



Get Ready for the Flood! Risk-handling Styles in Jakarta, Indonesia

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How do people protect their physical and mental well-being when their assets and health are continually threatened by river flooding? How can we understand their practices in anticipation of, during, or right after floods? These are the main questions that have led to my anthropological PhD-research on the ways in which residents of a severely flood-prone neighbourhood in Jakarta (Indonesia) live with – and protect themselves against- frequent floods.

Between 2009 and 2011 I have conducted fieldwork and lived in a neighbourhood that I call 'Bantaran Kali' in this dissertation: a slum that is built on the banks of a river and that is flooded several times a year. During my fieldwork in Bantaran Kali, I participated in the daily lives of my informants and experienced some of the risks that are inherent to it. For example, their houses and in-house shops flooded three times during the period in which my fieldwork took place. Many residents fell ill due to the polluted floodwater, and most of them experienced huge economic losses as a result of these floods. Some lost all their savings, while others saw their furniture and work-assets damaged. Through the methods of participant observation, focus group discussions, risk-mapping and in-depth interviewing; and by recording life-histories and conducting psychological and socio-economical surveys, I tried to gain insights in the many different ways in which the inhabitants of Bantaran Kali act and deal with the flood-risks described above.

My research builds on earlier studies on human risk-behaviour and hence assumes that the social and economic conditions in which people live, as well as their cultural risk-perceptions and knowledge of risks, have a large impact on the ways in which they act whenever a flood inundates their neighbourhood. I have used these notions (socio-economic vulnerability, cultural risk perception and risk cognition) as 'sensitizing concepts' in my field study, and as such they offered me initial guidance in my research. However, my approach also differs distinctively from earlier risk studies and as a result, my findings offer new empirical and analytical insights about human risk-handling practices in risk-contexts.

There are three main differences between the approaches of earlier studies and my own. First of all, I am explicitly interested in the different ways in which individuals within a group 'at risk' act in relation to risk. This means that my research counter poses the idea that a group 'at risk' should or can be regarded as a homogenous unity. Secondly, I approach the topic of flood risk not from the perspective of experts and other outsiders, but instead from the point of view of 'normal' people whom in their daily lives have to deal with a plurality of risks, dilemmas and insecurities. A third important difference between this and other social scientific risk studies, is that I have

integrated relevant psychological insights into my anthropological research project, as to investigate in detail the reasons behind the individual differences in risk-handling that exist within one society or group 'at risk'. I will elaborate below on each of these three characteristic aspects of my research (the focus on heterogeneity, the bottom-up approach and the integrated methodological approach) and explain how these relate to the academic research problems that presently hamper our understanding of human risk-behaviour, before describing the findings and implications of my research.

Research problem and approach

The attention of academics for the ways in which human actors cope with so-called 'natural' disasters, such as floods and Tsunami's, has strongly grown over the past decennia. This trend can be explained by the fact that increasingly scientists believe that at present the number of natural disasters occurring worldwide is on the rise (Deltadiologues, 2008; Marfai, Yulianto, Hizbaron, Ward & Aerts, 2009) and that, because of a combination of the negative effects of climate changes and fast-growing urbanisation in developing countries, the number of natural disasters and also the number of human victims of these disasters will even further increase over the next years (Wisner, Blaikie, Cannon & Davis, 2004; Wisner & Caressi-Lopez, 2012; World Bank, 2011).

Both academics and policy makers fear that, without an accurate understanding of the ways in which people make decisions and act in risky situations, it will be hard – if not impossible – to develop and implement effective intervention programmes that may help to avoid the negative consequences for vulnerable people, caused by future natural hazards. For some, this fear is already very concrete: policy makers and employees of Non-Governmental organisations (NGOs) who work in countries with relatively many natural disasters, such as Indonesia, today are already struggling with this problem of ineffective interventions. Many of the current intervention programmes that were developed and implemented in these countries, proved to be largely ineffective. For example, they could not prevent that hundreds or even thousands of Indonesians fell ill, were injured or became homeless during recent floods in Jakarta (Caljouw, Nas, & Pratiwo, 2005; Texier, 2007; Haryanto, 2009; Rukmana, 2009a, Philip, 2013; Schonhardt, 2013b). One of the main problems with these interventions is that safety-advises that are communicated by authorities, are not followed by all people in flood-prone areas. Several scientists reported over the past years that, even though the Indonesian authorities each and every time instructed the whole population of defined risk areas to evict as soon as possible to safe shelters outside the neighbourhood, many inhabitants ignore these instructions: a great many of them refused even to leave their houses during large floods (Marschiavelli, 2008; Texier, 2008; Febrianti, 2010).

