

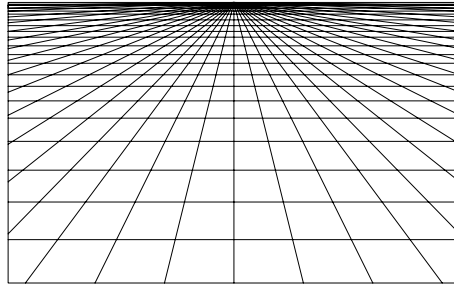


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Constructions of disaster

Management and sub-politics of the
Marmara earthquake Aug. 17th 1999

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SUMMARY

The thesis examines the role of the civil society in the response to the Marmara earthquake, Turkey, August 17, 1999. Media and a number of scholars have claimed that the earthquake has been followed by significant changes, and that this is especially connected to the non-governmental disaster management that emerged after the quake. Allegedly, the NGOs have influenced both the concept of disaster, and the dominating position of the central authorities - through criticism of the state's reluctance to deal with the social causes behind an extreme susceptibility to disaster.

Combining internalist perspectives in the sociology of disaster (i.e. perspectives that see disaster as socially co-produced) with the constructivist perspective in Ulrich Beck's sociology of the risk society, I develop a more sceptical view on the role of the civil society. I argue that even though the NGOs emphasis social factors stronger than the state disaster management does, a majority does not significantly attempt to redefine the boundaries of disaster policy. Besides, I claim that it is uncertain if the organisations in this majority can be said to - by today - have revitalised civil society in Turkey. This is because they neither challenge the state directly, nor recognise the public as competent in handling disaster; i.e. because they in no way can be said to have given the public a stronger voice. The organisations that do were established before the earthquake.

Key words: Marmara earthquake, natural hazard, disaster, disaster management, vulnerability, civil society, social construction

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INTRODUCTION

This thesis is a study of some of the social aspects of major natural disaster: the devastating Marmara earthquake in August 1999.

I approached the case study with certain expectations, or prejudices, derived from the media covering in the months following the earthquake, and corroborated by subsequent readings and encounters with people in Istanbul some 18 months later. Most sources reported widespread criticisms of different institutions after the quake. In particular, building contractors and the state disaster management system were accused of having contributed to the scope of the disaster. In addition, several comments claimed that the earthquake was transforming the political landscape in Turkey, as a number of non-governmental organisations (NGOs) filled the gap opened by the state system's shortcomings. Although optimism of substantial changes in the political climate has waned (cf. TDN 08.17.00), some commentators still view the earthquake and the emergence of disaster-oriented NGOs as important for the process of democratisation in Turkey (see Demirel (2001) for a recent example).

The view expressed in the media was, then, not one of natural forces disrupting a qualitatively different social world, but one of interaction between nature and society. The earthquake was treated as a hybrid. In addition, the quake was reported to have been important as a catalyst for the revitalisation of civil society in Turkey.

These perceptions formed the basis of my expectations to the case study. Moreover, they seemed to depict the earthquake similar to how a growing body of sociological literature is approaching a range of phenomena within the realm of natural science and technology. A tendency in especially environmental sociology and science and technology studies (STS) the past decades has been critical to dualistic perspectives. Instead, the contradiction or

opposition between the natural and the social is being rejected in favour of concepts of hybridisation (cf. Beck 1999, Latour 1995).

A second similarity between media's of the Marmara earthquake and the sociology of hybrids is found in how civil initiatives gains importance as political actors. As a consequence of the rejection of dualism, some authors also question the distinction between technological or scientific management of nature and political government of society. If this distinction is based on a no longer sustainable dualism, then its rationale would no longer be valid. A democratisation of technological decisions is recommended by several. For some (Beck 1992, Szerszynsky et al. 1996), a revitalisation of civil society is essential in this process.

0.1 Research questions and methodology

When starting the case study I perceived the earthquake as a hybrid; as a natural event that was at the same time social in two different ways. First, it was to some extent a product of social actions. Second, it affected the balance between state and civil society. I especially wanted to study the role of the civil society. When I entered the case study, I wanted to examine these two points further.

It turned out, however, that it was not easy to find analytical models for this kind of study. Although there is a tendency in the sociology of disaster to regard natural disasters as equally natural and social events, or as hybrids (Smith 2001: 11), there is to, my knowledge, little literature in disaster studies about the civil society. The significant exception is Robert Stallings' (1995) study of why the civil society is not participating in disaster discourses.

Also STS literature provides few cues. Bijker's (1995) study of flood management in Holland, for example, describes socio-material hybrids used in disaster management, but this also omits the civil society. Ulrich Beck (1999: 50), on the other hand, explicitly denies natural disaster as political events. As a consequence, I have used a combination of different

perspectives. The main analytical perspective of this thesis is provided by the sociology of disaster. Some key concepts are taken from risk sociology and the sociology of science and technology.

The thesis is not an attempt to fill in gaps in any of the above-mentioned sociological strands. Instead, the main objective is to study the Marmara earthquake as a particular incident. The focus is on discourse about the earthquake; on whether one can find a negotiation about how to understand and manage natural hazards. Specifically, I want to discuss three questions:

- Which changes have taken place in the Turkish disaster management.
- How different actors depict disaster, and how do the NGOs demand that the boundaries of disaster policy be altered.
- Has the earthquake through its effect on civil initiatives marked a turning point for the role of civil society in Turkey?

The dominant method in the thesis is semi-structured interviews, but I have also used other kinds of data. The interviews have been supplemented by documents from the interviewed organisations. The chapter about the earthquake is based mostly on engineering reports about the damages and newspapers' accounts of the perception of the state's response to the tragedy.

The sample of organisations is selected among the rather few organisations that define their objectives broadly. Apart from İzmit Kent Kurultayı, all the organisations intend to be regional, more than local. (And İzmit Kent Kurultayı also attempt to redefine what it means to be "local".) And none of the organisations are working towards one specific social group, such as women or children.

The number of NGOs in the sample is too small to be statistically significant. Thus, any

conclusions drawn from the material should not automatically be considered valid for Turkey or even the Marmara region as such. Still, I believe that the selection does reflect something about this particular social discourse in at least urban Turkey. The main reason for this is that the number of disaster-oriented organisations working on the fairly general level I have chosen is rather limited. Of the NGOs that I wanted to interview, one (Çağdaş yaşamı destekleme derneği, which is not a disaster-specific organisation, but has a broad perspective in its disaster-related activities) is not included in the analysis – it did not respond to my requests.

0.2 Some theoretical concepts

The sociology of disaster provides the main analytical perspective of the thesis. Two theoretical discussions that are not well developed in disaster sociology are, however, important for the argumentation, and should be presented before the discussion begins: These are related to the concept of social constructivism, and the concept of civil society.

0.2.1 Constructivism and social constructions

When the dualism between society and nature is replaced by a notion of hybridisation, the pre-condition for a realist epistemology, the separation between a subject and an external object (Nørager 1998: Introduktion), becomes problematic. Much of the literature about the nature/society intersection assumes a constructivist perspective. Different variants of constructivism are also found in the sociology of disaster; sometimes even within the same work. A clarification may therefore be useful.

Some authors talk about the social construction of physical environment. This use is found in Bolin & Stanford (1999) on the Northridge earthquake. Maybe Kathleen Tierney's (1997) labelling of these phenomena as “socially produced” should be used, to distinguish them from

the more common use of the term referring to cognitive entities, i.e. knowledge.

Robert Stallings (1995, 1997) represent what may be called “weak constructivism” (Lupton 1999: ch. 1). This perspective studies how knowledge, in the shape of claims, are distributed. Here, the focus is on how claims have to be institutionally supported to be recognised as a social problem. Consequently, knowledge is no longer only an epistemological issue. It also gains a social or political dimension.

Weak constructivism often maintains some kind of realism (Lupton 1999: 28-35). This is also the case with Stallings, as I will return to in ch. 1. Therefore, “strong constructivism” (ibid.) should be mentioned. In this perspective, the focus is on production of knowledge. Natural and cultural entities are seen as having an inherently interpretative flexibility (Bijker 1995). Knowledge about the external world is seen as products of negotiation between different projections. The negotiations are settled through processes of social closure (ibid.) or black-boxing (Latour 1999), whereby the interpretative flexibility is erased.

0.2.2 The civil society

The concept of “civil society” that is used in this thesis is first of all connected to the notion of the public sphere from Critical theory and the notion of sub-politics from the ecologically oriented theory of the risk society. Although these traditions base their argumentation on different social diagnoses, they share the view that the large-scale technocracies of modern nation-states are loosing their legitimacy.

A main point in the critique of Herbert Marcuse (1968) and Jürgen Habermas (1974) is that the normative foundation of the state is endangered when decision-making is increasingly the task of a technocratic elite. The principle of the technocracy is expert-knowledge, based on instrumental rationality, according to Marcuse and Habermas. A pre-condition for instrumentality is, they claim, that the normative framework is already established. Since its

purpose is to find optimal means to achieve ends, instrumental rationality pre-suppose that the ends have already been established. When instrumentality dominates decision-making in relation to questions that are open-ended according to the nature of its subject, it becomes ideological, because it masks them as technical puzzles.

For Habermas (*ibid.*, Nørager 1995), the problem arises when instrumentality reaches the political and economic field. Contrary to the natural world, where the normative framework is set by the necessity of natural laws, the social realm is essentially open-ended; social norms emerge from linguistic interaction, not definition. The counterweight to the ideological instrumentality of technocracy is for Habermas (1991) the critique of the public sphere.

The Critical theory's fear of alienation and ideology is not a central issue in Ulrich Beck's diagnosis of the crisis of modern politics (Beck 1992). In stead, Beck's perspective is founded on what he sees as a transformation of the division of labour between the differentiated sub-systems of the state. Due to the possibly damaging effects of modern large-scale technology, fields or areas that were earlier not considered political become the arenas of the most urgent or the potentially most consequential political crises. These fields, Beck claims, had their legitimacy based on their technical, and hence putatively non-social, rationality.

Now they can no longer be seen as non-social. The modern political institutions are unable to deal with these threats in any other way than through expert consultants from techno-scientific establishment, Beck claims (*ibid.*: ch. 8). The problem is that the competency of the experts is based on the same non-social rationality that Habermas and Marcuse see as ideological. Whereas ideology is not an issue for Beck, the scientific rationality is weakened by the process of hybridisation: A consequence of the change from a positivist to a constructivist epistemology is what Beck calls reflexive modernisation (1992: ch. 7), internal criticism of the realist claim of objectivity that guaranteed decisions.

Deprived of institutions that are able to make adequate technological decisions, Beck calls for a stronger role of the civil society in his notion of the sub-political level (ibid.: ch. 8). Sub-politics is being performed everywhere where risk definitions are being produced and distributed, such as research institutions, media and the courts. However, voluntary organisations such as environmental groups have received most attention in the discussions about sub-politics (cf. Szerszynsky et al. 1996). In other words, the theory of the risk society may also be seen as a theory about the importance of the civil society.

There are, thus, important differences between Habermas' public sphere and the Beckian sub-politics. Still, the perspectives have just as important similarities, and similar normative implications. Both assume that the technocratic rationality of large state administrations are based on invalid assumptions about society, and that continued technocratic government will not only protect, but even increase social pathologies.

The purpose of civil society in this sense is, then, not to defend the particular interests of specific interest groups, but to counterweight social pathologies related to the top-down government of an expert elite. This may take the shape of challenges to monopoly claims on rationality on behalf of instrumental rationality, or through bottom-up critique of technocracy. The central claim in both perspectives is that legitimacy in an increasingly technological society is only possible if the public gain the right to participate also in technological decision-making.

0.3 Structure of the thesis

In *chapter 1*, different theoretical models of natural disasters and their management implications are reviewed. The models are compared to Ulrich Beck's understanding of environmental risks, and some problems with the sociological theories of disaster are pointed out.

Chapter 2 gives a brief introduction to the Marmara earthquake. Its geological features are presented, and some traits of the social factors that are believed to influence the social phenomenon both prior to and after the earthquake are described.

Chapter 3 is based on the series of interviews I conducted, with key persons from organisations both within and outside the state disaster management system. The chapter documents some of the manifest consequences in disaster management in Turkey. In addition, the statements obtained in the interviews form the basis of the analysis.

In *chapter 4*, the role of the civil society is further examined. By comparing the NGOs' positions with the theoretical models of disaster, I discuss their impact on the concept of disaster policy and on the political sphere, in order to approach some answers to the main research questions.

Chapter 5 gives a brief summary of the thesis' conclusions.

1. MODELS OF DISASTER AND DISASTER MANAGEMENT

Earthquakes are easily understood as “totalising events” (Oliver-Smith: 1998: 178), with broad and devastating consequences. They are also directly perceivable. This makes a purely constructivist perspective difficult, and perspectives that facilitate prevention and mitigation desirable. Consequently, neither the reality of the severe damages of the Marmara earthquake nor the earthquake risk in the Marmara region is at stake in this thesis. Rather than examining what earthquakes “really” are, models of disaster is seen as a tool to understand how different actors perceive earthquakes, and how they based on their perceptions engage in discussion about how the consequences of earthquake may be minimised.

For the rejection of strong constructivism does not mean a return to technological determinism or scientific objectivism. To researchers of the sociology of disaster, geophysical and technical factors are necessary, but not sufficient to explain natural disasters. One may in addition speak of a socio-political dimension of earthquakes.

The purpose of this chapter is to present some existing approaches to the social dimension of natural hazards in order to establish a framework for how one may think politically about earthquakes. Different sociological models for explaining earthquakes and develop earthquake policies are presented. The sociology of disaster is then juxtaposed with a perspective from general sociology that focuses on the relationship between nature and society.

1.1 The external agent approach

Pre-modern concepts of disasters in general attributed them to divine forces. Earthquakes are in this light seen as an Act of God. The incentives for social action are in general few in this perspective, that often leads only to fatalism (Smith 2001), unless the quake is interpreted as an act of punishment, in which case a stronger devotion to religious duties could be the result

(Dynes 1997). But although the latter implies a social cause, religious interpretations do not lead to mitigation measures in the modern sense.

In a mechanistic paradigm, disasters are seen as caused by impersonal natural forces, external to society. The current paradigm of earthquakes was established in the 1960ies (Stallings 1995: ch. 7), and explains earthquakes in relation to the movements of tectonic plates. The movements slowly build up a pressure on the plates that in the end causes the plates' faults to disrupt, releasing energy waves in concentric circles around the hypocenter. These waves eventually reach the surface, their shear strength being affected by the properties of the soil they pass through. On the surface, they may change the topography in the area around the epicentre and severely damage human constructions in the afflicted area, either through direct effects (houses and infrastructure collapsing from the strain caused by the waves) or indirect effects (soil liquefaction destroying the ground on which constructions are erected, tsunamis, flood waves, inundating coastal areas, or landslides and avalanches) (Smith 2001, Bolt 1993).

