

Controlled Collaboration in Disaster and Crisis Management in the Netherlands, History and Practice of an Overestimated and Underestimated Concept

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In the Netherlands disaster and crisis management is a local responsibility. The official point of view is that this asks for central controlled collaboration. Authority to enforce this is legally given to the mayor and a dedicated operational leader. Practice however shows that during the acute phase of a disaster or crisis that central controlled coordination cannot be achieved. In this article it is shown that control over the collaboration in the acute phase of a disaster or crisis can only be accomplished in an indirect way via controlled collaboration in the preparatory phase. Practice however shows that in the preparatory phase collaboration of organizations involved in disaster or crisis management is not enforced but based on voluntary actions of these organizations.

“A lack of understanding of emergency management is likely one reason why officials have suggested that the nation’s response to catastrophic disasters needs a stronger command-and-control system that might be best handled by the military” (Vaugh & Streib, 2006).

police and ambulance service, but also local authorities, security regions,¹ government departments, military personnel, businesses, international government bodies (Ministry of the Interior, 1999; Ministry of the Interior and Kingdom Relations, 2003, 2004; Helsloot & Scholtens, 2007) and even ordinary citizens (Ruitenber & Helsloot, 2004).

Please note that the Netherlands makes a distinction between disasters and crises. A disaster is regarded as a particular type of crisis: a disaster is a crisis only in the field of public safety (Brainich, 2004). More simply put: disasters are considered to be classical mayor accidents caused by nature or with transport or chemical industries (e.g., Quarantelli, 1998; Perry & Quarantelli, 2005). Crisis on the other hand refer to public order risks and new emerging risks such as terrorism. In the Netherlands, too, collaboration in crisis management has taken on positive connotation: solutions to problems in crisis

1. Introduction

The subject of multidisciplinary collaboration in the field of disaster management is very much in the spotlight in the Netherlands. The need for multidisciplinary collaboration would appear at first sight to be obvious. After all, many organizations are involved, all of which contribute to the same goal, crisis relief and management. The organizations in question are not just the ‘traditional’ emergency services like the fire brigade,

management are considered automatically to be applicable in a context of collaboration. The establishment of the security regions (see note 1) is a good example of this.

However, the focus on the topic of multidisciplinary collaboration seems to be more or less blind. Too little thought is given to the question of what really matters, namely whether multidisciplinary collaboration actually represents added value to how crises are managed. Is it really as necessary as believed? Does multidisciplinary collaboration by all the parties involved really lead to better crisis management or is it in fact just a fancy term?

This article describes the origin and the meaning of multidisciplinary collaboration in disaster management in the Netherlands, in order that the question can be answered of whether the favoured approach actually represents added value to the current *wider* nature of crisis management.

2. The concept of collaboration in the system of disaster management in the Netherlands

This section describes the development of the system of disaster management in the Netherlands. It will emerge that the desire for effective collaboration has ultimately led to the unsubstantiated conclusion that this can best be centrally controlled. For that reason, the system of disaster management in the Netherlands is characterized by all kinds of leadership authority.

In the period following the Second World War, consideration in the Netherlands of the risks from which protection was deemed necessary was dominated by the fear of war, or the threat of war, in combination with natural disasters (Ministry of the Interior, 1991). In 1952 this led to the founding of the *Bescherming Bevolking* (protection of the population, BB) organization as part of the country's system of civic defence (van der Boom, 2000). The BB functioned as a disaster management organization and was run along military lines. Its primary task was to protect and support the population of the Netherlands during and after a war (nuclear or otherwise). The 'usual' emergency services, such as the fire brigade, the police and ambulance service existed for the purpose of dealing with 'regular' accidents (Ministry of the Interior, 1991; Brainich, 2006).

During the late 1960s it became clear that due, among other things, to greater levels of industrialization and more intensive road use, large-scale incidents could occur in peacetime for which neither the BB nor the emergency services were sufficiently prepared. It also became apparent that no adequate system of response existed for dealing with such incidents. The fire brigade and ambulance service were run locally, in other words on a small scale, so it was difficult to organize

the services on a regional basis. There was a gap in the emergency services – between the local fire in peacetime and the global fire in wartime (Ministry of the Interior, 1991; van der Boom, 2000).

There needed to be a new regionally organized disaster management organization, able to cope with war and peace, into which the BB could be absorbed. This was necessary because the BB had, by this time (the late 1960s), become an unpopular and isolated body that had lost all credibility. If it wished to survive, then it would need to find a new, or at least extra, *raison d'être* – and the ability to deal with peacetime disasters provided this opportunity (van der Boom, 2000). The then-Minister of the Interior realized that the government could not simply impose a reorganization from above without consequences, because on the one hand local bodies would also have to be reorganized and on the other various bodies would have to be persuaded to merge. The starting point was that the reorganization would be effected 'as much as possible' from the bottom up, although if necessary, it would be done 'from the top down' (Ministry of the Interior, 1975; van der Boom, 2000).

