Get ready for the flood! Risk-handling styles in Jakarta, Indonesia

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Chapter 1

Moving beyond risk theories

As I mentioned in the introduction, social scientists acknowledge that human beings tend to exhibit heterogeneous ways of handling risk. However, scholars studying response to risk have until now been unable to offer satisfactory explanations for such heterogeneity. In this chapter, I elaborate on this problem and propose a solution to it. The chapter is divided into two parts. The first part presents a critical review of the most important academic literature that has been published on the problem of risk and risk-handling practices. In the second part I propose an alternative theoretical approach to help us to interpret human heterogeneous risk handling – and this leads me into my definition of my research question.

Part 1. Review of the literature

Although risk and disaster research has gained momentum and established itself as a separate field of study over the past decades, no comprehensive way of understanding risk-handling practices has been established in the social sciences (Dowie, 2000; Renn, 2008). For example, there does not exists an agreed definition of risk, which hampers studies of risk and risk handling (Aven & Renn, 2009, p. 1). In fact, the current state of the art in risk research has been accused of being in 'no state at all' (Douglas, 2002, p. 1). At utmost, the field of risk research can be described as a 'patchwork of many different schools and perspectives' (Renn, Burns, Kasperson, Kasperson & Slovic, 1992, p. 38) and analyses are usually 'estimated or calculated according to different disciplinary approaches' (Cardona, 2004, p. 48).

However, I argue that even if several steps have already been taken in recent years towards the more unifying interdisciplinary approach that the topic of risk demands, it is still fair to say that a lack of comprehension presently hampers our academic understanding of how people handle risk. There are two main reasons for such continuous lack of comprehension: one has to do with the theoretical limitations of the dominant risk perspectives in the social sciences, and the other has to do with the fact that studies of risk are currently limited by what we might call methodological isolation. I begin by addressing the topic of methodological isolation first.

By methodological isolation, I mean that scholars from different disciplines generally focus on different factors that influence risk-handling practices: either social contextual factors or psychological factors. I here agree with Mary Douglas, who wrote that 'the central core of interest in social influences on risk perception is missing' (2002, p. 1). This is problematic because it has long

been accepted in the social sciences that both social and psychological processes affect the ways in which human actors handle risk and uncertainty; therefore both these processes should be taken into account in an adequate analysis of human risk handling (Skinner & Zimmer-Gembeck, 2007, p. 137; Taylor Gooby & Zinn, 2006, p. 408). Many scholars from different disciplines have called for an interdisciplinary approach to research risk and risk perception (Eagly & Chaiken, 1993; Jessor, 1993, p. 125; Skinner & Zimmer-Gembeck, 2007, p. 137; Taylor Gooby & Zinn, 2006, p. 408), but in practice most risk research continues to be undertaken by separate disciplines in isolation from each other.

This is certainly the case for risk research that focuses specifically on risk-handling *practices* – a field that is clearly most relevant to the aim of this thesis. Generally, this field is divided into two main disciplines: psychology on the one hand and anthropology/sociology on the other. To give the reader an impression of the way in which methodological isolation characterizes this field of study: psychologists traditionally have been more concerned with cognitive risk-handling practices, which are measured in the laboratory via self-reports and questionnaires; while sociologists and anthropologists mostly emphasize behavioural risk-handling practices that are observable in the field. So these scholars from these two different backgrounds not only focus on different types of risk-handling practices (cognitive or behavioural), but they also use different methods to measure these practices. Most importantly, their research findings are published in disciplinary-specific journals and so rarely shared.

The result is that relevant psychological findings are seldom integrated into anthropological or sociological theories of human action, which has led to simplistic versions of human actors within larger, structural models about institutions and societies (Kohn, 1989). At the same time, psychologists' paradigms for studying human risk management have not been particularly attentive to the social context (Eagly & Chaiken, 1993; Douglas, 2002). This fact is problematic when psychologists attempt to apply their theories in natural settings, where social norms and other structural factors affect psychological processes. In sum, most studies of risk and its human handling only tell one side of story. However, in recent years there is a growing acknowledgement among both psychologists and anthropologists/sociologists that a comprehensive understanding of the multiple influences on risk behaviour demands a unifying, interdisciplinary framework. First attempts have already been made towards this aim (Evans, Schoon & Weale, 2012; Van Huy, Dunne, Debattista, Hien & An, 2012). This dissertation might be regarded as another such attempt. I aim to pick up the challenge of integrating anthropological/sociological and psychological insights, by integrating psychological methods and foci-points into my anthropological analysis of flood and risk. I will elaborate further on this integrated approach in chapter 2.

As noted above, methodological isolation is by far not the only reason why the academic knowledge on heterogeneous risk handling has remained limited until now. I pose that there is a more fundamental problem that underlies the current gaps in our understandings of heterogeneous risk behaviour: a theoretical problem that is inherent to the main academic approaches that have dominated past decades of social scientific studies of risk. While some of these approaches have been hampered by what I call a 'disaster-lens' problem, others have remained limited by what I call a 'problem of abstractness.' I will elaborate these arguments in the following paragraphs by discussing four dominant theoretical approaches towards risk and the ways in which human actors handle it: a techno-scientific perspective, a vulnerability perspective, a risk-society perspective and a cultural perspective.

Each of these approaches has a different view on the extent to which risk is an objective phenomenon and to what extent it is socially constructed. We might say that on the one extreme there exists an objectivist understanding of risk, and on the other extreme we find theorists who have an interpretative, constructivist understanding of risk. While objectivists hold that technical estimates of risk constitute true representations of observable hazards that can and will affect people regardless of the beliefs or convictions of actors involved; constructivists argue that risk assessments constitute mental constructions that cannot assume validity outside of a group's or individual's logical framework (Klinke & Renn, 2002, p. 1073).[22] I will next critically examine the fruitfulness and limitations of each of the four dominant theoretical approaches on risk analysis and the extent to which they are relevant to the aims of this study of making sense of human actor's heterogeneous practices in relation to risk.

Techno-scientific perspective

The techno-scientific perspective emerged from and is expressed in such disciplines as the natural sciences, engineering, economics, medicines and psychology (Lupton, 1999, p. 1). In these studies, risk is treated largely as an objective phenomenon that can be calculated with the use of statistical formulas based on probability of hazard events and the magnitude of consequences. Such research may be described, therefore, as adopting an objectivistic approach to risk. The aim of the techno-scientific perspective is the identification of risks, mapping their causal factors, building predictive

[22] A further distinction can be made between 'strong' and 'weak' forms of constructivism. Strong forms would reject the existence of an objective reality that constitutes a social problem. Weak forms do not deny that there is a 'real world' of disaster and hazard, but they are concerned with how we come to know about and construct this world (Lupton, 1999, pp. 28 – 35; Lister, 2010, p. 144). Concerning the two constructivist perspectives discussed in this thesis, the risk-society perspective wavers between a realist and weak constructivist perspective, while the cultural risk perspective tends slightly towards the stronger end of the spectrum.

models of people's responses to various types of risk and proposing interventions that may help to decrease risk or to limit the negative consequences of risk.

These inquiries are undertaken adopting a rationalistic approach that assumes that expert scientific management and calculation is the most appropriate standpoint from which to proceed. Lay people's judgements on risk are typically portrayed as biased or ill-informed compared with the experts' more accurate and scientific assessments. The topic of 'cognition' is important in the techno-scientific perspective, because it is assumed that the cognition of risk influences people's behaviour. A widely accepted theoretical prediction is that rational risk perception is negatively correlated with risk-taking behaviour. To put it in other words: the higher the perceived risk of a particular behaviour, the lower one would expect the tendency to engage in that risky behaviour (Mills, Reyna & Estrada, 2008).

Hence, human handling of risk is typically regarded in a dualistic manner: either people respond to a hazard in a rational way, which means that they engage in risk-averse behaviour in the face of natural hazards, or they act in an irrational way, which means that they do *not* display risk-averse behaviour. For this dissertation it is important to understand that if the techno-scientific approach recognizes heterogeneity at all, it can only understand it in terms of irrationality: there is only one rational strategy or practice to handle risk and, as a consequence, deviations from such a strategy (that is, heterogeneous practices) are considered an expression of irrationality.

Underlying such techno-scientific understanding of risk behaviour is the universal view of the human person as a rational actor. This assumption is elaborated in the traditional sociological 'Rational Choice Theory,' in which it is assumed that human actors are *Homines Economici* who, in cases of risk and uncertainty, respond to hazard by rationally deciding what their best options are to diminish risk. Therefore, according to the techno-scientific perspective, people are 1) principally risk-averse, and 2) they are capable of acting in a strategic fashion by linking decisions with predictable outcomes (Renn, 2008; Gibbs van Brunschot, 2009).

These rather firm assumptions about *Homo Economicus* in the techno-scientific perspective have been somewhat weakened over the past few years, due to two findings, which came from the behavioural sciences, on the topic of human decision making. First, it is nowadays acknowledged that human actors make decisions in an environment of information scarcity, uncertainty and complexity, rather than in the context of perfect information. In most techno-scientific research, the initial view of the rational human has made way for a more modern economic framework, that considers people at risk as acting out of 'bounded rationality' (Gardner, 2009, p. 372). Second, some scholars in the field have allowed into their theoretical framework the insight that the ways in which people respond to risk depend not only on some 'objective' or even 'bounded rational'

understanding of this risk but also on people's 'intuitive' understanding of that risk (Loewenstein, Weber, Hsee & Welch, 2001; Paton & Johnston, 2001; Paton, 2003, p. 213; Sjöberg, 2000; Slovic, 1987, p. 280; Kahneman, Slovic & Tversky, 1982).

Even if it is accepted in modern techno-scientific approaches to risk that people are not as rational as they once seemed, what remains is the belief that an actor's 'irrational' risk handling strategies are explained by a low cognition of the risk – be that due to information scarcity or due to a person's irrational intuition. It follows that in order to increase the effectiveness of human coping responses, the public needs be convinced of the scientific, objective risk 'reality,' and people must be taught how to act rationally in the face of hazards (Bankoff, Frerks, & Hilhorst, 2004, p. 52). In other words, the solution for irrational or risk-seeking behaviour is the increase of accurate information to inform people, in order to enable them to take better decisions that reduce risk. The techno-scientific perspective, therefore, advocates systems that can predict hazards, such as equipment to monitor seismic activity or drought, technologies for detailed weather forecasting, and building code regulations, as well as improved communication methods to inform the public about these findings. In these analyses, human actors tend to be conceptualized as reactive objects and passive victims of the external risk, while the hazard is generally treated as exogenous to society.

The techno-scientific perspective has remarkable clout in the applied sciences and in policy practices. In these fields, risk studies generally implicitly emphasize the rational hazard agent and individual behavioural risk strategies adopted (Cardona, 2004, p. 39; McLaughlin & Dietz, 2008, p. 100). This was, for instance, a trend evident during the first years of the International Decade for Natural Disaster Reduction, declared by the United Nations General Assembly in 1990 (Cardona, 2004, p. 2).