Most human casualties in earthquakes occur in collapsing houses. Damages to infrastructure such as roads, telecommunication and sewage networks primarily are rarely connected to severe human damages, but may lead to high economic costs (ibid.).

Although the social aspect that may be found in the religious mode of explanation is removed in the external agent model, the approach opens up for some weight on human decisions and actions, such as ground zonation, land-use planning, earthquake resistant construction and the implementation of building codes, etc.

These are crucial in modern disaster management. It is common to separate disaster management in four stages in disaster management; mitigation, preparedness, response and recovery (Godschalk et al. (1998). Of these, preparedness and response may be said to be

“disaster-close”, as they find place in the ultimate proximity of the hazard turning into a disaster.

However, this scope of disaster management according to the external agent model remains technical, and firmly placed within an instrumentalist perspective. Since hazards are conceived of as non-social and external to society, social relations are irrelevant to their management. The assumption is that a community does not influence the hazard, but that it may be prepared for it through the use of applied science. Although measures against the hazard may be taken, these remain limited to science and especially engineering. The approach does not lead to a politics. Rather, it is assumed that there is one adequate way of responding to hazard, and that disaster occurs when the community fails to meet the hazard with rational measures. Techno-scientific experts are the authorities in the question of what these measures are (Smith 2001: 49-50). Disaster management therefore remains clearly separated from other sub-systems of society. And further, although there is formally a tendency towards emphasising mitigation more than relief in disaster management policies, especially in the USA, the management practice in most states continues to be reactive more than proactive (Godschalk et al. 1998). Altogether, then, the social dimension of the external agent approach to earthquakes remains limited.

1.2 Internalist approaches

Early studies of social aspects of disaster took place within the external agent paradigm, as well as with a behaviourist model of action or response (Gilbert 1998). From a sociological perspective, this research reduces societies to passive respondents to disasters, and assumes a one-to-one relationship between stimulus and response. Hence, it fails to see both cultural variation between different societies and social variation with respect to vulnerability within a community (ibid.).

1.2.1 Vulnerability theory

Shortcomings of social research within the external agent paradigm were central challenges to different attempts of developing alternative understandings of natural disasters (ibid.). Central to these were the regularly observed differences in affectedness of different social groups. Another untenable characteristic is that a stable and relatively static society before the introduction of hazard is implicitly assumed (Blaikie et al. 1994: ch. 1, Oliver-Smith 1998).

Today, most sociologists studying disasters agree that the external agent paradigm's core concept of an external agent as the cause of disasters should be abolished (Oliver-Smith 1998). Instead of as sudden events, the new vulnerability approach sees disasters as processes (Gilbert 1998). This implies that they have a "before" as well as an "after", and that human actions is given weight in all stages of the process, including causation (Kreps 1998). Here, natural hazards are seen as insufficient as explanation of disasters. Instead, the emphasis is put on the way that susceptibility to hazards emerge as a consequence of organisation of both material and social resources. The concept of vulnerability thus explain disasters as a consequence of actions and decisions just as much as of natural, or non-social, events. In addition, it is assumed that not only susceptibility, but also the capability of recovering from disasters is dependent on the society's distribution of vulnerability (Blaikie et al. 1994)

Some of the vulnerability theorists (e.g. Gilbert) have eventually left the notion of physical events altogether, and focused only on the uncertainty caused by a disruption of social patterns (Gilbert 1998, Oliver-Smith 1998). Still, a main question for many others has been the social production and distribution of vulnerability to physical hazards among different classes (Smith 2001: 50-52, Blaikie et al. 1994, Bolin & Stanford 1999). The general argument goes that risk avoidance and management is expensive. Therefore, it is not a real option for millions of inhabitants, especially in the 3rd world, who are forced to live in badly constructed houses in insecure areas susceptible for a range of both natural and technological

hazards. The vulnerability of the poor is consequently not a matter of rationality, but a matter of means in general. In other words, vulnerability regains a status as fate – only that the external forces in this picture is not God, but structural - economic and political - patterns of dependency that deprive poor communities of means of mitigation (Smith 2001: *ibid.*).

A perspective combining several of the above-mentioned features, i.e. a process approach, focusing on the nature/society conjunction and the production of vulnerability - is Anthony Oliver-Smith's political ecology.

Oliver-Smith rejects both the external agent approach to natural disasters and the purely social approach advocated by Gilbert as recourses to a dualism that is theoretically unsatisfactory and impedes mitigation policies (1999a: 28). Instead of focusing on one of the opposites, he takes the interaction between society and nature as the point of departure, through focusing on human adaptation as an interactive process (*ibid.*: 26-29). Adaptation should not, he holds, be seen as a passive response to an environment, but as a process where the environment is culturally perceived and modified by society according to its perception (Oliver-Smith 1998: 185) “[It is] an active, complex and evolving interaction. Society and environment are not separate, but two interrelated and reciprocally formative entities” (1999a: 28).

Disasters occur in the intersection of these two realms, Oliver-Smith claims, and are not events that can be explained by reference to one of the realm exclusively. Disaster occurs when society is failing to adapt appropriately to certain dimensions of the environment, and is defined as:

“a process/event involving the combination of a potentially destructive agent(s) from the natural, modified and/or constructed environment and a population in a socially and economically produced condition of vulnerability, resulting in a perceived

disrupture of the customary relative satisfactions of individual and social needs for physical survival, social order and meaning” (1998: 186)]

Vulnerability conditions emerge as results of the political and structural organisation of a particular society over time. They are in other words socially constructed or produced, and highly generic to a specific socio-cultural pattern of adaptation, and should not be “black-boxed” through general theories (1998: 188). Instead, the local production of the vulnerability pattern is at the very core of Oliver-Smith’s research programme; the political ecology. His paradigmatic example is the theory of Peru’s 500-year earthquake. An earthquake of magnitude 7.7 shook the North coastal Andes region in Peru in May 1970; it killed some 60,000 people and injured 140,000 (Oliver-Smith 1999b). However, although of a high magnitude, the physical event was not that singular. According to Oliver-Smith, a combination of both traits of structural dependency and a specific development of the Peruvian mode of adaptation were the main causes of the scale of the disaster (ibid.: 80-81). An important factor for the dimension of injuries was the quality of the houses and the land-use. The Spanish colonialists, introduced these aspects in the area in the 16th century. The original Inca culture had in several ways taken measures to mitigate the effects of the frequent earthquakes. They had adapted to the natural hazards of their environment – not only in their modes of construction and land-use, but also through the qollqas, grain storehouses, that served as an insurance in times of calamity. The analysis of Peru’s political ecology, or condition of vulnerability, should hence begin with the changes introduced by the colonialists at the expense of the local knowledge that shaped the Inka adaptation. A main cause of the disaster is human decisions made 500 years ago.

1.2.2 A constructivist perspective

Political ecology, then, offers a model for how the politics of earthquakes can be expanded.

The basis is a conception of disaster as something that is produced through a socially constructed condition of vulnerability. As socially constructed, vulnerability may be altered also by actions directed towards the social layer of a society. Contrary to in the external agent approach, the risk becomes politicised.

Political ecology is, however, still emphasising socio-material hazard within a realist conception of environment and adaptation. One may also approach natural hazards as cognitive constructions.

Robert Stallings rejects strong constructivism (1997), but assumes a weak one in his book from 1995. His point of departure is purely constructivist. He asserts that: "...the risk of earthquakes is not self-evident. [It] depends on what risk promoters are able to accomplish rather than on "facts" about the earth" (ibid.: 2). The earthquake threat is not a fact, but something that is known through the distribution of claims about putative conditions. Further, the relevance of this risk is not certain. Although it is reasonable to believe that earthquakes may harm people and property, it is equally reasonable to assume that large-scale mitigation programmes would pose an economic risk. Which one of these risks that should be given weight in a given community is a matter of negotiation, claims-making and claims-promoting (ibid.: 11).

Stallings' point of departure is the discrepancy between experts (who are assuming a vulnerability position, though not making any claims about the politicisation of the social production of hazard, and the public (who are unwilling to modify their actions in the present to avoid disasters in the future) in USA (ibid.,: ch. 1).

Stallings considers the social treatment of natural hazards as a function of statements. The statements are studied through an examination of what their content is and who promote them through which channels. He defines a claim as: "descriptions and one or more of the following: i) an image of the nature and cause of the condition, ii) proposals for what should

be done about it and iii) justifications for why those proposals are warranted” (ibid.: 22) A claims-maker is defined as: “someone who i) in a public setting ii) describes either a cause, a rationale or a solution related to a putative condition iii) in a process aimed at doing something about that condition” (ibid.: 35).

His main findings are completely in line with a weak vulnerability model of earthquakes as an apolitical matter. The claim that is shared by most of the promoters is that there are two equally important reasons for earthquake; a natural reason connected to the movements and energy releases of tectonic plates, and a social reason connected to vulnerable human settlements. A characteristic of the language that these claims are put forth in is that the human aspect of the social factor, although recognised, tends to be described in the passive tense, while the technological aspect is given the power of agency, at least grammatically. There is a tendency of claiming that human settlements “are found” in earthquake-prone zones, while the buildings in these settlements “fail to resist” the earth’s movements (ibid.: ch. 2). Thus, the social production of vulnerability are attributed to the “system” (ibid.), although it is, as we have seen above, perfectly feasible to make other claims about the production of vulnerability to earthquakes. Another aspect of the “anonymisation” of the earthquake risk is that it is depicted as democratic, i.e. as equally distributed across different classes etc.; again a different claim than what is being promoted by vulnerability theorists.

When examining the actors in the claims-making process, Stallings’ concludes that the most remarkable findings are absence of victims or lay people, and homogeneous claim-makers; bureaucrats and scientists without formal power (ibid.: ch. 3). Although victims are present as voices describing disasters, they almost never make claims about earthquake. Instead, they testify about devastating consequences of singular earthquakes. Thus, he concludes, earthquakes are not a social problem. The story of the earthquake risk claims is an example of a “policy without public” (May quoted in Stallings 1995: 184).

1.2.3 The internalist approach revised

What I have called the internalist approach to disaster, then, consists of two different, but compatible foci on how natural disasters are socially constructed or produced. Kathleen Tierney (1994) attempts to combine vulnerability theory and the constructivist perspective. In particular, she emphasises some of the contextual variables of risk assessment, such as the influence of the organisations where risk assessors normally work. She also asserts (now in a pragmatic-realist perspective) that risk avoidance is basically based on access to two assets: money and knowledge.

We may summarise the internalist perspectives on earthquakes as follows: Earthquakes:

- are seen as a process of interaction between society and nature, that
- has an important "before" that
- is not directly perceivable but dependent on induction from past events, and
- is assumed to influence the outcome of the process, and finally
- hit people unequally to the disaster, mainly as a function of their economic status and their knowledge of ways to minimise the risk.

As a consequence, natural hazards become politicised. An implication of what may be phrased the "internalist turn" in disaster studies is that the boundaries between disaster management and other areas such as housing policy and socio-economic development are blurred.

We also notice that knowledge is a central feature in several of these assumptions. Yet, the social life of knowledge is not thoroughly treated in any of the perspectives.

As we saw have seen above, several scholars writing within the internalist perspective are not only critical to a merely technical, i.e. non-social, understanding of natural disasters; they also open up for the use of knowledge produced outside the modern techno-scientific system

as effective means of disaster management (Oliver-Smith 1999b, Smith 2001: ch. 13). And Stallings argue that the distribution of knowledge is a separate subject of study.

Yet, the political ecology of Oliver-Smith does never enter the process of knowledge production – in spite of its purely culturalist view (cf. Oliver-Smith 1998: 185). The body of knowledge upon which its perception of the quake is based is never questioned, apart from in the criticism of the colonial settlements. This criticism is, however, fully compatible with an external agent approach to earthquakes (cf. Bolt 1993). Thus, it has no choice but to follow experts in most situations – especially in urban areas, where local knowledge of the environment is restricted and expert systems prevalent - and consequently also likely to impose self-limitations upon its plea for a broader earthquake policy.

Stallings (1995, 1997) is explicitly applying a constructivist research agenda, even if a weak one. But even Stallings may be stuck in a technicist way of thinking. One of his main findings is that the public is absent when it comes to promoting claims about earthquake; at best, they function as support to expert through their testimonies. It may be argued that this reveals an implicit bias towards propositional, "formalised and objectifying" claims on behalf of other discourses (Knudsen 1999). He may advocate the view that knowledge of the empirical world is dependent on claims that are, ultimately, beliefs, or "putative conditions", but he fails to see that the same goes for the knowledge of what is to be considered empirical knowledge. In that case, the absence of the public is tautological, or a matter of methodological, not substantial, factors.

Thus, in spite of some admittance towards the socially constructed character of knowledge, the positivist model of knowledge remains crucial in the two internalist approaches to natural disaster. More than the Beckian and Latourian "we are too rational", the notion in both Oliver-Smith's and Stallings' work seems to be that "we are not sufficiently rational". I

believe it is difficult to discuss the role of civil society in a framework that is this embedded in a merely technical rationality.

A comparison with similar perspectives outside of the disaster sociology is relevant.

1.3 The risk society: hazard and the politics of knowledge

Ulrich Beck's theory of the emergence of the risk society and a reflexive modernity distinct from industrial modernity has been one of the most influential theories in sociology the past 15 years (Lash & Wynne 1992), and changed the framework of environmental sociology radically (Szerszynsky et al. 1996).

One of the main theses in "Risk society" is, arguably, connected to "the end of the antithesis between nature and society" (Beck 1992: 80). This end has its origin in two simultaneous processes, related to a realist and a constructivist perspective respectively. (Beck's epistemological position is confusingly simple, cf. Beck 1999: 24-25. There are reasons to believe that he is situated primarily within a realist paradigm. See Beck 1992: 45, 1994b: 177, Szerszynsky et al 1996, Lupton 1999: ch. 4.

These two processes are the emergence of modernisation risks, whereby the side-effects or reflexes of modern science-based technology is becoming the main threat to the well-being of industrialised countries, and reflexive scientization, whereby science is applying its principle of methodological scepticism to itself, thereby being forced to admit its lack of a steady leverage point (Beck 1992).

