

Master Thesis

Pre-crisis Preparation: an Organizational Perspective on Crowd Management at Dutch Security Regions.

Author:

C.E. Verweij, bs.

Master Student Communication Science, University of Twente

Faculty of Behavioural Sciences

Communication Studies

Track: Corporate Communication

Student Number: s1241273

First supervisor:

Dr. J. M. Gutteling

Second supervisor:

Dr. Ir. P. W. de Vries

Date: July 31, 2013

UNIVERSITY OF TWENTE.

Samenvatting

In de afgelopen jaren heeft Nederland kennis gemaakt met een aantal rampen waarbij een grote menigte mensen betrokken was. Vaak veroorzaakten deze rampen een aantal dodelijke slachtoffers, gewonden en vele miljoenen euro's aan schade. In de afgelopen jaren hebben verschillende onderzoekers geprobeerd het menselijk gedrag binnen grote groepen te begrijpen, om op deze manier methoden te vinden om dit soort gebeurtenissen in de toekomst te kunnen voorkomen. Tot nu toe hebben deze onderzoeken zich met name gefocust op psychologische processen. Toch moet de invloed van organisatiestructuren bij Nederlandse Veiligheidsregio's niet onderschat worden als het gaat om succesvol crowd management. Deze thesis richt zich dan ook op het succes van de organisatiestructuren van Nederlandse veiligheidsregio's met betrekking tot crowd management op grootschalige evenementen.

De onderzoeksvraag van deze Master Thesis is:

“Wat is de huidige stand van zaken met betrekking tot de organisatorische aspecten van crowd management bij Nederlandse Veiligheidsregio's?”

Om deze onderzoeksvraag te beantwoorden zijn semi-structurele interviews uitgevoerd met crowd management experts van vier veiligheidsregio's. Deze regio's zijn geselecteerd op basis van het feit dat zij de grootste evenementen van Nederland in hun regio herbergen. Door deze ervaring zijn zij het meest waarschijnlijk om veel kennis te hebben over crowd control.

De resultaten van dit onderzoek geven aan dat:

- Alle regio's bekend zijn met de term crowd management, maar dat niet alle regio's hier ook daadwerkelijk een beleid voor hebben.
- Alle regio's hebben een nationale risicoscan ontvangen van het NIFV, maar niet alle regio's deze scan in de praktijk gebruiken.
- De huidige risicoscan biedt onvoldoende mogelijkheden voor het classificeren van evenement specifieke risico's.
- Adviezen van de veiligheidsregio's richting de gemeenten zijn niet altijd gebaseerd op de geclassificeerde risico's. Ook schrijven de individuele hulpdiensten deze adviezen vaak individueel zonder ze eerst interdisciplinair te overleggen.
- Bij grote evenementen wordt de organisatiestructuur van de veiligheidsregio soms te complex om mee te kunnen werken.
- Gemeenten hebben twee tegenstrijdige doelen als zij zelf ook een organiserende rol hebben bij een evenement (zoals bijvoorbeeld koningsdag). In dit geval botsen de marketing doelstellingen vaak met de veiligheidsdoelstellingen.
- Er worden twee tegenstrijdige commandostructuren actief als een incident wordt opgeschaald naar een GRIP 2 situatie, namelijk de GBO en de GRIP 2 structuur. Het hebben van slechts één

- commandostructuur is essentieel voor het waarborgen van de publieke veiligheid.
- Evenementen organisaties, gemeenten en veiligheidsregio's wijzen allemaal naar elkaar als het gaat over wie er verantwoordelijk is voor de publieke veiligheid. De belangrijkste reden hiervoor volgens de experts is het ontbreken van financiële middelen. Een duidelijke verantwoordelijk structuur is essentieel voor het waarborgen van de publieke veiligheid.
 - Vooral kleinere gemeenten denken dat incidenten op evenementen in hun regio niet zullen plaatsvinden. De voorbereiding op het gebied van crowd control is dan ook vaak onvoldoende in deze gemeenten.
 - Vrijwel alle regio's erkennen dat er vaak meerdere draaiboeken in omloop zijn onder de hulpdiensten over hoe te handelen tijdens een crisis. Deze draaiboeken verschillen onderling vaak van elkaar op essentiële punten. Het gebrek aan consistentie in de draaiboeken is een grote bedreiging voor de publieke veiligheid.
 - Bestuursleden van de regio's en gemeenten worden vaak verkeerd geïnformeerd over de risico's. De informatie is vaak gebaseerd op standaard draaiboeken en niet op evenement specifieke risico's. De onjuiste informatie kan een groot gevaar vormen voor de publieke veiligheid omdat er geen goede besluitvorming kan plaatsvinden.
 - Veiligheidsregio's hebben geen standaard protocol om evenementen te evalueren. Een aantal regio's evalueert hun evenementen helemaal niet.
 - Social media wordt gezien als een handig hulpmiddel bij het vergaren van informatie. Toch heeft nog geen enkele regio het gebruik van social media geïmplementeerd in hun crowd management beleid.

Management summary

In recent years, some large crowd events in the Netherlands have turned into disaster, often causing fatalities, injuries and material damage. Scholars have tried to understand crowd behaviour in order to better prepare for such kinds of incidents. Until now, research has mainly been focused on psychological processes. However, the role of organizational structures of the involved emergency services should not be underestimated in successful pre-crisis crowd management. This thesis therefore focuses on the success of organizational structures at Dutch security Regions regarding crowd management.

The research question of this thesis is:

“What is the current state of affairs concerning organizational aspects of pre-crisis crowd management at security regions in the Netherlands?”

In order to answer the research question, semi-structured interviews have been conducted with crowd management experts at the four security regions that entail the largest and most amounts of events in the Netherlands. The reason these regions have been selected is attributed to the likability these expert will hold the most information, and expert opinion on the subject of crowd management, based on their experience.

The results of this thesis indicate that:

- Security regions are familiar with the term crowd management, but have not always implemented a crowd management strategy in their pre-crisis preparedness for large events.
- All regions have received a national risk scan, however, not all regions have implemented the risk scan properly.
- The current risk scan (and/or matrix) does not provide a good structure for classifying risks.
- Advices from the security region towards the involved municipality are not always based upon the indicated risks. Also, the individual partners often write these advices without discussing them interdisciplinary.
- Organizational structures can become too complex to work with when involving a large event.
- Municipalities have conflicting goals, namely a marketing goal and a public safety goal. These goals might become conflicting when the municipality plays an important role in organizing the event (like kings day e.g.).
- Two conflicting command structures become active when involving a large risk: the GBO and the GRIP structure. Having only one structure of command is key for successful crisis management in general.
- Event organizations, municipalities and security regions all point to each other for being accountable for public safety at an event. The main reason for this according to the experts is a lack of finances. The lack of clarity in responsibility structures is a large threat in its own.
- Especially small cities believe incidents will not happen to them. They do not prepare sufficiently for large

events in their municipality.

- In most of the interviewed regions, multiple scripts were being used by the emergency organizations. The lack of constancy in these scripts is a big threat to public safety.
- Board members and municipality board members are often misinformed about the risks of certain events. The information board members receive is not based on the risk matrix indicated risks. Misinforming the decision-makers is a big threat of public safety.
- None of the regions have a general tool to evaluate their preparative measures for an event. Also, not every region evaluates their events.
- Social media is perceived a great benefit for intelligence means; however, none of the regions has implemented the use of social media in their crowd management policies.

Preface

This Master Thesis is the result of half a year of research at the Faculty of Behavioural Sciences at the University of Twente. And is the last step of finishing my Master Communication Studies.

Writing this thesis had ups and downs. In the beginning I have mainly focussed on the psychological perspective of crowd management until the interesting outcomes of the interviews convinced me to rephrase my research question. Instead of focusing on crowd behaviour, this thesis is now focused on the organizational part of pre-crisis preparation of crowd management.

My first words of thank goes out to dr. Jan Gutteling and dr. ir. Peter de Vries for helping me during the entire process of writing this thesis. Their advice in redefining my research question, and providing me of names of researchers was of great help. Every email I have sent was answered within 24 hours, for which I am very grateful.

My second word of thanks goes to the expert that allowed me to interview them. The outcomes of this research are perhaps not the ideal outcomes a board member of a security region would like to face. However, the experts did provide me with this information, even when the answers are not always very positive. I thank them for their courage and their time, and I hope this thesis will be of help for improving crowd management policies in the Netherlands.

Third, I would like to thank Mike Verkouter and my parents Erik and Fennie Verweij for hearing my stories about the progress of my research. Thank you for your encouragements, support and thank you for always being there for me!