Because of the continuing academic influence of the techno-scientific perspective, it is relevant to consider two examples of the ways in which it is applied in studies of risk. One influential field of risk studies in which this perspective is dominant is that of psychometric risk studies. For those working within this field, people are viewed largely as responding individually to risks, according to various heuristics—that is, frames of perception and understanding that structure judgement. Examining the judgements that individuals make when they are asked to characterize and evaluate hazardous activities and technology, psychologists found that lay people tend to hierarchize risks in a way different from risk experts: the latter judge risk merely on the basis of the number of possible victims, while the layperson's perception of risk appears to be influenced by other factors as well, such as whether exposure to the risk is voluntary or involuntary, and whether the risk is familiar or instead unknown (Slovic, 1987; Renn & Rohrmann, 2000; Renn, 2004; Paton, 2003). This work assumes that those who promote and regulate health and safety need to

understand how lay people think about and respond to risk. Without such understanding, well-intended policies may be ineffective. The core of this field of research then is that lay people need to be taught to adjust their beliefs in line with the objective assessments of the experts. As such, the perspective has a strong normative and prescriptive goal. Accordingly, the aim of this type of psychometric research in the techno-scientific field is to improve risk analysis and policy making by providing a basis for understanding and anticipating public responses to hazards and improving the communication of risk information among lay people, technical experts and decision makers.

Another field where the techno-scientific perspective is commonly used is in the field of medicine, where the topic of risk is employed to discuss the possible hazards to human health; an underlying assumption being that, given the right kind and quantity of information, risks can be either avoided or their possibility reduced by human actors.

If what is intended with risk research is the estimation of the level of risk, then the study and evaluation of risk events is indeed an important step towards achieving such an aim. Moreover, one must agree with the argument that for an effective response to risk, it is crucial for people to have access to relevant information about the risk. However, the techno-scientific perspective can be criticised for three main limitations that hinder our understanding of the heterogeneous practices that human actors exhibit in the face of risk.

The first criticism concerns the strong normative bias of the techno-scientific perspective. As noted, the estimation of risk – as well as the advice about the most rational risk response – is based on the point of view of risk experts. No room is left for the risk perceptions of the lay people at risk – for an insider's view of the level of risk and how to effectively deal with that risk. By not taking into account the view of insiders, the outsider's view is limited. It demands excessive reliance on expert knowledge and technological solutions; further and most relevant for the academic aims of this study, a limited outsider's perspective is problematic for an accurate understanding of heterogeneous risk-handling practices. The relation between what is an effective way of handling risk as defined by outsiders and the risk-handling strategies that are deemed valuable by human actors faced with a risk should not be assumed to be univocal (Bhatt, 1998). Instead, what can be considered the most effective way of handling risk must be regarded to some extent as 'a matter of perception' (Heijmans, 2001; Green, Tunstall & Fordham, 1991). Hence, if we accept the widely-supported idea in social scientific approaches towards risk that people's risk perceptions at least partly determine their behaviour, then it follows logically that the key to understanding

heterogeneous risk-handling styles would imply being sensitive to insiders' perceptions of the hazard.[23]

Second, it was already noted that a techno-scientific perspective on risk conceptualizes human actors as reactive objects and passive victims of risk. The focus is on the hazard, so to speak, and less on the agent faced with that hazard. Such a view pays no attention to human agency, or for the capacity of people to creatively cope with, handle or recover from risk.

Third, the perspective portrays risk as though it were an exogenous event that can be analysed separately from objective social structures. The techno-scientific approach, which deems disasters as solely the result of natural, exogenous events, has critics. These critics recognize that disasters also are a product of the social, political and economic environments (as distinct from the natural environment), because of the way they structure the lives of different groups of people (Blaikie, Cannon, Davis, & Wisner, 2004, p. 4). In this line of thinking, it appears that the techno-scientific perspective sidesteps the political and moral questions which must be confronted in relation to human vulnerability to risk (McLaughlin & Dietz, 2008, p. 100). Hence, it appears equally important to analyse people's vulnerability to risk and to consider risk events as one of the many factors that may lead to disaster.

Vulnerability perspective

Beginning in the 1970s, sociologists began to critically analyse the techno-scientific approaches to risk studies and developed an alternative vulnerability perspective. The vulnerability perspective to risk analysis is an important expansion of the objectivist, techno-scientific perspective. It emphasizes that risks are not simply external or natural events; rather it recognizes that people's opportunities to handle them effectively are systemically interlocked in both physical and social space, to use their term 'geographies of vulnerability' (Hewitt, 1997, p. 164).[24] For example, people's adverse economic situations may oblige them to inhabit areas that are affected by natural hazards – be they flood plains of rivers, the slopes of volcanoes or earthquake zones (Blaikie, Cannon, Davis, & Wisner, 2004, p. 11).

[23] It must be noted that, while most social scientists agree that risk cognition has an impact on people's risk strategies, there remains much disagreement about the severity of this impact. For example, psychologists have convincingly showed that there are many factors involved in how people behave in response to risk, such as people's perceptions of self-efficacy or their trust in other actors involved in the risk event (Slovic, 2000; Bandura, 1977a; Bandura, 1986; Schwarzer & Renner, 2000, p. 187; Paton, 2003; Schwarzer & Fuchs, 1995). We will further consider the impact that risk cognition and perceptions of self-efficacy or trust have on the risk-handling practices that are exhibited in the face of floods throughout the empirical chapters.

[24] The concept of vulnerability was first introduced within the discourse on natural hazards and risk-handling practices when Phil O'Keefe, Ken Westgate and Ben Wisner (1976) published a landmark article in Nature, called *Taking the naturalness out of natural disasters*. Many years later the main argument was pointedly expressed by Blaikie et al. as: risk = hazard x vulnerability (Blaikie, Cannon, Davis, & Wisner, 2004, p. 40).

These researches concluded that actor's risk-handling styles are not solely determined by cognition or lack of cognition of the specific hazard, but mainly by contextual economic, social, political and cultural structures that limit people's options and their ability to handle hazards – most notably economic deprivation, political marginalization and social isolation (Torry, 1979; Hewitt, 1983; Chambers, 1989; Burton, Kates & White, 1993; Cannon, 1994).[25] The importance of the vulnerability perspective is that it underlines the fact that the effectiveness of human actor's risk handling practices cannot be understood without reference to the capacity of a population to absorb, respond to and recover from the impact of the event (Pelling, 1998, p. 471; Blaikie, Cannon, Davis, & Wisner, 2004).[26]

In recent decades, vulnerability has become the central concern of much social scientific research on risk (Mclaughlin & Dietz, 2008, p. 108). Since then, the dominance of hazard-oriented or techno-scientific approaches has been increasingly challenged by another paradigm which uses vulnerability as the starting point for risk reduction (Birkmann, 2006). The increasing centrality of this concept is a direct response to a growing academic and political consensus that people, communities and ecosystems face an increasing number of significant natural hazards as a result of environmental change in coming decades (Bankoff, Frerks, & Hilhorst, 2004; McLaughlin & Dietz, 2008, p. 99).

The main insights of the vulnerability perspective have now become widely acknowledged in academic fields of risk research, and the popularity of this approach has spilled over to global political debates about natural hazards and human coping. There is a growing interest to quantify vulnerability as a tool of planning and policy making (United Nations Development Programme [UNDP], 2004; United Nations [UN], 2005; Birkmann, 2006). For example, when the International Decade for Natural Disaster Reduction was initiated in 1990 to serve as a catalyst for global disaster reduction, one of its major goals was reducing vulnerability to natural disasters. Vulnerability

[25] Although poverty can be regarded an indicator of vulnerability, it should not be considered its equivalent: poverty refers to basic unsatisfied needs and restriction of access to resources; vulnerability refers to 'defencelessness, insecurity and exposure to risk, shocks and stresses' (Chambers, 1989, p. 2). Vulnerability can also refer to long-term political or social factors which affect the ability of a community to respond to risk events (Anderson & Woodrow, 1998, p. 10). Many sociologists have adopted the term 'vulnerability' as an alternative means of characterizing dimensions of poverty not ordinarily captured by money-metric measures. They identify vulnerable groups as children, female-headed households, the elderly and disabled.

[26] The vulnerability approach provides two concepts that may serve as methodological means to measure such capacity: on the one hand, risk scholars should measure vulnerability or the reduced capacity of people to adapt or adjust to environmental circumstances; on the other hand, the analyses should take into account resilience. Resilience is a measure of the rate of recovery from a stressful experience, which can be judged by people's capacity to anticipate, cope with, resist and recover from the occurrence of a hazardous event (Blaikie, Cannon, Davis, & Wisner, 2004, p. 85). Since vulnerability refers to the exposure to stress and people's difficulty in managing it (Chambers, 1989, p. 2), resilience may be understood loosely as an antonym for vulnerability; that is, resilience refers to people's capacity to manage a hazard. A person or group is considered 'resilient' if they have 'buffer capacity' that enables them to absorb a hazard event or to adapt so that their vulnerability to that risk is diminished (Adger, 2003, p. 1; p. 359).

assessments were considered essential for such an aim (UN, 1992). Most global disaster agencies also make use of the vulnerability perspective in their risk analysis (Heijmans, 2001).

Typically, social structural characteristics, such as gender, age, health, status and disability, ethnicity or race or nationality, caste or religion, and socio-economic status are included in vulnerability indexes, as these are considered the determinants of people's risk-handling practices (Blaikie, Cannon, Davis, & Wisner, 2004).[27] Not all of these indicators need be measured in every vulnerability analysis. Rather, the theory provides lists of possible indicators from which risk scholars can select, per case study, the factors that are most relevant to developing a local vulnerability index. For instance, in one region the elderly may be less able to protect their physical security when confronted with a natural hazard than the young; in another area a marginalized group in society may experience more difficulties in receiving assistance from local disaster agencies than members of an elite community (for more examples, see Cutter, Boruff & Shirley, 2003; Adger, 1999).

There are three main reasons I prefer a vulnerability approach over a techno-scientific approach for my study of risk and risk handling. First, the vulnerability perspective shows that a risk, such as floods, should not be considered only as a natural hazard but instead also as a consequence of unequal structures in society and livelihood differences. Hence, it widens the scope of the risk scholar away from focusing on the risk towards the circumstances that created the risk, and how these circumstances contributed to the risk.

Second, vulnerability scholars make the convincing point that structural characteristics of groups and individuals limit people's repertoire of risk strategies. In a vulnerability framework, people's risk-handling practices are usually not described as rational or irrational, but rather they are evaluated on the basis of their consequences for human security; they are instead regarded as more or less effective. However, as I stated at the beginning of this section, the vulnerability approach contains the implicit assumption that people's risk-handling styles can be rational and ineffective *at the same time*: people might want to take risk-averse action in the face of a natural hazard because their cognition of the risk is accurate, but structural circumstances might still limit their options to handle the risk effectively. Thus this approach is an important addition to the technocratic dualism of rational and irrational risk behaviour, as it proves that such a theoretical dichotomy is too simplistic to understand human action. After all, if poor people have little access to assets that may

[27] NGOS have produced more detailed lists, to take account of the particular needs and vulnerabilities of specific groups, that are useful for busy administrators and case workers in the chaotic situations of post-disaster (Blaikie, Cannon, Davis, & Wisner, 2004, p. 15), and several social scientists have also insisted on refined models, indicators and clear measurements of vulnerability (e.g. Benson & Twigg, 2004, p. 5). However, most scholars who make use of vulnerability frameworks in their risk analysis are wary about fixed-measurement practices. Generally, there is a movement away from simple taxonomies or checklists of vulnerable groups to a concern with vulnerable situations, which people move into and out of over time. At the same time, it has been argued that way too often a community at risk is still regarded, from the vulnerability perspective, as a homogeneous unit full of victims, and different scholars have urged for a more nuanced appreciation of vulnerability factors in analyses (e.g. Fordham, 1999, p. 16).

help them to cope with a hazard, one can hardly explain their risk-handling behaviour using the logic of rationality versus irrationality. It is much better to try to understand their risk-handling practices using a theory of structural inequality, where vulnerability serves well as an analytical concept to shed light on structural factors that limit responses.