Other but comparable examples of safety advises that are widely communicated by authorities during natural disasters whilst only small parts of the population act out on these, are the advises to households to set aside saving money during the year (as a personal insurance against floods), to strengthen or heighten houses, or to take hygienic measures to prevent illness after floods. Although authorities have communicated such advises repeatedly to the inhabitants of flood-prone neighbourhoods in Jakarta, it appears time and time again that only some inhabitants follow these advises. Many of them do not – not even when they are offered sufficient material or financial support by governmental or non-governmental institutions involved in the management of floods in their neighbourhood. In short: different people handle risk in different ways, and this heterogeneity in risk behaviour makes it difficult for policymakers and NGO's to intervene effectively in risk areas.

Even though the recent increase in academic attention for human risk handling has resulted in a massive bulk of literature on the topic, I argue in my dissertation that this literature has remained insufficient for two reasons. The first reason is that current anthropological and sociological literature offers no answer to the question of *why* individuals within one group 'at risk' handle risks such as floods in heterogeneous ways. In these academic disciplines, the focus is mostly on cultural risk perceptions that are shared and reproduced by the members of a group, or on a group's adaptation strategies that are collectively used to protect the community against recurrent hazards (Douglas, 1992; Weber & Hsee, 2000; Bankoff, 2006; Texier, 2008). In these studies conducted by anthropologists and sociologists, homogeneity of human risk-handling practices is underscored, rather than heterogeneity. This is not the case in psychological risk research: there, scientists are in fact explicitly interested in individual risk behaviour, and hence in the differences between the ways in which individuals act in the case of risk. The disadvantage of psychological risk studies, however, is that they are generally conducted in a laboratory setting, which means that the influences of (group) culture and social relations on individual practices are deliberately neglected. Psychologists tend to focus on personality characteristics – a focus that is so narrow, according to most anthropologists and sociologists, that the latter have hardly integrated any psychological findings into their own work, explaining why they continue to overlook individual differences.

Instead of taking either the cultural risk perceptions and adaptive group strategies into account (as commonly happens in anthropological studies) or the opinions and practices of an individual outside his or her social and cultural context (as commonly happens in psychological studies), in my dissertation I take into account both the heterogeneous ways in which individuals within a group act in relation to flood risk, as well as the collective ways in which group members adapt to flood risk. The advantage of such an integrated approach is twofold: on the one hand, psychological assumptions about individual risk handling can be tested in the complex social and cultural environment of the field, while on the other hand it offers a chance to conduct an

anthropological research project that is explicitly interested in heterogeneous risk-handling practices, a topic that, as I have argued above, has remained largely neglected in the anthropological discipline until now.

Another limitation in the present academic risk literature concerns its top-down approach, or the emphasis that social scientists have put on the risk analyses of 'experts' such as policy makers, academics and technical specialists, while the opinions and ideas of 'normal' people who face risks in their daily lives, generally receive much less attention. As a result, everyday knowledge and risk perceptions of these people have remained underemphasized and undervalued, while I argue instead that these people should be regarded as experts by force of their personal experiences. If we want to understand why they act as they do in the face of risk, then would it not be more logical to take their opinions about what is 'risky' or 'safe' as the basis of risk studies, instead of the opinions of technically or scientifically informed outsiders? Besides the fact that the dominant top-down approach is not helpful to improve our understanding of factors that underlie heterogeneous risk-handling practices, it also has the disadvantage that it tends to narrow risk studies towards one, artificially isolated risk only (floods, for example), while it neglects the many other problems, dilemmas and insecurities that 'normal' people – or experts by personal experience – have to deal with in their daily lives. Think for example of the depriving economic circumstances in which so many people around the world live, or of the social and financial obligations that members of a poor group have towards each other in societies where a formal safety net is not provided by the state. It seems probable that these everyday problems, dilemmas and insecurities greatly impact the decisions that people make when faced with a risk event such as a flood, and it is therefore disturbing, in my opinion, that these important aspects of their daily lives are hardly considered in most studies of risk.