Enschede, July 31th, 2013

Content

SAMENVATTING	3
MANAGEMENT SUMMARY	5
PREFACE	7
CONTENT	9
INTRODUCTION	11
1. SECURITY REGIONS	13
1.1. GOVERNANCE	13
1.2. GRIP STRUCTURE	21
1.3. MONO AND MULTI-DISCIPLINARY ROLES	22
1.4. CONSULTING ROLE	23
1.5. CONTROL ROOM	23
1.6. INFORMATION PROVISION	24
1.7. GOVERNMENTAL CONTROL	24
1.8. SUPERVISION	24
1.9. CROWD MANAGEMENT	25
2. THEORETICAL FRAMEWORK	26
2.1. PRIOR RESEARCH	26
2.2. DECISION-MAKING	27
2.3. CRISIS PREPAREDNESS	28
2.4. IDEALS OF CRISIS PREPAREDNESS	28
2.5. REALITY OF CRISIS PREPAREDNESS	29
2.6. CONCLUSION	29
2.7. RESEARCH QUESTIONS	30
2.8. SUB RESEARCH QUESTIONS	30
2.9. DEFINITIONS	31
3. METHOD	32
3.1. RESEARCH DESIGN	32
3.2. SUBJECTS AND SAMPLE	32
3.3. PROCEDURE	33
4. RESULTS	35
4.1. CROWD MANAGEMENT AT SECURITY REGIONS	35
AMSTERDAM-AMSTELLAND	35
ROTTERDAM-RIJNMOND	35
ZUIDOOST BRABANT	35
TWENTE	35
4.2. RESPONSIBILITY STRUCTURES	36
AMSTERDAM-AMSTELLAND	36
ROTTERDAM-RIJNMOND	37
ZUIDOOST BRABANT	38
TWENTE	39
4.3. FACTORS THAT RAISE AWARENESS	41
AMSTERDAM-AMSTELLAND	41

ROTTERDAM-RIJNMOND	41
ZUIDOOST BRABANT	42
TWENTE	42
4.4. EVALUATING EVENTS	43
AMSTERDAM-AMSTELLAND	43
ROTTERDAM-RIJNMOND	43
ZUIDOOST BRABANT	43
TWENTE	43
4.5. ORGANIZATIONAL BOTTLENECKS	44
AMSTERDAM-AMSTELLAND	44
ROTTERDAM-RIJNMOND	44
ZUIDOOST BRABANT	45
TWENTE	46
4.6. OTHER TOPICS	46
ZUIDOOST BRABANT	46
5. CONCLUSION AND DISCUSSION	47
5.1. CROWD MANAGEMENT	47
REFERENCES	52

Introduction

Ever since the fireworks disaster in Enschede (2000) and the fire in Volendam (2001), public safety gained more attention on the political agenda in the Netherlands. One of the results of these events was the initiation of twenty-five so-called security regions. In these regions all emergency organizations cooperate with each other and are led by an independent board. A security region has the advantage of combining all knowledge, material and personnel present in a region, to fight large disasters a municipality will not be capable of fighting on its own.

Up until now, these security regions have mainly been responsible for situations like large fires, terrorist attacks and other events that have been a threat for public safety or health. However, since recent years a new threat has occurred: crowd incidents. Large events like festivals, demonstrations, concerts, soccer games and other kind of gatherings have led to incidents. Examples of these are; riots at the Hoek van Holland (2009), the dam brawler on the fourth of May (2010) and the riots at Project-X in Haren (2012). Because these incidents have led to fatalities, injuries and millions of euros damage, the government has made a lot of effort trying to understand the behaviour of crowds.

This effort has internationally led to many research projects, trying to understand the behaviour of crowd members (Reicher, 2011). This field of research is known as crowd management. Although this psychological perspective is of great importance, it might not be the only factor of successful crowd management. Like Rosenthal and Kouzmin (1997) mentioned: "sociologist and social psychologist who dwell on the significance of emergent groups and nongovernmental decision-making processes provide valuable insights. But, in many countries and regions – both in the West and in the Third World, not to mention transitional former socialist countries – one cannot wish away the prominent role of the government in emergency situation" (p. 12).

Focusing on the organizational side of preparing for a crisis involving large groups of people, "crowds", is of great relevance to successful crowd management. Ironically, hardly any material can be found on this topic. Regarding the fact that in the Netherlands security regions are accountable for large incidents, this master thesis will focus on organizational structures at Dutch security regions, and will map current visions on crowd management held by crowd management experts at the security regions.

The main research question of this thesis is:

"What is the current state of affairs concerning organizational aspects of pre-crisis crowd management at security regions in the Netherlands?"

The first chapter of this thesis provides a description of the security region organization. The second chapter provides an overview of relevant prior research about crowd management and organizational decision-making. The third chapter describes what methods were used in executing this research followed by the results in chapter four. The fifth chapter contains the conclusion and discusses the research findings.

1. Security Regions

After the fireworks disaster in Enschede (May 2000) and the fire in a café in Volendam (January 2001), safety became a central issue in Dutch politics. One of the most significant discussions after these disasters was the conception that municipalities are often too small to handle and prepare for large crises. Besides the necessary preparative means and resources, crises often involve a territory larger than the municipality borders. To increase the quality, operational and administrative power of emergency organizations, the government assigned twenty-five so-called security regions that are obligated to fulfill the following tasks:

- a. To identify risks with regard to fires, disasters and crises.
- b. To advise authorities according the risks of fires, disasters and crises that laws or policies describe.
- c. To advise the mayor and municipality on the field of fire prevention.
- d. To prevent and fight fires and to organize disaster prevention and crisis control.
- e. To assign and maintain a regional fire department.
- f. To assign and maintain the GHOR (medical assistance organization in the region).
- g. To facilitate a control room
- h. To purchase and manage common equipment
- i. To facilitate and maintain an information flow between the cooperating, and external, partners in the security region according the in d, e, f and g named tasks.
- j. To facilitate information to citizens about risks and crises that could occur in the region, and to offer information and practical behavioral advice how to prevent, fight and control these.

Operationally, these tasks lead to a managerial integration of the executives of individual regional the emergency organizations like the police, fire squad, GHOR (medical assistance organization in the region), and municipalities.

With regard to the relatively new developments of crowd management, the security region has become one of the most important actors on the field of crowd management in the Netherlands. This chapter aims at describing the organizational structure of the security region.

1.1. Governance

The security region is governed by the board of the security region and consists of the mayors of the involved municipalities in the region. This board sets the outline of the policy and financial framework to be pursued. Each mayor in the governing board is accountable within his or her own city council to pursue the policies of the security region. The mayors meet several times a year.

Besides the governing board, the security region entails a Security Council. This council consists of representatives from the security region, fire department, police and GHOR. However, when a risk occurs, or expertise is necessary for other reasons, additional partners in the region become involved too. These additional partners who can fall within the Security Council are e.g. the army, port authorities, bureau of population health (GGD), utility services, Rijkswaterstaat and water, telecom and rail companies (e.g. NS, ProRail). The security region advises the governing board on coordination and operational preparation of crisis management and disaster within the network of partners. The Security Council is also responsible for the implementation of the agreements reached in the governing board. Each partner in the Security Council is responsible for this implementation within the field of their own expertise. The chairman of the Security Council is the mayor of the capital city of a province or, when no such city lies within the region.

1.2. GRIP structure

Whenever a severe crisis occurs, the security region becomes leading in decision-making processes. When the emergency organizations arrive on site they report to the security region, decide which GRIP-level the calamity of crisis is, and who is to take coordination. This GRIP (Gecoördineerde Regionale Incidentbestrijdings Procedure) structure is used for coordinating responsibility structures. GRIP is a national system and holds five scales: scale 0 to 4. This GRIP structure is used for all incidents in the region, including crowd incidents at events.

GRIP 0

GRIP 0 holds that an emergency is of "daily routine". The emergency services on site consult the other partners that are present and agree upon activities with each other. The services on site independently take decisions and if necessary consult the municipality involved.

GRIP 1

If there is more need for coordination and collaboration a so-called CoPi (Commando Plaats Incident) is formed: an incident command. The CoPi is often lead by the chief of the regional fire department. The involved emergency services on site take decisions independently to address the emergency and thereby summons the leader CoPi and the municipality.

GRIP 2

If there are spill over effects to surrounding municipalities, the emergency is scaled to GRIP 2 and the ROT (Regional Operational Team) becomes active. The emergency services on site will consult with the ROT and take independent decisions on actions and communication. Whenever a GRIP 2 situation exists, it is advised to invite the municipality as a player in the crisis team. This way the municipality can advise, share knowledge and is updated about the situation immediately.

GRIP 3

When large groups of the population can be infected by the emergency, the leadership structures change again, described as a GRIP 3 situation. Whenever this occurs an additional team will be formed called the GBT (regional policy team). In a GRIP 3 situation the municipality becomes the leading player and the emergency services will follow their decision-making. In the ideal situation the emergency services and the municipality cooperate with each other and consult each other. Communication with the population needs to be tuned.

GRIP 4

When large groups of the population are (or can become) infected by the emergency and multiple municipalities are (or can be) involved in the emergency, a GRIP 4 level becomes active. The municipalities will then work together under the mayor of the largest city in the region (chairman of the security region). The services will cooperate regional and will follow the lead of the coordinating mayor.

1.3. Mono and multi-disciplinary roles

Like mentioned before, the governing board of the security region works together with various parties like Waterschappen, the army, port, hospitals, utility services and private consultancy organizations for example. These partners are better known as crisis partners. The aim of this cooperation is that these parties jointly prepare and coordinate a disaster or crisis. Within the collaboration the premise is that legal duties and responsibilities of all stakeholders remain intact.

The partners are involved in essential matters. Depending on task, position and situation it involves the following:

- Participation – on invitation – in meetings of the board;
- Participation in periodic meetings with all crisis partners;
- Participation – if necessary – in meetings of the regional policy team (RBT);
- Share visions upon the risk profile of the region;
- Make agreements about exercises;
- Make agreements about operational performances;
- Make agreements about planning.