In 1979, the Minister of the Interior at the time proposed that the BB be wound up as part of a drastic programme of spending cuts. The *Reorganisatie Rampenbestrijding* (disaster management reorganization) project was launched in the early 1980s, the primary objective of which was the creation of a new administrative and organizational structure for dealing with disasters. The philosophy behind all this was that no distinction should be made between 'peacetime disasters' and 'wartime situations'. There was to be a new organization to cope with the risks (new and otherwise) that represented a threat to society, whatever the circumstances. The three most important starting points were that (1) disaster management should always be put into the hands of the day-to-day emergency services, (2) the fire brigade would form the operational heart of the disaster management organization and (3) local authorities would have primary responsibility for the disaster management effort. This latter aspect was the result of a fresh round of decentralization that was taking place in the early 1980s: bringing citizens closer to government by delegating powers from central government to local government (Helsloot, 2006).

The intention was that the new disaster management organization, that was to consist of a combination of independent organizations, would act as a single entity during a disaster. This made good levels of collaboration between the various organizations crucial. Initially, doubts were raised about the proposal that the fire brigade, police, ambulance and medical emergency services, the Netherlands Red Cross and the then *Korps Mobiele Colonne*² ('mobile column corps') should be charged with disaster management duties (van der

Boom, 2000). After all, how was this motley collection of organizations supposed to work together effectively during a disaster? The government was of the opinion that a good level of collaboration would only be possible if it were coordinated and imposed from above. As arrangements between the various services and organizations for working together during disasters were either lacking or inadequate (HTK, 1981), this aspect had to be dealt with by new legislation. This would serve primarily to offer a solution to the problems that could occur when the various services were attempting to coordinate their operations (HTK, 1983–1984).

It can be concluded that the new concept for disaster management was not one on which good levels of collaboration could readily be expected. After all, the new disaster management organization was to consist of a group of independent organizations. Making coordinated collaboration a legal requirement was seen at the time as the most feasible option. The consequences were enormous. From the early 1980s, great efforts were made at getting the concept off the ground – legally and in practice.

In 1985 the law on which disaster management was given a legal footing, the current Disasters and Major Accidents Act, came into effect. It represented a more detailed version of the concept of compulsory and coordination collaboration, as described above. Multidisciplinary collaboration was given a place of its own in law and became one of the most important principles for devising the organization of current disaster management in the Netherlands.

The concept of collaboration was ultimately developed by legislators in terms of management and coordination. This is contained in Article 1 of the Disasters and Major Accidents Act, which also defines a disaster and major accident. This article shows that coordination is regarded as an important precondition, if multidisciplinary collaboration is to actually mean anything. According to Article 1, a disaster (or major accident) is an event:

- (1) that results in a serious disruption of public safety, significantly threatening or harming the lives and health of many numbers of people, the environment or substantial material interests and
- (2) where a coordinated deployment of services and organizations from different disciplines is required in order to remove the threat or limit the harmful consequences.

The *Explanatory Memorandum to the Disaster Response Act* gives greater details about what is meant by coordination. It refers to both administrative and operational coordination: ‘coordination does not relate to the day-to-day collaboration between the fire brigade, police and other emergency services, but to large-

scale events that require administrative coordination on the part of the Mayor (...) and operational coordination and authority to issue orders on the part of the individual who is in charge of operations, as a result of the involvement of governmental organizations in addition to the regular services, or because the scale of the deployment of the services exceeds the usual collaboration structures’ (HTK, 1981).

With regard to this administrative and operational coordination, Article 11 of the Act states that ‘the Mayor has supreme authority in cases of a disaster or where serious fears exist that one may be imminent. The person charged with running the fire brigade is also charged with the operational management of the disaster management effort, unless the Mayor has made other arrangements’. The Queen’s Commissioners and Minister for the Interior and Kingdom Relations have also been granted administrative authority in cases where the effects of disasters reach beyond local level. This ‘supralocal’ administrative coordination is not dealt with in this article. After all, prime authority in the Netherlands for structuring multidisciplinary collaboration of the operational emergency and other services lies at local council level.

In conclusion, this means that both administrative coordination (supreme command) and operational coordination (operational leadership) were deemed necessary in order for multidisciplinary coordination to amount to anything. Multidisciplinary collaboration in disaster management is therefore inextricably linked in theory to operational coordination and supreme command. The inclusion of provisions about these forms of collaboration in the Disasters and Major Accidents Act was intended to force the various services and organizations to coordinate their efforts in disaster situations. Multidisciplinary collaboration during the response phase was not to be a matter of choice.

Further references to ‘multidisciplinary collaboration’ mean the inextricably linked coordination mechanism of supreme command and operational leadership that was considered necessary to effectuate such collaboration.

Even in the wider context of the current vision on crisis management, compulsory and coordinated collaboration – and indeed to a greater extent than is the case with disaster management efforts, as there are more parties involved – is seen as one of the most important preconditions in the Netherlands. Structures and working methods that have evolved in the last 20 years in order to shape disaster management collaboration have – especially as far as regional collaboration is concerned – either been copied to the letter or used as a basis for fleshing out the details of the collaboration that is deemed to be so necessary during periods of crisis management.

In other words, the compulsory and coordinated multidisciplinary collaboration concept has expanded in

tandem with the widening of disaster management to include crisis management.

An exception to this is the widening of the local supreme command construction to national level. Where there is a crisis that requires national coordination, then decisions at that level can currently only be taken on the basis of interdepartmental agreement between the relevant ministers. There is no supreme commander at national level. The idea that the minister with responsibility for coordination during crises (i.e., the Minister of the Interior and Kingdom Relations) should actually be given overriding powers still appears to be off the agenda.