For this reason I urge in *chapter 1* of this dissertation that if we are interested in risk-handling practices, perceptions and experiences of 'normal' people must form the foundation of any study about human action in relation to flood risks. For this reason I have, in my dissertation, investigated rather than presumed how the inhabitants of Bantaran Kali define and understand risky events in their daily lives, and analysed how decisions, practices and daily-life experiences are related to these risky events.

In order to make such an integrated and bottom-up approach to risk handling possible, I propose to shift the academic focus from either the cultural group or the atomic individual to the 'risk-handling styles' that are commonly used by inhabitants of Bantaran Kali whenever they are faced with (the risk of) a flood. In the literature, 'styles' have been described earlier as the 'fixed customary, habitual everyday practices' of people, which are shaped by a combination of structure and agency (Nooteboom, 2003, p. 197). The concept 'style' makes it possible to investigate heterogeneity within a group, for it presupposes that different people within a society or group make

use of different styles of behaviour. These styles are largely based on material circumstances, the habits of people and their personal history and hence they are for a great deal habitual and fixed, but they can, through learning processes and the experiences that people have, change over the course of a life time. In my dissertation I build upon this idea of heterogeneous styles of handling. By investigating risk-handling styles in Bantaran Kali, I have gained a deeper insight in the ways in which individuals within a group develop heterogeneous ways of handling risk, and how they (re)define their risk-handling styles during the experiences with risk that characterise their daily lives.

Empirical insights

This research being grounded in 'bottom-up' perspectives of my informants, *chapter 2* of this dissertation claims that we cannot investigate their practices in relation to flood risk if we do not take into account the many other risks and problems these people struggle with in their daily lives. It is important to consider that in the neighbourhood where my fieldwork took place the well-being of inhabitants is by no means only threatened by floods, as also poverty-related threats such as disease loom large. Another pressing risk that these inhabitants face is slum clearance. As riverbank settlers do not possess formal land rights or property rights to their houses, they are threatened with evictions - frequently carried out by the city government of Jakarta. I want to claim that these three main risks (floods, poverty and evictions) are so strongly interrelated in the daily lives of the inhabitants of Bantaran Kali, that they cannot be analysed separately, let alone largely be neglected as happens in most other studies on human practices in relation to flood risks. Therefore, in this dissertation, I analyse human risk-handling practices in relation to floods without overlooking the impact that poverty-related risks and the risk of evictions have on these practices.

In the empirical chapters I, therefore, describe the four risk-handling styles that are most commonly used by inhabitants of Bantaran Kali whenever they are faced with flood risk, poverty-related risks and the risk of eviction. Besides defining and analysing each of these risk-handling styles in detail, I try to offer an insight into the development and reproduction of these styles. My research makes clear that these risk-handling styles are largely habitual: the residents in Bantaran Kali have, through their many experiences with past floods in the neighbourhood and through socialisation processes in a context of poverty and illegality, developed pragmatic styles of handling risk that have become typical and habitual to them. By making habitually use of these risk-handling styles, they are able to protect their physical and mental well-being despite of the constant threats of floods and other risks that are inherent to their living conditions. They can and do change these risk-handling styles over the course of their lives, however, but only in specific and extraordinary circumstances, which I will discuss below.

The first risk-handling style, which I describe in *chapter 3*, is used by people who are nicknamed the *orang antisipasi* in the neighbourhood. Characteristic behaviour of people with this *antisipasi* risk-handling style concerns: handling flood risk more or less autonomously; refusing to accept financial aid or a loan in case this is offered by an external aid institution; the consequent refusal to evacuate to a shelter that is managed by a political institution; and the refusal to cooperate with neighbours in financial institutions. In order to make a livelihood without having to lean upon – or cooperate with – others, *orang antisipasi* are often involved in ‘illegal but licit’ activities. I show that behind the *antisipasi* risk-handling style lies a deep mistrust in aid institutions, local politicians and direct neighbours. Rather than cooperating with these mistrusted actors, *orang antisipasi* prefer to ‘save themselves’. I conclude that this mistrust is shaped by past, disappointing experiences with these actors, and also by a pessimistic worldview that the *orang antisipasi* have developed on the basis of these experiences. They have only very pessimistic expectations of their own chances in a highly unequal society and therefore focus their energy on independently solving acute, daily problems, rather than setting themselves long-term goals that, as far as the *orang antisipasi* are concerned, will probably never be realised anyway.

