

ADVANTAGES AND DISADVANTAGES OF IN-HOUSE CRISIS AND EMERGENCY MANAGEMENT FOR COPING WITH FLOOD SITUATIONS

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ABSTRACT

This scientific lecture will cover the following topics: structure of disaster management in the Federal Republic of Germany and the interaction of state and private actors as well as their seams and interfaces, aspects of crisis team work, the interaction of companies and authorities for disaster management, the applicability and implementation of the disaster management cycle "Comprehensive Emergency Management (CEM)" as well as possibilities and limits of prevention. In addition, the lecture will highlight the necessity of training the crisis management team.

Keywords: Crisis Management Team, Disaster Management Cycle, Comprehensive Emergency Management.

INTRODUCTION

"Advantages and disadvantages of an internal company crisis and emergency management to cope with flood situations". Crisis and emergency management is a complex topic. The scientific lecture is designed to last approx. 40 minutes and will focus primarily on the thematic focal points of the structure of disaster management in the Federal Republic of Germany, the interaction of state and private actors as well as their seams and interfaces. Furthermore, an overview of the essential aspects of crisis management will be given and the disaster management cycle "Comprehensive Emergency Management (CEM)" will be discussed in application. The possibilities and limits of preventive measures as well as the necessity of regular training of crisis teams will also be part of the lecture.

METHODOLOGY

The method of literature research and evaluation was used to prepare the scientific presentation and objective presentation of the advantages and disadvantages of a company's internal crisis and emergency management to cope with flood situations". Relevant university databases as well as various trade journals and official publications were used. The focus of the research was on literature published in the period up to 2011-2022 and dealing critically with the topic of crisis teams and crisis communication.

LITERATURE REVIEW

First, let us look at the structure and organisation of disaster management in the Federal Republic of Germany. Disaster management is a cross-sectional task. Therefore, legal aspects

of disaster management, e.g. the regulation of responsibilities, are laid down in numerous laws. However, these laws are rarely exclusively dedicated to disaster management concerns. In accordance with the principle of federalism, the Basic Law stipulates the distribution of legislative competences between the Federal Government and the states. Regulations on disaster management can be found in federal laws as well as in state laws and in the German constitution. The state laws are intended to express differences in regional circumstances. However, the federal structure also means that the legal framework and thus also the organisational structures in disaster management vary depending on the federal state. The laws determine, among other things, to which administrative level the implementation tasks are delegated and whether and under which conditions they are transferred to the next higher administrative level in the case of disasters that cross administrative borders (Herrmann, 2007, p.17).

In his book "Recht und Praxis der nichtpolizeilichen Gefahrenabwehr" (Law and Practice of Non-Police Danger Defence), international law expert Sascha Lüder aptly summarises: "Civil protection is thus a joint task of the federal government, the states and the municipalities" (Lüder, 2007, p.64).

To fulfil this task, the federal government draws on the potential of the federal states and municipalities, as they provide the majority of emergency forces, vehicles and equipment for disaster response and management. However, the federal government supports the states and municipalities both in organisational terms and by providing additional helpers, resources, training and financial aid. The laws of the states, in turn, oblige the districts and independent cities, as the bodies responsible for carrying out the tasks, to take suitable measures for disaster prevention, preparation and management that are adapted to the local conditions and the actual needs. This leads to the fact that in addition to the inequalities between the individual federal states, there are also strong regional differences in organisational and management structures, equipment, etc. within a federal state. We therefore have a strong distribution of responsibilities and possible consequences of this are overlapping of responsibilities, unclarified responsibilities and conflicts of responsibilities. (Dombrowsky, 2001, p.23). This was noted 2001 not least by Wolf Dombrowsky, Professor of Disaster Management at the Steinbeis University in Berlin, in his report "Informationsbedarf bei Hochwasserlagen" (Information Requirements in Flood Situations)" as early as last year.

As a matter of principle, security prevention and emergency preparedness must be understood as tasks for the entire state due to the multi-layered nature of the matter, which affects all areas of society. This task must therefore be tackled jointly by all relevant social actors, i.e. state, public and private actors. This applies both to precautionary and planning measures within the framework of civil defence and thus civil protection, as well as to preventive and precautionary activities to protect the population and its livelihoods (Geiser, 2012, p.89).

There is thus a shared but tiered governmental, societal and corporate responsibility for the protection of critical infrastructures and their performance.