The contact between the crisis partners and governance of the security region is established in a meeting that is organized at least once a year by the governing board. In this meeting the regional risks and other general themes will be addressed.

Of additional interest are also the obligations arising from the Helsinki Convention (1992). The countries that signed the convention need to undertake appropriate measures and cooperate to protect against industrial accidents with trans-boundary effects involving dangerous substances.

1.4. Consulting role

The security region plays an important role in advising other governments and organizations. Historically, fire prevention plays an important role. In recent years, this role has evolved to the field of pro-action. The security region can provide specialist expertise and can adequately advise organizations and municipalities. Since the beginning of the 'concept' security region, physical safety has gained a broader scope. The governmental responsibility of the advice lies with the governance board of the security region. Given the specialist nature of the (legally requires) advice, the advisory can be performed in mandate. According to the law the security region can also give advice about fire prevention, accident prevention and crisis prevention when organizations have not requested for this advice.

1.5. Control room

The governing board of the security region ensures that a common control room will be set and maintained to support the multidisciplinary processes of the police, fire department and GHOR. Each of the partners are responsible for their own part of the joint control room, determining their own use and units in the control room itself. The Security Council, in consultation with the involved partners, determines general affairs, such as housing, the use of systems and work method. In order to ensure these general affairs are executed, the governing board of the security region assigns the director of the control room. The ministry of National Affairs and Kingdom Relations may make demands on the performance and systems of the control room. According to the law about security regions, regions can also jointly use a supra-regional control room.

The agreement between the governing board of the security region and the regional college (or municipality) contains at least agreements on location, policy and management, finance, performance, support systems and the cooperation between the involved partners.

In crisis situations, the local mayor has authority over the control room, in respect of all three disciplines. Also the (main) prosecutor authority figure has leadership over the control room whenever investigative interests are at stake. The major may give commands when he deems it necessary for reasons of public safety. When a crisis or disaster infects an area larger than one municipality, the chairman of the security region will become in charge of the control room.

1.6. Information provision

The governing board of the security region is responsible for the information to the Minister, the Commissioner of the King and the chief Prosecutor of the disasters and crises. In addition, the Security Council has the task to provide information about a crisis or disaster to the involved staff of the security region. This information needs to contain the risks that their efforts may have for their health and the precautions that have been made taken this regard. The major in the end is main responsible for informing the staff involved in the fight against the disaster or crisis.

In the information provision to the population, risk- and crisis communication are distinguished. With regard to risk communication the governing board of the security region is responsible for communication. Communication according the risks within the region at least needs to include prospects for action in preventing and fighting the risk.

Whenever an actual risk of crisis has occurred, the local major is responsible for communicating with the infected population in his or her municipality. This communication at least needs to include a course of action to be taken by the infected individuals. Whenever a risk or crisis involves multiple municipalities the regional policy team (RBT) becomes responsible.

1.7. Governmental control

The government has multiple tools to make demands about the functioning of the security region. First, the Minister may establish national goals regarding disaster and crisis management. These goals need to be allocated in the regional policy. These national goals first need to be discussed in the national Security Council (existing of the chairman of the twenty-five security regions). National goals can be set when national or international interests are at stake such as a flu, pandemic, or for developing plans to control certain types of crisis that (almost) involve the entire country. It is also possible to set national goals to give priority to preparative matters like multidisciplinary practice for example.

1.8. Supervision

Security regions must at least meet the basic requirements of the Decree Crisis Security Regions (2010). The IOOV (Inspection Public Order and Safety) assesses if the organization of disaster and crisis management of the security region are in order.

Supervision of the IOOV can take place periodically and exerts signaling supervision. In addition, the IOOV can investigate the crisis partners of a region thematically. The IOOV assesses the way in which the security region, municipality and/or crisis partner prepares and implements preparations for a disaster or crisis,

and investigates incidents (except when the Investigation Board of Safety initiates a research). The supervision of the IOOV is the responsibility of the Minister of National affairs and Kingdom Relations. Therefore the IOOV reports directly to the Minister. To achieve the desired effects, the IOOV sends its reports also to all administrative managers, democratic control bodies and other stakeholders.

If the IOOV detects shortcomings in the tasks performed by the security region, the primary responsibility to eliminate the defects lies at the governing board of the security region. The Minister may also decide to start an intervention program (in a broad sense seen as guiding the improvement processes, controlling shortcomings and give suggestions for resorting the problems). Whenever the IOOV detects a shortcoming, the Minister will consult the commissioner of the King to advise him about measures to be taken for improvement of the security region. The Minister will be held accountable and can be called by the House of Parliament to account.

1.9. Crowd Management

With regard to crowd management, the normal GRIP structure is used. However, all regions have received a national risk scan from the NIFV. In this risks scan a category can be classified into a 0, A, B or C category according the involved risks. This scan holds three factors namely; visitor profile, activity profile and location profile. Besides the risks scan, no specific general tools exist regarding crowd management.

2. Theoretical framework

In recent years, excessive crowding and poor crowd management at large events like festivals, concerts, demonstrations, soccer games and other kinds of gatherings, have lead to incidents. Examples of these incidents in the Netherlands are the riots at de Hoek van Holland (2009, 1 fatality), the dam brawler (2010, 63 injuries), and the riots at project-X in Haren (2012, 30 injuries). Because these incidents have lead to fatalities, serious injuries and damage, the Dutch government has made a lot of effort trying to understand crowds (NIVF, 2012).

In trying to understand the behavior of large groups of people, scholars have mainly focused on the psychological factors of crowds (S. D. Reicher, 2011). One of the underlying assumptions of previous research was that incidents could be prevented based on knowing how to interact and handle crowds (S. Reicher, 1996).

2.1. Prior research

On behalf of this assumption, the Elaborated Social Identity Model of Crowd Behaviour (ESIM) has been developed, and is currently the leading model for understanding crowd behavior. Stott and Drury (1999) and Drury and Reicher (1999) introduced the ESIM model arguing that collective action in crowds is only possible when crowd members share some kind of social identity. Not only in-group interactions are important to this regard, but in answering to a crisis, also participants and external factors like the police (Drury & Reicher, 2005). An important notion to this regard, is that crowd actions (like anti-social behavior and vandalism e.g.); typically occur in the presence of other groups like police or other groups in the crowd (Drury & Reicher, 2005). The main value of the ESIM is the understanding that crowds are not isolated but are involved in a larger inter- group process. Therefore the ESIM proposes that understanding of external factors that could influence change processes within the crowd, and could lead towards a better prediction of crowd behavior, and could provide tools to control and manage crowds.

The ESIM model recognizes and stresses the human components in crowd incidents, opening up the challenge of rethinking strategies of crowd management and influences the preparedness for crowd situations (Turner, 1994). However, psychological research might not be the only factor of successful crowd management. Like Rosenthal and Kouzmin (1997) mentioned: "sociologists and social psychologists who dwell on the significance of emergent groups and nongovernmental decision-making provide valuable insights. But, in many countries and regions - both in the West and in the Third World, not to mention transitional former socialist countries - one cannot wish away the prominent role of government in emergency situation" (p. 12).

2.2. Decision-making

With regard to this statement, governmental decision-making deserves more attention in crisis management literature. According to 't Hart (1990), analyzing governmental dimensions in crisis management implies an awareness of controversial elements. First, it should be understood that governmental authorities, like security regions, suffer because in a crisis situation their legitimacy is contested. A crisis raises questions about the effectiveness of the governmental authority (Kouzmin & Jarman, 1989).

Second, Janis (1972) argued that government action is not always functional or beneficial during a crisis. The government may lack physical courage, they might be completely passive (Hart, 1990), they might be overactive or hyper vigilant, or they might learn the wrong lessons (Ahrari, 1987; Axelrod, 1976; Ford & Hegarty, 1984; Schwenk, 1989).

Third, it should be remembered that the government and its organizations are actors in a crisis. "Crises are political events par excellence. Not only are they 'occasions for decisions', but they are also occasions for a restructuring of power relations. Intergovernmental and bureau politics are an integral part of governmental decision-making in crises" (Rosenthal & Kouzmin, 1991, p. 12).

Fourth, the involved emergency organizations like the police, fire squads and ambulances often show a peculiar combination of functional and dysfunctional qualities. These organizations are the first one present at site, and show the highly necessary skills for improvisation and necessary action in the first few minutes and hours. They know how to launch large-scale operations involving large numbers of people. On the other hand, problems of crisis management manifest themselves in the single or coordinative activities of these emergency organizations (Rosenthal & Kouzmin, 1997). "Many emergency organizations have much to gain or lose in crises and emergency situations. The actual moments of crisis are the very moments their organizational existence may be at stake. If they fail in crisis and emergency management, they fail in their core business. This may cost dearly and, indeed, raise questions about organizational tensions" (Rosenthal & Kouzmin, 1997, p. 13).

Hargrove (1990) adds to this that emergency organizations operate as front runners persevering and guaranteeing the regular functioning of the organization, may feel the burden of these duties in their day-to-day activities. Taking one step beyond hectic moments like riots at crowd events, emergency organizations like the police may feel constant pressure to perform better in a context that is best described as "impossible jobs". Consequently, they may experience exhaustive stress, which tends to have a negative effect on their ability to deliver a proper job at the moment the crisis is at stake (Wenger, Quarantelli, & Dynes, 1989).