3. Multidisciplinary collaboration in the acute phases: policy vs. practice

This section focuses on multidisciplinary collaboration as prescribed for the acute phase of a disaster by Dutch policymakers since the early 1980s. The experiences of the last 20 years are also examined to see if multidisciplinary collaboration has had the intended effect in practice – that is, whether that the intended management and operational coordination have led to the various organizations acting as one multidisciplinary but cohesive entity.

3.1. Multidisciplinary collaboration according to policy

For a more detailed understanding of multidisciplinary collaboration in the area of disaster management – and by extension, crisis management – the parliamentary scrutiny of the then-proposed Disasters and Major Accidents Act legislation has been re-examined. A study of the relevant parliamentary documentation is needed in order to understand how policymakers envisaged the interrelationship between collaboration, coordination and the supreme command.

Before the results of this study are presented, it is important to realize that the Act is intended only for dealing with disasters or, in other words, for maintaining public and physical security. It should be emphasized that the Act is not intended for maintaining public order or the rule of law (HTK, 1981). That means that the Act does not simply apply every time a crisis arises that needs to be controlled. It only applies to those crisis situations where public safety is threatened. The Act does not contain any provisions about the legal duties of government services that carry them out on behalf of agencies other than those mentioned in the Act. Such tasks are regulated by other Acts (HTK, 1983–1984). As an illustration, the police performs its tasks under the authority of the Mayor and the Public Prosecution

Service, but only on the grounds of Article 21 of the Police Act and the Code of Criminal Procedure, and therefore not the Disasters and Major Accidents Act.

According to the *Explanatory Memorandum to the Disaster Response Act*, the term ‘supreme command’ refers to ‘two separate notions which together are greatly significant for coordinated disaster management. On the one hand, it concerns political and administrative responsibility, and on the other it relates to the power to issue orders to everyone connected with the relief effort with a view, especially in the case of the latter, to proper coordination. This is primarily about the command structure and coordination in a general sense, rather than a technical one, in other words about setting priorities in the relief efforts’ (HTK, 1981). Legislators therefore believe that ‘the Mayor is expected to set priorities, take important decisions, issue any necessary instructions to the head of the fire brigade and reach solutions in cases where differences of opinion exist, following consultations with the local authority disaster staff. Technical coordination is of course something he will leave with the head of the fire brigade’ (HTK, 1983–1984).

This article does not cover the first notion, that of political and administrative responsibility. Furthermore, it is emphasized that having supreme command relates only to the response phase and not the preparatory phase.

The authority of the head of the fire brigade as the operations manager means that he is responsible for how the disaster is dealt with by the relevant bodies working together (Helsloot, 2006). According to the *Memorandum following the final report*, the head of the fire brigade practises his authority as operations manager ‘under the responsibility of the Mayor and within the limits set by him. This means that for the purpose of executing concrete disaster management activities, the Mayor only has to deal with a single functionary. The head of the fire brigade is responsible for the technical coordination between the various departments: he coordinates, provides encouragement, resolves any conflicts or brings them to the attention of the Mayor. Those who are running their own agencies retain responsibility for the tasks with which they have been charged by law, and they determine who and what will be deployed, and how’ (HTK, 1983–1984). In the light of the scope of the Act, this latter fact means that the head of the fire brigade is not involved with such matters as maintaining public order, investigating criminal activity or providing other social amenities (see also Helsloot, 2006).

The explanation of the Act with regard to operational management shows straight away that the term operational leader is a contradiction in terms. Although many different insights exist as to what ‘good’ leadership means (Pearson & Mitroff, 1993; Boin, 't Hart, Stern, & Sundelius, 2005; King, 2007), a leader has

always a certain type of power that enables him to impose his vision onto other actors, should it be necessary (de Bruijn & ten Heuvelhof, 1999). A leader is someone who sets the course and is in charge of other people: there is a mutually hierarchical relationship between the leader and the person or persons he is in charge of. Given the non-independent powers of the operational leader (in this case, the head of the fire brigade), which according to law entail only technical coordination, this is not the case here: the operational leader is not the leader when it comes to matters of implementation, because 'he coordinates, provides encouragement, resolves any conflicts or brings them to the attention the Mayor'. It is only when people from the other disciplines involved in disaster management work together as colleagues that the operational manager can implement the decisions taken by the Mayor.

It can be concluded that the combination of supreme command and operational leadership, as expressed in the Act, appears to suggest on paper that the required collaboration can indeed be imposed. In practice though, this is not the case as far as the function of operational leader is concerned. In spite of what may be suggested by the title, the operational leader has no formal means in law by which he can impose collaboration between the various parties involved in the response phase.

3.2. Organizational effects of collaboration

In order to shape multidisciplinary collaboration in the response phase of a disaster, the organizational structure for disaster management has been divided into three coordination levels, corresponding to:

- (1) administrative coordination (primarily with the Mayor in supreme command, but in the case of disasters on a greater than local scale, possibly the Queen's Commissioners and the Minister of the Interior and Kingdom Relations),
- (2) the operational leadership and
- (3) presence and operations at the place of the disaster.

The first two levels especially are firmly rooted in law, as I have described.

