

Table of Contents

- Table of Contents i
- List of Figures iv
- List of Tables..... v
- Abbreviations vi
- Acknowledgments vii
- Summary ix
- Zusammenfassung x
- List of Publications..... xi
- My contribution to the journal articles included in this thesis xii
- Chapter 1: General Introduction..... 1
- 1.1 Flood as a hazard..... 1
- 1.1.1. Increased flood severity in Pakistan 1
- 1.2. Addressing flood risk: from preparedness to adaptation 4
- 1.3. Research agenda..... 6
- 1.3.1. Problem statement 6
- 1.3.2. Overall objectives and scope of the study 7
- 1.3.3. Methodological approaches..... 8
- 1.3.4. Thesis organization..... 8
- References 9
- Chapter 2: An overview of flood mitigation strategy and research support in South Asia:
implications for sustainable flood risk management 14
- 2.1. Introduction 15
- 2.2 Methodology 16
- 2.3. Flood History, flood-related research and flood management in the region 17
- 2.3.1. Flooding history of the subcontinent..... 17
- 2.3.2. Scientific research on flooding issues 19
- 2.3.2.1. Status of flood-related research in the region..... 20
- 2.3.3. Institutional and policy gaps in flood management..... 25
- 2.3.3.1. Pakistan 25
- 2.3.3.2. Bangladesh 27
- 2.3.3.3. India..... 29
- 2.3.4. Comparison of flood risk management strategies in the subcontinent..... 31
- 2.3.5. Need for sustainable flood risk management in the region 36
- 2.4. A framework for sustainable flood risk management in South Asia..... 37
- 2.5. Conclusions 41

Acknowledgments	42
Disclosure statement.....	42
References	43
Chapter 3: Analyzing the linkages of ex ante adaptation and ex post coping strategies to flood damages: A South Asian country case	51
3.1. Introduction	52
3.2. Households’ mitigation and coping strategies to flood losses: A literature review	54
3.3. Research Methodology	56
3.3.1. Survey design and Data Collection	56
3.3.2. Analytical procedure	57
3.4. Results and discussion.....	58
3.4.1. Ex ante flood preparedness and linkages to flood damages	58
3.4.1.1. Effect of ex ante strategies on flood damage.....	60
3.4.1.2. Flood damages experienced by households	60
3.4.1.3 Polychoric PCA for ex post flood effects indicators	61
3.4.1.4. Effect of ex ante strategies on mitigation of flood damages	63
3.4.2. Ex post coping with the floods.....	67
3.4.2.1. Household coping responses	67
3.4.2.2. Ex post social and Government support.....	70
3.5. Conclusions and Policy Implications	72
References	74
Chapter 4: Non-structural flood risk mitigation under developing country conditions: an analysis on the determinants of willingness to pay for flood insurance in rural Pakistan.....	79
4.1. Introduction	80
4.2. Mitigation of flood risk through flood insurance	82
4.3. Conceptual framework of factors affecting WTP for flood insurance	84
4.4. Research methodology	87
4.4.1. Study area and data collection.....	87
4.4.2. Analytical approach.....	88
4.4.3. Variables used in the logit regression.....	90
4.5. Results of the WTP study	91
4.5.1. Respondents’ characteristics	91
4.5.2. WTP decisions.....	92
4.5.3. Factors affecting willingness to pay for flood insurance.....	93
4.6. Conclusions and policy recommendations	97
Acknowledgments	99
Appendix	99

References	100
Chapter 5: Participatory adaptation to climate extremes: An assessment of households' willingness to contribute labor for flood risk mitigation in Pakistan	105
5.1. Introduction	106
5.1.1 Floods in Pakistan and their management	108
5.1.2. Scope of labor participation in flood mitigation activities	109
5.1.3. Insights from previous contingent valuation studies	111
5.2. Methodology	111
5.2.1. Study area and data collection.....	111
5.2.2. Analytical procedure	114
5.3. Results and discussion.....	117
5.3.1. Socioeconomic characteristics of the respondents	117
5.3.2. Labor contribution preferences.....	119
5.3.3. Willingness to contribute labor for flood mitigation structures	121
5.3.3.1. Socio-demographic attributes.....	122
5.3.3.2. Physical attributes.....	123
5.3.3.3. Economic attributes	123
5.3.3.4. Behavioral attributes.....	124
5.3.3.5. Mean willingness to contribute labor	125
5.4. Conclusions	126
Acknowledgements	127
References	128
Chapter 6: General Conclusions and Policy Recommendations	134
Appendix	136
Questionnaire for the Assessment of Socioeconomic Impacts and Management of Floods in Pakistan	136

Azhar Abbas

Socioeconomic Impacts of Climatic Extremes and their Management:

A Case Study of Floods in Pakistan with Special Reference to Aspects of Mitigation, Coping Strategies and Adaptation of Farming Sector

2016 / 162 p. / 29,95 € / ISBN 978-3-89574-896-7

Verlag Dr. Köster, Berlin / www.verlag-koester.de