Summarizing these statements, the organizational legitimacy of security regions could become contested when facing a risk or crisis. Decision-making to this regard like mentioned before, is not always functional.

Security regions, as actors in the situation, might learn the wrong lessons or act passive. Finally, security regions and emergency organizations within the region could face exhaustive stress because the power relations could be restructured based on their performance of even worse, the existence of the organization itself might be at stake.

2.3. Crisis preparedness

Governmental decision-making plays thus an important part in crisis preparedness concerning crowd management. Ironically, there has only been a modest amount of research about governmental decision-making and crisis preparedness. With specific regard to crisis preparedness and crowd management, hardly any literature is available. With regard to the topic of pre-crisis preparations and governmental decision-making, Boin and Hart (2003) have identified a number of crisis leadership tensions focusing on how leaders could balance popular expectations and political realities in the acute and post-crisis phase. Although taking a cue from Boin and 't Hart (2003) that leadership in time of crisis is of great relevance for the topic of crowd management on organizational level, this framework focuses instead on a broader pre-crisis preparedness, and the realities of trying to prepare for circumstances that are very unpredictable by their nature. In order to understand the preparations for these circumstances, broad ideals of crisis preparedness are identified first.

2.4. Ideals of crisis preparedness

In recent years, many different crisis definitions have been introduced. Depending on the different scopes scholars had on the positivist or interpretative manner of a crisis, debate has been about the differences between crises, disasters, emergencies and catastrophes (Boin & Hart, 2003; McConnell & Drennan, 2006). Although we have to recognize that crises could differ from each other, there is a strong agreement that crises at least contain three characteristics namely: severe and unexpected threats, high uncertainty, and the need for urgency in decision-making (Rosenthal et al. 2001). Within the debates about the nature and characteristics of a crisis, many scholars and practitioners have tried to develop some kind of universal guide how organizations should handle a crisis. However, this is fairly impossible to establish because every crisis is different, and has its own specific factors of influence. The closest attempts to develop such kind of guide are some general and broad principles of good practice. Perry and Lindell (2003) as cited by McConnell and Drennan (2006, p. 60), suggest that pre-crisis planning processes should:

1. Be based on accurate knowledge of threats and likely human responses.
2. Encourage appropriate action by crisis managers.
3. Encourage flexibility in responses.

4. Promote inter-organizational coordination.
5. Integrate plans for each hazard into a multi-hazard approach.
6. Involve the training of relevant personnel.
7. Provide for testing through drills and exercises.
8. Be adaptable as part of an ongoing process adjustment to new circumstances.
9. Be a strong advocate in the face of inevitable resistance to resource commitments for low probability events.
10. Recognize the differences between crisis planning (preparedness) and crisis management (implementation and performance).

(Alexander, 2005) has outlined the need that the municipal government should be the reference point for emergency management because of the need of regular revision and testing of plans. Mitroff (2001) argues that ideal preparedness is more than simple planning. He portrayed organizations like unions with each layer forming a part of a greater whole: technology, structure, human actors, culture and top management psychology. "Pre-crisis preparedness requires organizational and policy synergies which extend beyond 'rulebooks' to the seriousness by which individuals are prepared to think about potential threats and adapt systems and behaviours in order to prepare for them" (McConnel and Drennan, 2006, p. 60).

2.5. Reality of crisis preparedness

In addition to the strong argument that having a plan is important, the implementation of these plans is a critical factor as well. "Disaster plans are important, but they are not enough by themselves to assure preparedness... they can be an illusion of preparedness if they are not tied to training programs, not acceptable to the intended users, not tied to the necessary resources, or not based on valid assumptions. This illusion is called the paper plan syndrome" (Auf der Heide & Irwin, 1989, p. 33).

2.6. Conclusion

Summarizing from the literature about pre-crisis preparation, preparedness is undoubtedly one of the key foundations in emergency management. However, putting ideal theoretic knowledge into manageable practice is a completely different story.

2.7. Research questions

With regard to the field of crowd management, scholars have focused on the behavior aspects of crowds in order to prepare for possible crowd crises. However, literature indicated that the organizational and operational aspects of pre-crisis preparation are at least as important. To this regard, this thesis will not focus on the behavioral aspects of crowd management, but rather takes an organizational perspective on crowd management. Regarding this relatively new research topic in crowd management, this thesis has an exploratory character. This thesis therefore aims at mapping the current organizational structures and policies regarding crowd management held by practitioners from the security regions.

The research question of this thesis is:

What is the current state of affairs concerning organizational aspects of pre-crisis crowd management at security regions in the Netherlands?

2.8. Sub research questions

The first sub research question of this thesis has an exploratory character and aims at mapping the current familiarity of security regions with crowd management. Therefore this sub question is formulated as follows:

1. How do Dutch security regions define crowd management?

With regard to decision-making, the second sub question aims at mapping the responsibility structures regarding crowd management at events within security regions. The goal of question is to find whether the current organizational structures are working, and what factors are key for successful responsibility structures. The second sub question is:

2. How are the responsibility structures regarding crowd management organized within the security regions?

In order to gain more in-depth information about the practice of pre-crisis preparation for crowd management, the third sub question focuses on the factors that raise awareness of practitioners in order to become extra involved in crowd management at a certain event. The third sub question therefore is:

3. What factors raise awareness of security region practitioners concerning the necessity of crowd management measures?

The fourth sub question aims at mapping the successfulness of the implementation of crowd management plans and the evaluation of these plans. The fourth sub question is:

4. How do security regions implement and evaluate their crowd management policies?

With regard to the successfulness of the implementation of crowd management by security regions, the fifth sub research questions aims at mapping the organizational bottlenecks concerning crowd management. Therefore the fifth sub research question is:

5. Do crowd management experts at the security regions perceive organizational bottlenecks regarding crowd management?

2.9. Definitions

In this thesis uses the following definitions will be used:

Crowd

Based on the literature findings, this thesis uses the definition for “crowd” from Challenger (2010); “a sizable gathering of people in a given location, with sufficient density distribution, who have come together for a specific purpose over a measurable period of time, and who, despite being predominantly strangers or in an unfamiliar situation, feel united by a common identity and are, therefore, able to act in a socially coherent manner” (p. 146).

Crowd management

Crowd management and crowd control are often mixed up or mentioned as one term. Because the terms are two standalone terms, this thesis uses the definition of Berlonghi (1995) describing crowd management as “all measures taken in the normal process of facilitating the movement and enjoyment of people. Crowd management assures people that they will get what they paid for and go home safely. This includes ticket sales and ticket taking procedures, seating, ushering, parking, noise control, public announcements, concession stands, bathroom facilities, lost and found, communications etc.” (p. 240). Crowd management can thus be seen as all the normal preparative actions that are taken to make the event a success. These actions include pre-crisis preparations like scripts e.g.

Crowd control

Different from crowd management is crowd control. According to the definition of crowd control Berlonghi (1995) states: “crowd control includes all measures taken once crowds are beginning to or have got out of control: arrests, fights, ejections, etc. These crowds need to be restraint from unlawful and unsafe behaviors. This is usually the function of law enforcement officers or security personnel and can include: limited access control, admissions control, arrests, riots, unlawful demonstrations, bomb threats, hostage taking, etc. Crowd management is proactive while crowd control is reactive” (p. 241). Although crowd control is not used in this thesis, the definition is important to understand in order to see the difference of the term with crowd management.

3. Method

Summarizing from the theoretical framework, understanding the influence of organizational structures in crowd management is at least as important as understanding psychological processes within the crowd. In order to answer the research question, a semi-structured interview method has been used.

3.1. Research design

In order to gain a systematic overview about the current state of affairs concerning crowd management at security regions, a benchmark approach was chosen to identify organizational structures through a focus on crowd management experts at the security regions. Benchmarking reviews often proceed with systematic descriptions and measurements of high-quality and successful operations (Ahmed & Rafiq, 1998). The organizational processes and structures identified by the crowd management experts provide lessons for other security regions or organizations with similar functions. The outcomes of this research could take the form of a general set of organizational standards, guidelines and norms and can be seen as best practices. Focusing on knowledge held by practitioners, rather than on literature knowledge alone, was an important choice that was made in this research design.

In executing a benchmark approach, semi-structured interviews with security region experts on crowd control were conducted. By interviewing experts, many different topics concerning crowd management could be discussed. Regarding the amount of questions, this method was ideal for covering all of these questions. The interviews had a semi-structured design, meaning that the interviewee could bring up topics as well. The semi-structured design was chosen because of the advantage that experts could bring up ideas that the researcher has not thought of in advance, leading towards the likability that the study will entail all relevant factors influencing crowd management at the security regions.

3.2. Subjects and sample

The participants used in this study consisted of executives of security regions concerned with crowd management at events. The reason why security regions were chosen as research subjects has multiple reasons. First, security regions are a cooperation of all the emergency organizations in a region, meaning that all relevant knowledge concerning crowd management preparations of emergency organizations is available for the security region. Second, security regions are obligated to take (preparative) action whenever a region larger than one municipality is involved in a risk or crisis, or large numbers of citizens are involved. Considering the fact that large crowd events often involve a couple of thousand visitors (often from different cities and regions), the security region is responsible for risk management at these events.