A more detailed description of these three levels was included as part of the *Reorganisatie Rampenbestrijding* (disaster management reorganization) project in the *Blauwdruk voor de Unité de doctrine in de rampenbestrijding* (blueprint for unity of purpose in disaster management) (Save, 1985). The blueprint contains the first outline of the present disaster management coordination structure, also known as the command structure, in accordance with the three-way division given above. The coordination structure consists (at local level) of:

- (1) the supreme commander and his policy staff from the local authority, who take strategic decisions,

- (2) the operational leader and his operational staff, who translate the strategic decisions into tactics,
- (3) the command at the location of the incident, which ensures that tasks on the ground are properly carried out.

This organizational structure is intended to coordinate the activities of all the organizations involved with the disaster management in a multidisciplinary fashion. The outlines contained in the blueprint were based on the military experiences of the BB during wartime disasters. Van Lochem (2007) talks in that respect of a 'takeover of all the available military concepts'. There is also mention of 'painting the military blueprints and scenarios red'. The correctness or otherwise of the assumption that a command structure that had proved its worth in war situations would also have the desired effect where a disaster had occurred in a civilian setting was never examined at the time. In this case, too, the approach taken was the 'one that was the most obvious', and apparently logical at the time. Not without good reason, Van Lochem (2007) therefore rightly concludes that 'this approach may be limited by and sensitive to administrative reality (. . .). It is also predictable that as a result of the approach that has been chosen, the behavioural scientific aspects of collaboration problems will not feature'.

Later versions that describe the organization of disaster management in the Netherlands and which serve as guidelines for shaping such organizations, such as the *Handleiding Rampenbestrijding* (1991), *Referenties Grootschalig optreden en bestrijding van rampen en zware ongevallen* (1996) and the *Handboek Voorbereiding Rampenbestrijding* (2003), stay loyal to this coordination structure – a structure that is intended to assist those involved in leadership and coordination at the highest local level. It is this structure which even today is considered important in shaping and planning multidisciplinary collaboration.

It can be said that the current coordination structure has been taken over almost automatically from a military command structure that was available at the time. It was assumed that the structure that was usable for a military organization would also work for a civilian disaster management organization, but there was no real substantial basis for this. And still, more than 20 years later, this coordination structure is seen as one of the most important foundation stones of the organization of disaster management.

3.3. Multidisciplinary collaboration in practice

As already emphasized, the coordination structure described above has no bearing on the day-to-day collaboration between the fire brigade, police and other emergency services. The general impression in

the field is that this aspect works reasonably well. This is in line with the picture that emerged from an extensive survey that was held recently into the everyday levels of collaboration between the primary emergency services (Leukfeldt, van der Straten, Kruis, & Stol, 2007). The researchers state that this collaboration 'generally operates as a matter of course and in accordance with basic rules', but that there is nevertheless room for improvement. In the opinions of the researchers, shortcomings in the working relationship occur 'on the ground' not through obstinacy – in contrast to the incident room – but because 'in the heat of the moment employees temporarily lose sight of the interests of the other emergency services (. . .)'.

With regard to this latter factor, something similar takes place in the case of acute large-scale incidents of the kind that do not occur every day. From evaluations of large-scale incidents in the Netherlands, it has emerged that the operational emergency services generally function from a monodisciplinary perspective during the acute phase – this is based on their own findings. Their focus lies on assisting victims, extinguishing fires and restoring public order. Time and again, evaluations in the Netherlands have shown that any coordination between the various services and organizations in this phase is completely lacking [see e.g., Helsloot & Scholtens, 2000; *Commissie Onderzoek Vuurwerkramp*, 2001 (pp. 161–165); *Commissie Onderzoek Cafébrand*, 2001 (pp. 242–249); Scholtens, Helsloot, Roscam Abbing, Hazebroek, & Teunis, 2002; Geveke, Stuurman, & Temme, 2003; Scholtens & Drent, 2004]. It is not just that the members of each service and organization have enough on their plate with their own tasks and coordinating them among themselves, but there also seems to be a reluctance to tread on the territory of the other services. Multidisciplinary activities, such as seeking to ensure that each service is working in tandem, are left until later. These activities, which are designed to provide structure to large-scale multidisciplinary coordination, are not generally a part of the daily routine. The hectic nature of any emergency seems to lead to their being quickly forgotten.

This can be quite easily attributed to the 'mechanism of decision making under pressure of time'. Research into decision making under pressure of time [also referred to as naturalistic decision making (NDM)] has shown that a feeling of temporal compression and stress reduce people's capacity to reassess a given situation. Where time is of the essence, they will always revert to what is standard practice. Because the emergency services generally operate in a monodisciplinary context in their day-to-day activities in which coordination between themselves and the other services is less important, it follows from the above mechanism that it actually feels 'unnatural' for individual members of the services to suddenly activate any sort

of coordination during the initial and chaotic phase of a disaster. Section 4 deals with the research into NDM.

As already mentioned most evaluations of acute large-scale incidents that have taken place in the Netherlands reveal a lack of any strategic, tactical and operational multidisciplinary coordination during the first hours of the acute phase. In cases where there is some degree of coordination, this is on an *ad hoc* basis, and certainly not structured.

These evaluations also show that the supreme command and the related – at least on paper – operational leadership variants are of almost no significance during the acute phase. In practice, the priorities lie at a much lower operational level than that of the person issuing orders or of the operational leader (Lettinga, 2003; Van Zanten & Helsloot, 2007). The Oosting Committee, which carried out research into the 2000 Enschede Firework Disaster, states in its report that the inability to effectuate any kind of coordination in the first few hours '(confirms) the fact that in the initial chaotic phase of a disaster the operational services have to rely on their professional capacity to organise things for themselves' (*Commissie Onderzoek Vuurwerkramp*, 2001). The capacity of those at the strategic (supreme command) and tactical (operational leader) levels to organize the acute phase of a disaster is considerably overestimated.