Although the *antisipasi* risk-handling style generally enables people to protect their physical and mental well-being against the negative consequences of the regular floods in Bantaran Kali, it has the disadvantage that it provides them with a low status in societal hierarchy. Most neighbours look down upon the *orang antisipasi* due to their involvement in illegal activities, and some even extort money from them for this reason. This means that *orang antisipasi* need all of their incomes to pay for their daily costs and social ‘obligations’, and are unable to save money which could be used as a personal insurance for floods, or to improve life in general.

In *chapter 4* I describe the second risk-handling style that is commonly used by inhabitants of Bantaran Kali, by a group of people who are called the *orang ajar* in the neighbourhood. Their *ajar* risk-handling style is characterized by close cooperation in the domain of social safety with local politicians and Jakartan army personnel. Analysing the life histories of *orang ajar*, I show that these people have succeeded to establish contacts with politically powerful actors due to the increase of floods in their neighbourhood over the past years. From these political actors the *orang ajar* receive valued information about upcoming floods, which they spread in their neighbourhood in the form of safety advises. In return for this valued information, the *orang ajar* carry out tasks that benefit the political elite. They try and avoid social unrest and protest in Bantaran Kali by monitoring and disciplining the behaviour of their fellow residents, and whenever they feel that the social stability is threatened nonetheless, they report about potential protestors or troublemakers to their political partners so that these can be punished or expelled from the neighbourhood. In contrast with the risk-handling style of the *orang antisipasi*, described above, the *ajar* risk-handling style has at its basis

a deep trust in local politicians and other powerful actors in Jakarta society. At the same time, it becomes clear from the analysis that *orang ajar* mistrust and look down upon their fellow residents: indeed, the behaviour of these potential 'troublemakers' needs to be monitored and disciplined constantly by *orang ajar* and their political partners.

One advantage of this risk-handling style for the *orang ajar* is that their contacts with political elite offer them a sense of safety in their daily lives. Another advantage is that it offers *orang ajar* a high status in the neighbourhood, as well as a relatively powerful position in Bantaran Kali. Most of this power is not based on respect, but rather on fear: out of fear to be reported to the authorities fellow residents of *orang ajar* dare not to protest against their dominant behaviour, overtly follow their safety advises, and try their best not to become disliked for whatever reason by an *orang ajar*. It follows, then, that this risk-handling style does not only have consequences for the safety and well-being of the *orang ajar* themselves, but perhaps even more so for their neighbours. It appears from my research that the risk-handling style of *orang ajar* reproduces the social inequality in Bantaran Kali and Jakarta, because they make it (more) difficult for fellow residents to protest the marginalized and powerless position in which they live.

The third risk-handling style, which I describe in *chapter 5*, concerns the patronage relations between a group of residents that refer to themselves as the *orang susah*, and their 'patrons', actors who work in economically resourceful aid institutions involved in the flood management of Bantaran Kali. Even though the *orang susah* were initially selected by these actors as aid beneficiaries as a matter of luck or coincidence, I point out that *orang susah* have succeeded in claiming and sustaining this aid over the course of years by carefully and strategically highlighting their neediness towards their patrons, and by constantly investing in the reciprocal relationship with these patrons. For example, many *orang susah* carry out volunteering work for the institutions that their patrons represent, and/or offer the employees of these institutions small gifts. These gestures of loyalty strengthen the relation with their patron and hence ensure the financial support that is granted to *orang susah* in case of emergency, but they have the disadvantage that they do not allow the *orang susah* to accumulate capital or assets autonomously in their daily lives as this would ruin their needy image. As a result, the *orang susah* remain largely dependent of their patrons during severe floods. This dependency becomes even stronger when the patronage relationship lasts, because *orang susah* are often excluded from local, social safety nets by their neighbours who are jealous of the unequal amount of aid that *orang susah* receive from their patrons.

