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Involvement of the Population in Crisis and Disaster Management in Germany (FRG) after World War II

Shown on the example of five disaster events

- excerpt -

Katastrophenschutz-Leuchttürme [Disaster protection "Lighthouses"] as contact points for citizens in crisis situations

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1 Purpose and Objective of Study

The present study deals with crisis and disaster management in Germany (mainly in the BRD) and is conducted under the research project "Katastrophenschutz-Leuchttürme". Its objective is to improve population involvement in this process¹. It does not, by any means, intend to challenge the protection and assistance provided to the population by the public, but, instead, to optimise and complement it by involving the population in disaster protection. For this purpose, the study pursues the following objectives:

- to achieve a more differentiated understanding of the population's needs for assistance and to bring assistance in closer line with these needs;
- to take greater account of the citizens' willingness and possibilities to help in the process of coping with crisis and disaster;
- to successfully shape the cooperation between citizens and authorities and organisations entrusted with safety-related tasks (BOS).

Clarification of terms used

When talking about 'citizen helping behaviour' and contrasting this with the 'helping behaviour' on the part of authorities and organisations entrusted with safety-related tasks (BOS), we need to first specify the denotation of these terms.

Helping citizens are those who, in the given situation, "spontaneously" or "ad hoc" take on an active part in order to keep danger away from themselves ("self-help") or from others, or to clear damage already occurred. A characteristic of such people is that they act without prior intention or training, when disaster happens. It is mainly the specific stimulative character of the situation (the "strong situation") which triggers these persons to bring in their resources. Such stimulative character may arise from situations, either where persons are themselves affected by the disaster, or are scared that danger might strike them, too, or where persons they feel close to (friends, relatives, neighbours or people they empathise with) have become victims of the disaster or may have been affected by it. The resources citizens contribute include both material assets (objects and money), and immaterial assets (from simple up to highly complex abilities and skills). More important than the quantity and quality of resources contributed is the fact that, before the situation occurred, these citizens have not been involved with the organisational structures of disaster protection. Yet this does not at all mean that, in the event of disaster, such individual capacities cannot not be organised within networks. However, the so-called Emergent Organisational Networks (EMONs), first described in the USA by the disaster sociologist Enrico Quarantelli, are set up on occasion, but nevertheless can have recourse to existing networks, such as neighbourhoods, social or religious organisations (e.g. church

¹ Ohder, C. / B. Sticher 2013: Ansätze für ein bevölkerungsnahes und aktivierendes Krisen- und Katastrophenmanagement [Approaches towards community-oriented and activating crisis and disaster management]. In: Unger C. / T. Mitschke / D. Freudenberg (Hrsg.): Krisenmanagement – Notfallplanung – Bevölkerungsschutz [Crisis management - emergency planning - civil protection]. Festschrift anlässlich 60 Jahre Ausbildung im Bevölkerungsschutz, dargebracht von Partnern, Freunden und Mitarbeitern des Bundesamtes für Bevölkerungsschutz und Katastrophenhilfe [Festschrift to celebrate the 60th anniversary of training in civil protection, presented by partners, friends and staff of the Federal Office of Civil Protection]. Berlin, p. 53 – 70.

parishes), or business structures. In Germany, specialised discourse tends to talk about "walk-in volunteers" rather than EMONs². In the following, we use the term "spontaneous helpers".