In summary, this means that the ambition to create structured multidisciplinary collaboration (i.e., including operational leadership and supreme command) during the first few hours is not very realistic. Various evaluations have shown, after all, that this period, characterized as it is by chaos and lack of time, does not allow the emergency services the opportunity to put any kind of multidisciplinary collaboration or coordination into practice. Priorities are rightly aimed at fulfilling the tasks of one's own organization.

The observation that the various organizations concentrate too much on their own activities during the initial chaos phase at the expense of multidisciplinary collaboration has traditionally led in the Netherlands to the recommendation that multidisciplinary collaboration should be effectuated at a much earlier stage. The Public Order and Safety Inspectorate has stated that multidisciplinary collaboration is an 'underestimated phenomenon' (POSI, 2001). The Inspectorate believes it the task of emergency services to introduce structure in disaster management efforts and to 'eliminate chaos from the mass of activity' (POSI, 2004).

The conclusion therefore has to be that, in contrast to the image that emerges from the many evaluations and the opinions of the Inspectorate, that the importance of multidisciplinary collaboration in the acute phase is not *underestimated* in the Netherlands, but in fact *overestimated*. After all, the facts show that the belief that multidisciplinary collaboration can be

achieved by means of the intended coordination structure in the circumstances described (disaster management organizations exist for specific occasions, after all) is no more than an *idée fixe*.

This implies that if we are to allow the parties involved in disaster management and crisis management to function properly, it is time to reassess the situation. We need to reconsider the concept of firm collaboration, and this means letting go of the dogma of supreme command and operational leadership that that entails. After all, we know that both are of no significance in the acute phase of any disaster.

This has an immediate beneficial side effect: the Mayor can concentrate on the other no-less important roles that he has to fulfil during disasters and crises (Jong & Johannink, 2005, 2007). Rosenthal (2003) states that it is becoming more and more clear that a Mayor is generally looked upon as the 'first citizen' during periods of crisis. Helsloot (2007) points out that by placing too much emphasis on the role of the Mayor as the supreme commander, too little attention is paid to the importance of his role as 'first citizen' or 'city father'. This role, according to Helsloot (2007), conflicts with that of the 'all-knowing' supremo, because even the Mayor may be uncertain about something, and should be allowed to say so.

4. Back to basics: working well together in crisis management

During a disaster or crisis in the Netherlands, different organizations – each with their own tasks and responsibilities – are involved in the relief effort. All of these parties are inevitably faced with the need to work together to one degree or another while responding to the crisis. The question is how they can work together as effectively as possible.

The previous sections have dealt with how the system of disaster management has been based on the idea that good levels of collaboration can be guaranteed by a top-down command structure. This means that the system entails various levels of managerial authority that make up the 'classical' multidisciplinary collaboration structure during a crisis. Such a guarantee is actually a misconception, for the simple reason that the structure does not work in practice. The basic question therefore remains open: how can we in the Netherlands get the parties to work properly together?

It is argued in this section that healthy collaboration during the acute phase can only be achieved through proper preparation. The key to working well together in the response phase is therefore not in the response phase itself, but in the preparatory phase.

It is clear that there is at present a lack of knowledge in the Netherlands about what exactly constitutes

healthy collaboration. There is hardly any evidence available in the country that has resulted from research into collaboration in practice. Almost all the evaluation research is concentrated on assessing managed collaboration – that is, it focuses on management and leadership issues. Anyone looking at the in-depth evaluations of, for example, the firework disaster in Enschede or the pub fire in Volendam can only conclude that the question of what good collaboration in these situations would have amounted to was not really examined. What is clear from these evaluations is that the leadership and coordination between the parties were very much below par, but whether this affected the efforts of the emergency services on the spot, and if so, to what degree, remains unclear.

The evaluations of the response phase of crises in the Netherlands appear to highlight the following two factors:

- (1) During the life-saving phase in disasters, it seems that the emergency services involved actually work reasonably well together in the field, in spite of the reigning chaos in the level above them and of the failure of the coordination mechanism that is supposed to operate in such situations. I have not found any hard evidence to suggest that more lives could be saved through better collaboration.
- (2) Evaluations of the post life-saving phase regularly reveal facts that point to insufficient levels of collaboration between organizations other than the 'normal' emergency services. In crisis situations, such organizations have to perform tasks that are either far-removed from their usual day-to-day responsibilities (as is the case with local authority departments), or if the tasks are an extension of what they usually have to do, the organization may not be used to performing such tasks in a crisis situation in tandem with other bodies. This undermines the quality of the work they perform and also results in time being lost.

As too few facts about crisis management collaboration in practice are currently available, this section will continue on the basis of models and theories from other fields, the value of which will still require hard proof from within the field of crisis management.

4.1. On ants, NDM and distributed decision making (DDM)

Let us look more closely at an army of ants on a raid: this conjures up the image of the ideal disaster management organization in which every component works well with the others. An army of ants actually consists of thousands of separate elements working together very smoothly, but without any kind of leadership and very little communication. Whenever an army of ants is

engaged in overwhelming a large beast of prey, it seems that none of the individual ants is aware of what the others are doing. The animal is killed nevertheless, and dragged back to the nest by the ants. Clearly it is possible to work together without any kind of leadership and without much communication. Two key aspects of this have been named, research has been carried out into them, and models created.