In total, a number of four regions have been researched. The subjects were selected based on their score in the

Respons top 100. This top 100 gave insight in the regions that own the largest crowd events in the Netherlands. Based on this list, the events were sorted on region. The regions selected in this research were all in the top-5 of regions with the largest events. The regions selected are:

1. Amsterdam-Amstelland, 12 large crowd events mentioned in the Respons top 100.
2. Rotterdam-Rijnmond, 9 large crowd events mentioned in the Respons top 100.
3. Zuid-Oost Brabant, 7 large crowd events mentioned in the Respons top 100.
4. Twente, 5 large crowd events mentioned in the Respons top 100.

The experts that were interviewed were all responsible for large events and the event policy in their region. Because of the size and amount of events in the selected regions, these experts are the most likely persons to possess knowledge about crowd management in their region. The names of the experts that were interviewed will not be mentioned because of confidentiality reasons. Their functions and regions are presented below:

Table 2

Interviewed Experts Of The Selected Security Regions

Function	Region
Integral safety manager (events)	Brabant Zuid-Oost
Project manager event safety	Brabant Zuid-Oost
Manager operational information (events)	Amsterdam-Amstelland
Policy officer safety (events)	Twente
Consultant event safety	Twente
Interim team leader event bureau	Rotterdam-Rijnmond

3.3. Procedure

The experts selected for this study were all contacted via e-mail, outlining the aims and objectives of the research. Next, an appointment was made by email or telephone and an interview schedule was send to the participants in order for the expert to prepare him of herself on the interview.

With regard to the topics discussed in the interview, the interview schedule followed the order of the research questions. The following research topics were discussed (the interview schedule can be found in appendix 1):

- Definitions and use of crowd management terms in the region
- Responsibilities of the security region according crowd events
- Factors that raise awareness of the security region concerning risks of an event
- Evaluation of events
- Organizational bottlenecks
- Other topics brought up by the interviewee

The conducted interviews were asked for permission to record the interviews. The recorded interviews were written down first in the form of an interview report. This report was send to the interviewee who validated the report of the interview and approved the material for being used in this research.

4. Results

This chapter presents the results of the semi-structured that were interviews conducted. The results follow the structure of the sub research questions and are categorized per security region.

4.1. Crowd management at security regions

This section discusses the familiarity and the use of the term crowd management as defined earlier.

Amsterdam-Amstelland

In the region Amsterdam-Amstelland, the police are expert on the topic of crowd management. The information about possible risk at crowd events is shared multidisciplinary. According to the definition of crowd management, the expert from Amsterdam-Amstelland states: *“we believe crowd management is the preparative phase in managing crowds, and crowd control is acting on negative and unexpected behaviour of crowd members”*. This definition is similar to the definition described earlier in this thesis.

Rotterdam-Rijnmond

Although the term crowd management is not used in the region Rotterdam-Rijnmond, the term crowd management is familiar and is similar to the definition used in this thesis. The expert from Rotterdam-Rijnmond explains: *“Crowd management is still relatively new to our region. We are familiar with the terms, but we do not use them in this stage”*.

Zuidoost Brabant

The region Zuidoost Brabant is familiar with the term crowd management and uses the same definition as mentioned earlier in this thesis.

Twente

The security region Twente perceives crowd management at the preparative measures taken before and event. Crowd control in their view is response to unexpected behavior of the crowd. This definition is similar to the definition used in this thesis. However, the interviewed experts believed that the practitioners in the field often mixed up the two terms.

4.2. Responsibility structures

In this section the responsibility structures within the region according crowd events are described.

Amsterdam-Amstelland

With regard to the responsibility structures of crowd events, the security region only gives preparative advices to the involved municipality. When a large event is at stake, the security region becomes involved in the operational part as well. When an event is present on the event calendar, Amsterdam-Amstelland starts with analysing the possible risks of an event. This risk analysis is not a standard procedure. The expert from Amsterdam-Amstelland: *“Our basic tool is the event calendar. On that calendar we can see when, and what kind of event will take place. We do have a risk matrix to measure the level of the necessary preparations, but in practice we do not use it. I believe the reason for this is that we now work with standard scenarios, and this method is working well for us. The relatively new matrix is thus not implemented enough. Based on our current method and years of experience, we write scenarios for the events based on the probability of the involved risks”*.

Based on the scenarios written and the perceived risks, the emergency organizations individually give an advice about the preparative actions that need to be taken. The municipality will read the advice and will pass this advice on to the organization telling what preparative measures need to be taken. This advice often becomes part of granting the permit.

With regard to crowd management, the police are responsible for monitoring the crowd. This monitoring is mainly based on checking if there are any rivaling groups among the crowd, and possible illegal activities.

The security bureau coordinates the organization of the security of events. This bureau coordinates all partners and initiates workgroups (like a special workgroup central station e.g.). The outcomes and problems the workgroups and partners have indicated, come back to the security bureau and are discussed and solved.

The expert from Amsterdam-Amstelland: *“This structure is sometimes not clear. For the crowning alone the police had 60 officers, the fire department 20, the GHOR 20, and the municipality almost 60 employees. Because of this enormous organizational structure it becomes hard to know who is responsible for what, and thus who is to make a decision. The event Sail Amsterdam for example takes 1,5 years to prepare. For the crowning however, we had only three months. Large events are thus sometimes quite stressful to coordinate”*.

On the day of the crowning itself the security region uses, depending on the risk, different CoPi's, officers walking down the streets in uniform or as civilians, and helicopters to make pictures of the crowd in order to determine the flow and/or possible threats in terms of objects. The accountability of the security region and decisions of up- and down scaling are made by the chief commander, and if necessary the mayor.

Rotterdam-Rijnmond

All the events that are organized in the region Rotterdam-Rijnmond enter the system via the municipality. The municipality submits the events into the event calendar, which is presented every year in November. The expert from Rotterdam-Rijnmond explains: *"The event bureau of the police monitors this event calendar, and classifies the events in a 0, A, B or C category, according to the national risk scan. When an event is classified as a B category, all the emergency organizations give a mono advice based on the information of the event bureau of the police. When an event is classified as a C event, all the emergency organization partners come together in a meeting and write a multidisciplinary advice. If the classification that results from this scan is perceived too high or too low, we adjust the risk in our advice to the municipality. At this moment the police is monitoring all the events, but we plan on letting the security region handle all the events in the region. However, at this stage we are still in the initiating phase of the event bureau at the security region"*.

With regard to the obligatory character of the advice by the security region The expert from Rotterdam-Rijnmond mentioned: *"Our advices are not obligatory. Municipalities are allowed to reject our advices, but our experience has taught us that they do not reject our advice, because they benefit from it as well"*.

At large events, the event bureau of the police is currently still responsible. At large events the security region normally arranges two extra ambulances and place a CoPi. The CoPi is responsible for the event area and the GBO is responsible for the other areas. The expert from Rotterdam-Rijnmond: *"It is a little bit difficult that we actually have two structures of command; the regular GRIP and GBO (police) structure. We have written a report in which the differences between the structures are described based on agreements. In general the CoPi (within the GRIP structure) is responsible for the event area and the GBO is responsible for the other areas. Whenever an event turns into a GRIP 2, the GBO becomes the centre of action of the RET. I believe this is a good solution for the problem of having two command structures at these kinds of incidents. I think in general I would like the police to take over because they know best how to handle crowd incidents. One of the reasons I believe this structure is working in our region is because we all have offices in the same building. However, we have never tested these structure agreements in practice because there have not been any incidents since"*.

Zuidoost Brabant

The security region Zuidoost Brabant is familiar with crowd management. However, the security region does not plan measures of crowd control because the police has expertise in this area.

Regarding the general responsibility structure, The expert from Zuidoost Brabant explains: *“Whenever event organization makes an event request at the involved municipality, we scan the event on safety with help of a risk scan (developed by security region Zuid-Limburg). In this scan we analyse the event on activity profile, crowd profile and area profile. Based on this scan we categorize an event as A (small risk), B (average risk) or C (high risk). According to this risk the police, fire squad and GHOR give an advice about the preparations necessary for the event. Compliance of event organizations to these advices is often included in the granting the permits for the event. Whenever an event has the C-category (or a large B-category) the security region gives an additional advice about safety issues. Within the region we have more knowledge on different areas and therefore our advices are often helpful for event organizers. We advice about factors that influence risk- and crisis information, information management, up- and downscaling, scenarios, alarming, management and coordination”.*

Municipalities in the region Zuidoost Brabant are not obligated to implement the advices of the security region.

Within Zuidoost Brabant, responsibilities are divided between emergency organizations. The involved municipality and the event organization need to prepare safety of the events organized in the region. With regard to crowd management, the police advises the municipality according the choices for communicative means regarding the crowd. However, no policy exists about this. Large cities in the region see the additional benefit of their advices, but smaller cities often do not. The expert from Zuidoost Brabant: *“Generally I believe large cities in the region are performing the director function well, while smaller cities sometimes lack to keep control over processes. The smaller cities think too often that large accidents will not happen and the police are responsible”.* With regard to decision-making event organizations are held accountable. When large incidents occur, the GRIP structure takes over command.