A motor in this development is the distribution of risks (Beck 1992: ch. 1). Modernisation risks are according to Beck separate from old dangers in several ways (ibid.: 22-23). They are i) globally threatening, and not bound to either a person or a locality, ii) of a potentially mass- or even all-destroying scale, iii) a result of over-production rather than under-supply, iv) indirect and unintended effects of industrial modernisation and v) they are invisible and

known only through causal interpretations by especially qualified persons.

The putative transformation of the character of hazards also changes, as one may expect, the social vulnerability to hazard. Major consequences of the modernisation risks are (ibid.: 22-24):

- Social risk positions, which at first, but not in the end, correlate with class positions, emerge.
- Knowledge becomes the main resource in risk management, and producers and mediators (science, courts, media) of knowledge become key institutions. As such, they become especially open to social construction. Consequently, conflicts between different representations of risks arise.
- Risk management is being performed in an open system, because of the fundamentally uncertain character of risks.

The consequence is "the opening up of the political" (ibid.: ch. 7), with respect to fields as well as to actors. Where technological decisions earlier were made by politicians and technocrats supported by experts with a claim on monopoly of the adequate knowledge, issues of technology have not only reached practically every aspect of social life in reflexive modernisation. They also involve an infinite number of actors and risk definitions, i.e. claims about putative conditions. The boundaries of technology management are constantly redrawn.

Beck is, however, especially writing about big and extremely science-intensive technologies, such as nuclear energy and gene technology. A similar perspective on the changes in modern society is found in Anthony Giddens' writings (Giddens 1991, Beck et al 1994, Lupton 1999). In spite of differences (Hviid Nielsen 2000), knowledge, ambiguity and the nature-society intersection are central to also Giddens. Knowledge and technology are found in the concept of expert systems (Giddens 1991), on which we are increasingly dependent. If we borrow Giddens' concept of expert systems and substitute it for Beck's

technology, we get a concept of risk that in many ways resemble vulnerability theory's concept of hazard. In the case of earthquake hazard, a number of expert systems are involved, from the legislation and enforcement of codes to contractors and carpenters. Again, it seems safe to assume that vulnerability is affected by all these expert systems.

1.4 Comparison of disaster sociology and reflexive modernisation

There are undoubtedly important differences between the internalist approaches to disasters and the theory of the risk society. The most crucial seems to me to be the following:

Earthquakes are fairly local events, and are likely to remain so. This is, however, the case only when one considers the physical damages. Economically and socially, the damages are most often felt in much larger areas (cf. Smith 2001: 48).

Another difference is that earthquakes are not even in the political ecology considered entirely man-made, and they can thus hardly be entirely avoided (cf. Kreps 1998: 53). A possible counter-position to this interpretation would be Gilbert's uncertainty paradigm, but again, this paradigm is based on the abolishment of any notions of a natural cause, and thus of limited policy relevance.

A third, maybe less important, difference, is the source of knowledge about hazard. According to Stallings (1997), earthquake risk is induced from past experience. According to Beck, modernisation risks are based on interpretations and predictions alone, because "the past has lost its power to determine the present" (1992: 34). This point is related to the possible scale of the modernisation risks. But experienced crises such as Bhopal (Beck 1992) and BSE (Beck 1999) serve as illustrations of the risk society to Beck. Further, future earthquakes are predictable only through scientific predictions, and seismology has of course been subject to the same process of reflexive scientization as nuclear physics or genetics.

Scepticism to technology and technocracy is a main line of argument in Beck's writing (although Szerszynsky et al. might not agree), because of science/technology's role in the production of risks and because of the anti-social quantifying code. Although the structuralist strand in the vulnerability approach, including Oliver-Smith's political ecology, is critical to a purely technological disaster management, technology is more often considered a problem when absent than when present. For Stallings, the earthquake establishment is still the experts (whereas the public fail to engage in the threat), and in Oliver-Smith's writings, they are present but invisible. Only Tierney is situating the experts-in-action in a broader social context.

For these reasons, I will not use the term "risk society" on earthquake prone societies.

On the other hand, I believe the similarities between the perspectives are numerous enough to legitimise the comparison. Some of the similarities are:

Both perspectives assume an interactive relationship between society and nature. The interactivity may make the concept of hybrids apt (Beck 1999, Smith 2001). Thus, reductionism and the notion of nature as apolitical are rejected in both perspectives.

Both assumes a "before" that has impact on the probability of the risk becoming catastrophes and is only mediated by knowledge – increasingly scientific knowledge.

In both perspectives, human actions are consequently included in the chain of causation – although to a very different degree. (Beck is, however, reluctant to recognise natural hazards as political (1999: 50).

Both stress the existence of risk positions, i.e. an unequal (and political also in this respect) distribution of risk and vulnerability, as well as the same basic resources of avoidance: money and knowledge. However, Beck adds that, due to the scale of the new risk, everybody is

eventually at risk. Contrary to this, the tendency in vulnerability theory is to see risk as unevenly distributed (cf. Blaikie et al. 1994, Bolin et al. 1999).

Both see knowledge as an important factor – although the disaster studies unambiguously calls for more knowledge, while knowledge is a more ambivalent resource in the risk society (because more knowledge means more unintended consequences and hence more uncertainty; Beck 1994b).

Both demand that a merely technical management of risk is enriched by political discussions. Both depict risks as created in an open system, with multiple causes, and as requiring a responsible politics to negotiate between heterogeneous actors (Law 1999).

Both the vulnerability approach and the risk society theory have, although strongly inclined towards realism, a pragmatic position in the question of constructivism/realism (Beck 1999, Oliver-Smith 1998, Stallings 1997) – possibly because they want to write for policies.

We may then summarise the different understandings of natural disaster as follows:

When understood in the external agent approach, earthquakes are non-social events that can accordingly be managed within a technical sub-system, separated from the broader political sphere.

In the vulnerability approach, earthquakes are understood as processes of co-production of society and environment. In this perspective, society's distribution of wealth and power become just as important factors as the geo-physical features of the environment. Consequently, a purely technical management is insufficient. The natural hazard becomes politicised, and the boundaries of disaster management blurred.

This does not mean that earthquake hazards stop being also a technical problem. But it means that the experts in technical explanation and mitigation lose their privileged position in disaster policy-making, and that they themselves become part of the question at hand.

The weak link in the vulnerability theorists' chain of argument is its failure to fully include the situatedness of claims-makers in the analysis of the social production of vulnerability. Put in Beck's vocabulary, natural disasters are still conceptualised within the framework of industrial modernity (and, as mentioned above, also by Beck; 1999: 50).

Therefore, perspectives with a stronger awareness of knowledge as socially constructed need to be added. Beck's theory of the risk society is certainly not among the most radical constructivist perspective (cf. Szerszynsky et al. 1996 and Lupton 1999), but it opens up for a politics of knowledge, even more than Stallings, through the concepts "reflexive scientization" and "risk conflict". In addition, it has the additional advantage of pragmatically having an environmental policy as an aim.

2. THE MARMARA EARTHQUAKE

The August 1999 Marmara earthquake is by some authors considered a turning point in Turkish society (Ozerdem et al 2000, Yavuz 2000), and sometimes considered “the first modern earthquake in Turkey” (Mitchell 1999b). The objective of this chapter is to explore why. The chapter contains a description of the scientific key parameters of the earthquake, an account of important traits in the Turkish vulnerability condition through some aspects of the background for the disaster and an account of the immediate social consequences of the disaster.

2.1 The earthquake

A strong earthquake hit the Eastern Marmara region in Western Turkey at 3.02 a.m. on the 17th of August 1999, and lasted for 45 seconds. The first measure of the magnitude, from the Kandili observatory in Istanbul, reported it to be 6.7, which indicates a severe, yet not necessarily disastrous, earthquake (TDN 08.18.99). The newspaper proposes that this measurement might have led the government to under-estimate the social magnitude. However, the magnitude was soon altered to Mw 7.4 (GDDA website). The focal depth was assessed to 15.9 km and the intensity classified as MSK IX (ibid.). The epicentre was located near the city of Gölcük on the Southern shore of the Marmara sea, i.e. along the North Anatolian fault line that according to seismologists is the source to a number of earthquakes (Karaca & Ural (eds.) 1999).

2.2 The background

The disaster was hardly surprising, as Turkey is situated in a highly seismic zone. The country has a long history of devastating earthquake, and a large part, including the Marmara region, is estimated to have a 1st degree earthquake risk (GDDA website). The North Anatolian fault

is highly active, and several smaller fault systems are located in other parts of Turkey. The fault line is assumed to mark the border between the Eurasian plate and the Anatolian micro-plate, where the latter is being pushed towards the West by the Arabian plate's motion towards the former (Karaca & Ural (eds.) 1999: 13). A report describing the risk in the very area that the earthquake occurred had been delivered to the government only some months earlier (TDN 08.19.99). The country has also experienced several earthquakes in urban areas during the past decade, and had a new earthquake near the town Düzce in November 1999. None of these were comparable to the Marmara earthquake. The Düzce earthquake was reported to have been caused by a rupture of the North Anatolian fault line, and is therefore believed to be causally related to the Marmara quake. In Düzce, around 1,200 persons were killed; mostly in houses that were slightly or moderately damaged in the August quake (Tuncay Taymaz, personal communication).

Significantly, reports on the rising risk of a big earthquake further West in the Marmara sea, near Istanbul, due to a series of West-bound quakes along the North Anatolian fault this century, is continuously being published now (IPR, Pichon et al. 1999). Although the Düzce quake occurred east of the Marmara region, i.e. east of the part of the fault line that was assessed as most likely to lead to a new earthquake, personal encounters with people in Istanbul and the existence of private risk assessment and retrofitting companies reveal a high experience of risk in the metropolis.

Whether it was anticipated that an earthquake would turn in to the disaster it did is a more debatable question. Turkey has a modern formalised disaster legislation, but the working of the disaster management system has been subject to several kinds of criticism. The first earthquake-specific building code was established in 1944, after the Erzincan quake of 1939; the biggest ever in Turkey, with 39.000 fatalities (Igarashi 2000). The responsibility for the

central disaster management was transferred to the newly established Ministry of Public works and settlements (MPWS) in 1958. A comprehensive disaster law was developed in 1959 (Ergünay 1999). This law has later been subject to several changes, latest in 1997, when the building code was modified after the Californian building code (Ozerdem et al. 2000).

A separate General directorate of disaster affairs (GDDA) was established within MPWS in 1964, and has since then been the most important central authority in the disaster management system. It's responsibilities includes

- mitigation; in terms of risk assessment and the development of hazard maps and prescriptions of construction techniques,
- rehabilitation; in terms of centres for temporary shelters and the responsibility for reconstruction of houses, and
- response; in terms of damage assessment and the distribution of means from the national disaster fund (MPWS no date-a, Ergünay 1999).

Specific emergency situations are, however, not managed by the central authority, but by the state-appointed governor in the affected province. The main task of the governor is to coordinate the activities of operational emergency organisations, such as the local departments of GDDA, the civil defence, Kızılay (the Red Crescent) and the army, as well as institutions (hospitals, fire department etc.) of the local municipalities. The central disaster management assists the provincial emergency response if necessary (ibid.).

In an assessment of the Turkish disaster management system a few months before the August 1999 earthquake, Oktay Ergünay, the then director of GDDA, sees both strengths and weaknesses in the system (ibid.: 5-9). The main strengths, he asserts, is the stability of the system and the clear financial obligations of the state.

Ergünay also sees several shortcomings in the system. One main weakness he finds is the existence of holes in the legislation, such as the lack of requirements of micro-zonation plans.

Another hole concerns the relationship between supervision of constructions according to the building code and the provision of new housing through the disaster fund. The supervision is done by local municipalities, which are directly subject to pressure from electors and is entrusted with limited means, whereas reconstruction is organised by GDDA centrally (ibid.). This aspect is even stronger criticised by Murat Balamir (1999). In addition to the contradiction between local municipalities and central organisations, Balamir claims that this division between disaster management and development of settlements is not only a matter of implementation and enforcement of laws. Rather, it is also found at the core of the disaster legislation, since building codes and other disaster laws are developed by GDDA, while development legislation is under the jurisdiction of the General directorate of construction affairs (GDCA), another department of MPWS. Consequently, the system fails to integrate hazards in the development of settlements in Turkey. The result is a system that repeatedly falls victim to disasters instead of preparing for them.

Yet another weakness noted by Ergünay is that the disaster management system is highly hierarchical. Although it includes a number of institutions on different levels, the responsible organisations – the provincial governor and GDDA - are in every case closely related to the central government. This leads to a paternalistic system, he asserts, which not only makes co-ordination between central and local actors difficult, but also excludes affected inhabitants from decisions in the recovery process (Ergünay 1999). Again, Balamir presents a similar, but stronger criticism. In his view the system produces fatalism by in several ways excluding the public from responsibility. Especially, he attacks the disaster law's guarantee to carry the economic burdens induced by disasters. Instead of applying a pro-active strategy through emphasising mitigation measures prior to disasters and rewarding pre-disaster attempts to minimise damages, the weight is put on post-disaster reconstruction. The fact that the state assumes all responsibility for rehabilitation, regardless of whether building codes etc. have

been followed, enforces this tendency, since it reduces the incentives for individual mitigation efforts (Balamir 1999).

Ergünay and Balamir's assumption seems to be supported by an empirical study of attitudes towards risk awareness and mitigation in Dinar (Akşit & Karancı 1999). The town of Dinar experienced an Mw 5.9 earthquake in 1995, in which 90 persons were killed and 200 injured. In a survey conducted 16 months after the quake, subjects living in new houses provided by GDDA as replacement for damaged houses expressed a higher degree of belief in the possibility of mitigating disaster than subjects who had had their houses damaged, but not sufficiently to qualify for new ones – thus indicating trust in the disaster management system. Further, whereas 71% of the total sample believed that mitigation activities could be effective, only 47% believed that they could do anything themselves, and only 14% reported that they had actually done anything to reduce hazards. Similar figures were found in a study of post-earthquake Erzincan (Karancı & Akşit 2000). In both studies, the majority of respondents reported that they saw the state as the major agent in disaster management, followed by the municipality (*ibid.*). In other words, it seems that Ergünay and Balamir's concern that the Turkish disaster management system of 1999 is state-centred is reflected in the population.

Ergünay (1999) finally points to another important aspect of the disaster management system: Although it has undergone a number of changes, the main body of the disaster law is from 1959 – while the Turkish society has experienced enormous changes in the same period.

In addition to the putative physical hazard and the specialised management system, the vulnerability condition of the Marmara region is affected by its wider context.