A third merit of the vulnerability perspective is that it emphasizes the capacity of human actors to actively decide and act in the face of hazards – rather than considering them only as passive victims, as the techno-scientific approaches do. With its explicit focus on capacities, vulnerability perspectives underscore the fact that people handling hazards are never simply victims but also survivors (Fordham, 1999, p. 20; McLaughlin & Dietz, 2008, p. 102). Hence, more than the techno-scientific perspective does, the vulnerability approach offers a useful tool to gauge the ability or inability of human actors to protect themselves against or to cope with hazard (e.g. Oliver-Smith & Hoffman, 1999; Chambers, 1989). It affords more agency to the human actors handling risk (Cannon, 2008, p. 1).

While I endorse the advantages of the vulnerability approach over a techno-scientific approach towards risk-handling practices, I nevertheless argue that the vulnerability approach is not particularly fruitful in providing an actual understanding of the heterogeneous risk-handling styles of riverbank settlers facing flood hazards. This is because the main assumptions underlying this perspective are based on the perception of risk by outsiders; as a result, vulnerability analyses generally fail to recognize emic perceptions of risk and risk-handling practices. This critical argument needs some careful consideration, because some influential scholars in the field do recognize the problem and have tried to overcome it. However, I will show that, despite their efforts, they have not been able to solve the problem.

In 1989, Chambers, a scholar of the vulnerability approach, had already warned that poor people have their own priorities which may diverge from those of researchers and relief agencies. In line with this view, Wisner, Blaikie, Cannon & Davis (2004) have underlined the need to learn how vulnerable people experience, for example, well-being and deprivation, in order to understand and mitigate vulnerability. While I agree with this, I underscore that such emic perspectives of risk and vulnerability remain lacking in far most vulnerability studies. I here agree with Twigg (1998, p. 9) and Bhatt (1998, p. 68) that frameworks for studying vulnerability generally do not mention explicitly how respondents themselves perceive or experience hazard. While there have been several calls for the recognition in vulnerability analysis of lay people's risk perception (McLaughlin & Dietz, 2008; Bankoff, Frerks, & Hilhorst, 2004; Heijmans, 2001), in practice the analysis remains based on an outside, expert objectivist perspective of risk (Fordham, 1999; Birkmann, 2006; Ebert & Kerle, 2008; Marschiavelli, 2008; Fekete, 2010).

This approach is problematic for an actual understanding of heterogeneous risk- handling practices: for example, while outsiders might label two actors living in apparently similar structural conditions as equally vulnerable in the face of natural hazard, the actors themselves might perceive the risk event very differently, and, as a consequence, prefer different strategies to handle it. Therefore I would argue that the vulnerability perspective reflects an expansion of the techno-scientific view of the rational human being and not a rejection of it. I contend that, as with the techno-scientific perspective, the vulnerability perspective is also inherently biased – informed only by etic assumptions about what people at risk experience. Even if it is acknowledged in vulnerability perspectives that people do not always have the assets to act rationally, these scholars still maintain that if human actors faced with a certain hazard are provided with all means needed for a risk-avoidance response, they will naturally choose to act accordingly. In vulnerability perspectives, effective risk strategies seem to be equated with risk-avoidance strategies, and people are regarded as inherently risk averse. Poor riverbank settlers, according to this line of thinking, would immediately move away to a non-flood area if they had the means. Thus the vulnerability perspective springs from normative assumptions about people's rational risk perceptions and related risk-handling styles.

In sum, in comparison to the technical perspective, the benefits of a vulnerability perspective are clear, as it incorporates the social context and perceives actors as active agents. However, when it comes to heterogeneous risk-handling practices, the theory seems unfit to explain plurality in people's ways of handling risk, observed worldwide. This is because it can only understand heterogeneity in terms of inequality. To these scholars there is still only one rational response to risk, which people more or less effectively execute, depending on the available material resources they have access to. Differences, as a consequence, are an expression of ineffective material resources – if not just of irrationality. Thus, this allows this approach to portray the risk behaviour of affected populations as in terms of universal norms (Heijmans, 2001).

The disaster-lens problem

Up to now, I have discussed two dominant theoretical perspectives of the ways in which human actors try to handle risk. I have argued that both perspectives view risk as an objective phenomenon. I consider that both perspectives shed light on important factors that affect people's behaviour in the face of risk: the techno-scientific approach underlines the relevance of *cognition* as the factor which influences the response of human actors to risk; and the vulnerability perspective sheds light on the structural or *material circumstances* that create vulnerability towards risk. These objectivist perspectives are important contributions and are acknowledged and relevant to this study. In the

second part of this chapter I show how in this study I will take into account both these factors – risk cognition and material vulnerability.

However, I have also argued that the normative, outsider point of departure of both the techno-scientific perspective and the vulnerability perspective is problematic. An objective view can only provide a limited understanding of human experience of risk. I argue that the root problem present in both the above discussed perspectives is scholars' *understanding of risk*. Both the techno-scientific and the vulnerability perspective tend to view risk through what has been called a 'disaster lens' – an epistemological lens of (mostly Western) social sciences (Bankoff, 2001; Heijmans, 2009). Scholars who regard risk through a disaster lens tend to regard the impact of risk events on daily life as abnormal and irruptive. Whether they explain people's risk-handling practices by referring to cognition or to structural vulnerabilities, it became clear already in above literature discussion that they envisage risk as an exogenous abnormality that invades the normal day-to-day lives of people.

I argue that the disaster-lens approach leads to two types of bias in the study of risk in the context of the riverbank settlement under study. First, it is clear from the literature that a disaster-lens view leads researchers to regard people's practices in the face of hazards as *reactive* practices, situated *outside normal life*. In other words, people's practices in the face of risk are assumed to be strategic responses to the abnormal risk threatening normal life. However, for most of the people in my study who live on the riverbank settlement , risk and hazards are regarded as habitual and regular aspects of daily life (Bankoff, 2003, pp. 179-183; Bankoff, 2007; Benda-Beckmann, 1994). In Jakarta, for example, floods have become an expected, frequent and recurring risk for riverbank communities (Spies, 2011; Wilhelm, 2011). If we consider that these communities are used to living with the constant threat of the unpredictable, it can be argued that such hazards should not and cannot be perceived as abnormal, exogenous occurrences – which would, in fact, appear as an outsider perspective - but instead must be perceived as normal. In Bantaran Kali, I therefore propose that floods must be regarded as part of what I call in this dissertation 'normal uncertainty,' and what other scholars have called a 'normalization of threat' (Bankoff, 2004, p. 102; p. 109) or 'normal abnormal events' (Netelenbos, forthcoming).

If we accept that risk must be understood as part and parcel of normal life, then it follows that scholars also have to understand people's practices in the face of risk in a different light from that of the two currently dominant objectivist perspectives. Thus I argue that the practices that people exhibit in the face of flood risk should no longer be presented as a distinct behavioural form; instead, how people act in the face of risk must be understood, at least partly, as expressive of normal life. Hence, from a normal uncertainty perspective, we can anticipate that riverbank settlers find themselves largely acting according to their routine and daily practices.

We can recognize the problem with the disaster lens approach most clearly in the techno-scientific perspective, as this blatantly explains people's behaviour in the face of risk as reactive to external circumstances. It assumes that people are put at risk because they are in the wrong spot at the wrong time; and it considers the behaviour of human actors in the face of risk a rational response, as long as these actors are supplied with the necessary scientific expertise and technological knowledge (Bankoff, 2006, p. 3).

Scholars working within the vulnerability perspective take a much more critical position – they do not view risk as an abnormality that penetrates normal life, as their framework arose from the experience of research in situations where normal daily life was itself difficult to distinguish from disaster (Blaikie, Cannon, Davis, & Wisner, 2004, p. 10). Hence, their perspective rejects the assumption that disasters are caused in any simple way by external events; instead it emphasizes the various ways in which social systems operate to generate disasters by making people vulnerable. However, just as for the techno-scientific perspective, the vulnerability perspective still tends to consider human actor's behaviour in the face of risk as reactive to an exogenous risk event. Both approaches thus regard the risk-handling practices that people exhibit as determined not by normal social order but by exogenous circumstances.

A second bias within disaster-lens risk theory is its mono-focus on a single natural hazard. This often appears too narrow for the contextual reality in which many people around the world live. Indeed, in the daily life of respondents in a given research area, there might be many more risks, as well as other problems and events, that have to be coped with, handled by or responded to – and not just the single risk scientists or policy-makers with this narrow focus find interesting. For example, Jakarta riverbank settlers are threatened not only by the risk of flooding but also by an adverse economic situation, which may any time create or increase poverty-related risks, such as illness or economic stress.[28] Whatever might be their specific way of handling these risks, it is clear that they are concerned with different hazards at the same time. Moreover, they are involved in social networks which bring both obligations and advantages, and they may hold on to specific cultural beliefs or social habits that impact their practices. This means that it would be unrealistic to envisage the practices that these people exhibit in the face of flood risk as a response to the one, isolated risk under study (in this example, floods) – as is common in both techno-scientific and vulnerability studies.[29] Rather, I argue that people's practices in the face of risk must be regarded as

[28] Lavigne et al. (2008), in their study of volcanic hazards, offer another clear example of the plurality of risks that are faced and balanced by people in Java.

[29] Again, this tendency may be more easily recognizable in the techno-scientific perspective, but it is certainly also to be seen in vulnerability studies. Even if vulnerability scholars have a broader scope on risk, taking into account the impact of poverty and inequality on people's behaviour when facing risk, in most studies there remains a – in my opinion misplaced – clear focus on one specific disaster and people's vulnerability in relation to that disaster only. Not much attention is paid to the other factors (e.g. people's dilemmas, commitments and obligations) that make up people's 'normal uncertainty'.

expressive of the heterogeneous ways in which people balance and overcome the multiple risks that are part of their normal uncertainty.

Based on the above critiques it seems to me that, in order to grasp heterogeneous practices in the face of flood risk in Jakarta, an analysis must look beyond the disaster-lens view and take into account the different risks and problems that are characteristic of the daily life of respondents. It becomes apparent, then, that we need a better understanding of emic perceptions of these risks and how they are embedded in a context of normal uncertainty. In other words, we need to understand how people perceive, select and interpret risk in their social and cultural environment. I will offer a first step in that direction by discussing two influential perspectives of risk that aim to shed light precisely on the ways in which risk is socially and culturally constructed and embedded in the uncertainties of daily life*:* the risk-society perspective and the cultural theory of risk.

Both these perspectives can be contrasted with objectivist approaches, because they do not accept a risk as an unproblematic matter of fact – a phenomenon that can be isolated from its social, cultural and historical context. Rather, experts – just as lay people – identify and treat risk as the outcome of sociocultural processes. The risk-society perspective and the cultural risk perspective take into account the broader social, cultural and, in some cases, historical contexts in which risk as a concept derives its meaning and resonance. In what follows, I will examine the strengths and weaknesses of each of these two important theories, and then reflect on the fruitfulness of these perspectives for the specific aims of this study.