In this sense, spontaneous helpers are to be distinguished from such helpers as have been engaged in organisations before the crisis or disaster occurred, and, as members of these organisations, take action in the event of the disaster. The bodies in question are authorities and organisations entrusted with safety-related tasks (BOS)³. These include all establishments that are in charge of hazard prevention. Activities may be undertaken either by public commission or based on voluntary initiative. On the one hand, such helpers are persons who are professionally involved in everyday disaster response activities, e.g. staff from public or factory fire services and police. They further include employees from authorities and establishments who have permanent responsibility to render services to citizens and will be obliged to cooperate in the event of disaster. On the other hand, such persons will offer their assistance, in deed, on a voluntary, but not ad-hoc or spontaneous basis. Work in voluntary welfare, rescue, aid and relief organisations, such as the voluntary fire departments, the Deutsche-Lebensrettungsgesellschaft (DLRG), the German Red Cross (DRK), the Johanniter-Unfall-Hilfe (JUH), the Malteser Hilfsdienst (MHD), the Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (THW) constitutes an important part of civil protection in Germany⁴. About 1.8 million voluntary helpers have been trained to provide relief in disaster protection and continuously practice their abilities by participating in everyday disaster response activities. It is this type of active and organised citizen participation, that forms the basis of disaster protection in Germany. The Federal Government co-finances the equipment and the training of the helpers⁵. Disaster protection would rest on shaky foundations, if it were not for the support volunteers provide to the forces of public and factory fire brigades, police or, if necessary, even the Federal Armed Forces. Volunteers and staff from public-law institutions - subdivided in the following into operational/tactical or tactically organised forces on the one hand, and administrative/organisational forces on the other - constitute an integrated relief system aimed at ensuring civil protection. Let us, then, conclude that neither "voluntariness" nor "expert status" are useful criteria to differentiate between citizen helpers on the one hand, and "professional helpers", on the other. A meaningful criterion, however, is membership - whether full-time or voluntary - to an organisation, when such membership goes along with trainings and preparations for activities necessary during disaster. Volunteers and experts exist on both sides, i.e., among spontaneous helpers as well as in authorities and organisations entrusted with safety-related tasks.

² Katastrophensoziologisches Glossar [Glossary of disaster sociology]. In: Clausen L. / E. M. Geenen / E. Macamo 2003: Entsetzliche soziale Prozesse. Theorie und Empirie der Katastrophen [Horrorifying social processes. Theory and empirics of disaster]. Münster.

³ See "BBK glossary": Authorities and organisations entrusted with safety-related tasks (BOS) are "governmental (police and non-police) and non-governmental actors which fulfill specific tasks for the preservation and/or the restoration of public safety and order". These include, for instance, police, fire services, the THW, the Länder disaster protection agencies, and also the those private relief organisations who participate in civil protection. (<http://www.bbk.bund.de/>)

⁴ For more detail see the BBK homepage (<http://www.bbk.bund.de/>) for the keywords „Förderung Ehrenamt“ and „Katastrophenschutz“ (retrieved 13.10.2013).

⁵ See http://www.bbk.bund.de/DE/AufgabenundAusstattung/Katastrophenschutz/Kostenregelung/Kostenregelung_node.html (retrieved 11.02.2014)