One contextual variable is the socio-material environment of the region; many of the drastic changes in Turkey has found place here. Turkey has been through a rapid process of urbanisation and industrialisation since the 1950ies (Binachi 1984: 39-57). In 1950, 75% of

the population lived in rural areas, whereas the number had declined to 35% in 1997 (Demirel 2001). A large part of the immigrants have settled in the major cities, mainly Istanbul and Ankara. The industrial zone along the Marmara sea was established in the following decades; before 1950, the borders of Istanbul had been as good as unchanged for more than 1000 years (Esen 06.11.01). The cities population has increased by 500-600% since the 1950ies.

Evidently, housing became a problem with the flow of people arriving the cities, and many of the migrants had no choice but to settle illegally on the outskirts of the cities. These illegal settlements consisted of simple one- or two storey houses in village style, build by the settlers themselves, and became known as *gecekondus* (“built overnight”) because of their formally illegal status and their simplicity. Initially, the *gecekondus* lacked all sorts of infrastructure, but most were gradually integrated into the cities (Zürcher 1998: 283). An estimated 35% of the urban population lived in *gecekondus* in 1995 (Demirel 2001). Whereas the *gecekondus* are often considered the Turkish version of shantytowns, the typical middle-class housing is a flat in an *apartman* building, reinforced concrete buildings with 3 to 8 storeys, containing a number of modern flats on each floor. The difference between *gecekondus* and *apartman* areas may, however, be difficult to draw, as many of the original *gecekondus* have later been developed into *apartmans*. But also settlements in middle-class area are often build in violation to building codes. According to Yıldız Sey (personal communication), as much as 65% of all constructions in Istanbul are in some way illegal.

While the socio-material context has been through drastic changes, the political climate in Turkey has seen both changes and continuity in the 20th century. At the time of the early disaster legislation, Turkey was still a one-party system with practically no distinction between the Republican people’s party and the administrative apparatus, and a corporatist ideology (Zürcher 1998). Today, it is – at least formally – a multi-party democracy, with a

constitution from 1982. At the same time, it is generally agreed that the country is still strongly state-dominated (Heper 1991, Binachi 1984). The economy is centrally planned every 5 years, and the freedom of speech and association of interest groups has been most restricted in several of the different constitutions, including the current (Zürcher 1998: 295, Bahattin Akşit, personal communication). As a consequence, the civil society has never been strong in Turkey, and the ability of interest groups to protect its supporters against the state has been limited (Heper 1991). According to Heper, the link between the state and the civil society has been characterised by continuity through patron-client relationships between, more than by confrontations between the state and the public.

Devlet Baba, “the paternal state”, of which the disaster management is a part, has thus been able to survive the social and institutional changes of the last century.

2.3 The damages

Another reason that the earthquake became such a large-scale disaster is that the Marmara region is the most densely populated and industrialised region in Turkey, and the high magnitude and the long duration of the earthquake led to enormous damages. The trembling was felt in Istanbul and even Ankara, some 350 km away from the epicentre. Five provinces, Kocaeli, Sakarya, Bolu, Yalova and Istanbul, were severely affected by the disaster, but smaller, but significant damages and loss of lives also occurred in other provinces.

Altogether, at least 17,225 persons were killed as a result of the disaster, and approximately 44,000 persons were injured (IFRC 2000, GDDA website). (Some believe the number to be higher (Yavuz 2000); during the removing of debris, several buildings were swept into the sea before they had been searched for victims. On the other hand, there is reason to believe that many victims went to relatives and friends in other parts of the country (Webb 1999)). The total number of damaged buildings was around 244,000, of which some

85% were homes. Of these, 36% collapsed or received so severe damages that they had to be abandoned, and 31% received were sufficiently damaged to require retrofitting before they could be used again (GDDA website).

Lifelines and infrastructure received relatively small damages (Lund 2000, Comfort 2000). Telecommunication nets were down a few days, partly due to too high pressure after the quake. The railway and main highway had some damages where they crossed the fault line, but were repaired within a few days. Industrial plants had mostly indirect damages, caused by deaths and injuries to the work force. The petroleum refinery TÜPRAS in Derince near Izmit caught fire, and it was feared that it could come to explosions with extremely serious consequences (MCEER response 1999). Further, emission of chemicals into the Marmara sea and the surrounding fields from the AKSA plant near Yalova were reported, but received little attention (TDN 08.23.99).

Estimates of total economic costs from the earthquake vary between 3 billion USD (World Bank) and 25 billion USD (United nations). The estimate of the Turkish Ministry of State is 10 billion USD (Karaca & Ural (eds.) 1999).

The damages are generally explained as caused by three factors:

- settlements raised on or near known fault lines, neglecting macro-zonation maps;
- settlements raised on soft ground, due to insufficient micro-zonation maps; and finally
- constructions that violate the building code (Ege 1999, MCEER response 1999).

Some developed areas in Gölcük were located on top of the North Anatolian fault line, and several sources especially question the decision to construct industrial plants in the highly seismic Izmit bay (Agas 06.08.2001, TDN 08.20.99, MCEER response 1999).

Nearly 1,000 persons died in Avcılar, West of Istanbul, while central Istanbul had few damages, although the metropolis has got a comparable building mass and is closer to the

epicentre. Damages in Avcılar are not explainable as other than ground failure (Cranswick et al. 2000: fig. 2). A large number of building damages in Adapazarı were not structural, but clearly due to soil liquefaction.

Finally, building collapses occurred in all affected provinces, despite the fact that Turkey has a building code comparable to the codes in Japan and California (Ege 1999). Typically, the collapsed houses were too high; 4 to 8 stories, whereas the building codes for highly seismic areas prescribe not more than 3 stories. In other cases, buildings had an insufficiently reinforced “soft” ground floor, or they were, when analysed, found to contain an illegal amount of sea sand, which increase the corrosion of the reinforcement (Çağatay & Haktanır 1999). Given the existence of a rather sophisticated building code, these failures indicate a problem of reinforcement, or more specifically a problem of control of constructions.

While the putative causes of building failures conform with what could be anticipated from the vulnerability approach, the distribution of failures is more surprising. Although the data are somewhat insufficient (based especially on the Kocaeli province and on a badly defined concept of “gecekondu”), it seems as though the correlation between income and vulnerability is weak. According to a survey of the damages published by İzmit Kent Kurultayı (no date-a), the gecekondu in Kocaeli received a high percentage of over-all damages (tablo 17), but also the lowest death rate (ibid.: tablo 72). Several of my informants confirm that this is a general trait in the whole disaster area (Ansal 04.06.2001, Petal 06.05.01), whereas the middle-class apartman buildings turned out to be the most vulnerable in terms of fatalities (İzmit Kent Kurultayı: tablo 72). The relative vulnerability of gecekondu and apartman settlements seems to be an important issue when the ultimate root cause of vulnerability in the Marmara region is to be decided, since it challenges the view that illegal constructions is mainly a problem related to poverty in Turkey.

Consistent with the findings from İzmit that gecekondu are highly susceptible to damages,

but less to lead to fatalities is an assessment of the distribution of damages in selected areas of Gölcük by Kabeyasawa et al. (2000). Several reports (Ege 1999, MCEER response 1999) from the disaster area conclude that reinforced concrete frame structures – that was recommended as earthquake-resistant until recently (Bolt 1993: 223-228) - were proved insufficient by the Kocaeli earthquake. Kabeyasawa et al. reports that although buildings with RCF structures – the typical structure of the apartmans – at first seem to be more vulnerable than masonry structures, the picture changes when the findings are controlled for the variables height and building year. Minarets in masonry collapsed more often than minarets of reinforced concrete. The severely damaged buildings were typically more than three stories high and build after 1975 – i.e. possessing other traits typical for apartmans.

2.4 The response

Chaos prevailed during the first hours after the quake. Although most electricity plants were not severely damaged, electricity went out in the whole country (Comfort 2000). The telephone network broke down in the affected area. Also many emergency operation centres, like hospitals and fire departments, were damaged (Webb 1999). Because of the summer heat and the fact that the earthquake occurred during the night, few and isolated fires broke out, but a fire at the TÜPRAS petroleum refinery in Derince threatened to lead to explosions. Ten thousands were injured or caught in the debris of collapsed houses. Millions of those who were not killed or trapped escaped out into the streets.

Emergency work in the form of search and rescue (SAR) activities was started almost immediately, by survivors. Several sources note a strong, spontaneous solidarity among the victims similar to the often-observed “brotherhood of pain” (Oliver-Smith & Hoffman (eds.) 1999) among the victims, regardless of statuses and attitudes prior to the quake (Talip Küçükcan, personal communication, Yavuz 2000). Yavuz sees this as an indication that the

central power's legitimacy was injured. It is assumed that as many as 90% of those rescued from the debris were rescued by relatives and neighbours, i.e. non-professionals (ASK). Several non-governmental groups (NGOs) arrived the disaster area early. The independent SAR group AKUT received a lot of attention (Mitchell 1999b), and a number of disaster-related NGOs were founded during the first days after the quake (Selek & Petal 2001). The first foreign aid teams arrived already in the afternoon of August 17, but the Turkish state was reported absent (TDN 08.19.99).

The social magnitude of the disaster, as well as its "total" or all-encompassing character - is evident in media coverage following August 17. The main focus during the first few days was the human suffering and the chaos following the earthquake (TDN, Guardian). However, a range of other aspects were also commented and criticised – all implicitly opposing a view of disaster as a natural, i.e. non-social event.

Several newspapers assumed a typical vulnerability pattern, where affectedness would be correlating with class positions. Whereas the Guardian (08.18.99 and 08.19.99) writes that the affected were mostly the poorest, Sabah remarks that, contrary to what one would expect, the *gecekondus* were not especially hard affected (TDN 08.19.99)

Fear of na-tech hazards were found in concerns for the impact of the TÜPRAS fire and omission of chemicals from the AKSA. A central point in these writings was the explosion risk in TÜPRAS, and the dubious decision of placing it near a big city and an active fault (TDN 08.22.99).

Social events was immediately included in the attribution of causes. The newspaper Hürriyet's front page yelled out "murderers!" with reference to constructors behind non-resistant houses already the day after the quake, while the Turkish daily news presented a more systemic attribution: A high urbanisation rate leads to short-cuts by constructors, and the responsible authorities; at first local municipalities, but in the end the state, have proved

incapable in controlling them. Corruption on all levels is one of the main reasons for the deficiency of the system (TDN 08.20.99, 08.24.99). The blaming of constructors was also found among the public. An attempted lynching of Veli Göcer, a Yalova constructor responsible for a particular high rate of collapsed houses, was reported by Milliyet (ibid.).

But more than anything, the state's preparedness and response to the earthquake were subject to severe criticism from an early point. The initial response of the state was typical: The president arrived to the disaster area and declared that no-one can resist the will of God, but that the state would rebuild what had been damaged (TDN 08.19.99, cf. Mitchell 1993, 1999b). Although the attributions of blame to the government were, to my knowledge, limited and indirect, the public was unwilling to accept that the earthquake was externalised in the above-mentioned way.

But more than for actions prior to the quake, the state was criticised for the way it responded to the disaster. State organisations were reported absent from the emergency area, and for providing inadequate support when they first arrived – days after NGOs and foreign teams. A headline in the Turkish daily news read “First the earthquake, then the state” after President Demirel's visit to the disaster area, when the presidential escort blocked the roads for ambulances and other vehicles busy in the emergency work (TDN 08.22.99). Kızılay was severely criticised, and eventually went through an organisational restructuring and replaced the president in order to regain trust from the public (IFRC 2000). The army, which is rarely criticised, was also attacked in the media, for arriving too late, and for putting more weight on maintaining public order when it eventually came (TDN 08.23.99, Guardian 08.25.99). Foreign rescue teams were reported more diplomatic than the Turkish public, but several did notice that the rescue work was especially difficult due to poor co-ordination of activities.

After the initial response stage, early recovery was started about a week after the quake. Again, the state was criticised. The decision to start moving the debris less than a week after the disaster was very unpopular with the population, because it is known that trapped persons have stayed alive for as much as 15 days (Guardian 08.21.99). On the other hand, some commentators accepted the government's argument that epidemics could burst out in the strong heat. In addition, survivors were dissatisfied with tent camps and prefabricated houses raised by the government – a criticism that is still maintained two years after the earthquake (TDN 08.17.01).

Why was the evaluation of the state so hard? According to William Mitchell (1999a, 1999b), the explanation is the fact that it hit the most urbanised area of Turkey, with the highest level of education. Ozerdem and Barakat (2000) propose a similar explanation. The region has also had a very high population growth for decades; consequently, relatives of the affected were found in every part of Turkey. Media was present and broadcasted the chaos from day one - focusing on the absence of the state and the competent response of NGOs (Mitchell 1999b, Gavrilis 2001). The state's response was to accuse some television channels and newspapers of subversive criticism. One channel was closed down for a few days by the state censorship organ, and Turkish daily news at one point front paged with articles from the Associated press (AP) to demonstrate that foreign and less interested papers were no less critical of the disaster response (TDN 08.21.99, 08.23.99).

But although the censoring of media probably reduced the overt criticisms of the state, it hardly changed the popular image of a state that, while in statements promising adequate measures to alleviate the damages from the disaster, in its actions looked more interested in guarding its own interests than those of its citizens. As several news reports stated, Devlet Baba received serious injuries from the earthquake.

3. POLITICS AND SUB-POLITICS OF THE EARTHQUAKE

As we have seen, the Marmara earthquake deeply marked Turkish society in several ways. The disaster provoked criticism, and had a grave economic and psychological impact. But did it also have the socio-political impact that many of the commentators presented in the last chapter believed it would?

This chapter explores the social discourse of the earthquake through a qualitative investigation of some of the non-governmental groups (NGOs) that participated in the disaster response, or that have been established later to participate in the civil disaster management. Further, the chapter deals with some of the changes in the state system of disaster management.

3.1 The earthquake and the civil society

As we have seen, a number of NGOs were founded after the earthquake; mostly as a response to a need in the perceived absence of the state. Further, a large number of already existing organisations, most often with objectives unrelated to disasters, participated in the response in some way.

The total volume of the civil initiative is, however, difficult to define. The most complete catalogue of NGOs is the list compiled by Afete karşı sivil koordinasyon (ASK) and the American friends service committee (Selek & Petal 2001), but the publishers admit that the book is undoubtedly incomplete. Besides, several of the listed organisations have never been particularly active, and may today consist of only one or two members.

Altogether, Selek and Petal (2001) mention 130 Turkish NGOs and 77 foreign organisations. Both categories include a large array of different organisations, from internationally established groups like the Red crescent, the Red cross and Medécins sans frontières to small community-based organisations and local professional associations. The

organisations vary significantly also with respect to the kinds of activities they have conducted, and the volume of aid they have provided. Most typical are search and rescue activities, medical assistance and provision of goods like tents, clothes or quite simply money. A few groups offered services that are less related to the emergency response, such as organising Kindergartens in the tent cities or vocational training for women (ibid.).

