses. Some evaluate the root causes of vulnerability, but few conduct longitudinal studies or follow-up events years later to evaluate the consequences of ad hoc and more systematic, technical, political and social responses to the event. Various examples suggest that there is high value for the investigation of long-term disaster recovery processes.

The objective of this study is to improve understanding of the influence that recovery narratives have had on how decisions and actions are undertaken to recover from a disaster, and what influence this has had, in turn, on long-term resilience building. By resilience we mean "*the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.*" (UNGA, 2016 p.22). This is a broad, encompassing definition with many terms open to multiple interpretations, and thus relevant to all four narratives.

The use and influence of disaster recovery narratives are anticipated to vary with the type or impacts of the disaster, the availability of resources, institutional capacity and governance context. Major disasters may result in complex and protracted recovery phases that allow time for narratives to evolve and perhaps even for counter narratives to arise. With a lot of resources leveraged the expectations and incentives to deploy ambitious narratives like BBB are higher than when resources for recovery are scarce. Political imperatives tend to favour short-term narratives like ER, whereas external agents may have the luxury of arguing a longer-term, LRRD approach. Strong capacities to govern favour narratives which include the state as a responsible actor, whereas weak capacities favour narratives centred on self-organisation at the community level, like ELC.

To help explore these interactions, this paper builds on insights from four empirical case studies of recovery from major disasters in Southeast Asia, and published literature. In order to analyse recovery narratives we evaluate a range of specific recovery interventions deployed following major disasters – both those under the umbrella of each narrative and those outside the definitions and principles of the narratives. This we refer to as a disaster loss and damage system. To focus the analysis of the consequences of recovery narratives for resilience in particular places, special attention is given to the loss and damage systems invoked or ignored under these narratives. In this paper a loss and damage system is defined as the formal and informal institutions, processes and systematic actions which aim to assist communities and societies absorb, cope with, adapt to and recover from adverse effects of disasters that may be either irreversible (loss) or replaceable (damage). We use this term because we believe a better understanding of how existing loss and damage systems perform is necessary for dealing with long-term impacts of climate change (James et al., 2014; Surminski and Lopez, 2014), which may well increase the occurrence of major disasters in the region (Cardona et al., 2012).

2. Methodology

Research was conducted between 2014-2016 with qualitative research approach consisting of a literature review and document analysis, case study research, interviews with key recovery actors in each case study, and four workshops.

The review of academic literature and documents published by government, NGOs, civil society organisations (CSOs) and the mass media was done to establish the status of research on approaches to disaster recovery, such as LRRD, BBB, ER, ELC, long-term recovery and resilience, and, to identify, collect and review relevant documents for each of the four case studies in order to develop the context for the research and to understand what is already known about the case studies and wider topic of disaster recovery. The literature review was conducted using the internet search engines Google and Google Scholar and the scientific database ScienceDirect. Collected digital copies of documents relevant to the project were archived in Zotero for author access. Both documents written in English and documents written in the local languages of the case study sites were included in the search.

Case studies were selected for in-depth empirical research on recovery processes following four major disasters in the region occurring this century. The case of the 2000 flood in An Giang Province in the Mekong Delta of Vietnam focused on new approaches to dealing with flood risks. The 2001 flood in Cambodia case study focused on the resilience-building efforts in affected communities in Prey Veng Province that had also been impacted by major floods the previous year. The 2004 Indian Ocean Tsunami case examined the role of the Panglima Laot (a customary fisheries institution) in the long-term recovery of fisheries communities in Aceh, Indonesia. The 2011 floods in Central Thailand case focused on the experience of small and medium enterprises (SMEs) in Bang Bua Thong (BBT) market in Nonthaburi Province.

The four disaster case studies represent a range of different characteristics in terms of hazard types (floods and tsunami), scale of impacts, governance systems, social and economic development status, risk, vulnerability, disaster loss and damage systems and recovery narratives. A provisional case study protocol was jointly developed by team members and case study researchers as part of the research design process and revised again when

comparisons began, to guide each iteration of data collection and analysis. The protocol defined key terms to ensure consistency of use, included guidelines on how to conduct literature reviews and empirical data collection, and identified research questions to be answered in line with the overall study objective. This ensured a common overarching methodology across all case studies, while allowing flexibility to explore aspects important and specific to a case study. The questions first covered the features of the loss and damage systems involved in each recovery, as well as stakeholder expectations of what the recovery should achieve, and evidence of its effectiveness and efficiency. This was followed by a consideration of the role of disaster narratives in framing recovery problems, solutions, and evaluations. Ultimately, through comparisons and synthesis, the aim of the study was to better understand the aspects of loss and damage systems associated with both successes and failures in building resilience of the most affected through recovery processes.

3. Results & Discussion

The case studies reveal the presence of different discourses on the purpose of 'recovery', 'building back better', and 'resilience'. This has implications for who ultimately benefits from post-disaster recovery efforts and who remains at risk. Because the dominant narratives around recovery tend to be driven by elite actors that control resources and power, they set the goals for recovery, maintaining or strengthening existing power structures, or creating new ones that serve their interests. This is particularly evident in Thailand, where the decision by the government to protect foreign owned suburban manufacturing businesses and the urban elite in Bangkok's city centre through the construction of flood protection walls, increased the risk of people and small businesses located outside the areas protected by the walls. Here, the aim of recovery of the government was to appease big business and the urban elite in order to secure foreign investment, maintain economic activity, and gain political favour from wealthy voters. The implications of these flood protection measures on the spatial and temporal distribution of risk across all Bangkok residents and businesses were not fully considered (Marks 2015). This is also evident in the Indonesia case, whereby the BBB narrative – constructed and championed from the top by UN agencies and other international actors – was not fully compatible with the tsunami recovery goals of those affected and literally recovering (Boyland et al., 2017).

