

## TABLE OF CONTENTS

LIST OF FIGURES .....	8
LIST OF TABLES .....	10
ABBREVIATIONS .....	11
ACKNOWLEDGEMENTS .....	13
ABSTRACT.....	15
ZUSAMMENFASSUNG .....	19
1. INTRODUCTION AND RATIONALE.....	23
2. THEORETICAL BACKGROUND AND THEMATIC EMBEDDING.....	30
2.1. Relevant discourses on risk in human-environment interactions.....	30
2.1.1 Vulnerability and hazards .....	31
2.1.2. Adaptation and adaptive capacity .....	52
2.1.3. Resilience in coupled social ecological systems .....	62
2.2. Relations between concepts of vulnerability, adaptation and resilience .....	69
2.2.1. Vulnerability and resilience .....	70
2.2.2. Adaptive capacity and resilience.....	71
2.2.3. Vulnerability and adaptive capacity .....	73
2.2.4. Coping and adaptation.....	73
2.2.5. The role of exposure.....	74
2.2.6. Taxonomies of risk and vulnerability .....	75
2.3. Theoretical underpinnings of action related to vulnerability and adaptation .....	76
2.3.1. Deciphering action through agency, structure and structuration....	76
2.3.2. Vulnerability as product of habitus and social fields .....	79
2.3.3. Relevance for this study .....	79
2.4. Vulnerability, adaptation and resilience in cities: particularities, challenges, opportunities.....	81
2.4.1. Why do we need an urban focus? .....	81
2.4.2. Cities, hazards and risk: underemphasized perspectives and knowledge gaps .....	84
2.4.3. Urbanization as an agent of risk .....	88
2.4.4. Conceptualizing and assessing urban risk and vulnerability.....	92
2.4.5. Specific challenges in low and middle income countries .....	93
2.4.6. Urban potential for risk reduction and mitigation.....	95

2.5. Governance and management of urban risk and adaptation .....	96
2.5.1. Governance and risk management concepts .....	96
2.5.2. Entry points for governmental urban risk management .....	98
2.5.3. Relevance of urban governance perspectives.....	100
2.5.4. Challenges for (urban) risk and adaptation governance.....	101
3. INTEGRATIVE FRAMEWORK FOR VULNERABILITY AND ADAPTATION ANALYSIS .....	103
3.1. Synthesis on the deficits in hitherto approaches to vulnerability and adaptation .....	103
3.2. Setup and structure of the advanced integrative framework.....	105
3.3. Innovations, strengths and limits of the framework.....	113
4. RESEARCH CONTEXT: RISK AND TRANSFORMATION IN VIETNAM .....	116
4.1. Natural hazards and disaster risk management .....	117
4.2. Projected climate change impacts and adaptation policy.....	125
4.3. Socio-economic and political transformation: two parallel worlds? .....	130
4.4 The political and administrative system revisited .....	138
4.5 State-society relations – under transformation?.....	143
4.6 Urbanization in Vietnam and the Mekong Delta .....	147
4.7. Why focusing on Can Tho City?.....	157
4.8. Current state of risk assessments in Can Tho City, remaining knowledge gaps and resulting rationale .....	161
5. METHODOLOGY .....	164
5.1. Epistemological approach and research design .....	164
5.2. Applied mix of methods for data collection and analysis .....	168
5.3. Selection of case study areas.....	184
5.4. Obstacles and limits of data collection .....	187
6. ANALYSIS OF PRIMARY EMPIRICAL DATA .....	193
6.1. Governmental risk management in Can Tho City: Achievements and deficits .....	193
6.1.1. Disaster risk management .....	194
6.1.2. Urban planning and management.....	214
6.1.3. Formal climate change adaptation.....	230
6.1.4. Interim synthesis: synergies and gaps in formal risk management .....	250
6.2. Vulnerability and adaptation at household level.....	253
6.2.1. Hazard exposure.....	254
6.2.2. Susceptibility.....	269
6.2.3. Coping capacities and measures.....	282

6.2.4. Adaptive capacity and implemented adaptation measures.....	294
6.2.5. Interim synthesis: vulnerability, adaptive capacity and adaptation action at household level .....	324
<b>7. SYNTHESIS, DISCUSSION AND REFLECTION .....</b>	<b>330</b>
7.1. Empirical and contextual results .....	330
7.1.1. Governmental risk management: current and future capacities ...	330
7.1.2. Causal fabric of vulnerability and adaptive capacity at household level.....	336
7.1.3. (Dis-) integration of state and non-state adaptation action?.....	346
7.1.4. Climate risk narratives – environmental determinism reloaded?..	348
7.1.5. Potentials and limits of hard vs. soft adaptation measures.....	350
7.1.6. Dynamic impacts of transformation on vulnerability and adaptive capacity .....	351
7.1.7. Implications for future vulnerability pathways .....	355
7.2. Epistemological and methodological approach .....	358
7.2.1. Mixed method approach: usefulness and achievements .....	358
7.2.2. Remaining limits and black spots .....	359
7.3. Conceptual and theoretical contributions.....	361
7.3.1. Advancing the reach and coherency of vulnerability and adaptation concepts .....	361
7.3.2. Accommodating dynamic developments and future-oriented assessments .....	368
7.3.3. Integrating new epistemic elements into adaptation concepts ..	370
7.3.4. Bridging between scales and actors in vulnerability and adaptation science .....	372
7.3.5. Linking development and adaptation agendas through generic and specific capacities.....	373
7.4. Recommendations for practitioners and policy makers.....	374
<b>8. CONCLUSIONS AND OUTLOOK.....</b>	<b>380</b>
<b>9. REFERENCES.....</b>	<b>388</b>
<b>10. APPENDIX.....</b>	<b>415</b>
10.1. Colored maps of the Mekong Delta and the case study sites .....	417
10.2. Pictures of research sites .....	421
10.3. Lists of interviews .....	425
10.4. Summary of the flood hydrology in the Mekong Delta .....	430
10.5. Content of digital supplementary appendix .....	432