Of the 130 Turkish NGOs listed, 35 that have specifically disaster-related objectives were started in 1999 – most of which are search and rescue (SAR) groups and groups aiming at preparing the public for disaster through behavioural training. They are, in other words, basically directed towards preparedness and response phases, not mitigation and rehabilitation (ibid.).

The qualitative investigation of this civil society landscape is based on interviews (and some additional documents) with 5 of these initiatives. This selection includes groups established prior to and as a consequence of the earthquake, and groups with a strictly disaster-related objective as well as a broader scope. The interviews were conducted in May and June 2001, with key individuals in the organisation, and typically lasted for one-and-a-half to two hours. The interviews were semi-structured along a series of dimensions: 1. Activities. 2. Objectives. 3. Perception of cause(s) for the social magnitude. 4. Perception of response, in particular from the state. 5. Perception of risk awareness in 1999. 6. Perception of science's role in the Turkish disaster management. 7. Knowledge base of the organisation. 8. Perception of changes after the earthquake. (Not all of the interviewees talked about all these dimensions, and sometimes several of the dimensions are contained in one answer).

3.1.1 Afete karşı sivil koordinasyon (ASK)

ASK was established on the 18th of August 1999. The organisation consists of volunteers, and

has about 20 active members, whereof a few are working full-time. Further, ASK has a number of volunteers with specific competencies that are ready to help when needed. Finally, an advisory board of professionals in subjects such as seismology and earthquake engineering participate in the production of training programmes etc., and gives public lectures. Whereas the organisation was initially active in the regions most severely affected by the earthquake, Istanbul has later become the focus area (Girit & Talu 05.16.01).

- *Activities*: When ASK was founded during the chaotic days right after the earthquake, the immediate objective was to gather and distribute emergency aid packages from civilians. At the moment, the main activities are the establishment and maintenance of a database over civil society resources for future disasters, in order to improve especially the co-ordination of disaster response. For this reason, ASK has been in contact with a large number of both Turkish and foreign state and civil society organisations for the purpose of co-ordinating disaster response. This network is, however, active only in emergency cases. On a daily basis, ASK's network basically consists of different state and civil society organisations in Istanbul and the 1999 disaster area. Besides, it arranges different programmes aiming at improving disaster preparedness and awareness of all kinds of environmental hazards among the public. A main issue at the moment is fund-raising for the GAEM project; a mobile training centre for disaster preparedness especially intended to reach people from lower income-classes, who are less mobile themselves (ASK website).

- *Objectives*: Still, although the scope includes environmental hazards and risk awareness in general, thus recognising the continuity between "natural" and "technical" hazards (cf. Kreps 1998), the field of activity is explicitly limited to disasters and emergency situations (ASK website). When asked why, Girit explains that it is merely because this is where the members have their competence. Later in the interview, she adds that ASK believes the chances to achieve their goals are bigger if they restrict the ambitions to practical tasks.

Main methods of improving risk awareness are training programmes, public lectures and other forums where the public can meet experts within the field. At the moment, these encounters are all dominated by a one-way flow of information. When asked why, Girit and Talu explain that the aim is to, eventually, transform these encounters into a dialogue, where the public may also question professional decisions and make own proposals. But at the time being, they say, the public is not sufficiently knowledgeable to participate in decisions on risks.

- *Perception of cause*: When asked about what, in their view, caused the earthquake to become the disaster it did, Girit and Talu point to relationship between the generally low risk awareness and the irresponsible construction and settlement practices in Turkey. They emphasise that blaming any specific actors for the disaster is less interesting than learning from it to improve the preparedness.

- *Perception of response and of risk awareness*: The earthquake revealed a general lack of preparedness, they say, among the public as well as the state. Both the Civil Defence and also the GDDA were clearly inefficient, which especially made co-ordination of the emergency activities difficult. In 1999, there existed no systematic disaster management in Turkey. This is slowly changing. The state is developing a management, partly pushed by foreign actors such as the World Bank and ECHO, the European union's aid organisation. Much of the state support is, however, limited in both thematic and geographic scope. ASK and similar organisation may contribute in broadening the improvement of preparedness.

- *Knowledge base and perception of science's role*: A main part of the GAEM project is the distribution of "...knowledge about what is the true action..." to perform in disasters (ASK website), since the public's preparedness is inhibited by contradictory claims about what to do. When asked who presents the wrong solutions and who defines the true, I am told that both scientists and journalists have been confusing the civil society. Although earth scientists

and engineers, who earlier tended to be neglected by both the public and the state (as when a report on the risk in the Marmara region was published in 1998), have gained some of the recognition they should after the earthquake, scientists have not always filled the important role they could have done. Too often, they have misjudged their audience when communicating in mass media, and debated on smaller, highly specialised disagreements within their general paradigms. The objective of the GAEM project is to standardise a set of knowledge about disaster risk. This standardisation, which is meant with the phrase “true action”, is done by the affiliated professionals of ASK, mainly members of the advisory board.

- *Perception of changes after the earthquake*: Finally, Girit and Talu deny that the earthquake had the social consequence that some claim; “it was not like in Mexico City”. There were some demonstrations and some well-founded criticisms of the state’s immediate response, they admit, but claim that this remained within a rather small elite. Besides, much of this is forgotten now (“as everything is forgotten in Turkey”). The disaster management system, they assume, may have improved slightly, as several systematic agencies are now being developed, but disaster mitigation is a long-term process. This is the main reason that ASK deliberately limits its ambitions to public awareness and co-ordination of civil society’s response.

3.1.2 Istanbul afet hazırlığı eğitim projesi (İAHEP)

İAHEP is really hardly a non-governmental organisation, as it is affiliated with the state-owned Boğazici University’s disaster management research centre CENDIM, and sponsored by the United States international development agency’s Office of foreign disaster assistance (CENDIM website). However, it is aimed at the public in Istanbul, and it is explicitly less academically oriented than other branches of CENDIM and the one other university disaster

research centre in Turkey (the Disaster management implementation and research centre at the Middle East technical university). It also encounters the same problems with organising public arrangements as other non-governmental organisations (Petal 06.05.01).

- *Objectives*: The objectives are to increase community disaster awareness and local preparedness, with an emphasis on non-structural mitigation skills, such as securing furniture, stocking water and food and having a flash light in private houses (cf. Bolt 1993: ch. 11). A series of different programmes are build to achieve these goals, but the project is still in its starting phase (Petal 06.05.01).

- *Activities*: The main project of IAHEP is a trainer's trainer project for non-structural mitigation skills and development of educational materials (cf. CENDIM website). Main co-operation partners are CENDIM, Istanbul metropolitan municipality and different NGOs, especially community-based organisations (CBOs).

- *Perception of cause*: Although not denying the disastrous consequences of sub-standard constructions and bad land-use, Petal also emphasise a behavioural factor, i.e. individual actions prior to, during and immediately after the earthquake. She says that data over the exact way that people were killed and injured in the Marmara earthquake are missing (CENDIM is trying to compile these data, and expect to have them finished this summer), but similar data from USA and Japan indicate that both human and economic damages may be mitigated by non-structural, behavioural means.

- *Perception of response and of risk awareness*: Petal agrees in much of the usual criticisms of Turkish disaster response and that risk awareness was very low until the Marmara earthquake. She adds, however, that Turkey is and has long been fairly advanced in what she calls academic disaster management, but weak when it comes to more practically oriented disaster management. This is apparent for instance in the fact that the Turkish notion of mitigation seems to be limited to structural mitigation, at the expense of behavioural mitigation

- *Perception of science's role:* As ASK, Petal sees science as necessary in disaster management, strategies. She also agrees that scientists in Turkey have not played the role they should. Contrary to ASK, however, she attributes parts of the reason for this to the Turkish media. The media, she says, has uncritically sought and even created controversies, even through putting psychics up against seismologists. This has eventually led many scientists to avoid public arenas. In other words, although these scientists have, to some extent, failed to take the responsibility one could have expected, they should not be the only actors seen as responsible for the still limited role that science plays in risk awareness and preparedness.

- *Knowledge base:* As we have seen, İAHEP's focus area is practical preparedness skills and non-structural mitigation. Yet, Petal emphasises that the knowledge that forms the basis of İAHEP's activities is based on research from a huge number of disasters in different countries. Interestingly, the cross-cultural character of İAHEP's programmes seems to be the cause of a controversy that the organisation has itself been involved in. A core element in İAHEP's programmes is, patterned after similar projects especially in California, the message "duck and cover", which is intended to protect people from falling objects such as furniture, as well as from broken glass. This slogan, however, is in contradiction with what AKUT has proposed as their most important advice. According to AKUT, most of the people that survived in collapsed houses were not hidden beneath, but just next to, large pieces of furniture. Those who had hid themselves underneath tables, doorframes etc., on the other hand, were often crushed as the roof of the building collapsed on whatever they had hidden under. In the adjacent area, there tended to be a small space left open because the solid objects absorb the pressure from the roof. Prof. Karancı (05.29.01) at METU suggests that the controversy between İAHEP and AKUT may be seen as rooted in a conflict over the universality of knowledge. Because of the differences in construction standards between USA and Turkey, the hazards are not necessarily the same. In response to this point of view, Petal

answers that AKUT's advice is based on a few cases, not on a systematic body of research. Although she agrees that solid objects may sometimes absorb pressure, this is hardly always the case, and she emphasises that the number of houses where people are killed are small compared to houses where people are injured (Petal 06.05.01).

Although Petal emphasises the importance of systematic research, she none the less sees strong specialisation as problematic, since earthquakes affect a multitude of areas. Therefore, she says, she has attempted to encourage interdisciplinary knowledge production by bringing different disciplines, such as engineers and rescue workers, together

- *Perception of changes after the earthquake*: Although she believes that the preparedness for disasters has improved after 1999, Petal still means there is much to do. The state, she says, is often positive to İAHEP's work. However, it is still reluctant to let go of the control with disaster management. Petal experiences both that state organisations try to control joint activities, and also that İAHEP – although attached to a state-owned research centre - may have difficulties getting the necessary permissions to conduct programmes on their own.

3.1.3 İzmit Kent Kurultayı

Contrary to ASK and İAHEP, İzmit Kent Kurultayı (İKK) has a history prior to the August 1999 earthquake. The organisation was founded in March 1998 as an umbrella organisation for citizens' initiatives, professional groups, academics and local municipalities in the city of İzmit (Agas 06.08.01). Also provincial governmental offices are represented in the assembly, but the purpose of the assembly is to enhance the public's (through member organisations and neighbourhoods) influence over decisions affecting the city (Agas, İzmit Kent Kurultayı no date-b). The field of activities was defined in twelve sub-divisions shortly after the establishment of İKK (ibid.: 2). İKK is not an operative organisation, but merely co-ordinating the work in the sub-fields that is done by its member organisations.

- *Activities*: Since it was founded prior to the 1999 earthquake, disaster management was initially not included in the activities of İKK (although it, to a certain extent, was an issue within the work fields of urban planning and environment). However, since Izmit was one of the most affected cities, the organisation soon found itself forced to devote itself to disaster, which is now one separate work field (Agas 06.08.01). Among the main projects initiated by İKK is an assessment of the damages in the earthquake area (see İzmit Kent Kurultayı no date-a). Besides, İKK has given several training and trainer's training programmes, which will eventually reach several thousand people in the region, and assisted neighbourhoods in Izmit to establish local emergency centres. İKK has also arranged a series of workshops, where the earthquake's consequences for different aspects of life in Izmit and for the original working plan of İKK was examined (Agas 06.08.01).

The earthquake also affected the organisation's networking: Whereas the network until the quake took place underneath İKK's umbrella, it now includes co-operation with foreign NGOs.

- *Objectives*: İKK's profile was from the beginning holistic and based on participation and long-term development. In relation to the earthquake, this objective has been particularly important in relationship with two things: İKK's plan for rehabilitation proposed to provide winter tents to the homeless in stead of building temporary houses. The rationale was that this would be more space-efficient than to build two settlements, thus allowing new permanent housing to be raised near the city centre. This suggestion was, however, over-ruled by GDDA. A second issue concerns the relationship between disaster management, environment and industry. Izmit is, as noted, in the most industrialised part of Turkey. The city has a large port, and several large industrial plants, including the TÜPRAS refinery, are located near the Izmit bay. However, although İKK is aware of industrial risks and wish to initiate mitigation measures, it lacks the mean to do so. Besides, many of these plants are found in the province

of Kocaeli, many of them are outside the city of Izmit. İKK has for some time worked on a model for an integrated management of Izmit bay, but has so far met little support from Ankara, and besides had difficulties getting consent from local municipalities dominated by different parties.

- *Perception of cause*: When asked why the earthquake became the major disaster it did, Agas attributes the damages to the deteriorating quality of housing during the past few decades, the insufficient control of constructions and lack of land-use planning. He is in other words in accordance with the most common explanations. In particular, he emphasises the dense industrialisation of Izmit, although the city's location, almost on top of the North Anatolian fault, makes it unsuitable for industry. This is maybe the biggest risk in Izmit bay today, but again, İKK has few opportunities to do anything about it.

- *Perception of response*: When estimating the state response to the earthquake, Agas is focusing less on immediate response than on rehabilitation. Whereas İKK was proposing ways to integrate the early recovery phase and the rehabilitation phase through its housing plan, he sees the decisions made by the state short-sighted. Besides, in as far as İKK represents the citizens of Izmit, the state evidently failed to take the point of view of the affected community into account. A similar "arrogance" was shown also shortly after the quake, when Prime Minister Ecevit visited the city and the provincial state representatives, but not the locally elected major. Still, what Agas sees as the most important incident in the relationship between the population of Izmit and the central government is that the latter has reduced the budget of Izmit after the earthquake.

- *Perception of risk awareness in 1999*: As the respondents, Agas perceives the risk awareness prior to the earthquake as too low. In Izmit, the main problem raised by this is industrial plants established too near settlements.

- *Knowledge base and perception of science's role in the Turkish disaster management:* İKK's purpose is to provide a platform where different actors participating in the local development can meet and integrate their activities. Science is one of the most important actors in disaster management, Agas asserts, but it should be situated above the local democracy.

- *Perception of changes after the earthquake.* Here, Agas answers that the disaster preparedness is probably better than it was, but that many things still needs to be done. Again, Agas especially mentions the many industrial plants in Izmit. These make up one of the main risks in the area; in connection to earthquakes and as potential hazards in themselves. However, İKK has not got enough means to deal adequately with this hazard. The political situation has not changed enough to give more weight to bottom-up initiatives. In this respect, the political situation, dominated by central decisions, is obstructing the optimisation of local disaster management.

