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

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Conclusion

In this final chapter, I return to the crux of this thesis, which is to improve the academic understanding of the heterogeneous ways in which human actors handle floods and other risks in their daily lives, by analysing the factors that underlie heterogeneous risk-handling styles. There are several conclusions that can be drawn from the empirical chapters and the theoretical discussions based on this data. Most importantly, this study has shown that heterogeneous risk-handling styles must not be understood as responses to an isolated hazard but rather as expressing the heterogeneous exigencies and dilemmas people face in daily life. It has also made clear that people's practices related to the hazard of flooding give us an insight into the ways in which they view their world and their position in it. Further, this study has argued for the need to look beyond the material aspects of vulnerability and has suggested several other factors that need be taken into account in an analysis of risk handling. Before summarizing these and other main findings and the implications of these findings for studies of risk and for risk policy, I deem it fruitful to reflect up this study's theoretical and methodological approach and briefly consider the ways in which it builds on or contrasts with former studies of risk and human risk handling.

Such evaluation is necessary because, early in this thesis, I argued that until now the academic understanding of risk and the ways in which agents handle it remains limited, because of three main problems: the problem of 'methodological isolation,' the 'disaster-lens problem' and the 'problem of abstractness.' I explained that the first problem refers to a lack of interaction between the main disciplines involved in risk research, namely scholars from sociology/anthropology and psychology. The other two problems concern theoretical limitations, and refer to the tendency of scholars to approach the topic of risk either from an overly narrow focus on hazard and disaster (thereby regarding practices as reactive responses to a risk that is viewed as isolated and exogenous, hence, excluded from 'normality') or in a largely abstract, top-down manner (thereby overlooking people's lived and heterogeneous experiences with risk). It was proposed in chapter 1 of this thesis that what is needed to overcome these three problems is an integrative study that views the topic of risk from below and embeds human risk-handling practices in the cultural and social environment – that is, a study that regards risk-handling practices as expressive of daily life.

In line with this proposal, this study departed from the more common method of centering on a particular risk towards an approach that embeds risk in a context of what I refer to as the 'normal uncertainty' of their daily lives. I thereby hoped to provide some correction to the current academic understanding of risk and risk behaviour by highlighting the heterogeneous perceptions and practices of risk that are engaged in by the riverbank settlers in their daily lives. Another aim of

my study was to take up the challenge of integrating psychological insights into this anthropological research project, and so make a contribution to a slow but gradually growing consensus among scholars of risk that it is crucial to combine insights from anthropology/sociology and psychology, in order to grapple with a topic as complex and wide-ranging as human risk-handling practice. At this point I will evaluate what the main implications of these ambitions have been for this study.

Let me start with the problem of methodological isolation, and reflect on how I have tried to contribute to a lessening of this problem. This study has considered both *behavioural* and *cognitive* risk-handling practices. I suggested in chapter 1 that such a combined focus is one of the steps that needs to be taken to halt the problem of methodological isolation. Most scholars of risk agree that these two types of practices are involved in all situations where human beings face risk, and that both, therefore, need be taken into account in studies of risk handling; indeed, many scholars before me have already called for a study that considers behavioural as well as cognitive risk-handling practices – however, to actually do so is rare. To my knowledge there are only a few exceptions in the anthropological/sociological discipline that take both into account (e.g. Bankoff, 2007; Lavigne et al. 2008). The fact that there are only so few exceptions has in part to do with the scholarly background and related interest of most researchers of risk-related topics. For another it has to do with the fact that scholars from both disciplines publish their findings in disciplinary-related academic journals and, as a result, mostly do not share their findings. Finally, the fact that studies of behavioural risk practices and cognitive risk practices remain largely segregated may have to do with the fact that psychologists use methods that are very different from those of anthropologists. The former mostly make use of laboratory experiments and quantitative psychometric surveys, while anthropologists tend to look at these ways of working somewhat skeptically (to put it mildly), as anthropologist's methods are typically more qualitative and focus on real-life settings. Whatever may be the precise reason for the problem of methodological isolation, the consequence is that scholars from the psychological and the sociological/anthropological disciplines usually highlight one type of risk-handling practice while overlooking the other. As noted, this offers partial or even erroneous explanations of how and why people act as they do in the face of risk.

This research project, by contrast, picked up the challenge of integrating psychological insights into an anthropological study of risk-handling practices. I emphasize the fact that this study is anthropological in its approach, because I by no means consider myself an expert in the field of psychology. I have been educated as an anthropologist and I have learned to think, observe and analyse as an anthropologist. Even though I have, of course, occupied myself over the course of this research project with psychological literature on risk, this acquired knowledge is by no means sufficient to translate into a psychological approach to the subject. Besides, my current research

interests resemble much more typical anthropological topics, such as social dynamics and inequality, than they remind of the topics that psychologists involved in risk research are usually interested in, such as the individual's cognitive interpretation of risk. Hence, it must be made clear that this study is anthropological both in its theoretical and methodological approach. However, when I was developing my research strategy I felt that the integration of relevant psychological insights could enrich my qualitative data, and I felt that psychological insights might also shed fresh light on what I thought I knew about risk behaviour from my anthropological background. I therefore chose to integrate some of the major psychological insights into my anthropological study of risk and risk-handling practices. This meant, concretely, that I have learned from the psychological literature about the cognitive practices that are most commonly exhibited by people in the face of risk, and also that I have made use of several quantitative methods that are common in psychology but less so in anthropology. For example, I carried out a survey on cognitive risk practices, and I have tried to 'measure' people's risk perceptions with the help of a survey scale developed by psychologists. These methods are discussed in chapter 2, but here it is relevant to reflect on how useful these methods and insights have been for this study.

I must admit that I did not find all psychological methods easily applicable in the field, especially because it proved hard to balance the quantitative data with my deeper knowledge of people's behaviour. Also, as I discussed in chapter 2, I did not find all psychological insights eventually useful for my analysis – while some findings appeared significant statistically, they were less relevant to the lived experience of my respondents. Nonetheless, in retrospect, I do feel comfortable saying that this study's combination of a qualitative, bottom-up approach with some relevant psychological insights has offered fruitful results.

I have mentioned already that one of the concrete ways in which I tried to integrate psychological insights into this study was by explicitly focusing on both behavioural and cognitive risk-handling practices. I have done so by paying attention in interviews and observations to signals about cognitive risk-handling practices, and also by including a list of cognitive risk-handling practices into a survey. The advantage of this integrative way of working has been that it enabled me to examine how people creatively and continually combine these practices, how the two practices relate to one another, and what factors underlie them. It became clear, for example, that riverbank settlers who in their risk-handling style are relatively dependent on external aid institutions hardly ever make use of cognitive risk-handling practices that involve self-efficacy. In contrast to this group of people, the people who exhibit defensive or preventive risk-handling practices usually make heavy use of cognitive risk-handling practices that involve self-efficacy: they emphasize, for example, their skills and their ability to calm their minds in situations of risk, which helps them to act and

decide in a context of normal uncertainty. These cognitive risk-handling practices are non-tangible and hence difficult for a fieldworker to recognize on the basis of interviews alone or from an analysis of narratives. In my experience, the survey on cognitive risk-handling practices helped me a great deal to do so. Instead of having to distill this type of information from narratives or to interpret people's behaviour as something that I might recognize as 'self-efficacy', I could cross-check such interpretations with people's own answers to survey questions that addressed more specifically these practices. All in all, I believe that my findings offer an important contribution to the academic understanding of how human actors handle risk behaviourally and cognitively.