In order to be able to master this task together, a cooperative, partnership-based and trusting relationship between all parties involved is required. This cooperation has been cultivated for years by the Federal Ministry of the Interior (BMI) together with the Federal Office of Civil Protection and Disaster Assistance (BBK) and other authorities, such as the Federal Office for Information Security (BSI), the Federal Criminal Police Office (BKA) and the Federal Agency for Technical Relief (THW), with many large companies and business associations as well as

with business and professional associations, and is also subject to constant further development. The keyword here is the so-called security partnership between government agencies and the business community. Of course, with the common goal of permanently ensuring the safety and functionality of businesses and enterprises (Geiser, 2007, p. 6). To ensure the interaction of these different groups in the event of a disaster, joint exercises are essential.

Extraordinary danger and damage situations require the elaboration of special scenarios with supraregional or national threat potential in order to be as well prepared as possible in terms of planning and operations. In this context, the scenario technique is used in conjunction with exercises in cooperation and coordination skills. It can help to identify deficits in hazard preparedness and response. With the help of realistic damage scenarios, which can be partly derived and constructed from the hazard and risk analyses, the actors involved must simulate horizontally and vertically what, how and with what consequences they will be confronted with and how defence or coping can be optimally organised.

At this point, it is particularly useful to have scenarios that have been worked through in exercises and that describe a complex picture, which may be a combination of several hazards and damage events. This in turn requires a wide range of cooperation between authorities and companies. The Academy for Crisis Management, Emergency Planning and Civil Protection (AkNZ) in Ahrweiler offers the development and training of such scenarios (Federal Office of Civil Protection and Disaster Assistance, [BBK], 2010, p. 50). Within the framework of the cross-state crisis management exercise (LÜKEX for short), a wide variety of nationwide crisis situations have been simulated every two years since 2004 and managed by "real" actors from the federal government, states, municipalities and industry in a simulation game. The following topics have already been simulated: "Power blackout, flood, terrorist threat at sea" (2004), "Sources of danger from the World Cup / major events" (2005), "Flu pandemic" (2007), "Large-scale terrorist CBRN threat" (2009), "Cyber-terrorism, infection of important IT systems by PC viruses" (2011), "Food-borne" transmitted viral epidemic" (2013).

Aspects of successful crisis team work:

A functioning crisis team is the heart of the organisation's crisis management. Its professional approach is indispensable for crisis management.

But let me transition with a definition from the relevant BSI Standard 100-04. The BSI defines crisis management as follows

"The creation of conceptual, organisational and technical conditions that support the fastest possible return of the damage situation that has occurred to a normal state. The aim is to ensure the institution's ability to make decisions and to enable a targeted and coordinated management of the crisis. Institution-wide crisis management is responsible for all types of crises." ([BSI], 2022, p.100).

In order to cope with a crisis that has occurred, a crisis management system should therefore be implemented in a company in advance, which should include crisis prevention and crisis management tasks.

after-care. At this point I would like to refer to the approach of the disaster management cycle "Comprehensive Emergency Management". This implements the phases of prevention, preparedness, response and recovery, which run in cycles.

To illustrate this, I would like to assign the following measures to the individual phases of the disaster management cycle:

The disaster preparedness phase includes, among others:

The establishment of fire brigades and rescue services, disaster control planning, infrastructural precautions, the establishment and equipment of disaster relief services as well as training and exercise measures, the establishment of warning systems including information and education.

The disaster prevention phase includes, among other things:

Hazard zone planning (here currently flood protection), spatial planning permits, controls, inspection and monitoring of reporting obligations.

The disaster response phase includes, among other things:

The warning and alerting, emergency call management, hazard prevention, rescue measures, official operational command, technical operational command, crisis communication as well as psychosocial care.

The recovery phase includes, among other things:

Follow-up and documentation, the establishment of disaster funds and access to the European Solidarity Fund (Jachs, 2011, p. 76-90)

Organisationally, crisis management consists of a group of responsible actors, each of whom is responsible for carrying out specific tasks in the event of a crisis. To manage an acute crisis, this group practically takes over the management of the organisation. This group thus represents the crisis team of the organisation.

Matthias Gahlen, head of the crisis management unit of the city of Dortmund, addresses an important point in his book "Crisis Management": "Staffing is an essential building block for a functioning crisis management unit" (Gahlen & Kranaster, 2012, p. 11). Since crisis situations are exceptional situations that often demand the highest physical and psychological stress from the actors, if necessary also over a longer period of time, preparatory measures to cope with the tasks are essential. These include, among other things, a strategy for goal-oriented, trustworthy crisis communication, the establishment of crisis management in advance, the unrestricted support of the highest hierarchical level of the organisation, sensible information management and the establishment of crisis prevention. If one takes a closer look at these success factors, it becomes clear that a decisive aspect is the timing and the modus operandi of the composition and constitution of the crisis team. In addition, the support of the crisis team from the organisational management, the departments and the corresponding control bodies plays an important role.