3.1.4 İnsan Yerleşimleri

As İKK, İnsan Yerleşimleri (Human settlement association) was established before the earthquake. The group was established in 1996 as a rather loose association of academics, journalists and employees in municipalities, who shared the view that there are severe shortcomings to Turkish urban planning and housing policy. In the mid-1990ies, Esen says (06.11.01), critical voices to the way that settlement politics were guided only by quantitative criteria began to emerge in Turkey. These politics have their origin in the 1950ies, when urbanisation started for real in Turkey. Settlement politics were, according to Esen, from the very beginning highly liberal: Gecekondus were formally not encouraged, but in general tolerated by the government and the municipalities of the metropolises. Consequently, the immigrants had few housing expenses (only the materials), and wages could be kept low in

the beginning industrialisation of the country. Whereas the gecekondus initially were mostly traditional one- or two-storey houses, high inflation and a tight labour market in the 1960ies changed the character of the gecekondus. Ground became a major asset, and maximisation of land value through constructions in the height became an important source of income. Quality, both in terms of tangible aspects such as security and infrastructure and intangible aspects such as aesthetics and life quality, was not an issue; environmental and cultural preservation was set a side in this process. This situation is the background for the establishment of İnsan Yerleşimleri.

- *Objectives*: The objective of the association is to support the transition from a quantitatively oriented, centralised to a qualitatively oriented settlement politics where locally based entities such as neighbourhood associations are main actors.

- *Activities and knowledge base*: A main activity of İnsan Yerleşimleri is to act as a mediator between neighbourhood groups and the relevant authorities and professional experts, and to co-ordinate different neighbourhood's communication with actors on a higher level. It also initiates some projects on its own, such as the current campaign to preserve the few remaining original buildings in Zeytinburnu, Istanbul's first gecekondu. A main activity in the first time after the two earthquakes in 1999 was to improve disaster management in neighbourhoods through training and co-ordination. This is no longer central to the organisation because several other groups, such as ASK and İAHEP, are focusing on projects on this level. İnsan Yerleşimleri is, however, preparing an "Istanbul agenda on disaster", a permanent forum for disaster management on all levels, but according to Esen, neither the state nor the civil society is ready to work together yet.

The organisation does not have a general information policy. Publications and presentations related to İnsan Yerleşimleri's philosophy are made by the members, particularly Orhan Esen, on an individual basis.

İnsan Yerleşimleri co-operated with other NGOs immediately after the Marmara earthquake, and ASK in particular, but the network is now containing only neighbourhood associations. Esen does not want to comment on the relationship between ASK and İnsan Yerleşimleri today.

- *Perception of cause:* Although Esen recognises construction and land-use practices as important traits of the Marmara region's vulnerability, he most of all attributes the disastrous consequences of the earthquake to how scientists have participated – or rather: omitted to participate – in society. Geo-physicians and engineers neglected their social responsibility, he says, by alarming the official disaster management system locally and centrally, but not the public.

- *Perception of risk awareness in 1999 and of science's role in disaster management:* Partly due to the lack of warnings in public forums, Esen means, the public risk awareness was low. And even after the Marmara earthquake, people in Turkey, especially Istanbul, did not perceive themselves as at risk. The earthquake aroused sympathy with the victims; the initial support from NGOs and individuals should be seen as actions of sympathy. Earthquake hazard was still viewed as something external, until the 7.2 earthquake in Düzce in November 1999.

- *Perception of response:* The state was unprepared for a disaster of this scope, which left the affected with a feeling of being alone. Also the recovery process left much to be desired. The rebuilding of Adapazarı is characterised by a thoroughly quantitative way of thinking. The houses are probably fairly earthquake-resistant, but they completely lack aesthetic quality. Also NGOs can be criticised. Most of them continued externalising the risk, by giving monetary contributions without any long-term plans.

- *Perception of changes after the earthquake:* As we have seen, Esen perceives the social impact of the Marmara earthquake quite differently than the other interviewed NGOs. This is

also evident in the way he assesses the social changes after the quake. In terms of disaster management, he believes that there have been certain changes for the better. The technocracy is, however, still reluctant to admit the value of bottom-up initiatives. This includes the scientists in addition to the central bureaucracy; cf. their negligence to inform the public of the risk before the earthquake. Engineers should be trained about the obligation to inform the public, Esen asserts.

In terms of risk awareness, he sees the Düzce earthquake in November 1999, not the Marmara quake, as the decisive moment.

Finally, although Esen does recognise the earthquakes as important for the civil society, he regards it as related to a change in attitudes that had manifested itself several years earlier.

3.1.5 AKUT

Also AKUT was founded before the earthquake. Established in 1996 by a circle of mountaineers, the group little by little expanded its competencies within search and rescue. In June 2001, mountain SAR is still the main activity. AKUT first participated in earthquake response after the 1998 Adana-Ceyhan earthquake, which saw considerable damages. The organisation arrived the Marmara disaster area within less than twelve hours, and quickly established an improvised centre for the distribution of aid (foreign as well as governmental) in Gölcük in according to SAR operations in several of the most severely hit cities (Tanrıseven 06.15.2001).

As we saw in the previous chapter, the organisation received a lot of attention after the earthquake, from media, academics and the public, and seems to be the NGO that for many represents the importance of the civil society after the Marmara earthquake. There is, however, a certain disagreement within the earthquake establishment in Turkey about AKUT's importance (Dee Goluba, personal communication), and the organisation is today, as

we shall see, conscious not to be a political actor. Still, I believe it is fair to ascribe a role to AKUT as the actor that at a very early stage demonstrated the power of the civil society.

At the moment, AKUT is in the middle of a court process, charged with going to Israel for a training programme without applying for the permissions it needed as an association. Tanrısever claims that the process does not mean much for the relationship between AKUT and the state; the organisation did violate a law and should therefore be investigated, but it acted without the intention to break the law.

- *Activities*: In June 2001, AKUT has three full-time employees, and a large number of volunteers with a variety of SAR-related competencies. Besides being continuously prepared for disasters and accidents, its main activity is different training programmes for disaster preparedness. The programmes are partly given to local municipalities and neighbourhood groups, and partly also to state organisations, e.g. the army and the Civil defence. According to Tanrısever, the relationship between AKUT and the co-operating state organisations is one of mutual exchange of knowledge and experiences.

- *Objectives*: It is an explicit philosophy of AKUT to limit itself to SAR activities, without regard to political and religious questions.

- *Perception of cause*: Tanrısever's answer to the question of which the reasons for the devastating consequences of the disaster were, like the answer to the previous question, highlights AKUT's avoidance of politics. Whereas all the other NGOs that I interviewed focused on social factors either before or after the earthquake, Tanrısever attributes the social disaster to the geophysical properties of the earthquake. He is, in other words, more in line with state organisations than with the other NGOs.

- *Perception of response and risk awareness*: In the same vein, Tanrısever is less critical of the state response than the other groups. While acknowledging that the army and especially the civil defence, as all other actors, were unprepared for a disaster of the Marmara

earthquake's magnitude, he says that they did a good job when they arrived the disaster area on day two.

- *Knowledge base*: The rationale behind the establishment of AKUT was a lack of systematic SAR competencies in Turkey, evident in mountaineering search operations. The founding members of the organisation set forth to improve this situation through studies, book translations and study trips to countries where the competencies were higher – all on a voluntary basis. A great part of the techniques that AKUT use is developed in Scotland (mountain operations) and USA and Japan (earthquake response). Some techniques, Tanrısever says, are altered in order to be more appropriate for the Turkish context. For instance, it seems to be an advantage to have rescuers of the same sex as the victims. There are also differences that are not directly socio-cultural, such as the above-mentioned experience that people taking cover under solid objects are more often killed or injured than in USA and Japan. When I ask Tanrısever about the controversy between AKUT and İAHEP, he agrees that it was unfortunate, but claims that it is now resolved (although he claims this happened before I spoke about the debate with Marla Petal). AKUT now advises people to have their homes checked by engineering companies. The safest behaviour, Tanrısever says, depends on the structural properties of your house.

- *Perception of changes after the earthquake*: AKUT being intentionally apolitical, Tanrısever shares no opinion as to whether the earthquake inspired broad socio-political changes. In terms of disaster preparedness, however, he tells me that whereas AKUT was alone as a trained non-governmental SAR group in the Marmara earthquake in August, some 300 groups participated in the response to the November 1999 Düzce earthquake. Not all of these are serious, but some are. As for the state, i.e. the army and the civil defence, they were revealed as unprepared in 1999, but they have also done efforts to improve their preparedness.

3.2 The earthquake and the state disaster management system

As we saw in chapter 2 and in most of the interviews with NGOs working on disaster relief and mitigation, the trust in the state's ability to provide sufficient security in disaster situations was diminished after the Marmara earthquake. However, also the state disaster management system has been through changes, both legal and institutional, since August 1999. In the following, some of the major changes are presented. Finally, a couple of state organisations are allowed to express their own understanding of their role in the 1999 disaster.

3.2.1 Legal and institutional reforms

A series of legal reforms have been made, from regulations in order to change regulations on parking lots to the introduction of a compulsory earthquake insurance for house owners (MPWS no date-b), Further changes are still being made. The following alterations might be the most important:

GDDA withdrew all building permits in most of the cities in the high-risk area around the Western North Anatolian fault line within few days after the earthquake, for a revision of all plans (Taymaz 05.31.2001). All construction in the area was stopped for six months until all plans had been revised. By doing this, GDDA over-ruled decisions made by local municipalities (who are, cf. ch. 2, the authority that grants building permits).

Previously, engineers were authorised to control constructions' compliance to the building codes as soon as they had graduated from university. This often led to insufficient control, because earthquake engineering was under-represented in the education of engineers (Balamir 1999). Now, a certification obtained from a post-graduate course in earthquake engineering is necessary for the authorisation (Ansal 04.06.01).

In order to decrease the corruption that is generally believed to have prevailed in the construction sector, the person performing the control is no longer employed by the owner of

the building under construction, but by independent companies. The control function is in other words separated from the budget of materials etc. In addition to this, liability insurance for engineers is being introduced. This lays the responsibility on damages to the structure of new buildings during the first ten years on the company that has authorised the construction (Taymaz 05.31.01). In September 2001, this law has recently passed the constitutional court.

To reduce the effects of secondary earthquake hazards, that were visible especially in Adapazari and Avcilar, geo-technical studies will be made compulsory. Earlier, only the building code and macro-zonation maps made the basis upon which building permission was granted or rejected (Taymaz).

A particular economic burden to the central disaster fund after the Marmara quake - was the obligation to replace all houses that were estimated heavily damaged. A measure to reduce state expenses in the future, that will also increase the individual responsibility to mitigate, is the introduction of compulsory earthquake insurance in March 2001. Without the insurance, house owners will be denied access to infrastructure like electricity net and sewage, and they will not be allowed to sell the house. The law will, however, only be effected in urban areas, since there are no resources to enforce it in rural areas.

There has also been a series of institutional changes in the state disaster management system. Kızılay has been through a re-organisation (IFRC 2000), and the Civil defence has been strengthened.

In addition, two new institutions specifically dealing with disasters have been established. One of these is the National earthquake council. The council was established in 2000, in order to provide the state and the public with reliable information, in response to the multiple and often contradictory claims about pre-earthquake hazard and post-earthquake damages that prevail in Turkey. It consists of 18 prominent academicians, whereof a large majority are civil

engineers and geologists. Social aspects are covered by an architect, an urban planner and a psychologist.

The function of the council is in other words to gather and assess information, in order to reduce the ambiguity that according to several of sources referred to above is making especially the public participation difficult. However, the council has so far hardly played any role at all. One of its 20 members, psychology professor at METU, Nuray Karancı (05.29.01), tells me that the council has not yet produced any documents or statements, and moreover, that the content of its meetings is confidential. The first report is expected to be published in September 2001. Although bound by her professional secrecy, Karancı tells me that her impression is that the natural science dominated majority of the council indeed has a technocratic orientation, and that the forth-coming report has been pushed forward by urban planner Murat Balamir.

Another new institution is the general directorate Turkey emergency management agency (TEMAD). And although mentioned by several (İlgen 05.31.01, Karancı 05.29.01, Taymaz 05.31.01) as the most important change in the disaster management system, the role and relevance of TEMAD is almost as difficult to assess as that of the earthquake council. The reasons are explored below.

TEMAD was established as a separate agency under the governance of the Prime ministry in November 1999. It was transformed into a general directorate in June 2000, and is, as still administered by the Prime ministry, independent of GDDA and MPWS. TEMAD's mandate is to take measures to "provide an efficient emergency management" for all kinds of hazards, ranging from earthquakes and floods to nuclear accident risks in neighbouring countries (TEMAD no date: 3). It is organised in four departments, responsible for, respectively: disaster preparedness, disaster response, risk mitigation and disaster recovery. However, TEMAD is still a fairly new organisation, even located on an temporary address. The

organisation, says Ebru Alarslan, still needs to build up its staff and infrastructure. Besides the advanced communication technology that is necessary to co-ordinate the great number of organisations and initiatives that is active within disaster management, human resources is needed in all departments. Consequently, the departments have yet to mature and define their tasks clearly.

In addition to the established departments, an information department is being constructed (Alarslan 05.30.01). Just as the earthquake council, TEMAD is sceptical towards the media, which according to Alarslan tends to focus on sensational rather than accurate information. Consequently, the function of the information department will be to “educate” the media rather than to simply provide it with information.

Finally, there is the question of delineation from already existing organisations, especially GDDA. According to Karancı (05.29.01), the roles of TEMAD and GDDA are particularly unclear when it comes to disaster management’s strands into “normality”, i.e. mitigation and recovery. This is partly confirmed by GDDA’s general director, who explicitly denies that TEMAD has responsibility for anything else than emergency situations (Taymaz 05.31.01).

3.2.2 State perceptions of the earthquake and the response

A relevant question is what the above-mentioned changes tell us about the state’s self-perception. Do they indicate a concession to the criticisms subsequent to the earthquake?

Hülya İlgen is leading the Turkish department of European disaster management organisation and the Department of vocational training at the Ministry of public works and settlements; the ministry’s internal awareness-raising institution. The department has existed since 1988, first with campaigns directed towards the central government, and has later focused on provincial authorities and local emergency units. For instance, she tells me, knowledge of disaster medicine was as good as non-existing until the mid-1990ies. The last

few years, the department has also prepared some campaigns for the public. A campaign directed at children was to be launched in the autumn 1999, but was withdrawn out of respect to the victims. A campaign directed at youths, surfing of the folklore revival that has existed in Turkey the past decade, is finished in the spring 2001.