Besides the problem of methodological isolation, the academic understanding of heterogeneous risk-handling practices is also limited by a too narrow theoretical focus. Aiming to avoid the theoretical problems of the disaster lens and the problem of abstractness, this study has tried to take a rather different approach than is common in the dominant risk literature. Many risk studies ignore the differences in respondent's perceptions of risk – often assuming them to be univocal – and do not integrate these individual differences in the analyses at all (Bhatt, 1998; Twigg, 1998; Heijmans, 2001). Unlike that approach, this study has combined a bottom-up perspective on risk with an academic, etic analysis. While most other studies consider what *researchers* think the respondents perceive as risk or as efficient risk handling, this dissertation, in large part, is based up *study-participants' own perceptions* of risk and effective risk handling. The information about the latter people's perceptions was derived during extensive fieldwork, in which an iterative methodological approach was taken (described in chapter 2). To these emic insights were added theoretical reflections that were derived from the literature about human behaviour in the face of risk (described in chapter 1).

This integrated vision is perhaps most clearly reflected in this study's presentation of risk-handling styles. By taking into account local knowledge about the typical behaviour that riverbank settlers exhibit in the face of risk, it became possible to grasp people's ideas about risk and about their own perceived options to handle these. Perceiving risk-handling practices as expressive of normal life, my analysis of styles offered insights into people's habitus. While emic views inspired the distinctions in risk-handling styles that are presented in this thesis, my academic understanding of human risk behaviour also enabled me to reflect critically on the assumptions that were inherent in this emic knowledge. For example, study participants considered risk-handling styles as largely static and resembling character traits, but a careful academic analysis of biographies showed that risk-handling styles need be regarded as temporary and flexible. I have shown that people tend to exhibit practices that resemble a certain style because these are developed from habitus and perceptions of

risk, trust and self-efficacy – ways of thinking and acting that feel so 'natural' that it is difficult for people to reflect upon them, let alone alter them – nevertheless, I also argue that this happens when one's worldview is filtered through trauma or when expectations are disappointed too often and a *schwelle punkt* has been reached (Luhmann, 1968, p. 96). Hence, it was through a combination of emic and etic understandings of risk-handling styles that the findings of this study came about.

Another way in which this study tried to overcome common theoretical limitations in risk theory is by not adopting the usual disaster-lens approach but, instead, taking what I have called a 'normal uncertainty' perspective. Instead of narrowing the focus of research down to one isolated risk, namely flood, this study took into account the different pressing risks that shape daily life for riverbank settlers, a living situation that is both uncertain and normal at the same time. Viewing people's practices in the face of risk through this normal uncertainty lens, I was able to recognize that behaviour that is exhibited in the face of one risk may well be associated with *another* risk. For example, some flood victims in Bantaran Kali refuse support that is offered to them by the local government *not* because they underestimate the threat that a flood poses to their well-being nor because they are unwilling, in principal, to evacuate from their flooded house, but because they highly distrust the intentions of the government institution that offers them help during and after a flood event. Had this study taken into account the *flood* hazard – and people's related perceptions – then no explanation for the differences in their risk strategies might have been found. Instead, my more holistic approach reveals that riverbank settlers' risk-handling practices during floods relate more to their perceptions of trust or distrust of elite actors involved in the city's flood management. This finding confirms the idea that was proposed in the theoretical chapter, that people's risk-handling practices do not tell us much about their opinions about one isolated hazard (floods); rather people's perceptions of the hazard of flooding give us an insight into the ways in which they view the world and their own position in it. I hope that this finding may help to improve academic understanding of risk and human risk behaviour. It may specifically be useful for scholars pursuing studies of risk and disaster, as it suggests scholars must widen their lens much more than is currently the case.

The next sections will elaborate in more detail on these and the other main findings of this study. After providing a brief summary of the conclusions that can be drawn from each of the four empirical chapters, I will relate these empirical insights to the theoretical discussion that began in chapter 1 of this book. More concretely, I examine how the notions of risk cognition, material vulnerability, cultural risk constructs and habitus have been helpful in the analyses of risk-handling styles in Bantaran Kali. Then I consider what other relevant factors can be distilled from the data,

and how these should be integrated into a theoretical analysis of risk and its human handling. The chapter ends with a discussion on implications for policy and research of risk.

Summary of the main empirical findings

Chapter 3 introduced a group of people known in Bantaran Kali as *orang antisipasi* – who were portrayed, primarily, to show how the risks of floods, poverty and eviction are interrelated. It was argued that these risks form a cycle of hazard in the lives of riverbank settlers from which it is generally hard to escape. This chapter made clear that this is not only because the inhabitants of Bantaran Kali hold a disenfranchised position in wider society but also because they have acquired a habitus of poverty in early stages of life, which shapes the ways in which they now perceive their own opportunities and skills. In the case of the *orang antisipasi*, it appears that this habitus creates future aspirations (or rather expectations) that are as pragmatic as they are ironic – in the sense that these people expect little improvement of their current situation. This chapter showed that these people have internalized societal ideas of what is approved and non-approved behaviour and consequently deem themselves 'bad' types of people who are unable to do 'good.' This perception of the self is one of the main reasons why they feel forced to maintain licit livelihood activities, which help them to overcome daily problems but do not enable them to escape the cycle of hazard. That the impact of a habitus of poverty is strong was shown by the case study examples in which *orang antisipasi* rejected in advance the offer of a chance to escape from the cycle of hazard, because, ironically, they believed that this chance could not possibly turn out well for 'people like them.' On the basis of these observations and analyses, it was concluded in the chapter that while the habitus of poverty is shaped by unequal structures at the same time it reproduces these.