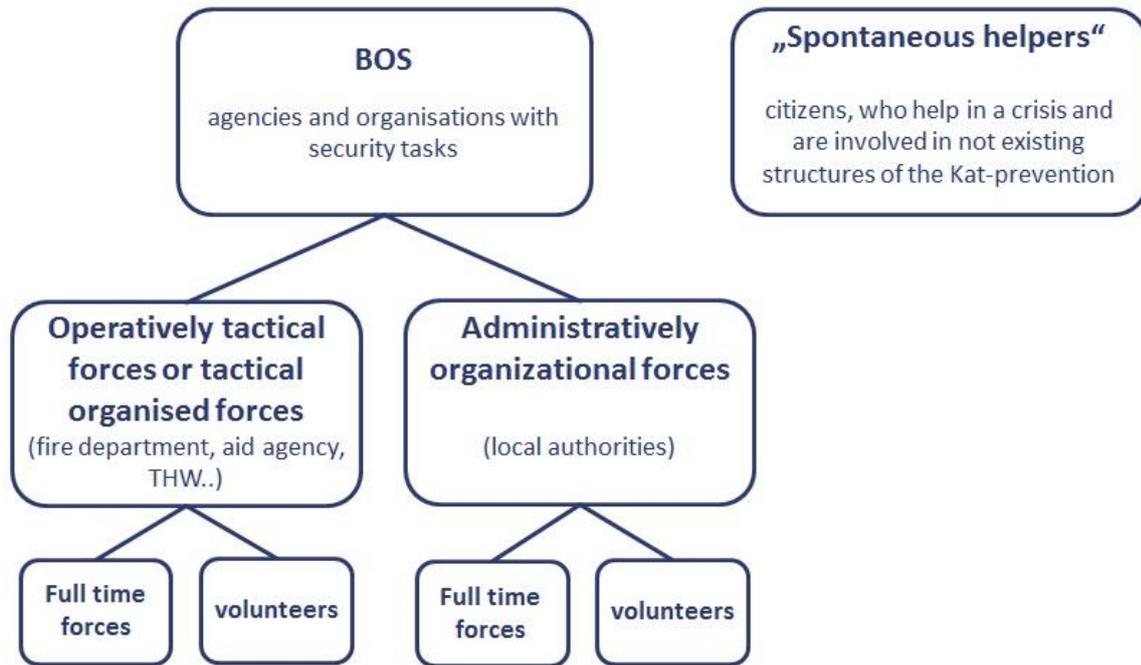


Chart 1: agencies and organisations with security tasks (BOS) and spontaneous helpers

With these definitions in mind, let us now turn back to the case studies: A glance at the historical development of post-war II FRG may contribute to understanding the current state of disaster management and give suggestions for plans of change. For this purpose, the needs for help and the helping behaviour of the population are reviewed in more detail. The main questions here are as follows:

- What were the specific relief needs of the population, that became apparent during the various events of crisis or disaster?
- In what way did the population actively participate in the process of disaster response? What tasks were undertaken by the BOS? What tasks were undertaken by the population?
- In what way did the BOS and the population cooperate?

2 Selected disaster events in brief

The following five disaster events have been selected to picture the development of crisis and disaster management in the BRD and to provide answers to the above questions. These events include:

1. the Hamburg storm surge of 1962
2. the Niedersachsen forest fires of 1975
3. the snow disaster in Northern Germany 1978/79
4. the Oder flood of 1997
5. the Elbe flood of 2002.

These disaster events are described in brief in this chapter. In this connection, the following questions are addressed:

- What was the type of disaster? (Type of disaster)
- How long did the disaster last? (Duration)
- Which area was affected? (Affected area)
- How severe was the impact? What were its effects? (Effects)

2.1 The Hamburg storm surge of 1962

Type of disaster: the disaster consisted of severe, entirely unexpected flooding caused by heavy storms⁶.

Duration: The event itself lasted two days (16 - 17 February 1962). On 16 February the dikes inside Hamburg burst at 61 places⁷. The massive effects of flooding, however, extended over a period of about three weeks⁸.

Affected area: Flooding affected, above all, the city of Hamburg, in particular the district of Wilhelmsburg. The storm surge ravaged over a total area 15,100 hectares⁹. About one-fifth of the city's territory was under water¹⁰. An entire area was declared uninhabitable, because 1000 flats were completely destroyed, and 10,000 flats turned out to be good for limited use only¹¹.

Effects: The disaster broke in upon the lives of some 120,000 people¹²: 10,000 of these were in acute danger to life, 340 died, 315 of them in the Wilhelmsburg district¹³. The flood level was 4 m¹⁴. It were mainly temperatures around freezing point that made the impact of deluge life-critical for the

⁶ Brunswig, H. 1963a: Sturmflut über Hamburg. Einsätze und Erfahrungen der Hamburger Feuerwehr [Storm surge over Hamburg. Operations and experiences in Hamburg's fire services]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 01/1963, S. 2.

⁷ Brunswig, 1963a, ibidem.

⁸ Brunswig, 1963a, p. 14.

⁹ Brunswig, 1963a, p. 2.

¹⁰ Paschen, J. 2012: Die Hamburger Flutkatastrophe 1962 [The Hamburg flood disaster of 1962]. 2nd updated edition. Gudensberg-Gleichen, S. 42.