However, although the ministry has been active in awareness-raising among authorities, İlgen agrees that the response to the earthquake was inadequate. The state's reconstruction work was better, she says.

The reason for the unsuccessful disaster response, she asserts, is partly that the risk awareness was still too low among the emergency apparatus, and partly that different actors in this apparatus are too specialised. İlgen has herself – like Petal - initiated projects including urban planners and civil engineers, hoping that the co-operation would create spill-overs in the shape of a greater interdisciplinarity. Besides, engineers should be more aware on culturally developed mitigation techniques. For example, the traditional Ottoman houses were well adapted to earthquakes since they were made in wood.

Contrary to İlgen, the general director of GDDA, Mustafa Taymaz (05.31.01) is not willing to admit any shortcomings in the state response. When asked about the reasons for the disaster's enormous social magnitude, he gives both systemic and agency-related explanations. The urbanisation of the Marmara region led to a vulnerable settlement pattern. This was aggravated by municipalities' negligence of building control and geo-technical surveys. Finally, the provincial governments were unprepared and did not allocate enough resources. And when asked whether the criticism against the state was fair, he denies both that GDDA did receive a lot of criticism at all, apart from some unserious news stories, and that the heavily criticised organisations Kızılay and the army were just. In fact, Kızılay helped more people than its budgeted capacity would indicate, and the army was the most successful

organisation in terms of logistics and co-ordination. The critics of these organisations, he claims, are severely under-estimating the shear force of the earthquake.

To the question of which measures have been most important to improve the disaster management system, he points to the legal changes applied to improve the control system, and the greater emphasis on ground properties. As for institutional changes, Taymaz emphasises the establishment of TEMAD.

However, although he recognises TEMAD as important for the emergency management, Taymaz says that there is not much co-operation between TEMAD and GDDA, “since TEMAD does not work with mitigation”. Similarly, GDDA does not co-operate very much with the civil defence nor with NGOs for the same reason. GDDA have since the mid-90ies been supporting behavioural training and risk awareness programmes financially, but Taymaz is not willing to see these projects as mitigation measures. I specifically ask about their view on ASK and İzmit Kent Kurultayı, which he characterises as oriented merely towards emergency response – i.e. quite differently from how Arif Agas present İKK. According to Taymaz, only GDDA and other MPWS departments work with mitigation. When I ask how GDDA understands the concept of mitigation, he clarifies that it refers to technical measures; geo-technical and structural codes and their enforcement. I further ask whether he would agree to the criticism of Murat Balamir that the Turkish system is based on a separation of disaster management and development. To this question, Taymaz responds that Balamir is decidedly wrong, basing the criticism on inadequate information about MPWS, and that he has later admitted this.

According to Taymaz and İlgen, then, the earthquake shows a need for a continuous improvement of disaster management. They are not willing to see it as a revolutionary event. And contrary to the NGOs, they do not admit that it reveals a crisis in the state system.

4. THE EARTHQUAKE AS A SOCIO-POLITICAL EVENT

As we have seen, several commentators note that the Turkish disaster management system has tended to explain natural disasters as inevitable, and to isolate disaster management from political questions (cf. Mitchell 1993, Komut (ed.)). From a more abstract perspective, this can be seen as reifying natural disasters as non-social phenomenon, or as assuming an external agent approach. Mitchell (1999b) reports that the immediate response to the Marmara earthquake was the same.

More than earlier, the state was subject to severe criticism after the Marmara quake. Also the blaming of contractors exceeded what had previously been seen. The non-governmental organisations (NGOs) that participated and continues to participate in the response and preparedness to disaster, has received much attention; both for the contributions they make in disaster management, and the role they might play in political life in Turkey in general, when the strong Devlet Baba has lost much of its credibility. The earthquake was announced as a “catalyst for change” (Kreps 1998). The purpose of this chapter is to examine these changes a bit closer.

4.1 Changes in the Turkish disaster management system

There has, indeed, been a number of changes in Turkish disaster management in the two years since the earthquake.

Most important in a study focusing on civil society is that a non-governmental disaster management has emerged. A majority of the actors in this system is engaged in search and rescue activities (SAR), or in local awareness raising projects. In addition, a few organisations have a somewhat broader perspective.

The state disaster management system is in a process of legal and institutional reform. The main motivation of the latter is to improve the disaster response. Reforms in the civil defence

and in Kızılay are intended to improve especially SAR activities. The establishment of TEMAD and the earthquake council is intended to improve the co-ordination of the response, respectively by securing the co-ordination of activities within the system and information to the nation.

All the legal changes seem to be motivated by an urge to rehabilitate the expert systems in both public and private sector that were perceived as having failed in the earthquake. This is in line with several recommendations from Turkish commentators (Balamir 1999, Ozerdem et al. 1999, Ural 1999). It also echoes Stallings' (1995: 205-209) suggestion that responsibility should not remain anonymous.

The listing of manifest changes does not, however, answer main questions of this thesis. First, we still need to consider whether the civil initiatives have had an impact on the prevailing concept of disaster, from an external event that can be managed by merely technological means to an interactive process between nature and society that requires broader political solutions. Secondly, we shall consider whether the organisations from the non-governmental disaster management system may be said to revitalise the civil society in Turkey.

Remembering Stallings' perspective on knowledge about earthquakes as claims about putative conditions, we may regard the interviewees' statements as constructions of the Marmara earthquake and continuous earthquake risk. As claims about putative conditions, they may be subject to a discourse analysis. The theoretical approaches to disaster from chapter 1 permit us to see the local constructions in a more systematic way.

4.2 Attitudes to the Marmara earthquake as constructions of disaster

Do the legal and institutional reforms in the state disaster management mean that the basic understanding of disaster is being changed? The views expressed by Taymaz and İlgen could

also indicate a revision of the concept of disaster that guide state management. Taymaz and İlgen are pointing to social actions and decisions that made the Marmara region more vulnerable to disaster, thus apparently opening up the understanding of disaster to a process approach. Both Taymaz and İlgen also recognise the need for risk awareness raising and behavioural training, and both institutions participate in some way in the running of local initiatives - although GDDA does so only through funding. İlgen is further less scientific than what has been customary when she points to the existence of certain locally developed mitigation skills in the old Ottoman culture, such as wooden houses.

However, it may be argued that the reductionist tendency still exists. Taymaz, speaking on behalf of GDDA, recognises the value of public participation in disaster response. Still, he is clear in his claim that mitigation is a matter of technical solutions alone. Nor does the directorate see any reason to co-operate with non-technical actors. This is clearly a view of disaster as an external phenomenon. Also the legal reforms are perfectly compatible with the rationalistic view of the external agent approach: They may be seen as responses to technical solutions that are functioning sub-optimal, possibly due to human failures, without questioning adequacy of the solution itself.

Taymaz does, it seems, not take the management implications of the more interactivist position he assumes seriously. As a consequence, he accept disaster as social only when hazard has struck society and disaster occurred, and implicitly rejects the process view on disaster.

The state system has not yet significantly changed its perception of disaster. To which extent do the NGOs in the selection challenge the disaster model of the state?

It is, of course, likely that we will find variations in the views of the different organisations. Still, there is a great deal of over-lapping answers to some of the questions

posed. The groups fairly much agree in their perception of cause for the social magnitude of the earthquake, in the perception of the role of science in disaster management and in the evaluation of state response and the risk awareness.

In general, all groups give systemic explanations about their *perception of cause for the social magnitude*: Badly functioning expert systems, ranging from construction to the legal system, are increasing vulnerability to the physical hazard, the North Anatolian fault. An inadequate response apparatus increases the vulnerability. The failure of expert systems is sustained by low risk awareness in both state and civil society. The most remarkable answer is AKUT's, that puts just as much or even more emphasis on the physical properties of the quake as on social and socio-material aspects. The organisation has by several observers (cf. Mitchell 1999b and Demirel 2001: 115) been seen as a motor in the revitalisation of the civil society. Still, it explains the disaster in an almost deterministic way. This may very well contribute in rehabilitating both a reductionist perception of disaster and the reputation of Devlet Baba. Another conspicuous feature is that İnsan Yerleşimleri is explicitly blaming scientists' failure to inform the public of the earthquake risk. Apparently, this is more expert knowledge oriented than the impression that its activities and objectives give. At the same time, it could be seen as a criticism of science's participation in a technocracy and negligence of the Habermasian public sphere.

In short, the organisations' answers show agreement with respect to causal attributions of the disaster. As GDDA's emphasis on expert systems, the answers can be seen both from an internalist and an external agent perspective, given the central place that the bad quality of constructions and the failure of control systems have in all disaster models. It is difficult to decide whether the causal attributions of the NGOs should be interpreted as in opposition to the state's disaster model or not. We notice that AKUT's position is close to technological determinism, whereas there is an element of risk policy in İnsan Yerleşimleri's answer.

The question about *risk awareness* is equally unanimous among the NGOs, and equally ambivalent with respect to disaster models. All groups claim that the risk awareness was low in all segments of society. The only exception is İAHEP, which claims that Turkey has a decent technical disaster management, but that a determinist notion of mitigation has been prevalent.

What *perception of immediate response* concerns, the organisations agree again: the state system did not perform adequately. The one exception is, again, AKUT.

The groups differ more, however, when assessing the strategies and the long-term measures of the state. Several express views that echo Balamir's (1999) attack on the Turkish disaster management system as paternalistic. This is for example seen in İAHEP's claim that non-structural mitigation receives far less attention than structural mitigation, and in İKK's disappointment with the state's recovery plan for Izmit. The latter point of view belongs to the internalist approach's emphasis on the importance of integrating normality into disaster management. The same argument is even stronger stated by Orhan Esen from İnsan Yerleşimleri, who sees the tendency of isolating the earthquake also in the monetary contributions of many NGOs. Whereas İAHEP's concept of "non-structural mitigation" hardly challenges the state's view, İKK's and İnsan Yerleşimleri's evaluation of the long-term response represents a different view. They both claim that disaster management is incomplete when it is not integrated with political decisions.

When assessing the *role of science in disaster management*, all groups (with the exception of AKUT, which does not respond) seem at first glance to express a view compatible with the external agent approach. They all see science as essential to disaster management, and claim that the failure of taking scientific warnings seriously before the Marmara quake should lead to a rehabilitation of science.

Still, they all emphasize that science is but one factor in disaster management. Further, several

are also critical to the way science has been performed in the public. İnsan Yerleşimleri is in addition critical to science' teaming-up with the state elite.

In addition, the organisations agree on the question of *changes in disaster management* and *changes in risk awareness*: All groups agree that disaster management is probably improving – both in civil society and in the state. Most groups also agree that the risk awareness is increasing in Turkey. On the other hand, several emphasise the need for a continued campaign to further raise the awareness, and a simple and non-contradictory presentation of the hazard.

The NGOs' perceptions of the earthquake are fairly similar to each other, and also to the views of the GDDA and MPWS. We notice a certain difference in the answers of İKK and İnsan Yerleşimleri, who explicitly emphasise the continuity between disaster management and development. This difference becomes more evident when the questions that concern actions are considered: activities, objectives and knowledge base.

ASK, İAHEP and AKUT seems, for instance, to be in line with the management implications of an external agent position in their *activities*. Their main activity is training (non-structural mitigation and SAR), followed by measures to improve the co-ordination of response. None of these challenge the assumption that disasters are violent, but non-social disruptures from normal social life. İKK and İnsan Yerleşimleri, on the other hand, have also been organising training programmes, but they have later focused more on integrating disaster management in a wider ranger of activities, thereby stressing the connection between recovery (or in İnsan Yerleşimleri's case: urban development) and mitigation.

A similar tendency is found in the organisations' *objectives*, where the disaster-related ones explicitly are restricting their activities to issues close to the outburst of disasters; preparedness and response. ASK and AKUT are explicitly apolitical, and İAHEP is implicitly

so. İKK and İnsan Yerleşimleri, on the other hand, both aim at improving the participation of local actors in long-term decision-making processes.

This is, admittedly, also an ultimate goal of the public meetings arranged by ASK, but here, the ability of the public to influence its situation is perceived as very limited. The meetings are unambiguously arranged within a top-down perspective. ASK does, as İAHEP and AKUT, at no point challenge the state; the objectives are always directed against the public. Contrary to this, İnsan Yerleşimleri and especially İKK are both aiming at establishing channels for a dialogue between the state and the civil society.

When activities and objectives are considered, then, ASK, İAHEP and AKUT are expressing what I understand as a conditional support to the external agent approach. They do argue that behavioural capabilities are crucial in disaster management, and thereby include the public more actively than it has been done earlier in Turkey. But disasters are still treated as isolated events that are to be managed by experts. The positions of İKK and İnsan Yerleşimleri are more compatible with an internalist view. They challenge expert knowledge to a greater degree, and they try to integrate disaster management with the development of normal social life.

I claimed above that the views on science's importance are ambiguous. The views on science role does, however, become really interesting when they are compared to how the organisations view their own *knowledge base*:

İKK and İnsan Yerleşimleri are mainly basing themselves on competencies that exist internally in the organisation. They hardly reveal anything sensational about their views on knowledge, but one may argue that they are open to heterogeneous types and knowledge; especially since we know that both emphasis dialogue.

ASK, İAHEP and AKUT, on the other side, agree about the necessity of standardised knowledge. Knowledge, they assert, must be unambiguous and clear to be of any use when it

is presented to an audience with generally low risk awareness. This is quite compatible with the interpretation of the groups as based on the external agent approach's understanding of disasters, since it implies that there is one correct way to deal with them. In addition, it echoes the very same paternalism that Balamir is accusing the state system of imposing on the public.

At the same time, only İAHEP emphasise that their methods are “research-based”, with reference to systematic investigations of a large scale. AKUT's courses are based on ad hoc adaptations of a number of different techniques. ASK's standards are constructed by people associated to the organisation. And although these persons are scientific experts from the advisory board, they are still local manufacturers of knowledge. Still, their programmes are presented as “the true action”.

One may, of course, point out that ASK hereby is challenging the technocracy's “earthquake establishment”, just as AKUT does when exchanging knowledge with the army and the civil defence. On the other hand, they are also black-boxing their techniques (Latour 1999: 183-185), or erasing the fact that what they teach is manufactured knowledge. They are erasing the process of knowledge construction, and therefore denying that they are challenging already established knowledge. Instead, they are distributing the truth.