While *orang antisipasi* were among the most marginalized in kampong society, chapter four examined in depth the working mechanism of a habitus of poverty among a group of people who occupy the most powerful positions in Bantaran Kali – the *orang ajar*. It seems at first sight that these people act strategically to advantage their own safety and well-being, but I have made the claim that they are in reality subject to a cultural hegemony that is dominated by the political authorities. By cooperating with these authorities and by internalizing the ideas of what is a 'risk' and what is 'safe,' *orang ajar* reproduce narratives of cause and blame in relation to floods and make it hard for riverbank settlers to challenge or overtly protest these. It was therefore claimed that, even if the risk-handling style of *orang ajar* offers them status and power within the local community of Bantaran Kali, they actually reproduce unequal structures in Indonesian society. It was noted that their powerful position in kampong society is simply the result of the culture of fear that this group of people creates through their practices of surveillance and discipline, rather than being

based on legitimacy. Finally, I showed that *orang ajar*, despite their risk-handling style, are themselves also unable to escape the cycle of hazard. In fact, it was posited that they actually increase rather than decrease their material vulnerability to flood risk and economic risk, as they make large economic and social investments in return for small rewards and the, perhaps somewhat naïve, expectation of benefits in the future. These expectations proved to be based largely on a habitus of poverty, in which they deem themselves 'only average,' hence less capable and powerful than the 'high' elite actors. These perceptions are reflected in the humble aspirations of *orang ajar*, which reach little beyond a flood-prone, marginalized kampong life. Thus again it was concluded that unequal structures of power produce a habitus of poverty, while this habitus of poverty also reproduces inequality and marginalization in kampong society as well as in wider Indonesian society.

In the second part of the empirical chapters, the focus of analyses shifted from social structures and the impact of these on people's risk-handling styles through habitus to agency. It was observed in the field that despite the fact that risk-handling styles tend to be accommodative and incline to the status quo because of the strong impact of habitus, in some cases people's former habits and practices are replaced by innovative and creative risk strategies. This happens because floods, besides causing a lot of damage, also create novel opportunities, such as that provided by external aid for flood victims. These new opportunities, and especially the innovative risk-handling styles that are created by inhabitants in response to these opportunities, were discussed in chapters five and six.

Chapter 5 showed how some riverbank settlers who were initially selected as beneficiaries of external aid institutions after a flood as a matter of luck and coincidence, have been able to maintain and strengthen their claim to aid during later years. In former times these people dealt with floods in fairly autonomous and preventive ways, but recently they have used this opportunity offered by aid to shift their risk-handling strategies to a style that is based on patronage and dependency on economically strong actors. Nowadays, in return for social and financial investments in the reciprocal relation with their patron, these self-proclaimed *orang susah* try to arrange a personal, unwritten, flood insurance policy for their households. The shift in their risk-handling style parallels a gradual shift in the way these people view risk and their own options to handle it. I have argued that *orang susah* come to learn and believe that they are not able to handle risk autonomously, but instead are convinced that they need their patron to overcome disaster. On the one hand, this conviction may be a strategy exhibited by these people to justify their claim to support, on the other hand, it also seems that *orang susah* have actually internalized the idea that they are 'less strong' than others, and that this is the main reason why they need and receive more

support than their fellow residents. Thus, we see here that the practices alter the perceptions and vice versa. I return to this topic of altering perceptions and practices shortly.

While the risk-handling style of *orang susah* seems economically lucrative, it was also shown that it has three main disadvantages. First, *orang susah* must continually justify their 'right to be helped,' which means that they must carefully protect a needy image and can hardly accumulate capital. Second, they are excluded from the social network in Bantaran Kali due to the jealousy of fellow residents because of the relatively large amount of aid that they receive after floods. This means that in times of personal need other than floods, *orang susah* generally do not enjoy support from their neighbours and are forced to overcome problems alone. As their risk-handling style is based on dependency rather than on autonomy, this means that *orang susah* find themselves in a rather vulnerable position in such times of need. Third, the support that they receive from their patron is by no means guaranteed, and it appeared from my analyses that it is in fact based largely on hope and trust, rather than on a concrete agreement with their patrons. This became especially clear from the case studies in which the hopeful expectations of *orang susah* towards their patrons were disappointed; they did not adjust their expectations to a more realistic expectancy of the role of their patrons in their lives. Hence, the perceptions of risk and trust held by *orang susah* are to a large extent based on hope and former positive experiences, while more recent negative experiences tend to be misinterpreted or ignored. It was therefore taken that this risk-handling style, again, does not necessarily enable people to escape from a cycle of hazard. Instead, it offers people a sense of calm, though principally a façade of safety.

In chapter six the focus remained with the agency of riverbank settlers and the creative strategies that they are able to create on the basis of new opportunities. Here, it was examined in more detail precisely how an alteration in risk-handling styles develops. To that aim, the *orang siap* were introduced – a group of people who, at some point in their lives were disappointed to such an extent by trusted social actors that their worldview was shaken. A close analysis of their biographies highlighted precisely the critical moments in time when this alteration process began to develop. It became clear that people can and do alter their habitus in response to and reflection on events that have impacted their lives. This is an important contribution of this study to understandings of habitus. It was noted in the theoretical section that the initial theory offers few insights in those situations where people act not in accordance with their habitus, let alone about when and how such deviations occur. Where the theory acknowledges that people can and do 'creatively redefine' their habitus (Bourdieu, 1984, p. 147), it leaves open the exact events or mechanisms that are needed for such refining to develop. My analysis offered concrete examples of such events and mechanisms. For *orang siap*, the shocking realization that their expectations were not fulfilled forced

them to reflect critically on their former perceptions of who could be trusted. On the basis of realistic experiences, they concluded in hindsight that they had been 'naïve.' This realization had a great impact on their risk perceptions, on their view of their own abilities to handle risk, on their understanding of the intentions of actors around them, and eventually also on their risk-handling practices. Hence, the habitus of these people was altered and so was their risk-handling style.

It was also emphasized in this chapter that the dynamics of these people's innovative risk-handling practices were *still* developing. For example, it became clear that their perceptions and beliefs have recently become more extreme, and their practices more defensive. More recently they feel the urge to 'get ready' or 'be prepared' and to take rather large economic and social risks in order to protect their own safety and well-being against a perceived threat posed by the government. A final important conclusion of this chapter was that even if their future expectations or aspirations have changed – which the empirical chapters suggest is necessary for people to make use of new opportunities – this does not necessarily mean that the risk-handling style of *orang siap* enables them to escape from a cycle of hazard. The reason is that while their own perceptions and practices may have become radically different from what they used to do or believe, the social structures around them remain as unequal as they were before, so change is hard – if not impossible – to accomplish.

Reflection on the usefulness of the sensitizing notions

Far from rejecting the literature on risk and vulnerability, I have sought to broaden and extend it. Therefore, four sensitizing concepts were derived from the literature discussion and were used as vehicles in this study: risk cognition, material vulnerability, cultural constructs of risk, and habitus. I will first elaborate briefly each of these concepts while reflecting on their usefulness for this study's interpretation of heterogeneous risk-handling practices, and then turn to consider some additional notions or topics that appeared relevant in the field.

Regarding risk cognition, it became clear in each of the empirical chapters that the objective knowledge of study participants about flood risk was generally high and accurate. This means that people's objective risk cognition cannot explain the observed heterogeneity in risk-handling practices that was observed in Bantaran Kali. Put differently, even though people proved in surveys and interviews that they are well informed about the causes and effects of floods, and even though all people appeared well aware of the formal safety advice, only *some* people followed this advice, while other people's practices contradicted this knowledge. This observation suggests that the assumption about a direct association between objective risk cognition and risk behaviour, an assumption that is common in the dominant techno-scientific perspective on risk (discussed in

chapter 1), needs be rejected in relation to this study. Clearly, there must be another factor involved here that determines what people do. On the basis of my findings, I propose that, if we want to understand better why people do as they do, we need to take into account not just the objective risk cognition but also more subjective interpretations of risk, which are reflected in the cultural constructs of risk and issues of trust that I discussed below.