This example from Thailand also shows that the objectives of post-disaster actions (recovery, building back better, resilience) are not the same for all stakeholders. The objectives of SMEs affected by the 2011 Bangkok flood – and now arguably exposed to higher risk by the flood protection infrastructure built by the government since the event – were to restore their damaged businesses, to replace damaged merchandise, and to protect and revitalise the local market area. Such a situation of different objectives of different stakeholders can influence the identification of villain and hero characters in narratives referring to contestation, such as local versus state, or urban elites versus the sub-urban poor.

Disaster recovery and resilience building efforts need to consider who is likely to benefit and who is likely to lose from the outcomes of resilience building measures. Important questions to ask in the design of policies, strategies, and activities are: Who is the target of the planned intervention? Why are these particular individuals, social groups, businesses, etc. targeted? How will their resilience be strengthened? What potential negative affects might this have on

other stakeholders now or in the future? Because the BBB narrative means different things to different people, it is also important to ask what is meant by 'better' and who defines this and why (Fan, 2013). For all post-disaster narratives, we need to critically question the values, interests and assumptions that underpin planned initiatives or lack of action.

Another consideration is the extent to which resilience building efforts are truly transformative, even when they have been branded as such by disaster recovery narratives like BBB or LRRD. While the post-disaster recovery process has been described as a window of opportunity for transformative changes to be made, the evidence from our case studies indicate that none of the approaches employed in these locations can be described as transformative. Arguably, the most radical change of all the case studies occurred in An Giang Province in Vietnam, where the flood risk management policy changed from flood control to 'living with floods'. However, the effectiveness of the approach is limited in the face of increasing hazard risks in the Mekong Delta and the narrative has recently changed to 'living without floods', which suggests a reorientation towards control. These findings suggest that development in the case study locations has strong path dependencies and controlling influences and interests that even a major disaster cannot disrupt.

In order to be transformative, resilience-building measures need to address the drivers of risk and the causes of social vulnerability. The latter often results because of entrenched power relations that create and perpetuate unequal access to resources and can only be addressed through inclusive governance. However, power relations governing resilience to disasters are not static. Rather, since disasters open political space and can act as catalysts for change, after disasters occur, the greatest opportunity for more inclusive governance arises here (Pelling and Dill, 2010).

The governance of post-disaster recovery and resilience building measures was top-down in Thailand, Vietnam and Cambodia, and a combination of top-down and bottom-up in Indonesia. Only in the latter case was there an attempt to include those most affected by the disaster in the design and implementation of the recovery process. But even here, the role and support of the Panglima Laot was influenced by donors and implementing agencies, and has led to an erosion of the community culture of mutual cooperation within the Aceh fishing community. Other critical governance issues evidenced across the case studies include challenges in coordination and collaboration between different government agencies and between government agencies and other recovery actors, and transparency of decision-making processes, particularly around compensation of people and businesses for incurred losses and damages to property and livelihoods.

4. Conclusions

In our study of longer-term recovery following major disasters in Southeast Asia, we found a diversity of loss and damage systems which reflected the dominant recovery narratives around the disaster. The case study findings show that efforts to improve the performance of such systems so that they support long-term recovery need to closely consider the causes of vulnerability, intended beneficiaries, the framing of solutions, and issues of governance such as the legitimacy, responsiveness and accountability of authorities.

The findings of this study are important for improving the performance of loss and damage systems, both formal and informal, and ultimately, supporting more climate resilient development. The definition of disaster loss and damage systems and the typology of post-disaster recovery narratives developed in this study can be developed further to provide practical guidance for national and local decision-makers to improve policies and strategies for recovery and resilience planning and implementation. This can be done through the creation of directives under the Sendai Framework for DRR: 2015-2030 (UN General Assembly, 2015), where the BBB narrative dominates, that specify principles, methods and processes for deciding what types of interventions to prioritise in different post-disaster recovery contexts, and how to translate narratives into meaningful interventions that reduce the vulnerability of all people at risk.

The critical questions raised in the discussion can be used to enhance monitoring and evaluation methods for determining the longer-term impacts of resilience building efforts. The findings are also relevant to current efforts to increase understanding of the links between disaster risk reduction, climate change adaptation, and loss and damage in theory and practice.

5. Future Directions

We have already developed a full proposal for a follow-up project entitled 'Building community resilience to coastal hazards in informal and low-income settlements in Bangkok, Manila and Jakarta', which we intend to submit to the Collaborative Regional Research Programme (CRRP) (see also section 'Potential for future work'). The project's main aim will be to create actionable knowledge with and for residents of these communities that significantly builds their resilience to coastal flooding and empowers them in the urban policy process. A secondary aim will be to identify plausible longer-term adaptation pathways for such communities in the context of a changing climate, in particular, sea-level rise. We aim to do this through a combination of building partnerships, deliberative assessments, and public policy critiques. Thus, our initiative will build on and integrate a substantial body of research conducted in each of the study cities: Jakarta, Manila and Bangkok. The study's main local outcome will be an improved understanding of how to build resilience so that residents of informal and low income settlements are no longer at much higher risk than the rest of the population. The main international outcome that will come from comparison across the three cities will be to inform UNFCCC international negotiations on Loss and Damages on how to address social equity issues in building urban resilience.

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