Risk-society perspective

The risk-society perspective wavers between an objectivist and a constructivist position on risk (Renn, 2008, p. 3; Taylor Gooby & Zinn, 2006, p. 403). This theory has been developed in relation to late modernity and is contrasted with the way people in early modernity or in traditional societies may have experienced risk. It describes the current human experience of risk as characterized by uncontrollable contingencies.[30]

The problem of uncontrollable contingency is related, first of all, to the nature of risks that citizens in late-modern society face. Now citizens face new types of risks. Globalisation and modern technologies have created less obvious, invisible risks – for instance in the domains of health, food and pollution. For example, environmental pollution, accumulated during decades of economic development, now threatens the health of citizens globally – only this hazard remains invisible in daily life, and its possible negative effects for present and future generations remain to be

[30] This is not to say that the human experience of risk necessarily is the central concern of scholars working from the risk society perspective. They focus generally on the macro level, rather than the micro level, and distinguish between contingency and experience. However, during large-scale crises they recognize that contingencies need to be accounted for in understanding human behaviour. Later in this section I will elaborate on this topic.

speculated upon. Other new types of risks arise from sophisticated technologies, such as the possibility of an accident in a nuclear reactor (Luhmann, 1993, p. 89). These new risks will almost certainly have negative consequences for human society, but no one can predict whether they will actually occur; and if a disaster does occur, when and how will it be manifested, and who will be affected by it. Thus the current age is characterized by insecurity and uncertainty.

Both the above examples of new risks connote the idea that if things go wrong –however unlikely – the disaster is so inconceivable that it threatens the very existence of society (Beck, 1992, p. 22). We cannot even foresee the boundaries of its possible consequences: it can threaten not only the health and wellbeing of current society but possibly also that of future generations, and not only individual risk takers but also global society as a whole – even the people who had nothing to do with the circumstances of the creation of the situation that lead to the disaster.

What is so new about these risks is the fact that they cross social, cultural and generational boundaries. While traditional risks were local, personal and time bound (as an example, we could think of a brave hunter falling off board a boat during a hunting trip), the new risks of late modernity are de-bounded from social responsibility by the sheer scale and irreversibility of possible disasters that may occur in society (Luhmann, 1993, pp. 89-95; Beck, 1992, pp. 22-23; Beck & Beck-Gernsheim, p. 41). According to Ulrich Beck, this universality of new risks will have far-stretching political consequences. He points out that these new risks are capable of cutting through traditional class distributions in society, as they will affect wealthy citizens as well as poor citizens. Beck, therefore, contends that 'poverty is hierarchical, while smog is democratic' (Beck, 1995, p. 60).

For Beck, these new, border-crossing types of risk will have such an impact on global society that they demand a radical paradigm shift in risk analyses. Risks such as environmental pollution can create 'traumatic experiences' that 'threaten everyone's existence' and that, consequently, will unite a community of world citizens faced with global risk (Beck, 2009, p. 51). Therefore, Beck argues that risk researchers should stop focusing on national risks and the risk experiences of national citizens, and the primary focus must now be the 'global social constitutive conditions of risk' (Beck, 2009, p. 52). He advocates that new research should take a global approach.

Risk-society scholars have already taken the first steps in that direction, and are exploring theoretically the social consequences of these new types of risk for global risk society. In the work of Ulrich Beck and Anthony Giddens the main point is not whether a risk exists or not, or whether modern citizens face more risks than before, or what is the best way to handle risks effectively; rather, the point that they want to make in their theories of the risk society is that in late modernity what is perceived as the truth about risks is constantly challenged by new or other types of information. Truth as we learn it from science and from experts proves to be contingent: what is

true today may be untrue tomorrow. Over time, there are shifting boundaries between validity and invalidity in relation to truth (Netelenbos, forthcoming). The risk-society perspective holds that, although life in the modern world is not necessarily more dangerous than it was in previous times, people's feeling of insecurity is increasing.

This 'risk paradox' (Giddens, 2000, p. 55) can be explained by three trends. First, human perception of the cause of risk – and hence of blame and responsibility – has changed. In pre-modern societies, risks remained in essence 'blows of fate' that threatened human beings from outside and were mostly attributed to external gods, demons or nature (Beck, 2009, p. 6). In late modernity, the blame and responsibility for risks are very differently evaluated. 'In God's absence,' writes Beck, 'risk unfolds its fateful and terrible, inscrutable ambiguity. The world is not as it is; rather its existence and its future depend on human decisions, decisions which play off positive and negative aspects against one another' (Beck, 2009, p. 4). Hence, risks are now seen as the result of human decisions – and thus humans are blamed for the negative consequences of risk. At the same time, as already noted, it remains unclear who can be held formally responsible or accountable for a universal risk, such as environmental pollution. This has led to a change in the way risk is managed and perceived, which Beck has called 'organized irresponsibility'.[31] The institutions of modern society on the one hand recognize the existence of these global risks and offer increasing legislation to regulate these risks, but on the other hand these institutions are not equipped to deal with the risks of late modernity. In such 'organized irresponsibility', a process of sub-politicization arises. Decisions about how to manage risks are dispersed, partly in reaction to the complexity of these new risks and partly as a strategy of shifting responsibility from the state to other actors. This means that citizens not only perceive risk differently from the way they would have in earlier times, but they also are more intensively involved in management of issues that are highly uncertain.

A second trend that explains the current 'risk paradox'has to do with the fact that people have become more aware of the risks they face: for example, mass media reports about accidents and disasters alert them, and also nowadays there is the trend in society to wanting to create a safe and secure environment by taking out insurance against all sorts of risk.

Third, official knowledge about risk is becoming more and more contested by different actors in society. A new moral climate has developed in politics, in which arguments for and against real or possible consequences of technical and economic decisions are conducted publicly (Beck, 2009, p. 6). For example, there are often reports in the media of individuals and societal organizations that accuse governments and scientific experts either of underestimating a certain risk or of scaring people unnecessarily by over-emphasizing it (Giddens, 2000). The result of such public

[31] Beck was interviewed on this topic in 2010 by H. Ohno from the Asahi Shimbun. Retrieved 16 October 2013, from http://ajw.asahi.com/article/0311disaster/opinion/AJ201107063167

discussion is that there is a 'politics of knowledge' (Beck, 1999, p. 58) – depending on what type of information is considered valid at a certain moment in time, a risk becomes more or less accepted in society, but only temporarily.

Hence, while in late modernity, people have become more aware of the many different risks that life poses them for, at the same time they believe that 'when it comes to hazards, no one is an expert' (Beck, 2009, p. 35). Consequently, in making decisions about risk individual citizens are forced to find out for themselves what they deem risky and then act upon it– in a context of constant uncertainty (Giddens, 2000). Other scholars have also described the unsettling feelings caused by risk and uncertainty, which presently dominate modern life. For instance, sociologist Frank Furedi speaks of a current 'culture of fear', in which more and more people are trained to manage and calculate risk, while experts in different professions draw up profiles of who is at risk. Youngsters with criminal friends, for example, often are believed to be at risk, just as people with unhealthy lifestyles and the inhabitants of environments that are prone to natural hazards (Furedi, 2002). In a similar fashion, American financial historian and economist Peter L. Bernstein has argued that in modern society 'uncertainty, and its handmaiden luck, have moved to center stage' (Bernstein, 1996, p. 213).

We might thus summarize that a risk society is a society that has developed a systematic way of dealing with the hazards and insecurities that are mainly induced and introduced by the social organisation of modern society itself (Beck, 1992, p. 21). In late modernity, the nature of risk has become more uncontrollable and contingent than before. Modern development and technologies have created new types of risk; and while human actors are aware of the possible negative consequences of such risks turning into disaster, they also are cognizant of the limitations of modern science to predict such disasters.

So while both the perspectives on risk discussed earlier, the techno-scientific and the vulnerability perspectives, contend that there is a single reality (an actual risk out there) that can be captured, studied, and understood by scholars, those who argue for the risk-society approach emphasize that there are multiple realities that are socially contested – uncontrolled contingency, for them, is inherent to modernity. Therefore, the risk-society perspective succeeds precisely where the latter two traditions fall short, because it emphasizes that what may be perceived as rational or effective risk behaviour by experts, may appear absolutely irrational or ineffective to other actors in society. Risk-society theorists have thereby successfully recast the debate on risk and its handling by their criticisms of the tendencies in both the techno-scientific and the vulnerability perspectives to objectify risk.

However, I would argue that the risk-society perspective itself has two main shortcomings. First, the risk-society perspective does not tell us much about the ways in which individual actors in society perceive and experience risk. Its analysis focuses on macro structural factors in society, which are deemed to create an intensification of concern about risk; however, it offers no in-depth understanding of the heterogeneous perceptions and responses to risk that may be exhibited within society.

One exception is Anthony Giddens, one of the most important contributors to the risk-society perspective, who has written extensively about the possible responses of individual members of a global risk society. He postulates four possible 'adaptive reactions' adopted by individual actors in order to deal with the feeling of uncertainty that characterizes a risk society, ranging from political radicalism to emotional withdrawal (Giddens, 1990, pp. 135-137). But with these hypotheses he tends to reduce human behaviour to individual, psychological processes. A second weak point of this aspect of Giddens' work is that his predictions are not grounded in empirical observations. He has come up with these categorizations of coping behaviour based on his engagement with a wide range of theoretical literature that deals with human behaviour in society. This means that the theory should be treated with caution; if, as seems likely, human actors do make use of cognitive coping mechanisms in order to deal with a feeling of uncertainty, then Giddens' list is rather arbitrary. So what is lacking, besides empirical testing of his theoretically-based micro-level predictions, is an analysis at the mid-range level that explains for us the underlying factors influencing the many different ways in which human actors, living in a risk-society, experience risk.

In the final analysis, the risk-society perspective remains a sociologically abstract and universalist theory which tells us little about empirical practices. It focuses on the macro level, emphasizing social processes but overlooking the ways in which human actors perceive and experience risk. And it relies on theoretical predictions of human behaviour in response to risk, and then only at an individual, psychological level – the micro level. Other than their analysis at macro and micro levels, the risk-society perspective does not seem to offer any useful tools to help us grasp the heterogeneous risk-handling practices of human actors in the face of hazards. I would argue that what we need is an analysis that is at neither the macro nor the micro level. Only such a mid-range level analysis will help us to understand why heterogeneous practices are so commonly exhibited within societies at risk. In this way we will avoid reducing these practices merely to psychology.

A second disadvantage of the risk-society perspective is its explicit focus on 'late modernity', which makes it questionable whether its arguments are relevant for an analysis of risk in the non-

Western world.[32] For risk-society scholars, an increased awareness of risk may be a novel outcome of the project of modernity, but, as argued earlier in this literature review, for those at the periphery of the project of modernity, risk often has a less exceptional status. When people's daily lives are characterized by serious life-threatening hazards, such as floods, illness and deprivation, I question the relevance to my respondents of more abstract, universal risks, such as climate change and environmental pollution. At the same time, we must consider that illness and deprivation are itself types of risks that can be typically produced by modernity. In that sense, they fit very well in the risk-society perspective. Only the relevance of my respondents' experience of more abstract, 'universal' risks such as climate changes and environmental pollution is thus questioned by me, not at all their direct experiences with risks that can be called negative consequences of risk-society as well. I here agree with scholars such as Caplan that analysis of risk should take into account cultural differences and is thus contextualist rather than universalist (Caplan, 2000). So I will now turn to a discussion of the cultural risk perspective, in which more attention is given to the cultural context in which risk perceptions are constructed.