A second 'sensitizing device 'that led this study was material vulnerability. It was taken, on the basis of the literature, that people's material and social vulnerability limits their options to handle risk (Torry, 1979; Hewitt, 1983; Chambers, 1989; Burton, Kates & White, 1993; Cannon, 1994; Blaikie, Cannon, Davis, & Wisner, 2004). For this study, the major indicators of material and social vulnerability to flood risk were taken into account, such as gender, age, income, education, having a fixed or an irregular income, the assets possessed by a household and length of staying in the neighbourhood. For all 130 participants, these indicators were scored and the scores were accumulated so that individuals could be given a 'vulnerability score', ranging on a matrix from very to low vulnerability. Different relevant conclusions can be drawn from this analysis.

First of all, it was found that in Bantaran Kali a high vulnerability index does not necessarily lead to a dependent or passive risk-handling style. By contrast, some of the people who could be categorized as having a low vulnerability index made much more use of external aid (and hence, engaged in fewer autonomous or preventive practices) than other inhabitants who were categorized as 'very vulnerable.' And vice versa, some of the poorest or least educated in kampong society were able to find creative and autonomous ways to handle flood risk. The case study of *orang ajar* offers good examples of this observation, as do the case studies of some of the *orang antisipasi*. It was shown that the former group of people often have to make risky economic investments in order to buy a device that is needed for their particular risk-handling style, and that they sometimes do so even if this means that they must accumulate money for years, make expensive loans, or give up some possessions of their poor household. As a result, they are often relatively poor, of older age and unemployed when they exhibit this risk-handling style (hence highly vulnerable to floods); nevertheless they exhibit an autonomous, active and preventive risk-handling style. A cluster analysis that compared behavioural clusters to data sets of social and material vulnerability offered a similar finding. It showed that the lower and higher categories of vulnerability are rather equally spread in all four risk-handling styles. Hence, in Bantaran Kali, there seems to be no significant correlation between material and social vulnerability and the risk-handling style that people exhibit in the face of floods.

This is not to say that the concept of vulnerability must be regarded irrelevant for studies of risk and human risk handling. First of all, the vulnerability analysis showed that the factor 'gender'

has an impact on risk-behaviour. In Bantaran Kali, males have a relatively greater chance than females to develop an *ajar* risk-handling style. It was suggested in chapter 4 that this is due to gendered relations in society. More fundamentally, I find it convincing that larger differences in vulnerability indicators have a significant impact on people's risk-handling style. For example, it seems likely that if riverbank settlers had the money to move away to a flood-free neighbourhood, they would certainly do so and hence decrease their personal risk. However, it needs be considered that the research area of Bantaran Kali is itself a rather homogenous community with respect to people's vulnerability. All residents are relatively poor and there was only little variety in important vulnerability indicators, such as levels of education or income. Hence, it might well be that these levels of variety in vulnerability indicators are so small that the results of the vulnerability analysis appeared insignificant. In that case, it is not the case that the concept of vulnerability is not-useful, rather that the concept might be less useful in a study context in which study participants score generally equally high or low on vulnerability indicators.

That having been said, there is yet another interesting conclusion that can be drawn in relation to the vulnerability notion. As was shown in the empirical chapters, even if riverbank settlers sometimes are offered a way to decrease their material vulnerability, they do not always chose to take up such offers. For example, in chapter 3 two *orang antisipasi* both turned down an offer to accumulate more money, because they believed a radical improvement in their lives would not be possible. For a very different reason, two people representing the risk-handling style of *orang siap* refused to make use of building materials that were offered to them for free by the kampong administration (*kelurahan*). They must have realized that these building materials could decrease their material vulnerability, but they chose to remain homeless and refused the offer of aid, because they distrusted the intentions of the giver. Likewise, these same people were offered a stay in a comfortable and safe flood shelter yet chose to stay instead in the overcrowded and hardly protective provisional shelter. I repeat these examples to make clear the point that even if people have the chance to decrease their material vulnerability they might have their reasons for not doing so; hence, risk is not automatically decreased. Put differently, and over against the hypothesis that underlies many vulnerability studies – that people are inherently risk avoidant – my study shows that such a hypothesis is simplistic. *Orang siap* balanced their material vulnerability to floods with other risks that they experience as threatening, namely the government. In the case of *orang antisipasi*, they decided not to take the chance to decrease material vulnerability, because they perceived themselves as unable to escape the cycle of hazard. In their case, we might say that these people's perceived or *subjective material vulnerability* has a greater impact on their decision to act in one way than has their material, objective vulnerability.

This leads me to say that a study of risk should not limit itself by looking at only the objective, measurable notions of material and social vulnerability. Instead, it should take into account the subjective factors that may impact people's risk-handling practices: their convictions, their beliefs, their hopes and their fears. As noted in chapter 1, similar calls have already been made by other scholars of risk and vulnerability, but unfortunately and somewhat surprisingly, the bulk of the vulnerability studies that are carried out remain limited to material explanations. It is my sincere hope that this study provides an extra stimulation to vulnerability scholars, to seriously make an effort to look beyond material aspects of vulnerability, as my data indicate that unless this is the case, the explanations of risk behaviour remain partial.

The third sensitizing notion that led this study evolved around cultural constructs of risk. If we took from the literature discussion that people's risk-handling practices are to a large extent related to the ways in which people interpret and perceive risk, then it becomes immediately clear that the idea that one shared cultural construct of risk could lie at the base of all these different practices in the research area makes no sense. It was, therefore, noted in the theoretical chapter that it can by no means be assumed that riverbank settlers share one 'culture', in the sense of an interpretative framework of risk. This accords with the phenomenon that forms the main inspiration for this study: that different individuals in the research area exhibit different patterns of behaviour in the face of risk. It was, however, well taken from cultural theories of risk that interpretations of risk are always political in the sense that they are selected by powerful actors in society, and that they are closely related to the ways in which people perceive society, their own position in that society, and other's position in society. Hence, it was most interesting for this study to consider how, within each of the four clusters of risk-handling styles, risk are constructed and politicized by representatives of the style. This analyses led to several useful outcomes.