¹¹ Paschen, 2012, ibidem.

¹² Brunswig, 1963a, p. 2.

¹³ Sturmflut [Storm surge] 1962. http://de.wikipedia.org/wiki/Sturmflut_1962 (Retrieved 09.01.2012).

¹⁴ Brunswig, 1963a, p. 2.

people¹⁵. In addition, thousands of animals died in the flood¹⁶. In the Hamburg region alone, damage amounted to DM 82 million¹⁷.

2.2 The Niedersachsen forest fires of 1975

Type of disaster: the disaster consisted of forest fires following a week-long period of drought. The fires were caused by flying sparks¹⁸ as well as negligent and wilful arson¹⁹.

Duration: The event itself lasted 10 days (08.08. - 18.08.1975). - 1975-08-18). Disaster alert was given on the second day after²⁰.

Affected area: Fires hit the Land Niedersachsen, namely the Wendland region and, above all, the Lueneburg Heath, where wide-spread coniferous vegetation is particularly vulnerable to fire. The fires destroyed 8,000 hectares of forest, moor and heath land²¹

Effects: The fire disaster's death-toll was 7, among these were 6 firefighters²². The fires threatened 3,000 people²³, which could be evacuated in time. A large number of wild animals died in the flames²⁴. Sheets of flame soared up to 40 meters into the sky, and the fire spread at enormous pace²⁵. As 70% of the forests were privately owned, and proprietors were only partially insured against fire, some of them were left with existence-threatening losses²⁶. The amount of damage after the fire was estimated at DM 40 million²⁷, plus an additional DM 60-80 million²⁸ needed for cleaning and reforesting the affected areas.

¹⁵ Tipp, M. / J. O. Unger 2012: „Besonders hat mir die unglaubliche Hilfsbereitschaft der Menschen imponiert“ [What impressed me most, was the incredible helpfulness of the people]. In: Löschblatt. Das Magazin der Feuerwehr Hamburg [Hamburg fire services magazine], 47/2012, S. 11.

¹⁶ Prügel, H. Staatliche Landesbildstelle Hamburg (Ed.) 1962: Die große Sturmflut in Hamburg – Beiheft zur Lichtbildreihe [The great deluge of Hamburg - slide series supplement].

¹⁷ Prügel, 1962, ibidem.

¹⁸ "Unser Feuer machen wir selber aus" [It's our fire - let's put it out ourselves]. In: Der Spiegel 34/1975, p. 18.

¹⁹ Brand in der Lüneburger Heide [The Lueneburg Heath fire].

http://de.wikipedia.org/wiki/Brand_in_der_L%C3%BCneburger_Heide (Retrieved 13.01.2013; Flames trigger lust for fire. Bewirkten Brandstifter die norddeutsche Katastrophe? [Did arsonists start the disaster in Northern Germany?]) In: Der Spiegel 34/1975, p. 99.

²⁰ Brand in der Lüneburger Heide [The Lueneburg Heath fire].

http://de.wikipedia.org/wiki/Brand_in_der_L%C3%BCneburger_Heide (Retrieved 13.01.2013).

²¹ Weidner, O. U. 1975: Der „Jahrhundert-Brand“ – eine beispiellose Katastrophe. Mit 13000 Mann, mit Panzern, Flugzeugen, Hubschraubern, Wasserbomben und Spezialgerät gegen lodernde Flammenmeere. [The "once-in-a-century fire" - an unprecedented disaster. With an army of 13,000 men, tanks, airplanes, helicopters, water bombers and special equipment in combat against seas of flames]. In: ZS Magazin Zeitschrift für Zivilschutz, Katastrophenschutz und Selbstschutz 09/1975, p. 7.

²² Schläfer, H. 1975: Niedersachsen 1975. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 09/1975, p. 258f.

²³ Weidner, 1975, p. 7.

²⁴ Luttermann, K. (Ed.) 1977: Die große Waldbrand-Katastrophe [The great forest fire disaster]. 2. Auflage. Hannover, S. 34.