But first let me end this section by emphasizing that, even though I have argued that the risk-society perspective is less applicable for the specific aim of this study, my criticisms do not mean that I regard the risk-society perspective as irrelevant. By contrast, I believe that it makes us sensitive to three important aspects of risk. For one, it shows us that risks in a globalizing, modern world may be distributed differently from those in traditional societies. Second, it shows us that we should be wary of the objectivist claims of risk experts. The risk-society perspective alerts us to the fundamental political nature of knowledge, technology and policies that come to the fore when attempts to eradicate or control risks fail and new risks emerge. Finally, it suggests that, at least so in late-modern societies, heterogeneity in risk-handling practices is explained not by rationality or irrationality, nor by material vulnerability alone, but rather by uncertainty that results in conflicting perceptions of risk held by different actors in society.

Cultural risk perspective

Deborah Lupton noted in a review of risk literature that theorists within the risk-society perspective and the cultural risk perspective have been able effectively to ignore one another's contributions and only sparingly refer to one another – without commenting on or even critiquing one another's work (Lupton, 1999, p. 6). This is quite remarkable, because the theorists share many of the same

[32] This problem was recently acknowledged by Ulrich Beck himself, who, in the British Journal of Sociology, admitted that his theory initially had 'universalist aspirations' and that it was 'very much a theory of Western modernity itself.' Beck now emphasizes that his theories of late modernity and risk cannot and should not simply be applied in different contexts in different parts of the world; neither does he believe any longer that they operate at the global level (Beck & Grande, 2010, p. 416).

concerns and interests. Similar to the aim of Beck and Giddens, the cultural risk perspective focuses not on the objective reality of risk, but rather on how risks are socio-culturally constructed.

Questions that typically might concern theorists of the cultural risk perspective are: why is it that Chinese citizens are often found to be much less concerned with financial risks than citizens in the United States? (Weber & Hsee, 2000, p. 35); why did some groups in Western society become highly fearful of HIV after the 1980s, while many other health risks remained neglected? (Douglas, 1992). Anthropologist Mary Douglas, who is widely perceived as the founder of the cultural risk perspective in the 1980s, would answer in a general response to such questions that it is 'not about the reality of dangers, but [about] how they are politicized' (Douglas, 1992, p. 92). More specifically, the cultural risk perspective assumes that risk perceptions reflect a local group culture, where culture is defined as the group's shared interpretative framework. Theorists of the cultural risk perspective want to understand how and why culture leads communities and organizations to select some objective (real) hazards as risks, while others are neglected or become accepted risks in society.

Their Cultural Theory holds that, in order to understand why some risks become politicized and emphasized in society whilst others remain latent, it is crucial to develop a framework that explains how risks are both constructed and singled out. For cultural theorists, risks function to maintain social order by drawing cultural boundaries around groups in society. Mary Douglas and the proponents of the Cultural Theory developed a structural-functionalist analytical framework to map the responses to risk by a cultural group, entitled the 'grid-group' model (Douglas & Wildavsky, 1982; Thompson, 1989; Schwarz & Thompson, 1990; Wildavsky & Dake, 1990; Dake, 1992; Ellis, 1993). In this framework, people are categorized as belonging to one of four distinct cultural groups: hierarchists, individualists, egalitarians and fatalists. Groups are characterized as being culturally biased according to the ways in which their social commitments towards a preferred social organization predispose them to adopt a particular view of society and nature. Hence, typifications of cultures are associated with 'typical' risk perceptions and responses towards risk.

The cultural risk perspective, just as the risk-society perspective, criticizes the apparent de-politicization of risk issues; it provides us with a cultural and political reality of risk perceptions by highlighting 'the subtle process of taking for granted the link between hazard identification and the normative choices that follow' (Tansey & O'Riordan, 1999, p. 73). In this way, these theorists show how risk is often used to legitimise the 'safety' policies of the cultural groups in power.

Notwithstanding these overlaps between the risk-society perspective and the cultural risk perspective, they differ in at least three important ways, thus the two approaches would benefit from learning from each other's insights. First, more than the risk-society perspective, the cultural

risk perspective pays specific attention to the selection of risks by cultural groups in society and especially it pays attention to whom in society are able to identify hazards. Cultural theorists argue that social debates about risks cannot be reduced to concerns about safety (which tends to happen in the risk-society perspective) and demonstrate instead how they are inseparable from issues relating to power, justice and legitimacy.

Second, where the risk-society perspective emphasizes the rise of the risk society as a result of the technological-scientific hazards that characterize late modernity, Douglas highlights elements of continuity between human risk experiences in our present society and experiences of risk in any other period in human history (Wilkinson, 2001, p. 3). Some background on the intellectual development of Douglas's thesis is enlightening here. The cultural risk theory has its origins in the earlier work of Mary Douglas (1966; 1969) on purity and contamination: she argues these notions construct cultural boundaries between social groups within a community and between communities. What people perceive as contaminating – and therefore as dangerous as it may threaten social order – is culturally specific and works to establish and maintain ideas about the Self and Other. For example, Douglas describes how the Hima people of Uganda believed that contact between women and cattle would result in cattle becoming sick and dying. Douglas concluded that this myth functioned to reinforce the differentiation of gender roles, thus helping to maintain the social order (Douglas & Wildavsky, 1982, pp. 40-48). She thus argues that perceptions and actions of pollution by cultural groups play an intelligible role in maintaining a society's particular forms of social order (Tansey & O'Riordan, 1999, p. 74). Douglas, writing later on risk and culture, also considers the topic of risk using a similar functionalistic argument.

In her writing, Douglas analyses risk in modern secularized societies as functionally equivalent to danger and blame (Zinn, 2008). She argues that risk is a means in contemporary western society to maintain cultural boundaries. It acts primarily as a locus of blame, in which 'risky' groups or individuals are selected as dangerous. A 'risky' Other may threaten the individual member of a group, or the symbolic body of the whole community. In order to maintain social order, communities therefore single out *some* objective hazards as risky, while they accept others. The hazards that are defined as risks, then, provide explanations for things that have gone wrong, or unfortunate events that are deemed to threaten community (Douglas, 1992). Hence, while Beck observes an emergent 'risk consciousness' that gives rise to a new risk politics and culture, Douglas proposes that we conceive perceptions of risk as determined by prior commitments towards different types of social solidarity (Wilkinson, 2001, p. 3).

This is a third main difference between the risk-society perspective and the cultural risk perspective: while Beck and Giddens hold that perceptions of risk are the result of political and

economic conflict, for Douglas, culture – and the risk perceptions that typically can be associated with this culture – has a relative autonomy. As we have seen, in the structural-functionalist approach that Douglas proposes, culture depends on social forms of collaboration, and risk perceptions depend again on such culture. Her thesis supports the proposition of the risk-society perspective that human actor's perception of risks and the strategies to handle them are fundamentally socially and culturally construed; however, the focus of research that flows from her ideas is very different from that of Beck or Giddens. Douglas suggests that if we want to understand human risk behaviour we should not focus on the individual, nor should we focus only on the macro structural forces in society; instead she asserts that we should aim to understand the local culture in which an actor is embedded. Consequently, more than the risk-society perspective, the cultural risk perspective allows for cultural diversity and therefore accommodates the heterogeneous perceptions of what constitutes risk that inevitably will be observed. These points are well taken.

Douglas's model of risk responses is often criticized for its rigidity (Lupton, 1999, p. 3) and its oversimplification of reality (Renn, 1992; Wilkinson, 2001; Boholm, 2003; Boholm, 1998; Rippl, 2002) – and I will elaborate more on these criticisms shortly. What is valuable in the Cultural Theory is that it offers a view beyond the focus on the individual and on individual, psychological mechanisms to cope with risk. By offering a structural-functionalist analysis which takes cultural differences and principles as its starting point, this theory sensitizes us towards an interest in the sociocultural context in which individuals are sited and through which they construct perceptions of risk (Lupton, 1999, p. 3).

Nevertheless, I will argue in the following section that the cultural risk perspective, just as the risk-society perspective, tends to operate at the meta-level of grand theory and, consequently, obscures the complexity of the social reality in which human actors perceive and handle risks in daily life. Both perspectives offer an overly abstract and therefore partial explanation of the heterogeneous perceptions and interpretations of people facing risk, and I now turn to my arguments in support of this. [33]

The problem of abstractness

By emphasizing how risks are socially and culturally constructed, both the risk-society perspective and the cultural risk perspective offer a valuable political interpretation of the significance of human actors' risk consciousness in current modernity and succeed in avoiding the 'disaster-lens' problem. However, it needs be underlined that they also provide us with very abstract and consequently

[33] Instead of discussing the disadvantages of Cultural Theory separately here and repeat parts of these again below, I will critique the risk-society perspective and the Cultural Theory together in the following section. I am aware that this is a style break in the text; however, it has the advantage that I need not to tire my reader with unnecessary repetitions of my argument.

partial accounts of the processes that form peoples experiences of risk. As a result, the two theories have a problem, which I call the 'problem of abstractness': they are unable to provide an analysis on a mid-range level – one that focuses on the heterogeneous risk practices of individual human actors, while taking into account the social processes and the structural context in which they are embedded. I here agree with Iain Wilkinson, who warns that any attempt to mask the complexity of the social experience of risk in rigid conceptual abstractions may lead us further away, rather than closer to, a more intimate understanding of the day-to-day reality in which people experience risk (Wilkinson, 2001, p. 11). I have two criticisms related to this problem of abstractness: the lack of validation in empirical research, and a tendency to underemphasize or completely overlook agency in the analysis.

Theorists of both the risk society perspective and the cultural risk perspective have made little effort to validate their theories in relation to the vast amount of empirical research on risk experiences in the daily lives of human actors. That becomes especially problematic when we consider that there is a large empirical dataset which complicates – and sometimes even counter poses – the theses of Beck and Douglas.

The majority of studies which have attempted to apply cultural risk theory in empirical settings discovered only a weak correlation between the dimensions of cultural biases and the risk perceptions of their respondents. Following a review of such studies – which applied Cultural Theory in their empirical risk research – from the 1990s, and also based on his own studies of risk judgement in Sweden and Brasil, Lennart Sjöberg concluded that only a small share of the variance observed in the differently held perceptions of risk could be explained by Cultural Theory (1997, p. 113). Several years before him, Ortwin Renn had already come to a similar conclusion, arguing that risk perception is far more complex than the categories Douglas's grid-group model suggests. For Renn, people may be identified as belonging to not one out of four cultural groups but rather to a range of cultural groups, according to the many different social roles that they adopt throughout each day (1992, p. 139). Åså Boholm took this argument even further and claims that people change their ways of life – and hence their perceptions of risk – throughout daily life; even while participating in a risk study project, people may change how they perceive the uncertainty about their futures (1996, p. 78).

Regarding Beck's thesis, empirical research has counter-posed some of the main assumptions that form the spine of the risk-society perspective. For instance, Dickens shows that even if many citizens of late-modern society are aware of the existence of health and environmental hazards, they do not all necessarily perceive themselves to be at risk from these. Rather, many individuals hold a range of ambiguous and contradictory views about these risks. Dickens therefore

claims that Beck is simply projecting his own critique of society onto the general population with little regard to what they actually think (Dickens, 1992, pp. 12-17). Irwin, Simmons and Walker also criticize the risk-society perspective. They argue that people construct risk on the basis of information derived from the mass media and risk experts, as well as from individual experience, local memory, moral convictions and personal judgements. According to these scholars, Beck underestimates the level of contradiction, incoherence and disagreement in the ways in which lay people make sense of risk (Irwin, Simmons & Walker, 1999, p. 1312). Hence, both the theoretical assumptions from the cultural risk perspective and the risk-society perspective find significant counter evidence in the field.