The first key aspect is that each individual unit knows its own task. The theory that deals with this is called NDM (Zsombok & Klein, 1997; Cannon-Bowers & Salas, 1998; Flin, Salas, Strub, & Martin, 1997; Flin & Arbuthnot, 2002).

The second key aspect is that each individual unit should be able to make its own decisions as independently as possible, but with an understanding of the main outlines of the overall goal. The theory that deals with this is called DDM (Rasmussen, Brehmer, & Leplat, 1991; Schneeweiss, 2003).

4.2. NDM

In crisis conditions, individuals and individual units have to take constant decisions about what they are going to do. Research has been conducted into this for a long time now, and guidelines exist as to how this should be done. However, it was not until the early 1990s that research projects were started with the intention of gaining insight into how experts in everyday practice took decisions under pressure of time. Decision-making processes have often been designed on the assumption that decisions are always taken rationally and to optimal effect. However, there were many incidents in everyday practice that showed that such processes were meaningless. One such incident – the shooting down of an Iranian Airbus by an American naval ship – led to a large research programme into how experts make their decisions in practice: NDM. The insights gained from the research have now been adopted by many professions in which critical choices have to be made. In the Netherlands, these range from the military, the fire brigade and the nursing profession to forensic scientists and the judiciary (Helsloot & van Duin, 1999; Helsloot, 2005; Helsloot et al., 2007).

What is relevant for this article is that the bottom line of the research is that individuals and individual units in crisis conditions decide in a split second to do what they would always do: no matter what the scale of the disaster is, firemen arriving on the scene will attempt to put out the first fires they come across and save the first people they see, medical personnel will concentrate on treating victims, while the police will focus on restoring order.

The implication of this is that anyone seeking to control the decisions that individuals and individual unit make should do so by allowing them to take decisions on

a day-to-day basis in similar conditions (either in practice or as an exercise). Control during the response phase can therefore only be exercised if it is in keeping with a decision tree previously implanted into the minds of the individuals and individual units concerned.

4.3. DDM

DDM is an important and quickly evolving theory among the group of general decision-making theories. The key question in this theory concerns the optimization of several decisions that have to be harmonized in a situation where there are conflicting interests between the parties concerned. For that reason, Schneeweiss (2003) uses the following definition of DDM: 'design and coordination of connected decisions'.

DDM assumes that many aspects of society are so different and complex, that it is no longer possible to understand and control all of them through a centralized decision-making process. The idea behind DDM is that complex problems in practice are often resolved by splitting them up and placing them in the hands of organizations that are directly involved with those particular problem areas (Schneeweiss, 2003).

The less the decision-making process of a system relies on a single central actor, the more it is characterized by DDM. Dynamic organizations are examples of systems that are characterized by DDM. After all, the use of a central command and control system within a dynamic organization will always produce insurmountable restrictions. If the central actor in a command and control system needs to take a decision, he will need to have all the relevant information at his disposal. By definition, the full range of information is never available in a dynamic organization. It would therefore be impossible for a decision to be taken if those involved continued to think in terms of a centralized and optimized decision-making process.

Disaster management organizations are an example of a dynamic organization, especially in the initial life-saving (acute) phase. Those of you who have at some stage taken part in a policy team exercise will be able to confirm without hesitation that the crucial decisions in the acute phase are actually taken outside the confines of the policy team. Decision-making processes in disaster management situations – and crisis management in general – are therefore characterized by DDM (Samurcay & Rogalski, 1991).

DDM is applied within complex and dynamic organizations in order to make decision making more efficient, among other things by devising better procedures and training courses.

It is likely that the application of DDM in the field of disaster management and crisis management as a means of optimizing the decision-making process in the acute phase, by among other things, devising better proce-

dures and training courses, would be a success. Up to now, DDM has hardly been used at all in the field of crisis management in the Netherlands.

A few tentative applications will now be touched on in brief.

According to Rasmussen et al. (1991), modern information systems do not actually assist *central* decision makers, because they are faced with an excess of generally irrelevant information. However, information systems of this kind can help *decentralized* decision makers by providing them with the big picture, which enables them to make decisions that are more in keeping with the overall goal. In this connection, Rasmussen et al. (1991) talks of reflective decision making, which means that it should be possible to justify decisions in the light of their relationship to decisions made by others. Aldunate, Pena-Mora, and Robinson (2005) think here that relevant actors should be in contact each other in order to create an optimum decision-making process that would allow the right people to deal with the right tasks at the right time, and on the basis of the correct information.

The conclusion is that by applying the two models, NDM and DDM, the key to good collaboration lies not in the response phase itself, but the preceding phase – that is, the preparatory phase. ‘Units’ involved in crisis management should be spoon-fed their tasks, as well as the big-picture scenario, during the preparatory phase so that they are able to make relevant operational decisions themselves. Information systems would then exist not to keep central decision-makers informed, but to help decentralized decision makers carry out their task.

But back to the ants: do NDM and DDM occur with them? Absolutely: from the moment of birth, every ant is a perfectly formed unit that will always take the same decision in any given situation. NDM is in their genes. Decision making within an army of ants is very much a decentralized affair, supported by an optimum level of communication that is nevertheless minimal: ants can deposit odours on the ground and use sensory antennae to communicate whether there is a potential victim for them to prey on, or a threat, and this means that all units are acquainted with the big picture.