Twente

The expert from Twente: *“The security region Twente is only responsible for the multi-disciplinary advice when the estimated risks are high. In order for events to receive a permit, they have to apply for the permit. This permit application process is the same at all the municipalities within the security region. When the information for the permit is applied by the event organization, the municipality analyses the event. This analysis is based on the national NIFV guide for events but is adjusted to Twente specific risks. The output of the analysis is a risk class according the classification system using an A (small), B (normal) or C (high) risk scale. Whenever the risk is high, we start with a multi-disciplinair meeting, followed by the individual partners writing a mono-disciplinary advice. The secretary of the security region collects these advices and writes a multi-disciplinary advice. Next, the secretary sends the draft to all the partners for them to approve the advice. The multi-advice is discussed in another multi-disciplinary meeting and when approved, the advice is send to the involved municipality. We experience that large cities in the region implement these advises really well. Two years ago the cities thought they had to follow the advice only for the security region, but now they see that it is actually important for the safety of their event. In the end, the mayor and city council are accountable for the safety in their municipality”.*

The region of Twente uses a normal GRIP-scaling. The expert from Twente: *“When actions are required, we follow the script we have written. When a risk is becoming very high and involves multiple municipalities, the Security Council of the VRT (the chairman) can take over control”.* Decisions can also made in the control room, but this occurs only at very large events. Serious Request was an example of such an event.

The expert from Twente: *“We expected 300.000 visitors but had to manage 500.000 in the end. We had four systems in our control room to manage the crowds. The first system existed of sensors at all the streets and squares which send out a signal that communicated with the cell phones in the area. This signal worked even when there was no network. The amounts of cell phones gave a good visual image of the amount of people present. In the visual graphs of this data you could see tops when visitors arrived at the station and moved into the city centre, and when visitors left to go back with the train.*

The second system we had existed of signals from all the mobile emergency organizations employees. They carried a beeper on them that send out a signal that was connected to our visual digital map in the control room. This way we knew where all the teams were and which team was the closed to an incident to provide help.

The third system was Twitcidents. This program analyses social media and was started to be used up from 1,5 week before the event. All threats were analysed and it was also very helpful to provide information when people had questions about the program etc. We also had two communication advisors in the control room during the entire event to monitor, to determine messages and to communicate with the crowd.

The last system was C2000. In the control room and all the auxiliary services had the same maps of the area, grid maps to see what actions they needed to take when the GRIP was scaled up and good communication lines between all the partners. We also made use of hosts in the city to provide visitors of information and routing and we spread maps of the event area.

Because more visitors arrived than we had expected, we opened up another square in the city centre that we had planned as being a buffer zone. I believe that if we hadn't this backup plan, things could have gone out of hand. No big incidents happened at Serious Request.

Last queens' day we made an addition to our crowd management strategy. The addition was that we had the officer of the GHOR and the fire department in the radio connection. This way we could guide auxiliary vehicles in the city itself by blocking of roads for a short time so the vehicle could drive through. I think this was of a big advantage in terms of speed of an ambulance for example.

Another adjustment we still would like to make, and is still in development now, is the further development of the Bluetooth system we used at Serious Request. Now we can only see where cell phones are. But we are looking at the possibilities of knowing where the cell phones are moving. This way we will be able to see where crowds are coming from, what speed the crowd has (and by this if there are any obstacles), and what routes the crowds are taking.

In general all the crisis partners have the same script and information and we practice the scenarios in the scripts 2 or 3 times together. The police and the municipality make the script and the crisis partners can give feedback on it. In terms of behaviour we tell the police and security personnel to act friendly and open. The security is responsible for all safety issues on the event on default and the police are of additional help".

4.3. Factors that raise awareness

In this section, factors that raise awareness of security regions regarding risks at crowd events are described.

Amsterdam-Amstelland

With regard to crowd management, Amsterdam-Amstelland is only monitoring the crowd on alcohol and drugs likability, and rivalling groups. Besides monitoring the crowd, the location profile is important as well. The expert from Amsterdam-Amstelland: *"We believe that the crowd is a risk in itself. If the crowd increases, accessibility of the location decreases. We aim at working quick and safe, therefore we always prepare alternative routes to specific locations of the event area only vehicles of emergency organization can use. Other factors of the location that raise extra awareness are large objects and the presence of water. Additional factors of concern could be the amount of visitors, because we believe large crowds need more routing preparation than smaller crowds. To monitor crowds at large events, we use helicopters to fly above the event area and take pictures of crowd flows. In the past we have used these photo's to adjust routes and prevent some parts of the area becoming overly crowded"*.

Rotterdam-Rijnmond

According the factors that raise attention, Rotterdam-Rijnmond analyses the event on activity profile, types of visitors and location. Because of the riots at the Hoek van Haren, dance festivals are not allowed in the region anymore.

The expert from Rotterdam-Rijnmond explains: *"The riots at the Hoek van Holland in 2009 were a worst case scenario. The dance festival had a free entrance so we did not know how many visitors to expect. The visitor profile existed of people drinking a lot and using drugs, and even contained a few Feyenoord Hooligans. Managing public order at night is hard to accomplish. We had some extra factors that made working for the emergency organizations difficult like; loud music, a specific young age group and a dramatic location profile. The festival took place at the beach with only one sandy entrance way, and water on the other side of the location. At a certain moment, the Feyenoord hooligans started to convince the crowd to fight with the police. I believe they would not have been successful at other events that know different types of visitor profile, but at this specific event they did. Because the police had trouble arriving, they appeared very late at location. The fight escalated involving one person killed.*

What we have learned? We do not allow dance festivals anymore. Only when a dance festival is held inside of a building (like a stadium) and visitors have to buy a ticket, we make an exception. However, in general we do not have large festivals anymore. We obligated ticket selling's at every event in the region and the event organizations carry full responsibility for the safety of the event. Emergency organizations like the

police and GHOR are not at the event terrain anymore, instead the event organization needs to have an own emergency team, security team etc. Only if unexpected things happen, we take action. But small incidents like fights need to be solved by the event organization. This strategy is working. At the Bavaria city race for example, full medical teams organized by the event organization are present”.

The security region Rotterdam is thus only monitoring categories from the national risk scan, and is obligating event organizations to take all preparative measures according to the safety of the event.

Zuidoost Brabant

The expert from Zuidoost Brabant: *“Based on the earlier mentioned risk scan we analyse the risks of an event. If the risk is a large B-category or a C-category we become involved with the event in terms of providing an additional advice (in addition to the individual partners like police, fire squad and GHOR). In making this advice, we use the risk matrix. This tool provides a more in-depth analysis of the possible risks of the event (the matrix was developed by the city of Eindhoven). The risk matrix includes: profile of the crowd, activity profile, profile of the organizing party, profile multidisciplinary security organization, threat profile, infrastructural profile, area profile, enforcement and historical profile.*

In this matrix, we check crowd specifically on the combination and likability of use of drugs and alcohol, the amount of visitors, the homogeneous or heterogeneous composition of the crowd, the age and health of the crowd, conflicting groups within the crowd, cultural differences, identification of crowd members with the event, duration of the event and contractual relationships of visitors. We discuss the matrix inter-disciplinary, meaning sometimes other issues pop up as well. The thing I miss within the risk scan and the risk matrix are social media. I believe we should look into this deeper because it has worth in terms of intelligence”.

Twente

Topics that Twente believes are important to monitor are; public health, fire protection, public order and safety, crowd routing, number of people per square meter, type of visitors, goals of visitors and infrastructure. All of the permit-obligated events are described in the event calendar of the region. These topics are part of the regional risk analysis for events, and are discussed in a multi-disciplinary meeting.

4.4. Evaluating events

Amsterdam-Amstelland

Large crowd events are evaluated individually by the partners, and in multi-agency meetings. For the largest events in the region, Amsterdam-Amstelland uses a COT-evaluation. The expert from Amsterdam-Amstelland: *“We have well evaluated our events in the last few years. We have tried new strategies and evaluated them; therefore our knowledge about crowd management grows. Sometimes the organizational structure is a bottleneck because we do not have one single evaluation format. We decide how to evaluate an event per situation instead of using one general tool. I believe we could improve our evaluation quality, and learn even more, if the evaluation structure was more clear and everyone knew what was expected”.*

Rotterdam-Rijnmond

In Rotterdam-Rijnmond, only C events and GRIP 2 situations are being evaluated. It is impossible to evaluate all events; attributed to the fact the region entails more than 6000 events per year. The permit granting is not evaluated individually, but is part of the larger policy evaluation that is conducted once every two year.

Zuidoost Brabant

The security region Zuidoost Brabant does not evaluate events; the municipality is responsible for the evaluations. The expert from Zuidoost Brabant: *“In the ideal situation the security region is invited to the evaluation meeting, however, we often are not”.*

Twente

The expert from Twente: *“We do evaluate large events with all the stakeholders. Although I believe we do these evaluations in a good way, we could make use of a standard evaluation format. At the end of every year, we evaluate the advices we have given in general and see what the municipalities and event organizations have done with them and think about how we can increase the effect of our advices”.*

4.5. Organizational bottlenecks

In this section organizational bottlenecks regarding crowd events are described.