Of course, we must acknowledge that sociological theories of risk appeal mostly because of their critical views of societal trends in risk consciousness, rather than because of the extent to which they provide detailed conceptions of the social reality in which people acquire and create interpretations of risk. The goal of Beck and Douglas clearly never was to embark upon an empirical investigation of the complex reality of risk perception. Instead, these scholars wanted to offer a critical view of the role that risks plays in late modernity. For such an aim, their simplified and abstract view is most useful indeed.

It is necessary, however, to point out that their simplifications of reality can actually obstruct an in-depth understanding of human risk handling. Both these perspectives mask the cultural complexity of the 'everyday social contexts in which people may be revealed as possessing a range of heterogeneous understandings of the reality of risk' (Irwin, Simmons & Walker, 1999, p. 1325). While these researchers continue to accept that abstract theories of risk are not validated in empirical research, they also continue to fail to recognize valuable insights about the complicated ways in which human beings perceive and handle risk.

I have remarked above that next to the lack of validation in empirical research, a second reason that accounts for the problem of abstractness inherent to both the risk-society perspective and the cultural risk perspective is that these macro theories pay very little attention to human agency. Beck and Douglas argue that the structural forces of society shape the risk perceptions of human actors; there remains little room for any analysis of the manner in which individual actors within society are creative and autonomous in handling risk. This not only underemphasizes individuals potential to challenge social and cultural norms, but it also has the disadvantage that in-group heterogeneity is overlooked.

For example, while Douglas's Cultural Theory certainly recognizes the presence of conflict between differently socialized cultural groups, it largely neglects the potential for in-group differences to exist. Beck, then, does not offer an explanation for the heterogeneous responses of

individual human actors to risk, because that is not his intention; rather his aim is to observe and predict systemic changes in the risk consciousness of global citizens in a late-modern risk society. In other words: the risk-society perspective and the cultural risk perspective help us to understand on a macro level how political conflict or culture impinge upon people's risk perceptions; however, an agent's deviating perceptions (or experiences that deviate from researchers' definition of normal) receive no attention from them and hence remain unexplained. Beck and Douglas's lack of attention to these risk experiences that do not accord with the norm suggests that we should understand in-group heterogeneity in risk experience as the result of the degree to which political forces or culture has impacted individual actors' worldviews. If people act differently from what is normatively considered safe, then, apparently, the norm just does not fully apply to them; they must be an exception and the reason for that exceptional practice needs no further attention. But such assumptions overlook the dynamics that take place between an individual and social structures.

Hence, the two constructivist perspectives towards risk that are currently dominant in the social sciences, remain silent on the mid-range level on which actors interpret and experience risk, on their agency, and consequently, also on the potential for in-group heterogeneity. Since in this study my aim is to understand precisely these complex, heterogeneous risk practices that people exhibit to handle the risks that make up their normal uncertainty, I need to adopt a different, less abstract approach from that offered by these two perspectives on risk.

However, these theories are able to demonstrate that the way in which an individual perceives and handles risk must not be regarded a result of a purely autonomous decision, but needs instead be assumed to be severely influenced by the social and cultural context. Hence, a risk is not only an objective thing 'out there', it is also a subjective perception that is embedded in the social and cultural structure. A constructivist vision such as this strongly undermines the objectivist stand of the techno-scientific and the vulnerability perspectives discussed earlier in this chapter, and must be valued for that. Nevertheless, there are two reasons why I believe that human agency should not be abandoned as the focal point of an analysis of heterogeneous risk-handling practices either.

My first argument is that agency must remain central in an analysis of risk and the way human actors handle it, because human interpretation and meaning giving is not a static event but rather a continuous process. Put differently, in each and every new instance where human actors must deal with changes in the environment, they reinterpret it and give new meaning to it.[34] Even if they generally do so within specific structural frames of interpretation, this also means that scholars

[34] This idea is widely supported in sociological literature on meaning-making. It corresponds closely, for example, to one of the three primary premises that form the base of Herbert Blumer's Symbolic Interactionism (1969). Blumer states that an interpretive process is used by a person in each instance in which one must deal with things in his environment. (The other two primary premises are: human beings act towards things on the basis of the meanings those things have for them, and second, that such meanings arise out of the interaction of the individual with others.)

must consider the option that every time people encounter a new risk there is a room for manoeuvre – room for the actor to break with patterns of former interpretations and experience. In fact, if there is one moment in people's lives where we could expect that human actors are forced to interpret meaning in new ways – times when opportunities open up to question traditions and when innovation might be welcome – it seems quite likely to be the moment of punctuating or looming disaster: risk.[35] Hence, in risk situations or in contexts of disasters, we may assume agency plays a considerable role in human risk-handling practices. Put this way, it might even be that agency is a determining factor in heterogeneous risk-handling styles. Therefore, in line with scholars such as Lash (1993), Wynne (1996) and Lupton (1999), I argue that if we want to understand human risk perceptions and risk behaviour, we need an understanding of how risk logics are produced and operate at the level of situated experience (Lupton, 1999, p. 2). Hence, it is on the level of the lived experience of social agents that we should investigate how cultural constructs are adopted, rejected or altered by human actors through their agentic practices in daily life.

A second reason for a more central role for human agency in an analysis of risk-handling practices than is currently offered by the dominant risk-society perspective and the cultural risk perspective is that every cultural group is ambiguous and internally inconsistent; therefore, transmission of values and beliefs in cultural communities cannot be treated theoretically as a straightforward matter. Within each culture, we might define innumerable sub-cultures or alternative cultures. If we reject homogeneous understandings of society and culture, it becomes all the more important to study how individual members of a culture grasp risk, and hence how they may contest and negotiate apparently socially accepted risk perceptions. This means that it is not enough to recognize the shared interpretations of risk in a given social context – the analysis should also engage the potential of internally differentiating views on risk. Such analysis should not confine itself to the psychological, micro level. If we want to understand what happens in between the social structures and the individual, we should look in between, to the social dynamics that take place in this in between or mid-range level.

The importance of this second argument is confirmed by the empirical findings of risk scholars, who, as mentioned earlier, observe in the field again and again that different people within social and cultural groups interpret and handle risks in highly heterogeneous ways. My own data clearly accords with such empirical findings. As noted repeatedly in the introduction to this dissertation, during fieldwork I did not encounter one 'typical' cultural-specific way of handling hazards. Instead, in my study, individual actors perceived hazards in highly differing ways, and

[35] This idea is reflected in the seemingly paradoxical notion 'creative destruction', which is regularly used in economic literature. In these writings, 'creative destruction' at its most basic refers to a process of continuous innovation, and describes the way in which new economic development arises out of the destruction of some prior economic order.

handled them in heterogeneous ways as well. Remember that Ambran evacuates, but Ida refuses to; that Yusuf believes that he is able to help others; that Kurdi believes that he can be safe only if he is helped by others. It follows, then, that it is unsatisfactory to conclude that risk perceptions are culturally constituted, for that does not answer to what extent action is culturally determined within a social group, or what explains heterogeneous risk-handling styles within a cultural community. For that reason I agree with Claudia Strauss, who wrote that analyses of human risk management need to reject not only the rational determinism that we have encountered in objectivist risk perspectives but also the sociocultural determinism of overly abstract risk theories – if the latter is taken to mean that private interpretations of risk are replicas of cultural messages (Strauss, 1992, p. 1).

It would be disappointing if the benefits of our newly acquired ability to understand risk as a social construction, as well as an objective hazard, are diminished by the loss of agency altogether, due to the 'problem of abstractness' that limits the theoretical analysis of the highly influential risk-society perspective and the cultural perspective on risk. Therefore, after recapturing briefly the main lessons that were drawn for the review of risk literature, I present in the second part of this chapter an alternative approach towards risk that focuses on the heterogeneous ways in which human actor's risk practices are experienced in daily life, and which pays as much attention to social/cultural structure as to agency.

Part 2. Theoretical approach

In the first part of this chapter, I outlined my views about what I consider currently hampers our academic understanding of heterogeneous risk-handling practices. I argued that part of the problem is caused by the methodological isolation that presently characterizes the state of social scientific risk research. Scholars from different disciplines involved in risk research – most notably psychology, and anthropology and sociology – rarely share insights and new findings. Each discipline sticks to its own, partial, methods of investigating the ways in which human actors handle risk, focusing on cognitive risk-handling practices or only taking into account behavioural risk-handling practices. This is problematic, as it is widely acknowledged in the social sciences that people normally use a combination of cognitive and behavioural practices in the face of risk. I therefore concluded that most current studies of risk offer only partial explanations for what determines the heterogeneous risk-handling styles they observe among populations at risk. In chapter 2 I will explain how this study tries to avoid such partiality, by defining both the behavioural and cognitive risk practices that are exhibited by respondents and by integrating methods from psychology into my anthropological analysis .

The theoretical analysis offered another, perhaps more fundamental, explanation for the current lack of academic understanding of heterogeneous risk-handling practices. I have argued that the approaches to risk that are at present dominant in the social sciences are insufficient to explain what determines heterogeneous risk-behaviour. In order to develop this argument, I critically reviewed the four main current approaches to risk handling; I also showed that in the historical development of risk theory, each of these perspectives has been useful and has shed light on important factors that affect people's risk-behaviour.

Here I recap briefly the critiques I have of these four approaches. The techno-scientific perspective considers heterogeneity in risk-handling practices as the result of individual's cognitive irrationality. If we want to understand why people act in a certain way in the face of risk, then this approach suggests that we need to be sensitive to the impact that risk cognition has on human risk-behaviour. The vulnerability perspective does not deny the important role that risk cognition can play in risk-handling practices, but deems a whole range of material factors to be of equal importance, or even more important, for an analysis of risk and risk handling. This approach explains heterogeneity in risk strategies as an outcome of insufficient material resources; put differently, to understand why person A exhibits a different risk-handling practice from person B, then we should not only consider their respective risk cognitions, but also their material vulnerabilities, which limit the risk strategies available to them. These themes of the techno-scientific perspective (risk-cognition) and the vulnerability perspective (material vulnerability) can function as sensitizing concepts and therefore are valuable; I incorporate them in my own analysis of risk, as I will explain shortly.

Those from the risk-society perspective attribute heterogeneous risk practices either to speculation and uncertainty, based on conflicting politics in society, or to individual psychology; while the cultural risk perspective considers heterogeneity in risk perceptions and risk behaviour as an expression of cultural factors such as group membership and the power relations that underlie the social meanings that inform risk (Lister, 2010, p. 144). Both these constructivist perspectives sensitize us to the cultural constructs by which agents interpret and experience hazard. The themes they highlight are important, and below I explain how I use the notion of cultural constructs to understand risk-handling practices in Jakarta.