Another factor for successful crisis management is the management of the available information and the handling of affected communication partners - especially the media representatives. The establishment of a special media staff is essential at this point. "Within the staffs, the media staff has only the task of processing information and communicating it internally and externally as far as necessary" (Lindner, 2009, p. 170), is how security expert Joachim Linder describes the tasks of the media staff in his book "Praxis des Notfall- und Krisenmanagements im Sicherheitsbereich".

Another relevant aspect is the organisation's investment in crisis preparedness and the establishment and expansion of appropriate staffs in the run-up to the actual crisis situation.

The right time for activating the crisis teams and the assigned operational units is just as important, because if the team is activated prematurely

If the crisis team is not constituted at the right time, important resources may be tied up at the wrong time; if it is convened too late, the room for manoeuvre may already be considerably limited. In order to avoid this problem, threshold values should be set as a precautionary measure, which, if exceeded, automatically trigger the constitution of a crisis team. In this way, responsibility is transferred from the departments to a crisis team in good time.

The staffing of crisis teams is also an essential success factor for overcoming the crisis situation. To quote Matthias Gahlen again: "Basically, to manage large-scale incidents and crises, you need people with the necessary expertise who are also resilient and have the necessary decision-making powers." (Gahlen & Kranaster, 2012) Or as Judy Larkin and Michale Regester put it in their book *Risk Issues and Crisis Management: A Casebook of Best Practice*:

"Members of all teams involved should be chosen for their personal qualities and talents - breadth of vision, ability to stay cool, knowledge of the company and its business and the ability to make swift, clearly expressed decisions." (Larkin, & Regester, 2005, p. 205).

Certainly, not only the special skills and the individual personality structure of the individual members must be taken into account, but especially the interaction as a team is important. Remember: team players and not lone warriors are needed here. Within large crisis teams, the formation of a strict hierarchy is indispensable.

Another important aspect is the cooperation between the staff or staffs and the specialised departments. Under certain circumstances, this communication can be conflictual and characterised by struggles over competences. This makes it all the more important to pass on secure information and to communicate in a balanced way with previously identified stakeholders. Keyword communication. Joachim Lindner also points out: "Emergencies and crises are readily picked up by the media"(Lindner, 2009, p.170). I have already pointed out the urgent need to establish a dedicated media staff. It is of utmost importance that media representatives receive facts, information, pictures or even interviews with decision-makers from the affected organisation. The same applies to other stakeholders such as directly affected departments, competent authorities, the general workforce, the neighbourhood and possibly already active citizens' initiatives. According to Lindner (Lindner, 2009, p. 97), all the groups addressed must receive information tailored to their information needs, which must not be contradictory.

General crisis prevention is an investment in the future. The development of concrete crisis plans, the definition of criteria for the constitution of the crisis team or the implementation of a communication strategy make fundamental decisions in a crisis situation unnecessary and ensure timely, standardised crisis management. Sensible crisis prevention also includes a budget for training and further education of the crisis team members. This includes communication training, psychological training, the preparation and simulation of various crisis scenarios through business games. (Gahlen & Kranaster, 2012, p.11). Detailed information on this is described in the "Crisis Management Handbook" by Gahlen and Kranster. (Gahlen & Kranaster, 2012)

Another preventive measure is the implementation of an information system that serves as an early warning system and is used as a basis for decision-making in crisis management. Please bear in mind that an unsuitable information system or simply the lack of an adequate information system will lead to crisis-critical decisions being taken on the basis of a suboptimal database. Reliable information from various sources is crucial for the success of crisis teams. Therefore, a holistic and collaborative information system that has been tested in practice is needed to prepare, process and make the required information accessible to all groups of stakeholders.

Finally, I would like to emphasise that due to globalisation and the associated strong networking of almost all companies, a crisis can also have an impact on companies that are not directly involved (Lindner, 2009, p.97). Companies find themselves in crisis situations at ever shorter intervals, and the effects seem to be growing ever larger. Crises always arise from risks that were incorrectly assessed or for which no or insufficient prevention was undertaken. As already mentioned, companies can also become involved in a crisis due to systemic, external crises or due to excessive dependence on third parties. No modern or globally active company is in a position to protect itself completely from this. Crises cannot be completely avoided, but companies can actively prepare for them in order to minimise the negative effects or, in the best case, even learn from them.

This is where the disaster management cycle comes full circle. This is because it is precisely the phase of recovery or the follow-up of crises through careful documentation and processing of the crisis situation that offers enormous learning potential for the actors involved.