²⁵ "Unser Feuer machen wir selber aus" [It's our fire - let's put it out ourselves], p. 17.

²⁶ "Unser Feuer machen wir selber aus" [It's our fire - let's put it out ourselves], p. 25.

²⁷ Weidner, 1975, p. 7.

²⁸ Weidner, 1975, ibidem.

2.3 The snow disaster in Northern Germany 1978/79

Type of disaster: The disaster was triggered by an cold-snap (-25°C) along with blizzards and ice storms²⁹. Snow masses - snow depths approaching 70 cm, snow banks up to a height of 6 m³⁰ - as well as storm tides in many northern German cities - lead to a collapse of normal life³¹. Meltwaters from thawing snow caused flooding in many places³².

Duration: The disaster initially lasted for 6 days (28.12.1978 - 2.1.1979), in February, however, heavy snowfalls came again³³. The closed snow cover remained for a total of 67 days³⁴.

Affected area: The disaster affected the north of Germany on the territory of both the FRG and the GDR. Hit particularly hard were Ruegen Island (120,000 residents)³⁵ and the island of Hiddensee³⁶.

Effects: Numerous people were trapped inside their houses when the disaster struck. At least 22 persons (17 in the FRG and, according to official sources, 5 in the GDR)³⁷ died, many of them from cold in their flats³⁸. The cost of damage caused by the disaster in Western Germany was estimated at appr. DM 140 million³⁹. As to the GDR, reliable data are not available.

2.4 The Oder flood of 1997

Type of disaster: Large sections of the Oder River course were hit by a catastrophic flood. In some of the inundated areas, flood levels went up to 9 meters⁴⁰.

²⁹ Heed, L. (a): Der Schneewinter 1978/19 – ein Überblick [The snowy winter of 1978/79 - an overview]. Schleswig-Holstein: Schnee bis Mitte Mai [Snow until mid-May]. http://www.ndr.de/geschichte/chronologie/siebzigerjahre/schneechaosueberblick100_page-1.html (Retrieved 23.01.2013).

³⁰ Heed, L. (a): Der Schneewinter 1978/19 – ein Überblick [The snowy winter of 1978/79 - an overview. Part 3: Chaos on Ruegen Island]. Schleswig-Holstein: Schnee bis Mitte Mai [Snow until mid-May]. http://www.ndr.de/geschichte/chronologie/siebzigerjahre/schneechaosueberblick100_page-3.html (Retrieved 23.01.2013).

³¹ Schneekatastrophe in Norddeutschland 1978/79 [The snow disaster in Northern Germany 1978]. http://de.wikipedia.org/wiki/Schneekatastrophe_in_Norddeutschland_1978 (Retrieved 20.01.2013).

³² Meinardus, H. 12.03.2010: Die Entwicklung des Katastrophenschutzes im Landkreis Friesland seit der Schneekatastrophe 1978/79 – Geschichte, Recht und Organisation [The development of disaster protection in Friesland district since the snow of 1978/1979 -history, regulations, organisation]. Diplomarbeit. Hannover, p. 36.

³³ Heed (a).

³⁴ The snow disaster in Northern Germany 1978. http://de.wikipedia.org/wiki/Schneekatastrophe_in_Norddeutschland_1978 (Retrieved 20.01.2013).

³⁵ Herr, K.: Protokoll einer Katastrophe – Das Schneechaos 1978 [Record of disaster - the snow chaos of 1978]. ARD Documentary report. <http://www.youtube.com/watch?v=csnJZAmEFCM&feature=gv>(Retrieved 23.01.2013).

³⁶ Heed (b).

³⁷ Herr, Schneechaos 1978 (retrieved 23.01.2013).

³⁸ Heed (b).

³⁹ The snow disaster in Northern Germany 1978.

http://de.wikipedia.org/wiki/Schneekatastrophe_in_Norddeutschland_1978 (Retrieved 20.01.2013).