If, as noted above, the *objective risk cognition* of floods was largely equal among residents, it appeared from the interviews and observations that people from different risk-handling styles maintained highly varying *subjective constructs of risk.* These subjective risk perceptions were coherent within each of the four discussed clusters of risk-handling styles, while they largely differed between the clusters. Hence, we might say that there is an association between the type of risks that people perceive as most threatening to their well-being, and the risk-handling practices that they exhibit. Let me briefly recap the subjective (or cultural) risk perceptions that can be associated with each of the risk-handling styles. For *orang ajar*, next to flood-risk, the risk that is particularly threatening is posed by potential social unrest. In their perception, riverbank settlers need to be disciplined to avoid unrest or 'anarchy' in society. Therefore, *orang ajar* seek out potential risk factors amidst the inhabitants of Bantaran Kali, for example, people who might try to organize a

flood protest or who might in other ways aim to disobey the political authorities. It was shown that these risk perceptions largely collude with elite ideas about the 'poor masses,' and especially about how to maintain order and safety in relation to these poor masses. I elaborate on these risk perceptions of the elite later in this chapter, in the discussion of policy implications.

In contrast with the *orang ajar*, *orang siap* were not at all concerned with social unrest. Instead, they indicated that they are in favor of protesting and disobeying the political authorities, because they deemed these *authorities* a personal threat to their well-being. As far as this group of people is concerned, the local government is a risk that may be even greater than flood risk, because this institution orders evictions and is believed to 'hate' poor people. As a result of these risk interpretations, *orang siap* invest most of their time, energy and assets in the protection of their safety against the local government, for example, by radicalizing and exhibiting defensive behaviour.

For the *orang antisipasi* and the *orang susah*, the way in which they construct or prioritize risk was less clear-cut. They have in common with the other two groups the idea that flood risk is dangerous, but they seem to have less strong emotions towards the government. Instead, *orang susah* suggest that they feel safe despite flood risk, as long as they are helped by their patron and fear the idea of having to handle risks, such as floods, autonomously. *Orang antisipasi* have a very different opinion: they prefer to handle risk rather autonomously within the neighbourhood, because they distrust the intentions of external elite actors, as well as those of fellow citizens, and prefer to trust and rely on 'only themselves.' It goes too far to conclude here that *orang susah* construct risk in such a way that they deem 'not being helped' their greatest concern, while *orang antisipasi* fear 'others' intentions' – but it must be emphasized that perceptions of risk trust, and self-efficacy are major influences on the ways in which people with these two risk-handling styles interpret and handle risk.

A final sensitizing notion that was distilled from the theoretical discussion concerns the notion of habitus. I have already touched on this above, but here I want to consider the helpfulness and the relevance of habitus by highlighting the main findings related to this concept. As pointed out in the theoretical chapter, habitus is a rather abstract notion and therefore hard to measure. Therefore, I proposed to examine the impact of riverbank settlers' dispositions, usually acquired in earlier stages of life and reflect social structures, on their current risk-handling styles. By focusing on styles, I was able to see that a habitus of poverty generally has a huge impact on present risk-handling practices of inhabitants of Bantaran Kali. This became clear, for example, in the case studies of the *orang antisipasi* and the *orang ajar* – as noted above, they seemed unable to aspire to a life radically different from their marginalized existence on the riverbank. The idea, that such radical

change could never occur for 'their type of people,' reflects early acquired ideas about themselves and society that are internalized and experienced as natural and 'true.'

Nevertheless the fact that habitus can have – and generally does have – a great impact on people's practices and perceptions, my focus on styles also helped me to examine and recognize the moments in which people reflect upon their former habits and convictions and are able to challenge or even alter these. A first example of this mechanism was given in the case study of the *orang susah*: through the new opportunities that floods offered them, they shifted their risk-handling style from that of being more or less autonomous to being largely dependent on a patron. This shift entailed not just a change in their practices but also, and importantly, in their perceptions of risk, trust, and self-efficacy. While in earlier phases of life, these people seemed still to regard themselves as capable of handling flood risk without external support, their more recent experiences – in which they were supported by a patron – seem to have 'taught' them that they need others to survive floods, and that they are 'weaker' and more 'troubled' than are their fellow residents. Hence, their older, general habitus differed from their later acquired, specific habitus. What remained rather unclear, however, was whether these recent experiences have also truly altered their deep-rooted views of the world and their own position in it. Most of these people's aspirations remained humble and located in the context of their current flood-prone neighbourhood. Moreover, most of these people's expectations of the future involved an ongoing relationship with their patron. But as I have shown, this trust is based more on hope than on realistic expectations. Moreover, even if some of these people might dream of a 'better life,' they were unable to imagine such a life without the support of their patron. As a result, they felt forced to stay living along the riverbanks out of fear of losing their patron's support.

Perhaps a somewhat clearer example of the ways in which habitual perceptions can be reflected upon and altered came from the case studies of the *orang siap.* An analyses of their biographies showed that these people radically altered their perceptions of risk and trust after they had been disappointed over and over again by, formally trusted, 'friends.' These disappointments had such a negative impact that it shook their worldview. Consequently, they were forced to critically reflect upon their former habits and beliefs. In retrospect, these people call themselves naïve, and they have consciously shifted their practices towards a more radical or defensive risk-handling style. Regarding their aspirations or future expectations, it appeared that these had also altered ever since the critical moment of reflection. They became convinced that they had a chance of a better life, as long as they 'prepare.' Their innovative aspirations were reflected, for example, in their concrete plans for moving house. But, as was also shown in the chapter, their perceptions did not always accord with actual opportunities to make change. Hence, while sometimes they

perceived a chance for themselves to improve their safety, it remains questionable whether this perception is realistic. This is because of their extremely marginal and vulnerable position in both the kampong and in wider society. As most other risk-handling styles in Bantaran Kali tend to reproduce unequal structures, adversaries from it generally do not press hard enough to challenge the deeply embedded unequal structure of the society in which the river bank settlers live.

In sum, by exploring the four sensitizing notions of risk cognition, vulnerability, cultural risk constructs and habitus, it was found that in Bantaran Kali a habitus of poverty, along with inhabitants' subjective perceptions of material vulnerability and their subjective perceptions or interpretations of risk, trust and self-efficacy are important factors that underlie risk-handling styles. While most perceptions and practices were acquired at an early stage of life, after which they were internalized and became habitual, it is also evident from the empirical chapters that daily life experiences can alter habitual perceptions and practices, and that, in some instances, people may at some point in their lives gradually or abruptly and radically shift their risk-handling styles. Notwithstanding the importance of the these four sensitizing concepts for this study, my fieldwork also sensitized me to yet other factors that impact on people's risk-handling styles. These could not be distilled from the literature. After careful consideration, I added these other factors to my analysis during fieldwork. I now turn to a discussion of these.

Additional factors that underlie risk-handling styles

The reader may rightly comment that all the four sensitizing notions tell us only about individual actors, while, in fact, the analyses and data presented in the empirical chapters indicate that, if we want to understand what underlies actors' risk-handling practice, we should regard them in their social environment. To repeat the argument that was made earlier in this thesis in a short and somewhat simplified way: actors are not free to do as they please, because people are always bound by social or cultural norms, structural power relations and material options. The sensitizing notion of habitus serves as a handy example: it was argued that habitus is both the product of unequal structures in society and also the reproducing force of these unequal structures. It thus involves both structure and agency. I now add to this argument other factors that underlie the habitus of riverbank settlers, namely the social dynamics that come about in highly unequal structures of economy and particularly power. In this part of my conclusion I argue that it is not enough to point out the extent to which each of the four sensitizing notions have an impact on human risk-handling practices. Rather we need to look at what lies behind these sensitizing notions and thereby shed light on the interaction of social structure and agency.