The best disaster preparedness is only as good as the actors involved. The human factor is crucial in crisis management. It is therefore extremely important that the crisis team rehearses the emergency and is subjected to constant training. The second part of the scientific lecture goes into more detail on the urgent need for crisis team exercises:

Let us first look at the range of tasks within a crisis team. Dr Susanne Starke, trainer and expert in crisis management, explains in her publication "Training Crisis Management Teams" that the primary task of the operational actors is to combat the crisis immediately. The central tasks of crisis management teams, on the other hand, are situation analysis and assessment as well as the definition and organisation of cooperation with external emergency forces or organisations or critical infrastructure companies (Starke, 2006, p. 2). In critical situations, management staffs usually have to work under time pressure and make decisions under uncertainty. In the process, they usually go through a rollercoaster of information overload and lack of information. Often, factors such as fatigue and emotional stress also come into play. Not only the critical situation, but also the teamwork itself can put a strain on the individual. Here, a group structure must be formed, maintained under heavy stress and, if necessary, adapted to changing requirements. One of the central tasks here is the formation and maintenance of a so-called shared mental model, i.e. the same assumptions and beliefs in which all participants believe and orient themselves. This is often made more difficult by the fact that the crisis team members belong to different organisations and institutions and may be far away from each other.

Crisis situations, such as the challenge posed by the extreme flooding in 2021, also require dealing with complexity and thinking in longer time frames in order to anticipate the development of the dynamic situation. Concrete problems must be abstracted and the development of the disaster situation and the available resources must be visualised in order to

create an overview of the situation (Hofinger, 2005, p. 76). This is made clear by Dr. Gesine Hofinger, psychologist and expert in human factors, among others, in her publication "Communication in critical situations" (Hofinger, 2005). The demands that the management of critical situations places on crisis teams, but also on other actors involved, go beyond mere technical and professional knowledge. Rather, the topics of communication, problem solving, process organisation, group structuring and leadership come into focus.

Above all, the social competence of the crisis team members proves to be a particularly important prerequisite for being able to participate in a team. Social competence is expressed through the components of social awareness and social skills. Empathy and the development of interpersonal relationships are classic examples of social awareness. In the crisis team itself, these awareness characteristics are of great importance, as this allows the members to work together in order to be able to act as a team in a goal-oriented manner even in difficult situations. According to Wim Nettelstroth, Professor of Psychology at the Department of Police and Security Management at the Berlin School of Economics and Law, the social skills of team members that are conducive to group dynamics in the team are above all: communicative behaviour, experience in conflict management, cooperation and collaboration (Nettelstroth, 2014, p. 35). It is precisely these soft skills and cross-situational competences that need to be trained again and again.

Simulations and business games, such as the aforementioned LÜKEX, are particularly suitable for learning and training. Dealing with complexity, time pressure, uncertainty and momentum should be the subject of repeated training. Crisis team training also means preparing for the unplannable (Nettelstroth, 2014, p. 14-25).

In order to try out new behavioural patterns, the distance from one's own field of work can be useful in gaining insights into one's own ways of reacting, reflecting on work processes and then transferring them to one's own way of working. Complex simulations with a high psychological fidelity to reality are particularly suitable for crisis management training. Consequently, this is an essential building block for training in the field of coping with critical situations.

Important factors for training success include :

The "work in a known group structure": Even with a professional team like a "crisis team", a change in the group structure has far-reaching consequences.

The "self-assessment and goal setting of the group" is also an important part of the training. In addition, it is important that the training participants are open to the "rules of the simulation" and have a certain "readiness for self-reflection": For a successful training, it is absolutely necessary that the participants agree to familiarise themselves with an area that is foreign to them and to accept its rules. These requirements have to be mastered in an emergency and should therefore necessarily be reflected in the training content (Strohschneider, 2003).

CONCLUSIONS

The following training content is relevant for critical infrastructure companies:

- Team building and maintaining the team's ability to function even in the face of strong pressure to act and possible failures
- Decision-making procedures in the face of uncertainty and time pressure (in a group context)

- Leadership behaviour in crisis management, flexible handling of leadership requirements
- Strategic approaches to crisis management, special understanding of strategic flexibility and the dangers of over-planning and under-planning
- Knowledge of the typical mistakes and pitfalls when acting in uncertainty and time pressure
- Knowledge of the mechanisms (and error tendencies) in "situation assessment" under the condition of insufficient and unreliable information
- Methods of dealing constructively with information overload
- Methods for developing shared mental models
- Insight into personal patterns of reaction to stress and emotional strain (Strohschneider, 2003, p. 12).

The aim of the simulation should never be the detailed reproduction of real processes, but rather a woodcut-like image of a crisis situation, which nevertheless has a high psychological fidelity to reality. It is also important that the participants are prepared to reflect on their strengths and weaknesses. This is not about evaluating the performance of individuals, but always about the behaviour of the team as a whole (Starke, 2006, p.12.).

"Only in novels and films are there people who can deal effectively with such demands as a matter of course and without further training. In reality, crisis team work has to be learned" (Strohschneider, 2003, p.99).

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