As for the perception of *changes in the role of civil society* after the Marmara earthquake, only ASK among the disaster-specific groups answer – negatively. The immediate response of the public was one of opposition to the state, they say, but this atmosphere soon vanished. Significantly, İKK and İnsan Yerleşimleri represent ideas or values that were present also before the Marmara earthquake.

4.3 The boundaries of disaster policy after the Marmara earthquake

In spite of massive criticism and a certain recognition of the relevance of social factors, there

is, I have argued, no indication that the main disaster management authority in Turkey has changed the model of disaster that forms the fundament of its disaster management.

The answer to whether the non-governmental disaster management is challenging the state is more complex. Altogether, the tendency seems to be a division between İKK and İnsan Yerleşimleri on one side and ASK, İAHEP and AKUT on the other – i.e. between the organisations that were established for other purposes prior to the earthquake, and the newly established, disaster-specific organisations.

The former are clearly opposing the view that earthquakes are non-social events that can accordingly be managed by technical means within a technical sub-system, separated from the broader political sphere.

ASK, İAHEP and AKUT use an interactivist explanation of the social vulnerability – as does Taymaz and İlgen. But when their perceptions of the earthquake are compared to their management activities, I believe it would be wrong to say that they present a different understanding of disaster. It is still correct to say that they do challenge the state's concept of disaster management, since they emphasis behavioural skills and accuse the state of focusing too much on applied science and technology. But at the same time, they do not propose stronger links to from disaster management to other areas of society. Further, belief in one rational way of facing an external hazard is, according to Keith Smith (2001: 49-51), a central trait in the external agent approach's view on disaster management. Petal from İAHEP is, indeed, explicitly criticising the management concept of the state system. Still, just as ASK, and until recently also AKUT, İAHEP is themselves claiming to represent the rational way of responding. İAHEP's criticism of the state system only regards what should be included in a technical disaster management; it is not a politicised disaster management.

We should, however, not draw conclusions before we have compared the general features of the answers from the different actors with the specific situation they are relating themselves

to. As we saw in chapter 1, a major point in the internalist theories is that vulnerability to disaster is perceived as a process between a natural environment, a socio-material pattern of adaptation and perceptions of the process. Consequently, it is necessary to avoid black-boxing of the specific Turkish vulnerability condition.

What the question of the boundaries of disaster management concerns, we need to consider the specific hazard of Turkey. The argumentation in much of the sociology of disaster is based especially on the insight of what Keith Smith (2001: 50-51) calls the structural school within vulnerability theory. Here, it is claimed that disasters are political because vulnerability often, and particularly in less developed countries, correlates with poverty. On the other side, I have argued that this correlation seemed weaker in the Marmara region than anticipated. Although there is no indication that there is no correlation, the big problem in the Marmara region was not class-relations or a problem of democracy, but a problem of construction and control practices. The vulnerability in Turkey is, in other words, more related to the way knowledge systems are co-ordinated. As already stated, most of the measures taken by GDDA, as well as the establishment of TEMAD, are meant to improve the integration of expert systems or their enforcement through legal accountability.

Also the NGOs' incentives for a politicisation of disaster become smaller if response expert systems are the main problem of the disaster management system. Training programmes aiming at improving SAR skills is a good way of minimising the dependency on professional experts. And AKUT's and ASK's co-operation with governmental and provincial organisations will improve the expert systems directly.

4.4 The Marmara earthquake and the civil society

The second question I want to discuss in some detail is related to the degree with which the

disaster NGOs are changing the socio-political balance between state and society, i.e. revitalise the civil society.

As we have seen, there is a tendency of toning down ambitions among the civil initiatives that were established after the Marmara earthquake in August 1999. None of the groups have explicitly political objectives, although some - İKK, İnsan Yerleşimleri, and ASK – aim at improving the communication between state and society. At first glimpse, the NGOs do not play any political role.

At the same time, it is clear that the political culture in Turkey may explain this – in the same way that the country's vulnerability condition explains why disaster policy should not be only class-political in the way Smith's structuralists demand.

Turkey's restrictive constitution and political culture is without any doubt such a factor. In a strong state where long traditions of restrictions upon civic liberties have been central features, the opportunity of achieving political goals outside the political system is obviously limited. This is even more so when the state apparatus is criticised, as was the case immediate criticism of the state response. The attitude to the new state institutions, TEMAD and the earthquake council, to the public indicates that the Marmara quake has had a limited impact on the central power's grip on the political system. In stead of admitting short-comings and participate in the public discourse about the earthquake risk, these institution withdraw from the public, and even blame it on the media. The overt criticisms against the state are, admittedly, rare in the interviews, but some of the groups do complain that it may be difficult to get permission to arrange even rather uncontroversial training programmes.

Obviously, then – and made more or less explicit by ASK and AKUT – a narrow focus on some uncontroversial core activities is a strategy for survival as a non-governmental organisation. And since all of the organisations in some way aim at reducing the dependency

on the state emergency apparatus, is not evident that they will have no impact on the relationship between civil society and state.

However, I believe that this is not sufficiently to say that the earthquake has been a catalyst for the civil society. One aspect should still be pointed out.

We remember from the introduction that the primary importance of the civil society, according to Habermas and Beck, lies in organising a counter-weight to the instrumental rationality of technocracies and democratising instrumental decisions. I will say that this implies either challenging the technocracy's knowledge, or its claim to decide the character of knowledge.

In the statements of İKK and İnsan Yerleşimleri, we see elements of both. These organisations go further than the others in abolishing the distinction between emergency response and urban and development policies. In addition, they challenge the technocracy's claim on superior rationality when basing their own solutions on a bottom-up perspective.

ASK, İAHEP and AKUT, I have argued, depict disaster only marginally different from the state, and differ maybe even less when proposing management implications. ASK does aim at achieving a bottom-up critique of the technocracy, but they certainly have not achieved it at present. Quite the contrary, their training programmes and public meetings are characterised by a one-way flow of information, and teaching of "true" and "rational" techniques to be better prepared. And if the techniques are locally produced and based on local experience in addition to science and technology, it is concealed through black-boxing of the process of construction.

I argue, then, that the modest objectives not alone should be considered when the NGOs' effect on the socio-political balance is assessed. They are easily understood from the political situation in Turkey; they may be seen as some kind of political realism, and are therefore not incompatible with the alleged revitalisation of the civil society. On the other hand, I claim that

there paternalist tendencies in the statements of the disaster-oriented NGOs that support, more than challenge, the political culture in Turkey. Both in the design of their activities, the promotion of these activities and in their evaluation of the abilities of the public, ASK, IAHEP and AKUT maintain a top-down and reductionist perspective on the earthquake hazard, as does the state disaster management system. This paternalism, combined with the fact that they challenge neither the state's disaster understanding nor overtly the state disaster management, makes it difficult to see how they at present increase the public's participation in decision-making.

The answer to the question about the Marmara earthquake and the civil society is, thus, negative. In the same way that the new, disaster-oriented NGOs in the present sample do not propose a radically different, more politicised model of natural disaster, they do not represent a revitalisation of the civil society. What is found is rather the contrary: If the state disaster management is challenged, it is by civil initiatives that already existed prior to the earthquake. That is, more than the earthquake being a catalyst for the civil society, sub-political actors to a certain extent politicised the earthquake. But also here we should be cautious. Whereas Yavuz (2000) meant the August 1999 earthquake was a unique possibility of reuniting a divided public, IKK and İnsan Yerleşimleri evaluate their achievements to be rather modest. George Gavrilis' (2001) analysis of the media response to the earthquake concludes that after an initial period of a critical attitude, the Turkish media soon turned to sensationalism. Another reason is that all the organisations may have similarities to the civil initiatives in Navaro-Yashin's (1998) analysis of religious neighbourhood groups and women movements in Turkey in the early 1990ies. While these movements by some had been put forth as evidence of a revitalisation of Turkish civil society, Navaro-Yashin argue that they had strong relations to elite groups in Turkey, and therefore hardly represented the general public. It is probable that the same thing goes for the non-governmental earthquake establishment. A very large

percentage of the community-based organisations (CBOs) listed by Selek and Petal (2001) origin in districts of Istanbul that are considered higher middle-class or upper class. CBOs are central in the work of İnsan Yerleşimleri, ASK and İAHEP. A significant part of İKK's work is conducted through professional associations.

We may sum up the discussion about the social discourse about the Marmara earthquake:

There have been changes, both in the Turkish disaster management system. One change is the state's admission of human influence on vulnerability and measures to make individuals accountable for technical failure. Another one is the emergence of a non-governmental disaster management.

There is a conflict about risk management between the actors in this selection, or at least a tension. This is characterised by avoidance more than confrontation. The state and the NGOs are rarely challenging each other. The tendency towards avoidance is one reason that it is doubtful if one may see the earthquake as a revival of civil society in Turkey. Another reason is that a majority of the NGOs in is not at the moment empowering the general public. Rather, the public is seen as not knowledgeable and incompetent.

Nor do the majority of NGOs propose a different understanding of disaster and disaster management. They are all producers of knowledge in some way, and therefore claims-makers in Stallings' sense, but only İKK and İnsan Yerleşimleri significantly challenge the state conception of disaster. In Beck's vocabulary, they depict natural disasters as reflexes of a long series of social actions, and claim that the risks should not be handled through technical means alone. İKK and İnsan Yerleşimleri were, however, established before the earthquake.

Finally, it should be pointed out that even though the role of ASK, İAHEP and AKUT in redrawing the social discourse about natural hazards is limited, there is no doubt that the organisations are enriching Turkey's disaster management. They have themselves no

ambitions of being political, but aim solely at reducing losses in future disasters. And although they could, in my opinion, be more conscious about their role in the public discourse, they do certainly fill a void in the disaster management system. Besides, they may very well have a positive long-term effect on civil society, through raising awareness about the environment and decreasing the public's dependency on the state in future emergencies.

5. CONCLUDING REMARKS

This thesis has examined some aspects of the social debate about natural hazard in Turkey after the Marmara earthquake. It has also looked at the connections between disaster sociology and theories of hybridisation, especially Beck's theory of the risk society. The need to see the earthquake as an in several way socially internal phenomenon should be clear.

First, building quality is seen as the main reason for the high number of fatalities, in spite of an advanced and newly revised building code. It seems fair to claim that expert systems – in particular the building sector and its control system - have participated in the production of vulnerability. Second, there is, in spite of agreement about the primary hazards, traces of disagreements about how these should be managed. There is, in other words, a social discourse about natural disaster in Turkey, involving a number of local and national actors with different cognitive models of understanding earthquakes, each having different management implications. Several of the participants in this discourse are clearly local producers of the knowledge they claim should guide the management of disaster. As Stallings, would say, earthquakes have become a social problem in Turkey.

These findings are not only compatible with the internalist approaches to disaster, but also with the media image of the earthquake. However, as soon as we enter the content of the claims, the picture changes. Although there are many claims-makers, we see that the “risk conflicts” (Beck 1992: ch. 1) are less outspoken. And when the mode of the different claims, or their rhetoric, the disagreements become even smaller. Following Navaro-Yashin, I have argued that this may support a political order, just as well as change it. Here, my conclusion deviates from what media has claimed. In addition, this conclusion seems to deviate from what disaster sociology, including Stallings' constructivism, could have reached. As by now, his constructivism is, I believe, only able to state that earthquakes has become a social problem in Turkey.

Finally, I want to point out some implications of the changes in the disaster management system that would be of interest for future research:

The main cause of the disaster in Turkey seems not to have been a lack of institutions, but of their enforcement. As I argued in chapter 4, improving the reinforcement seems to have been the rationale of the reforms of the disaster legislation that are still evolving. An important question is how the measures of GDDA will affect the process of adaptation, i.e. which effect the measures might have themselves. An interesting example is the earthquake insurance law. Whereas this law seems likely to reduce the over-all vulnerability, it might at the same time re-introduce class-position as a more important factor of vulnerability in Turkey, since those who are likely to omit this law are the very poorest.

Another important question is how the actual development of the legal system will proceed. The planned reforms strongly depends on reforms also in other sub-systems, such as education. It seems likely that Turkey may reproduce its vulnerability to disaster unless the political will to administer reforms in a range of social institutions is found.

These questions show that socio-political consequences of the way disaster is conceptualised and managed are still important in Turkey. The last question also points to the central position of expert systems in the Turkish vulnerability condition. If we take the warnings of Orhan Esen from *İnsan Yerleşimleri* seriously, an additional challenge will be to improve expert systems without only enforcing technocracy.

The main aim of this case study has been to study an image of the social significance of the Marmara earthquake critically. An additional aim has been to argue that knowledge and politics, that has so far been antagonistic in disaster studies, should be integrated in the study of the disaster, as it is in the study of other nature/society hybrids.

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APPENDIX: ORGANISATION NAMES AND ACRONYMS

Organisation's names and acronyms may, as I know from own experience, be a source of considerable confusion for anyone who reads about Turkish society in English. To mitigate this problem, I have assembled different versions of the names of the Turkish organisations mentioned several times in the thesis below. In general, I have used the organisations' English names/acronyms. The exception is the non-governmental organisations, that do not always have standardised English names.

In the table, non-governmental organisations are listed first, followed by governmental organisations and finally research institutions. The organisations are then listed alphabetically in the language they occur in the text. "Translated..." may in other words signify both English and Turkish, dependent on my choices above.

Acronym used in the text	Full name used in the text	Translated acronym	Translated full name
AKUT	Arama kurtarma timi	-	Search rescue team
ASK	Afete Karşı Sivil koordinasyon	-	Civic co-ordination against disaster
İAHEP	Afet hazırlığı eğitim projesi	-	Istanbul community impact project
İKK	İzmit Kent Kurultayı	-	Izmit city assembly
-	İnsan Yerleşimleri	-	Human settlement association
-	Kızılay	-	Turkish red crescent association
-	European disaster management	-	Avropa doğal afetler eğitim merkezi
GDCA	General directorate of construction affairs	-	Yapı işleri Genel müdürlüğü
GDCD	Gen. directorate of civil defence	-	Sivil savunma Gen. müdürlüğü
GDDA	Gen. directorate of disaster affairs	-	Afet işleri Gen. müdürlüğü
MPWS	Ministry of public works and settlements	-	Bayındırlık ve iskan bakanlığı
-	National earthquake council	-	Ulusal Deprem Konseyi
TEMAD	Turkey emergency management agency general directorate	TADUY	Türkiye acil duru yönetimi – genel müdürlüğü
-	Bosphorus university	-	Boğaziçi üniversitesi
CENDIM	Centre for disaster management	-	-
ITU	Istanbul technical university	İTÜ	İstanbul teknik üniversitesi
METU	Middle east technical university	ODTÜ	Orta doğu teknik üniversitesi