However, as I have already stated, none of these risk approaches by itself offers a fruitful approach for the specific aims of this study. The first two perspectives, techno-scientific and vulnerability, have the disadvantage that they suffer from what I call a 'disaster-lens problem'. They have an etic understanding of risk and a mono-focus on exogenous natural hazard; they take insufficient account of the complex ways in which human actors experience risk in a context of

'normal uncertainty'. I concluded that, in order to grasp heterogeneous practices in the face of flood risk, I must look beyond the disaster lens that is inherent to the techno-scientific approach and the vulnerability approach. Therefore, in my analysis, to gain a better understanding of emic perceptions of risks in situations of 'normal uncertainty', it is necessary to go beyond a disaster-lens approach.

The other two perspectives, risk-society and cultural risk, do overcome the 'disaster-lens' problem by taking a constructivist approach towards risk; however, they are limited by their 'problem of abstractness'; that is, they underemphasize human agency and the heterogeneity of social reality. This is another serious disadvantage for the aims of this study. My experience in the field led me to the conclusion that agency is an important factor to explain heterogeneous risk practices. For me to understand in-group heterogeneous practices, none of these four risk perspectives – nor the themes that they sensitize us to – thus is sufficient. Therefore, in the final section of this theoretical chapter, I present this dissertation's alternative, theoretical approach towards risk and its human handling, which aims to pay attention to the ways in which the factors of risk cognition, material vulnerability and cultural risk construction impact risk behaviour, while preserving a strong focus on the agent's ability to challenge or alter these forceful factors.

Developing a mid-range level analysis of risk, structure and agency

Building upon the lessons and critiques in the review of the literature, I propose that we need 1) a (weak) constructivist analysis of risk, and 2) a mid-range level analysis of risk, between micro-and macro-structures, which is 3) grounded in empirical reality and takes into account human actor's perceptions of and experiences with risk in daily life, and 4) that such approach must take into account the *risk-cognition, material vulnerability and cultural constructs* that enable and limit an actor's possible range of practices in the face of risk, as well as human actor's *agency*.[36]

I have already suggested in the literature discussion that I will take along into the field the respective sensitizing concepts of risk cognition, material vulnerability and cultural constructs.[37] I also argue that agency should be included in analysing heterogeneous risk-handling practices – but how can that be done without yielding to insights that solely pertain to individual experience, and thus losing sight of the social structure? This is a complicated research question which points back to a debate that is at the heart of both classical and contemporary sociological theory: the debate over the primacy of structure or agency in shaping human behaviour.[38] As many scholars before me have

[36] See footnote 22 on weak and strong constructivist approaches.
[37] The methodological tools that are used in this study to do so are discussed in chapter 2.
[38] For many years, theories of structuralism, functionalism and Marxism stressed that social action is determined largely by the overall structure of society, while methodological individualism, interactionism and social phenomenology claimed that the capacity of individual agents to construct and reconstruct their worlds is of more relevance. Nowadays, many theorists addressing the agency/structure debate reasonably conclude that positing a strict dualism between agency and structure is erroneous (Cockerham, 2005). Following Giddens (1984), the majority of such theorists understand the need to include

already struggled with this research problem, let me explain briefly how their proposed solution to it forms an additional inspiration to this study's theoretical approach.

One of the most famous theoretical works on this topic was written by sociologist Anthony Giddens, who coined the term 'duality of structures' to show that human action and the evolution of social structures cannot be separated analytically (Giddens, 1976; Giddens, 1978; Giddens, 1981, p. 171 - 172; Giddens, 1990). Instead, he claims that human agency and social structure are mutually dependent (Giddens, 1976, p. 173). Giddens' theory holds that there is a social structure of traditions, institutions, cultural norms, and established ways of doing things which *enables* agents to act and, along with that, this social structure also *limits* their repertoire of practice. According to Giddens, individuals produce society, but they do so as historically located actors, and not under circumstances chosen by themselves (Giddens, 1976, p. 173). They can act freely and reflexively, but only within the limits that the social structure creates around them. This does not mean, however, that these social structures must be regarded absolutely statically; rather, they can be changed when actors use their agency to challenge them, ignore them or replace them (Appelrouth & Desfor Edles, 2008, p. 754).

Giddens' contribution immediately answers one of the research problems that I posed above concerning the balance between social structure and agency. Giddens indicates that our analytical attention to heterogeneous risk-handling practices ought to be on the *mutuality* of processes of social development and of human action. If we deem agency to play a considerable role in situations of risk, then Giddens' notion of the duality of structures suggests that we must pay attention to the ways in which social structures both enable and limit human action in the face of risk; and we also need to take account of how individuals can act differently and produce heterogeneity.

While Giddens' argument shows convincingly that every analysis of social practice – including our analysis of risk-handling practices – needs to consider this 'duality of structure,' it remains rather unclear from his writings how we should do so.[39] Not only is it difficult to test the idea of the 'duality of structures ' empirically (Smith & Turner, 1986), Giddens himself also warns

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both freedom and constraint, whilst also noting the ways that free actions reproduce social structures, hence positing individual action in a world of social structures. Current models, such as Bourdieu's notion of habitus and Giddens' notion of the duality of structures that are discussed here, focus on how apparently free action lead individuals to (often) unconsciously reproduce their social structural milieu (e.g. Bourdieu, 1977; Giddens, 1984).

[39] In 1976, Giddens proposed several new rules for the sociological method, which sketch a very general idea about how such analysis of mutuality might look like. In sum, these rules hold that the primary tasks of sociological analysis are a) the hermeneutic explication and mediation of divergent forms of life within the descriptive metalanguages of social science, and b) the explication of the production and reproduction of society as the accomplished outcome of human agency (see Giddens, 1976, pp. 172-175; Mestrovic, 1998, p. 47). He would later develop these rules into his famous Theory of Structuration (1984). This rather abstract theory, however, does not prescribe a methodology, and its empirical use in the field has therefore been problematic.

researchers not to try to use his theoretical ideas as a methodological tool in the field (Stones, 2005, p. 2). Rather than guiding empirical research, Giddens' main aim has been to clarify the theoretical position of social research. Therefore, he explicitly intends his theory to be – and remain – abstract and theoretical.

Since Giddens' Theory of Structuration does not offer us concrete means to recognize agency amidst structures nor how to use the 'duality' principle to explain observed heterogeneity in risk practices, we might here take over Pierre Bourdieu's idea that the interaction between structure and agency can be understood in terms of 'habitus'. The concept of habitus may be regarded as an analytical vehicle for what Hitlin and Elder term 'the structural patterning of agentic action'(2007, p. 177), or for what Evans (2002) refers to as 'bounded agency', or what Giddens calls the 'duality of structures'. Bourdieu's notion of habitus holds that human action and social structures interact, and that a researcher of human practice cannot, therefore, investigate human practices without taking into account the structures that impact these, and vice versa.[40]

Bourdieu claims that human practice is neither the result of an individual's free will nor completely determined by social structures; instead, it is created by a kind of interplay between the two over time, mediated by what he calls habitus. Habitus can be defined as the system of dispositions and ways of thinking about and acting in the world that is constituted early on in life (Bourdieu, 1990; Desmond, 2006, p. 391). It consists of dispositions that are shaped by past events and structures, and these dispositions, in turn, shape current practices and structures; also, importantly, they condition our very perceptions of these (Bourdieu, 1984, p. 170). Thus the concept habitus helps us to understand the way individuals and groups of people think, feel, experience, aspire and act in a certain way, and not in others. We might then say that for Bourdieu, heterogeneity in human practices is brought about by heterogeneity in the habitus that underlies these practices.

In comparison to the abstract theory of Giddens, the notion of habitus has two great advantages for the aims of this study. First, it offers a more concrete tool for a mid-range level analysis of practices – the notion of habitus shows how structure and agency interact at the level of people's *lived experiences*. Second, it is explicitly well suited for an analysis of heterogeneous practices: Bourdieu (1997/2000; 1990) launched the concept of habitus in his theory of practice to

[40] While I present here these views of Giddens and Bourdieu as rather similar, in the sense that the central problem in their work is the relationship between agency and social structure, let there be no misunderstanding: these scholars have developed their theories autonomously from one another and diverge on different points. For example, a main difference between the accounts of Bourdieu and Giddens lies in the relative significance that each gives to the conscious intentions of social actors. For Giddens, actors are reflexive: they have the capacity to reflect on their actions and their identities, and to act according to their intentions. The reflexivity of actors is, indeed, an aspect of social action, and, thus, part of structuration. In the work of Bourdieu, conscious reflection on one's habitus is a possibility, but not a usual part of social process. For Giddens, in contrast, reflexivity is an essential and potentially transformative element of the social process.

explain why particular groups and individuals engage in certain practices and others do not; hence, habitus is a concept that is specifically helpful to explain structured social heterogeneity.[41]

What creates habitus, or what creates social heterogeneity in human practices? Bourdieu argues that differences between human practices and perceptions are not the direct outcome of some natural gift or character trait which some members of society have and others lack. Rather, individual practice is very much the effect of the habitus that we make ours through socialization processes. And these socialization processes are again related to the social contexts in which we grow up and acquire our skills and ideas about the world. Consciously and unconsciously, we pick up in the social environments with which we engage the social norms, conventions and rules that are valued and useful in these contexts: our general habitus. These early lessons that we learn in a specific social context will later predispose us towards certain practices. It is a way of seeing the world and, more precisely, of understanding one's own position in society. For example, the skills that we learn from our parents or in the education system will prepare us for a certain job, and the habits and practices to which we grow accustomed in our family and neighbourhood will predispose us towards a certain lifestyle, social role or taste. These theoretical ideas are elaborated at length in Bourdieu's classic study of French society, *Distinction* (1984), in which he shows how the 'social order is progressively inscribed in people's minds' through 'cultural products', including systems of education, language, judgements, values, methods of classification and activities of everyday life (1984, p. 471).

Bourdieu emphasizes that human actors are not necessarily aware of their acquired, general habitus. On the contrary, he once wrote that habitus is people's internalized and forgotten history (1997/2000). Hence, inherent to habitus is that it feels like second nature. Consequently, it feels natural to us to act or think in a certain way, to have a certain type of job, to act differently from another person, to dress in a certain style, to feel sexually attracted to a certain type of potential partner, to perceive flying in an aeroplane a greater risk than driving a car, to have a specific sense of humour, to like rice and find potatoes disgusting. Put differently, habitus offers us 'a sense of one's place' (Bourdieu, 1986, p. 141) and makes it feel 'natural' to be a part of a cultural class.

The fact that human beings are generally not consciously aware of these socialization processes by which they acquire a general habitus tends to lead them to an unconscious acceptance of social differences and hierarchies (Bourdieu, 1986, p. 141). Experienced by human actors as second nature, habitus often leads to behaviours of self-exclusion: the daughter of a cleaner might

[41] Even if the methods of Giddens and Bourdieu to construct theory were very different (Giddens' theory springs from an analysis of classical sociological theory, while Bourdieu's is based on large-scale fieldwork), both eventually wrote a subtle and complex theory that helped them to answer their main research questions. As is the case with Giddens, any summary of Bourdieu's findings does his theory harm. Yet, for the sake of the development of my argument it is useful to highlight those insights that seem of particular use for the understanding of heterogeneous risk-practices.

not even consider going to university, because that feels 'just unlike her', while it comes across as 'natural' for the daughter of an academic to continue higher education. Similarly, people's acquired habitus may even persist after the objective circumstances in which people live have changed. The daughter of the cleaner may continue to believe that she 'has no head for study', even if her results at primary school are good, and she is provided with the opportunity to continue higher education. In such a situation, Bourdieu would say that her subjective perception of the objective circumstances is still based on a general habitus that was based on former socialization processes. In this way, habitus has the tendency to reproduce social structures, because it is so difficult for people to recognize their own early acquired habitus – let alone to think and act outside of it. We tend not to challenge it and instead we continue to act in ways that appear logical or natural to us. We might thus say that human practices are grounded in the discrepancy between opportunities that are objectively available at any given moment and people's aspirations that are generally based on an earlier structure of objective opportunities (Bourdieu, 1984, p. 145).