First of all, it is clear that riverbank settlers run a higher flood risk than do most of the inhabitants of Jakarta, due to their economically and politically marginal position in society. Their marginalization has driven them to occupy the unregistered and cheap land along the riverbanks, where they face not only recurrent flood risk but are also threatened by eviction due to their illegal status. They are often portrayed by the elite as the creators of floods, but this thesis has underscored that riverbank settlers should in reality be seen more as the victims of a highly unequal society. Consequently, they have few housing options that are available and affordable. In order to survive they are forced to live in flood-prone areas. In recent years, the DKI Jakarta government has tried to decrease the city's flood problem by taking physical and technical measures, but little is done to address the vulnerability of slum dwellers to floods. As a result, after each flood, the vulnerability of these people continues to increase. Furthermore, in the name of flood management, riverbank settlers have already been and threaten to be evicted without sufficient options for relocation; however, this does not solve the problem only moves it: many of them return to other riverbank areas, because they can only afford the cheap land riverbanks offer. Finally, it is important to note that government flood measures seem to prioritize the physical safety of the elite over that of the poor masses. This becomes very clear if one is cognizant of the fact that the flood policies that are implemented by the DKI Jakarta government prioritize protection of commercial areas at the expense of riverbank settlements. I will return to this topic of government failure, but here let me emphasize that power inequalities in wider society mean that riverbank settlers are exposed to a relatively high flood risk, and this is first and foremost the result of their marginalized and disenfranchised position in wider society.

Second, it also became clear that within kampong society there are highly unequal divisions of power that impact people's repertoire of risk-handling practices. Some residents, such as the *orang antisipasi*, are exploited by more powerful residents. This limits the repertoire of action of *orang antisipasi* because, for example, they are forced to share part of their income with these more powerful actors or because they fear surveillance and discipline and therefore adapt their behaviour to the needs and wishes of these powerful actors. Out of fear of being monitored or corrected by *orang ajar*, many people in Bantaran Kali overtly obey their wishes and at most only make symbolic protest. At the same time, I have also claimed that even the most powerful actors in kampong society are themselves limited in their risk-handling repertoire, due to their being subject to elite actors in wider society. For example, while the *orang ajar* have relative power within Bantaran Kali, it is clear that they operate according to elite cultural hegemony and hence they act in ways that benefit the elite. Due to their cooperation with political elite, *orang ajar* make it hard – if not impossible – for fellow residents to organize any large-scale protest against unequal structures in

Indonesian society. Thus, they help to reproduce elite cultural hegemony, as well as the unequal structures maintained by this hegemony, which places riverbank settlers – including *orang ajar* themselves – in a situation of relatively high flood risk.

To sum up, besides the factors that seem to emphasize the internal dynamics of riverbank settlers' practices – habitus and the subjective perceptions of risk, trust and self-efficacy – this study shows that the social dynamics as products of unequal structures of power and economy also have a large impact on risk-handling styles. A few people are able to exploit the flood problem for their own benefit, but it is clear that the social mobility and hence the risk-handling repertoire of most people remains strongly limited as a result of social interaction that arises in the face of recurrent floods.

At this point it is important to underscore that it is not the flood itself that creates all these dynamics or determines people's practices. Instead, the flood only renders visible the social processes and structural divisions that would have, perhaps, remained latent. Flood events brought these to light because they created so much damage and indeed opportunity in the kampong. Due to floods, *orang ajar* and *orang susah* get to interact with elite actors; due to floods, *orang antisipasi* Edi can create a thriving business; due to floods, riverbank settlers can be monitored, lectured and disciplined; due to floods, kampong leaders can be bypassed; due to floods, people are forced to critically reflect on their habitual beliefs and risk-handling practices. Thus on the basis of these observations, I propose a new research approach to risk and its human handling.

Research implications

This study sprang from a normal uncertainty perspective in which floods were not regarded as exogenous events but rather part and parcel of daily life, in which people have to overcome many different dilemmas and hazards. Consequently, people's practices in the face of floods were not interpreted as reactive to the isolated flood risk; instead, they were regarded as an expression of daily life practices. Taking this point of view, it became clear that flood risk often accelerates and lays bare social dynamics that are already existent in kampong society. We might thus say that flood risk offers us a lens through which we can understand these social dynamics, and the impact that these social dynamics have on people's practices.

This, I argue, implies a completely new approach to risk and its human handling. I am proposing that we turn the lens upside down. Instead of looking at how an agent responds to a flood, as is commonly the case in the field of risk research, it seems to me much more helpful to use risks, hazards or disasters as lenses that provide opportunities to understand and perceive the social structures and how these are reproduced or challenged by human actors. I call this a revelatory approach.

My proposal for the revelatory approach is loosely inspired by an analysis that was carried out by Jaqueline Solway in Botswana. Looking through what she calls a 'revelatory lens,' she showed how a drought allowed for a shift in communal entitlements and hierarchies. For example, the drought provided a point of entry for already powerful local actors to engage in new and expanded ways in the lives of citizens (1994, p. 472). Furthermore, the crisis enabled wealthy cattle owners in society to deny family members the rights they had based on kinship to access their property. If the situation had been 'normal', these wealthy farmers might have felt a social obligation to share; but now they saw an opportunity to use the situation to their own benefit. The drought proved to be a perfect scapegoat for these powerful actors: the crisis allowed them to easily justify their behaviour as necessary and strategic. Solway argues that these social dynamics were not arbitrary. Instead, the crisis of a drought accelerated dynamics that were already in progress. It laid bare the structural contradictions and societal conditions. In addition, the crisis disrupted conventional routine sufficiently to allow actors to undermine normative codes and create new ones (1994, p. 471).

I claim that floods, just like droughts, might be considered an avenue for agency and social change to interact. Therefore a revelatory approach to risk can help scholars to view the dialectic between agency and structure that shapes people's practices. Above I concluded that the risk-handling styles of riverbank settlers comes about from a mixture of individuality (habitus, interpretations of risk, perceptions of self-efficacy and trust, lived experience) and sociality (unequal structures and social interaction therein between riverbank settlers of different power positions, and between riverbank settlers and elite actors from outside the kampong). Therefore a revelatory approach can function to expose socio-economic dynamics during a flood event in the area under study. It seems to me this is useful, because it is clear from my analysis that people's habitus often reflects their social position. A similar thing can be said about people's interpretations of risk. In my study I found that these perceptions appeared not to be based on their objective risk cognition but had everything to do with their subjective perceptions of risk, trust and self-efficacy, which were framed and altered in social interaction. It follows, then, that the actions of people in the face of flood risk cannot be assumed to be completely predictable, but neither are they random. Rather, they are to a great extent extensions of structural contradictions. They reflect social structures or are responses to them – responses whereby people make use of them or aim to alter them. Therefore, I argue that if we want to understand why people act as they do in the face of risk, and especially if we want to understand heterogeneous practices in the face of risk, then we need to study risk differently than is currently being done in studies of risk and disaster.