⁴⁰ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997: 54 Tage Oder – wir konnten helfen [1997: 54 days at River Oder - we were able to help]. Berlin, p. 8

Duration: The flood reached Brandenburg on 17 July, but, from then, eight days passed, until two dikes burst (23.07 / 25.07.). Another 8 days later people were allowed to return to their houses⁴¹. The most critical period lasted for appr. 3 weeks, for some of the relief forces, however, the operations ended only 6 weeks after⁴².

Affected area: Approximately 5,500 hectares were flooded between the Ziltendorf lowland and the Northern edge of the Oderbruch⁴³.

Effects: In Germany, 20,000 people were affected by the disaster, 8,000 had to be / could be evacuated before the dikes broke. In Germany (other than in Czechia and Poland), there were no casualties, yet the losses from damage to property amounted to € 330 million⁴⁴.

2.5 The Elbe flood of 2002.

Type of disaster: In the areas of the River Danube and, even more so, the Elbe and many of her tributaries, extreme flooding occurred, along with devastating mudslides⁴⁵.

Duration: The disaster had its peak mid to end of August 2002, however, return to normal life started only mid-September with the onset of clean-up and recovery works⁴⁶.

Affected area: The flood affected mainly the Federal States Bayern, Sachsen and Sachsen-Anhalt. The disaster area included 60 administrative districts and non-district cities⁴⁷. Inundations were severest in the Land Sachsen, particularly in Dresden, where several districts, including the inner city, were flooded⁴⁸. In Sachsen, disaster alert was given in 14 cities and districts⁴⁹. A total of 76,000 hectares of land⁵⁰ were inundated.

Effects: The most affected region was the Federal Land Sachsen, where 100,000⁵¹ of the 337,000 residents⁵² living in the flooded river basin had to leave their houses. In Dresden, the water level on

⁴¹ Oderhochwasser 1997 [The Oder flood of 1997] http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

⁴² Reported in an interview with witnesses of the time: Werner Bode, deputy head of Ernst-Thälmann-Siedlung Service Group, Bernd Franke (head of Ziltendorf local fire services), and Karl-Otto Heiden (head of Wiesenau local fire services). Interviewers: Frieder Kicher and Zückmantel, 16.01.2014.

⁴³ The Oder flood of 1997 http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

⁴⁴ The Oder flood of 1997 http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

⁴⁵ Hochwasser in Mitteleuropa 2002 [The central European floods of 2002]. http://de.wikipedia.org/wiki/Elbhochwasser_2002 (Retrieved 30.01.2013).

⁴⁶ Broemme, A. / B. Pawelke 2002: Hochwasserkatastrophe im August 2002. Erfahrungen – Analysen – Konsequenzen. [The flood disaster of August 2002. Experiences, analyses, consequences]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, p. 868.

⁴⁷ Thorns, J. 2002: Die Jahrhundertflut 2002. Eine Übersicht [The once-in-a-century-flood of 2002. An overview]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, p. 823.

⁴⁸ Thorns, 2002, p. 825ff.

⁴⁹ Thorns, 2002, p. 823.

⁵⁰ Hochwasser in Mitteleuropa 2002 [The central European floods of 2002]. http://de.wikipedia.org/wiki/Elbhochwasser_2002 (Retrieved 30.01.2013).

⁵¹ Thorns, 2002, p. 823.

⁵² Belitz, H.-J. 2002: Jahrhundertflut: erster Erfahrungsaustausch. Folgerungen aus den Erfahrungen bei der »Jahrhundert-Flut« für die nichtpolizeiliche Gefahrenabwehr. In: Brandschutz. Zeitschrift für das gesamte

17.08 was at 9.40 m⁵³. During the disaster in Sachsen altogether 21 people⁵⁴ - civilians as well as firemen - lost their lives. Floods engulfed 25,000 houses⁵⁵, some of which ended up with heavy damage. In addition, 12,000 business parks⁵⁶ were inundated. The Deutsche Bahn alone suffered damage amounting to 1 billion euro⁵⁷. The total damage came to 22.6 billion euro⁵⁸.