The following section deals with the collaboration that is needed in such circumstances in the preparatory phase and how this is currently achieved in practice to only a limited degree.

5. Preparing for crisis management

In this section, an explanation is given of how controlled collaboration is necessary during the preparatory phase. The present practice in the Netherlands is, oddly enough, based on voluntary – some would describe it as informal – forms of collaboration.

Various authors have already referred to the existence of two different realities in the preparatory phase (see e.g., Van Zanten & Helsloot, 2007):

- A sub-system for (paper) planning and consultation (the planning and consultation arena).
- A sub-system for actual operational preparations (the practical arena).

Each sub-system has its own objectives, priorities and perception with regard to disaster relief.

5.1. Informal collaboration in the planning and consultation arena

The planning and consultation arena sees ‘policy’ being developed and the local authority, regional, provincial and central government ‘players’ engaged with non-operational structures, responsibilities, budgets, plans and, especially, consultations. This primarily concerns consultations between the various disciplines and administrations, and is considered to be essential (Van Zanten & Helsloot, 2007).

The activities in this arena also determine how the hoped-for results are perceived. These are, in particular, visible participation on the part of government bodies, a multidisciplinary consultation structure, having plans, and organizing exercises. What happens in this arena is mostly determined by national disaster management and crisis management policies (Van Zanten & Helsloot, 2007).

Substantial aspects of disaster management are dealt with in this arena at a fairly abstract level – the arena is more about outlines. What is striking is the lack of operational agreement between the disciplines in areas of substance, for example about how to deal with concrete incidents when drawing up disaster management plans, as well as in alarm and upscaling protocols in the incident rooms.

The activities in the planning and consultation arena take place on the basis of voluntary and uncoordinated collaboration: parties actually work together in a way that is not considered possible during the response phase. The Dutch government has until now provided central-control structures aimed at imposing coordinated (though unfeasible) collaboration in the response phase (such as the supreme command in the case of disasters, but also the new overriding powers of the chairman of the security region). On the other hand, it has so far neglected to provide a similar structure designed to impose collaboration during the preparatory phase.

So it was, for example, that the regional multidisciplinary control plan had to be drawn up by the regional fire brigade during voluntary consultations with the other emergency services. There are no means by which compliance with what has been agreed upon can be enforced.

Intermezzo Legislators etc have stated that 'operational leadership in the hands of the head of the fire brigade also entails an obligation to make adequate preparations. (...) By regulating operational leadership in law, this can be taken into account during disaster management preparations, which offers significant practical benefits. With a view to the tasks that they will face, the fire brigade can then take the necessary measures in advance with regard to co-ordination and harmonisation with other services' (HTK, 1983–1984). The Fire Service Act 1985 includes an article in which the management of regional fire brigades were given the task of ensuring 'the preparation of coordination when dealing with disasters and major accidents'. No further action was taken by the government in the sense that regional fire brigades were never awarded any corresponding powers. Legislators seemingly assumed that regional fire brigades occupied the best position in the network of parties involved in dealing with disasters to take on a directional role.

Given their lack of any kind of authority with regard to the deployment of other services during the preparatory phase, regional fire brigades only have an obligation to take preparatory measures of their own for the purpose of proving relief during disasters or major accidents (Helsloot, 2006). If such preparations entail the involvement of other organisations and government bodies, the fire brigade can only secure their agreement on the basis of consultation. This was specifically re-emphasised by the police when the then-proposed Disaster Response Act was being considered by parliament, 'During disaster management preparations, the police and fire brigade will set down their mutual relationship with due consideration of each other's area of responsibility' (HTK, 1981).

By making a multidisciplinary regional control plan compulsory in mid-2004, it was suggested that things had changed. The management of the regional fire brigades was, in the light of their preparatory and coordinating role in disaster management, charged with the task of setting out 'the policies with regard to the multidisciplinary preparation of disaster management and with regard to safeguarding the required capacity and quality of the disaster management organisation' (Article 5 of the Disasters and Major Accidents Act). The management plan was to be binding in character, and to form the framework for the contributions made by the three management bodies (fire brigade, police and emergency medical assistance) to the preparations for disaster management operations. As stated, the management of the regional fire brigades have the task of setting down the plan, but this depends on the agreement of the management of the

GHOR (medical assistance during accidents and disasters) and the regional police service (HTK, 2002–2003). As with the response phase, it is also the case that responsibility for laying down the operational plan does not entail any kind of authority for the purpose of obliging the management bodies of the other services to collaborate (Helsloot, 2006).

It is clear that working together in the planning and consultation arena on the basis of voluntary contributions does not lead to any kind of commitment on the part of the parties involved. As long as the operational objectives remain vague and open to all kinds of interpretation, there will always be scope during consultations for compromise, such as in relation to the level of assistance to be made available. This means that the likelihood of the various organizations questioning each other's operational performance will be small – that, after all, would undermine the harmony that is required in order to attain the desired objectives. There are regions where the various disciplines are highly successful in carrying out their duties regardless of what the others are doing, and yet – apparently, are able to work well with each other (Van Zanten & Helsloot, 2007).