I have argued above that in far too many of those studies, the persisting focus remains on the hazard, as if it is cut loose from 'normality'.. As a consequence of this view, these studies come

up with conclusions that suggest that people, whenever faced with hazard, are also cut loose from all the social pressures, norms and interests that otherwise shape their daily lives. All of a sudden, the focus of the scholars shifts towards the individual and the risk – and nothing else matters than the individual's response to that risk. But a lot still matters, I wish to underscore, even in a riverbank settlement where people are constantly flooded. This study, therefore, suggested that people do not respond solely to a flood, but rather to life. They exhibit practices that are related to power structures, influenced by local habits, cultural norms, and individual and social interests.

Based on these observations, I propose a revelatory approach to consider risk and disasters as points in time that expose unequal structures and also have the potential to change practices that reproduce social inequalities and power relations. In order to understand the links between structure and agency, we need to analyse change in terms of the structural conditions in which change takes place and also with regard to the actions taken by individuals and institutions. As such, to study a social group from a revelatory approach forces us on trying to understand risk-handling practices in the triangular interrelationship between structure, agency, and social change.

Observing social action around a risk event is revelatory for a social researcher, both for what it reveals of social processes and for the questions it poses for comparative purposes. This case study of Jakarta is an insightful first step towards such a revelatory approach, but of course is by no means sufficient. In future research, it would be interesting to see if similar social dynamics are to be found in other places or during different risk events. Also, and as noted earlier, it would be revealing to investigate whether the same risk-handling styles are used by people in other social contexts. In such future studies, a revelatory approach would help shed light on the relations between power structures, social dynamics and risk-handling styles. My analysis does not answer these questions but points to the need to consider them in any analysis of risk and human risk handling.

Policy implications

This book began with a section on urban risk. It was noted that, in fast growing megacities, an increasing number of poor inhabitants are becoming more and more vulnerable to natural hazard. In many of these cities, policy makers find great difficulty in decreasing this risk for inhabitants, not only because natural hazards are often caused by a wide range of complex interacting natural and societal factors but also because implementing effective and coherent policies to handle risk has proved difficult. This is because people tend to handle risk in highly heterogeneous ways. At present little is known about the factors that underlie such heterogeneous risk-handling practices. As a consequence, policies are most often based on technocratic assumptions about the relationship between risk cognition and risk behaviour. Thus homogenizing policies are implemented in

communities that respond to risk in heterogeneous ways. These tendencies become visible, for example, in the fact that the DKI Jakarta government has been concerned in recent years with educating riverbank settlers about flood risk. This has had little effect until now, and this study has helped to show why. I emphasize again that it is not a lack of cognition that determines risk-handling practices but a complex interplay of factors, such as people's risk perception, their levels of trust and self-efficacy – factors which may seem unrelated to floods in the first place. The impact of these factors may differ from actor to actor, as they come about from habitus and lived experience.

Before I go on and describe some implications of my findings that might be useful for formal flood managers aiming to make their policies more effective, it needs be admitted that I doubt whether flood policies will be changed in the near future, even if more becomes known about the factors that underlie heterogeneous risk-handling practices. My skepticism exists for two main reasons. First of all, my study indicates that the flood problem may be even harder to solve for the DKI Jakarta government than bureaucrats are already aware of. That is because, as I have argued, risk behaviour is influenced by non-tangible factors, such as mistrust of the government, power inequalities and marginalization. Clearly, no governor can solve such complex problems within a term or two. Hence, it is questionable whether the current governor will even try to address them; he may, instead, chose to take populist measures that satisfy the middle class and the elite and thereby secure his political position.

The political decisions that have been taken by Governor Jokowi since he was elected offer ambiguous signals. Under his leadership systematic evictions of flood-prone neighbourhoods have already been carried out. In Pluit, in the North of Jakarta, the 'illegal' houses of hundreds of families were demolished between May and September 2013. Eight hundred members of the Public Order Agency (Satpol PP) used heavy equipment, such as bulldozers, to clear the area and force the families to leave (Muhammadi, 2013). The DKI Jakarta government took this action despite NGOs' protests that the evictees had not received adequate compensation or relocation options. Thousands of other Jakarta inhabitants living in flood-prone areas are expected to be evicted in the near future. [231] Such measures of the city government obviously do not tackle the underlying root problem of social inequality and inadequate housing: it moves rather than solves these problems. The structural inequality and marginalization of the poor in Jakarta leaves them no option other than to reside in dangerous places – only to be chased from one such place to another. The situation of normal uncertainty which confronts the poor is clearly not of their choosing; it is a product of inequality, as well as of political denial and neglect of poverty-related problems by the city

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[231] This information was derived from an interview by email with Mr Edi Saidi, working for the Urban Poor Consortium in Jakarta (30 August 2013) , and from an interview by Facebook with Mrs Ivana Lee, an architect working for foundation Sanggar Ciliwung Merdeka (26 August 2013). See also Muhammadi 2013 for a newspaper article on these evictions.

government. The poor, who are most in need of social security in a fast-modernizing country that is prone to natural hazard, have to live with more insecurity. Jokowi, who is represented in public opinion as a 'poor people's governor' and the 'Obama of Indonesia,' seems more of a hardliner than his image suggests.

Having said this, it needs be noted that there are small indications that the present DKI Jakarta government is willing to make at least some efforts to address problems, such as housing for the poor. For example, Jokowi in the beginning of 2013 accepted a plan that was proposed by architects to turn a settlement of poor people living on a giant garbage dump into a 'vertical kampong,' with affordable housing for the poor.[232] If this 'super-kampong' turns out to be successful, then more such accommodation may be built for Jakarta's poor over the next years. It needs be noted that at the moment of writing, in October 2013, the plan had still not been implemented, and no building had begun; still, the plan seems promising and addresses one of the root problems of flooding in Jakarta.

Another signal that gives some hope is the fact that subsidized apartments are being built to provide housing for some of the evicted poor at cheap rentals. But there are problems with this plan. Of the approximately 34,000 families to be evicted from the Ciliwung riverbanks in the near future, there is room in these subsidized flats for only 7,000. This means that most of them will be homeless and fall deeper into poverty, especially those without identity cards for Jakarta – according to the city government, they have no right to relocation (Yusuf, 2013). Another problem concerns the flat apartments themselves. NGOs and local residents fear that the rents will be too expensive for the poorest, and hence remain only accessible to the relative wealthy (Personal communication with respondents in Bantaran Kali; Desyani, 2013; Asian Coalition of Housing Rights, 2013). Even if spokespersons of the DKI Jakarta government claim that they are taking care of relocation issues (Yusuf, 2013), in practice most evictees are left by their government to their own devices. The DKI Jakarta government does not make a serious effort to address the underlying causes of risk and vulnerability in its city, let alone to try to solve complex issues of mistrust of the poor of the city's formal flood managers.