This situation of increasing dependency is specifically highlighted in the chapter because it offers insights in the ways in which a risk-handling style can be developed, reproduced or altered by residents. According to the *orang susah* themselves, their patrons and their neighbours, the *susah* risk-handling style reflects a rather recent phenomenon in Bantaran Kali. It appears from in-depth

interviews that *orang susah* used to act in rather autonomous ways during past floods where no aid institutions were yet involved in the flood management of Bantaran Kali. Only during recent years, when the increased amount of floods in Bantaran Kali was accompanied by an increased attention of aid institutions for the neighbourhood flood victims, *orang susah* were able to develop a new type of risk-handling style: one in which they became largely dependent of external aid for their survival of severe floods. Moreover, *orang susah* seem to have become convinced over this time-span that they cannot (any longer) handle flood risk effectively by themselves and that they need others to overcome their problems. My analysis shows that such low self-efficacy contrasts sharply with their former behaviour and opinions, which indicated that they used to have greater trust in their own skills and capabilities to handle floods. I therefore conclude in this chapter that their perceived dependency is, at least partly, acquired.

In *chapter 6* I analyse once more the precise, historical development of a risk-handling style. This time it concerns the practices and perceptions of the *orang siap*, a group of inhabitants in Bantaran Kali that, in former years, used to act according to one of the risk-handling styles described above, but who have in recent years radically shifted their ways of dealing with risk towards a style that can be called defensive or even aggressive. I trace back their life histories and pinpoint the exact points in time where these people consciously and strategically altered their risk-handling style. It appears that the *orang siap*, after an accumulation of disappointing and sometimes even traumatic experiences with former patrons or presumed political partners, felt forced to reflect critically on their risk-handling style and eventually alter it. The exact experiences of *orang siap* might differ from one person to another, nevertheless, they all have in common that in retrospect they believe that they used to have an ineffective or even 'dangerous' risk-handling style, which was based on a misplaced, naïve trust in other actors. In order to feel safe in Bantaran Kali nowadays, the *orang siap* try to protect themselves and their families against the risks of floods, poverty and evictions by making use of defensive or sometimes even aggressive practices, such as joining a civil militia organisation, buying weapons or overtly protesting the authorities. Unlike their fellow residents, the *orang siap* are no (longer) afraid to be reported by the *orang ajar*, or to be disliked by local politicians. They express their anger and frustration about their marginalized position in society publically, and sometimes try – although always without success – to organise collective protests against political actors and institutions that they hold responsible for the reproduction of social inequality in Jakarta.

Analytical insights

The holistic approach that I take in this dissertation contributes to a better academic understanding of the practices that people exhibit in the face of risk, by going beyond the analytically one-sidedness

that dominate present studies of risk; by offering a counter-weight to mostly cultural analyses that tend to overlook heterogeneity within groups 'at risk'; and by questioning popular ideas of experts about what it means to act rationally and safely in a context of risk, ideas which nowadays still inform a large share of the public discourse on risk and safety.

The analytical framework that I use in this dissertation – which integrates individuality and sociality – shows that the insights from earlier risk studies (socio-economic vulnerability, cultural risk perceptions and risk cognition) are relevant for an analysis of risk-handling styles, but not sufficient. Even though I acknowledge that these insights to some extent explain the development and reproduction of the risk-handling styles I define in this dissertation, I underscore that there are also other factors that heavily impact people's practices in relation to risks. One such crucial factor is the impact of personal experiences of individuals with floods, another is the socialisation process that takes place in a social environment which is characterized by poverty, inequality and powerlessness. I claim that especially during such experiences and socialisation processes people's *habitus*, structuring actions and perceptions, is developed and reproduced, and also people's expectations about their own capacities to act effectively in a risk context. Likewise, during such experiences and processes people create expectations about the actions of *other* actors involved in risk, such as aid givers, local politicians and neighbours. These perceptions of trust and mistrust, although all too easily overlooked in narrow-focused studies on flood risk, appear to be determining factors in the development of human risk-handling styles. This means that they are crucial explanatory factors in a social-scientific explanation of heterogeneous practices in a context of risk.

I end this analytical discussion by proposing a new approach for future risk research. This dissertation showed that floods not only provide problems for the residents of Jakarta's river banks, but also chances and opportunities. After all, it is due to the floods that some residents are able to establish contacts with political elite and economic patrons, which increases their economic or social situation in Bantaran Kali. These social dynamics that are accelerated by floods show who, in a highly marginalized riverbank settlement, has the capacities or means to take up such chances and to pursue one's interests, and who has not. I claim that what drives these dynamics are processes of power and powerlessness, apparently fixed structures which are rendered visible by floods. Yet at the same time, my research shows that people, by using their agency, can challenge these structures, for example by developing creative strategies that do not only help them to protect against floods, but that also help to make their daily lives better or safer. Put differently: the floods in Bantaran Kali work as a catalyst to speed up social dynamics and to render these visible to outsiders.