A concrete example of the ways in which habitus may lead human actors to engage in specific behaviour is enlightening here. In 2006, Matthew Desmond investigated why individuals would become wild land firefighters – a job that is dangerous, physically demanding and underpaid – while safer ways of earning a living are available. Desmond found that it was not the 'rush' of firefighting that attracts so many men from rural areas in the United States to the job, as is often assumed in studies of voluntary risk taking (e.g. Lyng, 1990). Rather, Desmond proposes that it is a specific 'country masculine habitus' that preconditions them for the rigours of firefighting. This type of habitus, according to Desmond, is typical of a specific social class in northern Arizona, where a rural, masculine, and working-class upbringings is valued.

During their childhood and adolescence, aspiring firefighters acquire individual competence and dispositions that, in later stages of their lives, make them perfectly suited for the job of firefighting; at the same time it eliminates alternative occupations. For instance, Desmond describes how his respondents have learned from a young age to regard themselves as 'country boys'– men who prefer being outside rather than being 'locked up' in an office, men who are not afraid to 'get dirty', and men who feel confident that they 'know' every path and tree in the forest. Consequently, their 'country masculine habitus' makes it easier, indeed more natural, for them to become firefighters than to select other jobs. Hence, we might say that the general habitus guides firefighters' thoughts, tastes and practices towards their later, risky occupation; that it paves the way to acquiring a specific habitus that is related to the occupation of firefighting; that it provides them with their fundamental sense of self; and that it structures how they understand the world around them and the risks that they perceive.

Desmond also discusses what happens if a man does not acquire such general habitus while living in the same social environment: he describes the case of a man who '*grew up* in the country, but [who] was not *brought up* with a country masculine upbringing' (2006, p. 409, Italics in original). Consequently, this man had a much more difficult time acclimatizing to the demands of firefighting than did his fellow crewmembers: he lacked the self-confidence and the handiness that his colleagues had, was constantly outranked by others, and remained an outsider even after many years of experience in the job (Desmond, 2006, p. 409). We might also say that because this man lacked the general habitus that is valued in his social environment, it was harder for him to acquire the specific habitus that is required for firefighters, than it was for his colleagues.

Desmonds' study suggests that if we want to understand why person A acts differently from person B in the face of risk, then our analysis should take into account the ways in which each of these individuals has internalized the social norms, conventions and rules of the social context in which they live. The notion of habitus serves as a valuable tool to help us do so, as it offers us an insight into the perceptions and practices that are valued in an agents' specific social environment. It also helps us to see that in order to understand practices that are exhibited in the present we must take into account people's biographies, and try to trace how history has shaped their perceptions and actions. Hence, the notion of habitus offers a way to integrate agency into our analysis of risk practice, without underemphasizing the impact that social structures have on human behaviour.

This is not to say that we should forget about the sensitizing concepts of risk cognition, material vulnerability and cultural risk constructs, defined above. On the contrary, when it concerns the ways in which agents handle risk, those concepts are highly important to the purposes of this study. However, I also consider it important to add a subtle fourth sensitizing concept, that of habitus – an important intermediary factor in between the exogenous structures of society and agents' practices.

Before we head to the methodological strategies that are employed to conceptualize these sensitizing concepts into this study's design, there are two final problems that need be addressed in this theoretical chapter. First, since my aim is to include agency into a constructivist approach towards risk and risk handling, then it is important to note here that the notion of habitus itself leaves little room for actual agency; rather habitus highlights what we might describe as a 'façade of agency.' Though in theory the notion of habitus allows for agentic room for manoeuvre, in practice we see that studies of habitus pay hardly any attention to this possibility. Instead, they argue that what may seem agency or autonomous free will, at first glance, is often the indirect effect of social structure, where habitus limits human agency in invisible yet forceful ways. Though this is an insightful observation that is helpful to understand why people typically remain 'stuck' in a certain

job, lifestyle, habit or risk, it tells us little about those few instances where people *do* act outside their habitus.[42]

For example, the above case study of Desmond shows that habitus shapes behaviour, but sheds no light on the ways in which actors can be reflective and challenge their habitus. For example, if the upbringing in a 'country masculine habitus' generally leads young men to choose jobs like firefighting, then what about the men who, nevertheless, chose a different job? If such men do exist, they are left out of his study; their stories would perhaps be most enlightening for an understanding of social heterogeneity. And what about the respondent in Desmond's study who lacked the general habitus valued among firefighters? Why would he still stick to this risky job, instead of challenging the norms to which he cannot live up to and opt for a job that better suits his habitus? Such questions remain unanswered. Since my aim is to explore the agentic manoeuvres that people might have, in spite of the general habitus that impacts their perceptions and behaviour, these questions have to be raised and answered in my risk analysis.

Bourdieu also does not pay much attention in his work to the instances in which people challenge or alter their general habitus in later stadia of their life, for example by acquiring a specific habitus that goes against what they have learned in their younger years. This is not to say that he denies that these instances exist. In fact, in *Distinction*, Bourdieu even names yet another concept after the phenomenon: he calls the process whereby people succeed in rising upwards in social mobility, by changing their profession and finding a job that has a higher social status, 'creative redefinition'. [43] For Bourdieu, such changes may occur as the result of societal struggle. In his view, dominant groups in society naturally strive to maintain their position, and if their status is challenged by other groups, they might try to 'creatively redefine' themselves. Such a situation might arise, for example, when the high-status job in which a person has always worked is no longer socially or culturally valued, because other jobs are becoming more fashionable. But Bourdieu, as already noted, considers an actual alteration of a general habitus to be an exception to the rule. His theory holds that the notion of habitus is extremely complicated to recognize or even redefine; hence, the focus remains on the much more common *reproduction* of behaviour that people in society exhibit, not so much on their reflection or choice of alternative practices. So while Bourdieu certainly recognizes in his theory that people *can* challenge or alter their general habitus, for example by acquiring a specific habitus in life that challenges their former worldview, he seldom explicates to

[42] This lack of attention for agency or human autonomy is a common criticism of Bourdieu. See, for example, Bennett (1984, p. xxii).

[43] Interestingly, his personal biography provides a clear example of such creative redefinition: Bourdieu was born as the son of a postman in a lower-class, rural community, and found his own way to university. For his reflections on this social rise in class position, see Pierre Carles' documentary, *Sociology is a Martial Art* (2001).

whom this will happen, why these people are apparently able to do so, and why most others are not. He explores the topic only briefly and in rather vague terms, philosophizing that people may 'creatively redefine' their roles in society because they might have an extraordinary 'sense of a good investment' (for example, about moving into a new type of profession), or because they might have an 'awareness of the opportunities' that other actors in society apparently lack (Bourdieu, 1984, p. 147).

This study aims to go beyond such general hypotheses, and instead will explore more precisely who acts outside of the habitus, and how and why they do so. If the habitus is internalized and forgotten history, as Bourdieu (1997/2000) claims, then it seems to me that the aim of an ethnography of the habitus must be to historicize the habitus, in an effort to 'externalize that which has been internalized and to bring to mind that which has been forgotten' (Desmond, 2006, p. 412). An analysis of the instances in which people are reflective and able to challenge their habitus seems to me as necessary as an analysis of the cases in which people unconsciously continue to act out on their habitus. I argue that such extensive analysis can shed fresh light on the ways in which the social order reproduces itself *or becomes changed* through everyday experiences.

A second problem that I want to address here is the fact that most studies of habitus offer essentially a material explanation for social heterogeneity, one that is based on the heterogeneous social and economic classes in which people live. However, most participants in this study generally live in similar social and economic circumstances. For example, none of my respondents has followed higher education, and all of them are considered poor in comparison to other residents of Jakarta. For both Bourdieu and Desmond, in their studies of human practices, certain types of habitus relate to certain socio-economic segments of their research population; so for this study, there needs to be further exploration to discover the extent to which diversity in habitus can be recognized *within* one poor and flood-prone riverbank community. We already know that in-group heterogeneity of risk-handling practices exists in the research area, therefore, this study will try to show to what extent this heterogeneous behaviour is steered by habitus.

Conclusion of the theoretical discussion: research question and assumptions

In this dissertation I want to understand the foundations underlying heterogeneity in human risk-handling practices by studying a kampong in Jakarta that is regularly flooded. I have argued in this chapter that this necessitates a move beyond the traditional approaches to risk and towards a mid-range level analysis of risk, structure and agency**.**

First of all and most important, there needs to be a move away from the so-called 'disaster lens' and heterogeneous risk-handling practices should be understood in terms of the lived

experiences of normal, daily, life. In this broader view, even if the disaster of a flood can be regarded as a disruption of daily life, it must be underlined at the same time that daily life is characterized by the constant possibility of floods and other hazards. Consequently, I propose that risk-handling practices come about in a situation of 'normal uncertainty' and not as a direct response to a single, exogenous risk that can be distinguished from daily life.

Second, following on from the above proposal, it became clear that objectivist perspectives on risk and risk handling, such as the techno-scientific and the vulnerability perspectives, are not fruitful for this study, as they tend to overlook emic perceptions of risk. The studies that are based on these theories tend to assume how people perceive risk, and carry normative claims on what people regard as the most effective way to handle risk. I have argued that such etic approach blurs our understanding of why people act as they do. Instead, a weak-constructivist perspective is needed which does not deny the objective threat that risk poses, but that is mostly interested in the ways in which risk is socially constructed.

Third, I have argued that in studying risk we need to allow the possibility of agency into our analysis of risk and risk handling. The currently dominant constructivist perspectives towards risk are not suitable for such an aim because of what I call their 'problem of abstractness.' Therefore, I propose a new theoretical approach to meet the specific aim of this study, one that takes agency into account without losing sight of the ways in which social structure can impact people's risk-handling practices. Inspired by sociological literature that considers the 'duality of structures,' I have established that this can be done by integrating the notion of habitus into an analysis of risk. It is thus assumed in this study that, on the one hand, many practices that are exhibited by people in the face of risk are an expression of habitus (rather than free will or truly autonomous action), while, on the other hand, I also allow the possibility that a (looming) disaster offers individual actors the opportunities to break with routines and alter social structures by exhibiting human agency.

Finally, based on insights from the risk literature, I argued that if we want to understand what brings about human risk-handling practices, my approach should also consider people's risk cognition, their material vulnerability and the cultural constructions of risk. Next to habitus, these three factors are assumed, in this study, to have a large impact on people's practices in the face of risk. In practice, this means that four concepts inform the theoretical approach and sensitize us towards an understanding of heterogeneous risk-practices: risk-cognition, material vulnerability, the cultural constructs of risk, and habitus. I will explain how these four sensitizing concepts are conceptualized and integrated into this study's methodology in the next chapter.

Based on these theoretical arguments, I can now define the research question that guides this study's analysis of risk and people's ways of handling it: *How are heterogeneous risk practices by*

which riverbank settlers handle floods in a context of normal uncertainty shaped, maintained and altered by habitus, risk cognition, material structures and cultural risk constructs?