In many regions, the available staffing capacity is deployed primarily for the development of policy and organizational planning. As a result, the staff concerned are not available for improving operational performance. Only a small proportion of the blame for this can be laid at the feet of the regions themselves, given the emphatic focus that central government has placed on planning. In more concrete terms, a region with the most outstanding plans currently scores greater than a region that invests its funds in better operational performance and which as a result has a 'moderate' level of planning (Van Zanten & Helsloot, 2007).

5.2. *The underestimation of the importance of collaboration in the practical arena*

The practical arena is where the actual operational preparations for disaster management should take place in the Netherlands. It is here that the ever-ready actors in the emergency services and local authority officials will actually fulfil their roles during a disaster. They will be expected to take preparatory measures on the basis of disaster plans, strategies and protocols.

However, the priority in this arena is not tackling disasters, but day-to-day duties. After all, disasters only occur now and again and tackling them has a low profile, beyond the planning and consultation agenda.

Actual involvement remains limited to the occasional participation in exercises (if ever, as is the case with most incident rooms in the Netherlands) (Van Zanten & Helsloot, 2007).

It is therefore exceptional for functionaries from different operational organizations to actually work together on this preparatory phase.

In the practical arena, too, a lack of experience and insight means there is too little of the communication overload and hectic circumstances that are encountered during an actual disaster situation. There is only a limited number of operational functionaries who have been involved in disaster management, while there is little interest in studying reports of research into actual incidents (POSI, 2005). To the extent that the problem areas in this arena are acknowledged, any areas of concern are countered with the following two arguments:

- A lot of money is needed for proper preparation (and the funds are not available).
- 'We are good at improvising, and that is the most important thing during a disaster. That should not be hindered by theories and plans written down on paper' (Van Zanten & Helsloot, 2007).

The combination of informality in the planning and consultation arena and the lack of perceived urgency in the practical arena in the preparatory phase leads to levels of collaboration that are highly flawed: there is no joint picture of the preparatory tasks that have to be performed, nor is there any perception of urgency. Helsloot (2007) has demonstrated that this situation is very susceptible to acts of symbolism – in other words, that any action carried out is primarily ritualistic and a matter of going through the motions, without any meaningful improvement to the preparations for disasters being achieved, yet creating the impression that they are.

As far back as the mid and late 1990s, the lack of overriding powers in the preparatory phase was cited several times in the *Project Versterking Brandweer* (project for strengthening the fire brigade), precisely because it was realized that levels of collaboration with the other services were not as they should be. The fire brigade was therefore of the opinion that the regional fire brigade was not in a position to make its directional and coordinatory role, which had been assigned to it, count. The project ducked putting forward any real solutions, apart from proposing that administrative, organizational and operational agreements should be made between the services and government bodies involved in disaster management. It was also suggested that staffing levels of the fire brigade could be increased, in order to allow it to better fulfil its directional role in relation to local authorities and other disciplines (Ministry of the Interior and KNBV, 1997).

A significant cause of collaboration in the preparatory phase not being as good as it should be is, in the opinion of some people, attributable to the fact that the regional fire brigades have been reluctant to take their role. They believe that the solution lies with the fire brigade itself showing better 'leadership'. However, network researchers like de Bruijn and ten Heuvelhof (1999) state that this is a gratuitous attempt to find a scapegoat. They assert that leadership in a network is only possible if the following three conditions are met:

- a leader has a vision that entails real substance, and commands enough authority to persuade other actors to accept this;
- a leader has sufficient power to impose this vision on others, if necessary;
- the situation is stable, and there are no new circumstances that could affect the significance of the vision of the position of power of the leader.³

The concerns contained in the *Project Versterking Brandweer* therefore correspond to the analysis based on the network theory – responsibilities should go hand-in-hand with a corresponding level of authority.

Palm and Ramsell (2007) have recently conducted research in Sweden into collaboration between small local authorities in the field of disaster management preparation. They have shown that for local authorities, neither financial nor practical reasons were crucial in the decision as to whether they should increase their levels of collaboration. Ultimately, it was the fear of the loss of local autonomy that weighed most heavily (Palm & Ramsell, 2007). Although this has not been systematically researched, there appears to be no reason to assume that the situation in the Netherlands would be any different.

The conclusion is therefore that the importance of managed collaboration in the preparatory phase is underestimated. Collaboration – compulsory or co-ordinated – is necessary during this phase, if action is to be actually guaranteed within the networks of the actors concerned.

6. Conclusion

In summary, the conclusion of this article is that whereas too much emphasis is laid on centrally managed multidisciplinary collaboration during the acute response phase of a disaster, there is actually too little focus on this during the preparatory phase. Where the acute response phase should be about 'self-managing DDM'-based collaboration, the preparatory phase is actually the place for controlled collaboration:

Acute response phase	
Current situation	Desired situation
Controlled multidisciplinary collaboration	Self-managing collaboration

Preparatory phase	
Current situation	Desired situation
Informal and voluntary collaboration	Controlled multidisciplinary collaboration

Notes

1. Security regions have recently been formed in the Netherlands. These are geographical areas in which various bodies and services are obliged to *work together* in the field of disaster and crisis management.
2. The *Korps Mobiele Colonnas* was wound up on 1 January 1993. This was because the duties of the organization were no longer relevant to how disaster management was structured after 1985.
3. This third condition implies that leadership in the response phase does not apply, according to this network approach. The response phase in a crisis is characterized by uncertainty and is very dynamic.

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