It seems to me that these insights may lead us to a better academic understanding of human, heterogeneous practices in relation to risks. For that reason I propose a rather radical shift in perspective for future risk research: a perspective in which human risk-handling practices are not

regarded as the spontaneous, autonomous responses of individuals to a risk event, but instead as the extension of power relations, structural inequalities and individual chances and interests that already existed in the society, but which were strengthened or uprooted by a risk-event. Inspired by the work of Jacqueline Solway on 'revelatory crises' (1994), I call this approach, which reveals both the effects of structures as well as of agency on human risk handling, the 'revelatory approach'.

This 'revelatory approach' offers three advantages for future research on human risk handling. First of all, this approach contributes to a more realistic and complete understanding of heterogeneous action. Secondly, it stimulates academics and policymakers to shift away their focus from the people who are forced to cope with natural hazards in their daily living environment, towards the structural causes that underlie these hazards: marginalisation, poverty, structural inequality and powerlessness. Thirdly, the 'revelatory approach' combines such a focus on structures with attention for human agency. The perspective regards risk events as ambiguous: they can be both a destructive moment in people's lives, and a temporarily chance for individuals to establish contact with more powerful actors or improve their social and economic status in society.

Political implications

The empirical and analytical findings of this dissertation, described above, do not only have implications for social scientists but also for policy makers. As aforementioned, interventions of governmental institutions and NGO's during risk events such as floods are often ineffective. This research offers several explanations for this ineffectiveness.

One crucial explanation has to do with the issues of trust and mistrust. It has become clear from my dissertation that as long as inhabitants of a certain risk area deeply mistrust political actors or actors working in external aid institutions, they will not follow their safety advises, nor will they necessarily accept their material support. Instead, these mistrustful inhabitants will chose to 'save themselves'. This means that if the Indonesian government truly aims to increase the effectiveness of its intervention programs in flood-prone neighbourhoods in Jakarta, political actors will have to make sure that the target populations of these programs – the riverbank settlers- have sufficient ground to trust them. If no trust is established, then residents are likely to continue to make use of their own, autonomous and pragmatic risk-handling practices. And in many cases, this means that they will go against safety advises.

That having been said, it needs be emphasized that in the present society of Indonesia, characterised by high social, economic and political inequality, there is very little reason for slum residents as those described in this dissertation, to trust their city government. That government may offer support during floods every now and then, but at the same time it threatens with evictions and slum clearance, it forces these people to occupy a very marginalized position in society, and it

offers no social safety net for poverty-related risks such as disease. From that point of view, it seems hardly surprising that these residents have learned to protect their own well-being (for as far as that is possible in a risk environment such as Bantaran Kali) by making use of pragmatic, autonomous strategies and different forms of self-organisation.

The second explanation for the ineffectiveness of risk-intervention programmes has to do, this dissertation suggests, with the issue of heterogeneity. Regarding the findings of my research, it seems advisable to stop developing intervention programmes that are focused on a presumed homogenous community 'at risk'. Instead, policy makers should develop intervention programs that match the heterogeneous risk-handling styles that are most commonly used by members of a group. In practice this means that policy makers and scientists should not only aim to define the most common risk-handling styles of a specific community or area 'at risk', but that they should also try to understand *why* people have precisely developed these risk-handling styles: what do they offer them? Which interests or needs are met by making use of this style? After answering such questions, diverse intervention programs could be developed and implemented that match specific risk-handling styles and hence meet the needs and interests of specific sub-groups and individuals within one 'community'. No doubt that such a diverse policy initially demands higher costs and time-investments than do the current standardized and homogenous intervention programmes. However, I have made clear that these latter programmes only match the perceptions and interests of *some* people 'at risk', while many others— making use of different, but nevertheless common risk-handling styles – will not be affected by them. Put in that way, it seems reasonable to predict that a continuation of the current, standardized safety policies will by no means be able to decrease the expected number of victims of future natural disasters.