This failing of the state suggests that the poor in Jakarta will have to continue to seek out strategies that enable them to protect their own safety and well-being, whether through clientelist relationships with powerful actors in society or by exhibiting autonomous practices that cross the line of what is legal. While to outside observers these relationships may appear to produce dependency and disempowerment – and hence go against liberal, individualist conceptions of

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[232] http://www.jakartaverticalkampung.org/, retrieved 22 October 2013.

citizenship – it must be acknowledged that for riverbank settlers these relationships also create access to vital resources and safety.

Besides the lack of political will on the part of the DKI Jakarta government to become involved in complex issues, such as poverty and inequality, there is yet another reason why I doubt that improved academic understanding on risk -handling practices will have any significant influence on flood policies in Jakarta. That is because the Indonesian government, now and in the past, prioritizes other issues than those of structural inequality, namely safety and order. In my thesis, this became clear when we examined the measures taken by the DKI Jakarta government in relation to floods. I showed that the one activity where the government cooperated with *orang ajar* – the facilitation of a pre-warning system – could be regarded as an effort to decrease flood risk, but it seems more likely that the government regards the system as a means to control and discipline the poorest part of the population, and thereby help to prevent social unrest and political protest. This prioritization of the elite and safety and order over pressing issues that negatively affect a huge percentage of the population is by no means new. Lizzy van Leeuwen (2011) described the obsession of the Jakarta middle class and elite in the late nineties with crime, revolt and insecurity, while problems, such as marginalization and social inequality, were consistently denied. Van Leeuwen rightly pointed out that the focus on stability and order also existed in late colonial times, where literature emphasized the need for *'rust en orde'* (Mahtani, 2011, p. 2). My thesis shows that this focus still exists. The city government seems largely occupied with preventing new uprisings among the poor masses, while the topic of floods is depoliticized, or at least portrayed as an inevitable problem – created and experienced by the poor.

Let me end by showing how the insights into heterogeneous risk-handling practices, gleaned from my fieldwork in Bantaran Kali, have concrete implications for urban risk policy. I do not want my pessimism to overshadow the fact that there are, no doubt, policymakers and other formal flood managers in Jakarta who are truly concerned with the vulnerability of the poor to flood risk – they may find some of the following insights useful. First of all, my study has made clear that human risk handling is by no means a direct response to an isolated risk; it is instead impacted by a wide range of factors that may not be directly related to the risk at all. For example, it proved that trust in external aid providers and formal flood-managers has significantly affected risk practice. In Bantaran Kali, a flood shelter that was set up by a political institution remained largely empty because many of the flood victims distrusted the intentions of this political institution. For similar reasons, inhabitants sometimes refuse to make use of externally provided aid that could potentially decrease their vulnerability to risk. This shows that for policy makers trying to decrease the vulnerability of urban inhabitants, it is not enough to offer support in times of crisis. Instead, relations of trust between

citizens and the state need be built and maintained. In the case of Jakarta, this seems a difficult and complex task for government actors. Riverbank settlers do not base their distrust of the government only on their memories of past negative experiences; they are also concerned about negative encounters with the government in the future, most specifically in relation to eviction. Hence, if Governor Jokowi wants to improve relations of trust between the city government and riverbank settlers, he should be concerned not only with floods; he must also offer these inhabitants some kind of security in case of eviction. He needs to convince people of his good intentions before he can expect them to follow the safety advice of his government.

My study also indicates that the current focus of many NGOs and policy institutions on risk cognition and material vulnerability may be too narrow. As noted, institutions involved in risk and disaster commonly base their policies on theories of risk and disaster that assume that risk behaviour is determined by risk cognition or material vulnerability. It is typically assumed in studies that work with these theories that people exhibit effective risk-handling practices if their risk cognition is high and their material vulnerability is low. Consequently, many of these institutions are currently busy in urban areas providing information and safety-advice to vulnerable groups, or they try to decrease material vulnerability by, for example, offering aid in recovery or by facilitating programs in which people can accumulate money or build resistance in other ways. These strategies, I argue, however well meant, are not sufficient in the case of Jakarta's riverbank settlements – and perhaps the same applies in other parts of the world.

My study has shown that people's risk-handling practices are not direct products of objective information about flood risk. Even if riverbank settler's risk cognition is very high, they frequently chose to handle risk in a way that may come across to outsiders as inefficient, ineffective or even dangerous. An example of such practice is the decision not to evacuate from a flooded house, thereby disobeying formal safety advises. Such decisions can be explained, however, if we consider that there are other factors involved here that influence decisions in the face of risk. It was shown in this thesis that riverbank settler's practices are based more on subjective interpretations of risk, fed by perceptions of trust in or mistrust of other actors and by perceptions of self-efficacy. I emphasize that these factors need be taken into account for policy to become effective.

Regarding the issue of vulnerability, as suggested above, while I deem vulnerability an important factor that can limit people's repertoire of practices, it also appears that within one rather homogenous vulnerable community people's *subjective* or perceived vulnerability rather than their objective material vulnerability has the greater impact on their practices. From my analyses, I found that subjective perceptions of risk and vulnerability are based on perceived trustworthiness of potential aid-givers and authorities involved in flood-management, as well as on perceptions of self-

efficacy. If people feel themselves unable to act effectively in the face of risk – whether or not this perception matches reality – they tend to lean on external actors. The reverse is also true: people who come to regard themselves as 'smart' or 'strong' are often able to exhibit active and rather effective risk-handling practices – even if they are among the most vulnerable in their society. Again, we must conclude that the present focus of policy makers and disaster institutions on material circumstances and objective knowledge is too limited. It seems advisable for them to integrate less tangible factors, such as subjective perceptions of risk, trust and self-efficacy, into their current policy implementations and programs. Hence, next to training in risk cognition, these institutions could try to understand what influences objective perceptions of risk, how people regard their own options to handle risk, and how they regard the intentions of other actors in their social environment.

My final note on policy implications regards something that is as logical as it is important for policy makers involved in risk and disaster. Flood risk is no natural hazard. The suffering that follows floods is caused, to a large extent, by unequal structures in society. Therefore to decrease flood risk it is not just the riverbank settlers who must act. Even if their self-efficacy were to increase or their 'aspirations' were less humble than they are now, they will still face marginalization, disenfranchisement and unequal structures of power and economy in Indonesian society. I have noted several times in this thesis that riverbank settlers have few alternative options other than to live in a flood-prone environment – housing in safe areas is unaffordable. These unequal social structures are also the main reason for the relatively high risk that poor urban inhabitants in so many cities in the world face. It is these social structures that need to radically alter for them to become less vulnerable to risk.