Amsterdam-Amstelland

With regard to the organizational bottlenecks of the security region Amsterdam-Amstelland, the expert from Amsterdam-Amstelland recognizes three bottlenecks; the role of the municipality, the advising role of crisis partners and social media:

“A bottleneck that I perceive is that the city of Amsterdam often has two interest, namely a marketing and a safety goal. Sometimes these interests clash. Until now we have always managed to find agreements, but discussions are often running very high. A second bottleneck is the cooperation in the advising role for the municipality. Currently all the individual crisis partners deliver their own advice to the municipality separated from each other (sometimes saying opposing things). I believe we would be more effective if we come together first, and write one advice together. This way the communication will be better and more clear. With regard to social media, I believe we should monitor them more and better. We now start monitoring social media 1,5 week before an event. I think we could spend more time monitoring them. Social media is a very important intelligence system which we should use more for our own benefit”.

Rotterdam-Rijnmond

According organizational bottlenecks, the expert from Rotterdam-Rijnmond perceives decision-making processes and finances as bottlenecks: *“I believe it is very unclear who is responsible for what. As I just mentioned, in a GRIP 2 situation the GRIP, GBO and RET become active. Who has command? It is sometimes difficult to combine all the different expertise.*

Another point of concern are finances. Our region is putting a lot of weight on the event organization itself. A mayor just send me an email requesting not to make crowd management the responsibility of the event organizations, because they already face a lot of pressure. In the last couple of years, a lot of events have stopped. I think many of them have stopped because of financial reasons. If they need to pay for everything concerning safety, no economic benefit can be gained. In the C category we now only have the marathon, the Bavaria city race and old years eve. Even these large events are narrowing their activities down, mainly because of finances. Some events are now officially owned by the city of Rotterdam like the Marathon because they really want to Marathon to be organized.

With regard to crowd management, finances are an extra difficult factor. Event organizations do not have the means to organize crowd management in a well-fashioned way, as we would like to. And we do not have the money either. Therefore we have decided to not implement new things like crowd management into the permit application. The municipalities are not paying for crowd management because they say that they pay the security region to take care of it. And we as the security region do not have the money to take care of it. In the end, we only take care of crowd management at 4 or 5 events per year that we really believe are necessary. Even though we really would like to see that crowd management is used more often in events”.

Zuidoost Brabant

With regard to the organizational bottlenecks, the expert from Zuidoost Brabant is perceiving bottlenecks in cooperation, responsibility structures, finances, social media, scenario scripts, transparency towards board members and the perception of personnel that situations will not turn into disaster.

The expert from Zuidoost Brabant: *“I believe the cooperation and policies within the region Zuid-Oost Brabant are organized well. What I do see is that event organizers are trying to get more things done by the municipality than is actually allowed. For example the police; when the police are taking care of security means, the event organization does not need to hire extra security personnel, which saves money.*

Generally I believe large cities in the region are performing the director function well, while smaller cities sometimes lack to keep control over processes. The smaller cities think too much that big accidents will not happen and the police are responsible.

What I see as a bottleneck in this, is the division of responsibilities. When events are organized on closed areas the event organization is responsible and responsibilities are arranged through permits. However, when an event has a more open character, who is responsible for safety then? The bottleneck then is often money: who is going to pay for it? Because safety costs money, the questions raises what will we do, and what is the responsibility of someone else? Large cities, because of their experience with event crowds, see the necessity of spending money on public safety in their city, smaller cities often see not.

Another bottleneck that came into focus after the riots in Haren are social media. Individual police officers do check on information and signals on the Internet since then, however, there is no clear regional policy yet. I do not believe we will be able to state that “we had everything covered” when things go wrong.

Another point I perceive to be a bottleneck, is the difference in scripts of the crisis partners and event organizations. We all use terms like security plan, safety plan, general event script etc. but often these scripts differ from each other on essential factors. We sometimes even use six different scripts all saying something different. When a crisis does occur, what script do we follow? And does everyone know what to do, or is everyone following his or her own unique script? I believe consistency is essential.

I have also noticed a lack of transparency to board members, municipality members and the mayor. They are presented a security plan describing scripts for certain risks, although these are not necessarily the risks that came out of the matrix. Obviously the value of the matrix is very little if scenarios are not written on the determined risks. Executives are thus not informed properly when the observed risks are not told to them. They need to decide what to prepare on but can only do this if their information is correct. Again: I think most of the time people think that everything will turn out to be fine, but sometimes this will not be the case as we saw in Haren and at other events”.

Twente

With regard to organizational bottlenecks in Twente, only finances are mentioned. The expert from Twente: *“When involving large events, finances are available for crowd management measures. However, when an event is a bit smaller, finances do lack sometimes. We try to innovate our measures by working together with other regions and municipalities. When a tool is developed in one region, other regions could buy the tool as well reducing the developmental costs”.*

4.6. Other topics

The interview had a semi-structured design, meaning that the interviewed experts could bring up topics as well. The only region that had an additional topic, relevant for the discussion about crowd management, was Zuidoost Brabant.

Zuidoost Brabant

The expert from Zuidoost Brabant: *“The involved municipality (of large cities) do scan social media on relevant signals. However, once the permit has been granted, they stop monitoring, while the event organization is not obligated to monitor social media. I believe the most developments in social media cannot be noticed six weeks in advance (when the permit is granted), but rather more close to the event itself. So my question is how can we overcome this?”*

5. Conclusion and discussion

The research question of this thesis was: *“What is the current state of affairs concerning organizational aspects of pre-crisis crowd management at security regions in the Netherlands?”*. Below the answer to the research question and the sub questions, are given.

5.1. Crowd management

- How do Dutch security regions define crowd management?

All the regions interviewed are familiar with the term crowd management and use the NIFV plan for event safety. However, not all regions actually have embraced crowd management as being part of risk management at events. Also one of the experts mentioned that although the terms are familiar, the definitions of crowd management and crowd control are often mixed up.

5.2. Responsibility structures and organizational bottlenecks

- How are the responsibility structures regarding crowd management organized within the security regions?

- Do security regions perceive organizational bottlenecks regarding crowd management?

With regard to the accountability of the security regions regarding crowd control, all the regions state that event safety is the responsibility of the involved event organization. The security regions do give mono or multi-disciplinary advises, depending on the classification of the involved risk, but this advice is not obligated. In general, events are put on the event calendar and are analyzed by the municipality with help of the NIFV national risk scan. The factors that are measured in this risk scan are; activity profile, visitor profile and location profile. With regard to the involved risks, the event is classified into an A (small), B (average) or C (high) risk. Whenever a large B or C risk occurs, all the crisis partners of the security region come together to prepare a multi-disciplinary advice. In some regions this advice is written individually by the partners and send to the involved municipality. In one region this multidisciplinary advice is written by the secretary of the security region and send as one advice to the municipality. Based on this advice, the municipality could oblige the event organization to implement the advised security measures by implementing the advice in the permit granting. However, municipalities are not obligated to do so. In the end, the event organization is held

accountable for the safety of the event. In some regions this is in cooperation with the emergency organizations (Amsterdam-Amstelland) and in other regions the event organizations also need to take care of the medical and public order aspects of the event (Rotterdam-Rijnmond).

Also, Amsterdam-Amstelland mentioned that the responsibility structure is often too large to understand. The expert from Amsterdam-Amstelland stated: *“For the crowning alone the police has 60 officers, the fire department 20, the GHOR 20, and the municipality almost 60 employees. Because of this enormous organizational structure it becomes hard to know who is responsible for what, and thus who is to make a decision”*. Large structures might seem to cover all organizational aspects, however, when a structure becomes too large, a bureaucratic and unclear situation occurs, making it even more difficult to organize the event properly.

With regard to the responsibility structure when incidents occur, conflicting responsibility structures occur. According to the security region, the GRIP structure is the structure of command. However, some regions believe the police are responsible in crowd control situation because of their expertise. In that case, the GBO structure has command. All the security regions have stated that with regard to crowd management, they only perceive their role to be advisory. No communicative means are available for the security region whatsoever. The individual partners, who are also part of the security region, are responsible for handling the situation.

The situation of a command structure of the security region that not fits in the situation is similar in the situation of crowd management. Comments from experts like; *“if an event has a large B or C category”* (Zuidoost Brabant) and *“If the classification that results from this scan is perceived too high or too low, we adjust the risk in our advice to the municipality”* (Rotterdam-Rijnmond), already indicates that the current system does not provide a good structure for classifying the events. Or even more important, what kind of preparation is necessary for the risks involved with the event. With regard to classifying risks, Amsterdam-Amstelland is not even using a risk scan but is trusting on their own experience and the scenarios they have already prepared.

In the end, event organizations are held accountable but are controlled by the involved municipality through permits. However, like the expert from Zuidoost Brabant stated *“What I do see is that event organizers try to get more things done by the municipality than is actually allowed. For example the police; the police taking care of security means, leads to the event organization not needing to hire extra security personnel, which saves money”*. An interesting question raises; can we trust event organizations enough in taking care of public safety when security regions already see that they try to push responsibilities to the municipality? Another point of concern related to this matter is the role of

the municipality. All the interviewed experts mentioned that large cities do see the benefit of holding on to their direction function, however, small cities tend to think that accidents will not happen and that the police will be held accountable if the opposite is true. According to these statements, the responsibility structure regarding event management, or in this case more specific crowd management, is not clear. The security regions points in the direction of the municipality and the police, the municipality points in the direction of the event organization and especially smaller cities also in the direction of the police, and the event organization points to the municipality.

The theoretical framework mentioned earlier in this thesis, the security regions and involved municipalities tend to have an illusion of invulnerability because all the experts mentioned that especially smaller cities believe that accidents will not happen. This effect was mentioned by Janis (1972) as a symptom of groupthink. This thought of invulnerability could be very dangerous for the general safety of events because the responsible parties do not prepare enough for events to prevent from happening. Also the current structure of responsibilities, which is very unclear, points in this direction. If no one can be held accountable, the involved parties might not perceive it necessary to organize risk management at events in an effective way.

The main reason for this lack of clarity in responsibility structures is according to all the interviewed experts: finances. Municipalities state they pay security regions to take care of public safety at event. Event organization lack finances to arrange safety properly, and tend to stop organizing events when the pressure of taking care of all the security measures is too high. And security regions also state that they do not have the money to pay for all the necessary security measures.

A last point of concern according responsibility structures is the difference in scripts, used by the emergency organizations. Like the expert from Zuidoost Brabant mentioned: *"We sometimes even use six different scripts all saying something different. When a crisis does occur, what script do we follow? And does everyone know what to do or is everyone following his or her own unique script? I believe consistency is essential"*. This statement speaks for itself. If even scripts of the individual crisis partners differ from each other, who is responsible for what and who can be held accountable when things do turn into disaster? In combination with the related statement that board members are misinformed about the involved risks of an event, who can be held accountable? Like Auf der Heide and Irwin (1989) have mentioned, the paper plan syndrome seems to have influence on Dutch security regions as well. Having a plan is not enough; the implementation of a plan is of crucial importance.

5.3. Factors that raise awareness

- What factors raise awareness of security region practitioners concerning the necessity of crowd management measures?

Three of the interviewed regions stated they used the national risk scan for events, only Amsterdam-Amstelland does not make use of the scan. The main factors that all regions say raise awareness are the use of alcohol and/or drugs and if there are conflicting groups within the crowd. Additional factors that raise awareness are the duration of the event, the age and health of the visitors, the possible identification of crowd members with the event, the historical profile of the event according incidents, and the kind of music (loud music could make crowd members become depleted, increasing the likability of anti-social behavior). With regard to the location, factors like accessibility, the presence of water and large objects are analyzed.

5.4. Evaluation

- How do security regions implement and evaluate their crowd management policies?

All regions state that there is no clear structure or general tool to evaluate events. In some regions the municipality is responsible for evaluating the event, in other regions the police, or the security region itself evaluates the events. All the interviewed experts mentioned that implementing a general tool for evaluating events would be of added value.

5.5. Social media

The experts indicated social media to be an excellent tool for intelligence purposes. Some regions are already using social media extendedly, other regions only recently started to use social media. All the experts mentioned that social media are not yet part of the event risk scan and/or risk matrix, but that this is an interesting topic to be covered by the risk analysis as well.

5.7. Conclusion

The research question of this thesis was: *“What is the current state of affairs concerning organizational aspects of pre-crisis crowd management at security regions in the Netherlands?”* By interviewing experts at four security regions that have experience with large events in their region, crowd management

has hardly been implemented in Dutch security regions. Like Rosenthal and Kouzmin (1997) have argued, the organizational structure of governmental organizations is highly important to the success of risk management in Western cultures like the Netherlands.

The results of this study have indicated that the responsibility structures concerning crowd management within security regions are very unclear. Because of this lack of clarity, decision-making is not always functional. Having multiple structures of command, multiple non-fitting scales of risk indication and multiple advise towards municipalities, and thus event organizations is not effective in terms of risk management. With regard to the learning ability of security regions no standard evaluation tool exists and in some regions not all the actors of event safety are invited to evaluations. Although the experts perceive the learning ability to be good enough, questions can be raised if these statements are true. With regard to the organizational bottlenecks, finances seem to be the factor to blame for the lack of preparative actions in general event risk management. Crowd management, as being part of this large risk management of event, is not implemented in most security regions.

5.8. Limitations and recommendations for future research

This study indicated that security regions in the Netherlands are currently not effective in decision-making about crowd management policies. This study showed that the reason for this could be attributed to unclear responsibility structures and the perception that no large accidents will happen.

With regard to this study, a few limitations need to be mentioned. First, the sample of the research only consisted of four out of twenty-five security regions. The reason for this had mainly to do with a lack of time. In order to ensure the validity of this study, the sample that was chosen contained the regions with the most large crowd events in the Netherland. The assumption was made these regions would possess the most accurate knowledge according crowd management. Second, in this study only security regions were interviewed because of their lawful responsibility regarding public safety when multiple regions or large amounts of people are involved.

In order to increase the generalizability of this study, future research could be conducted on measuring the effectiveness in crowd management among event organizations, municipalities and the police as well. A second point of attention that is interesting for future research is the integration of the current structures of command in a crisis into one overall command structures when involving incidents at events. Besides events, this structure could be applicable for other incidents of public order as well. A third recommendation for future research is the development of a general event evaluation tool. This tool could also be used for the preparation of risk management at events.

References

- Ahmed, P. K., & Rafiq, M. (1998). Integrated benchmarking: a holistic examination of select techniques for benchmarking analysis. *Benchmarking for Quality Management & Technology*, 5(3), 225-242.
- Ahrari, M. E. (1987). *Ethnic groups and US foreign policy*: Praeger Pub Text.
- Alexander, D. (2005). Towards the development of a standard in emergency planning. *Disaster Prevention and Management*, 14(2), 158-175.
- Auf der Heide, E., & Irwin, R. L. (1989). *Disaster response: principles of preparation and coordination*: Mosby.
- Axelrod, R. M. (1976). *Structure of decision: The cognitive maps of political elites* (Vol. 1): Princeton university press Princeton.
- Berlonghi, Alexander E. (1995). Understanding and planning for different spectator crowds. *Safety Science*, 18(4), 239-247.
- Boin, A., & Hart, P. (2003). Public leadership in times of crisis: mission impossible? *Public Administration Review*, 63(5), 544-553.
- Challenger, R., Clegg, C., Robinson, M. . (2010). *Understanding crowd behaviours: guidance and lessons identified*. York: Univesity of Leeds.
- Drury, John, & Reicher, Steve. (1999). The intergroup dynamics of collective empowerment: Substantiating the social identity model of crowd behavior. *Group Processes & Intergroup Relations*, 2(4), 381-402.
- Drury, John, & Reicher, Steve. (2005). Explaining enduring empowerment: A comparative study of collective action and psychological outcomes. *European journal of social psychology*, 35(1), 35-58.
- Ford, J. D., & Hegarty, W. H. (1984). Decision Makers' Beliefs About the Causes and Effects of Structure: An Exploratory Study. *Academy of Management Journal*, 27(2), 271-291.
- Hargrove, E. C. (1990). *Impossible jobs in public management*: Univ Pr of Kansas.
- Janis, I. L. (1972). *Victims of groupthink*: Houghton, Mifflin Boston.
- Kouzmin, A., & Jarman, A. (1989). Crisis decision making: Towards a contingent decision path perspective. *Coping with crises: The management of disasters, riots and terrorism*. Charles C. Thomas, 3971435.
- McConnell, A., & Drennan, L. (2006). Mission Impossible? Planning and Preparing for Crisis1. *Journal of Contingencies and Crisis management*, 14(2), 59-70.
- Mitroff, I. (2001). *Managing crisis before they happen [electronic resource]: what every executive and manager needs to know about crisis management*: Amacom.
- NIVF. (2012). Handreiking evenementenveiligheid: Nederlands Instituut voor Fysieke Veiligheid.
- Perry, R. W., & Lindell, M. K. (2003). Preparedness for emergency response: guidelines for the emergency planning process. *Disasters*, 27(4), 336-350.
- Reicher, Stephen. (1996). The crowd century: Reconciling theoretical failure with practical success. *British Journal of Social Psychology*, 35, 535-553.
- Reicher, Stephen D. (2011). Social influence in the crowd: Attitudinal and behavioural effects of deindividuation in conditions of high and low group salience*. *British Journal of Social Psychology*, 23(4), 341-350.

- Rosenthal, U., & Kouzmin, A. (1991). The Bureau-Politics of Crisis Management. *Public Administration*, 69(2), 211-233.
- Rosenthal, U., & Kouzmin, A. . (1997). Crises and crisis management: Toward comprehensive government decision making. *Journal of Public Administration Research and Theory*, 7(2), 277-304.
- Schwenk, C. R. (1989). Linking cognitive, organizational and political factors in explaining strategic change. *Journal of Management Studies*, 26(2), 177-187.
- Stott, C, & Drury, John. (1999). The Inter-Group Dynamics of Empowerment: a Social Identity Model. *EXPLORATIONS IN SOCIOLOGY*, 54, 32-45.
- t Hart, P. . (1990). *Groupthink in government: A study of small groups and policy failure*: Swets & Zeitlinger Publishers.
- Turner, J.C., Oakes, P.J., Haslam, S.J. & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and Social Psychology Bulletin*, 20, 454-463.
- Wenger, D. E., Quarantelli, E. L., & Dynes, R. R. . (1989). Disaster analysis: Police and fire departments.