2.6 Approach to the subject

Information pertaining to the above events was collected and analysed from various books, journals and internet resources. The journals referred to include the "Spiegel" and, above all, the "Brandschutz" - a newspaper for the entire fire and rescue system, the „Zeitschrift für Zivilschutz, Katastrophenschutz und Selbstschutz" [Journal for civil defence, disaster- and self-protection], the Bevölkerungsschutzmagazin [Civil protection magazine, the ZB-Magazine [Magazine for protection of the civil population] and the journal "Crisis Prevention". The analysed resources have, on the one hand, appeared in a close time context with the respective disaster, whilst, on the other hand, some of them re-evaluated the same event after a considerable lapse of time. The abovementioned references on the Oder flood are complemented by interviews of witnesses of the time, taken by the Berlin Fire Service.

3 Relief needs of the population, helping behaviour of the BOS and the population, and the cooperation between them during the selected disaster events

Based on the cited resources, each of the disaster events was analysed for its impact on the population in order to assess the needs for help. In a second step, the relief measures taken were delineated. The relief measures were then distinguished into activities of the population and those carried out mainly by tactically organised BOS forces. In a third step, the objective was to identify where cooperation between disaster protection actors and citizens was successful, and where it was not.

In evaluating such information, it must be understood that one cannot expect to be able either to identify the full range of real relief needs, or to arrive at a comprehensive representation of the help de facto rendered by the BOS or the citizens, or to embrace every aspect of their cooperation. Reality, instead, is filtered through the point of view taken by the authors of the respective contributions. Their reports reveal which events they perceived and how they interpreted them.

Feuerwehr- und Rettungswesen 10/2002, S. 872. [The once-in-a-century-flood: an initial exchange of experience. Conclusions drawn for non-police hazard prevention]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, p. 872.

⁵³ Thorns, 2002, p. 833.

⁵⁴ Thorns, 2002, p. 823.

⁵⁵ Grünewald, U. 2012: Das Hochwasser(-Jubiläums-)Jahr 2012. Lehren und Erfahrungen im Elbegebiet [The flood (anniversary) 2012. Lessons learnt and experiences made in the Elbe region]. In: Crisis Prevention. Das Fachmagazin für Innere Sicherheit, Bevölkerungsschutz und Katastrophenhilfe 04/2012, p. 31.

⁵⁶ Grünewald, 2012, ibidem.

⁵⁷ Hochwasser in Mitteleuropa 2002 [The central European floods 2002].

http://de.wikipedia.org/wiki/Elbhochwasser_2002 (Retrieved 30.01.2013).

⁵⁸ Thorns, 2002, p. 823.

Worthy of particular mention is that especially the more recent publications (2000 and after) increasingly comment on the helping behaviour of the population, that earlier had been paid little or no attention to. Notwithstanding such limitations, these references allow to derive statements from the above-mentioned issues and to draw comparisons between the different disaster events.

3.1 The Hamburg storm surge of 1962

3.1.1 Relief needs of the affected population

The flood had severe consequences: 34,000 people were directly affected, and 20,000 had to be evacuated⁵⁹. 340 people⁶⁰ died, about 45,000 animals⁶¹ (among them 39,000 chickens) fell victim to the deluge. Since the Hamburg public power supply system collapsed, people were left in darkness⁶². Other shortages included the lack of heating possibilities⁶³, dry clothing⁶⁴, food, drinking water⁶⁵, communication possibilities⁶⁶ and, last but not least, cash⁶⁷. Many families were separated during the disaster and experienced the stress of uncertainty about the fates of their relatives⁶⁸.

The deluge took the homes and properties of many people⁶⁹. Particularly severe damage was suffered by fruitfarmers and stockbreeders⁷⁰.

Those effects, in sum, point to high concrete needs for relief in order to meet the basic necessities during and after the disaster, as well as to the correspondingly high need for psychological support in the process of mentally coping with what is happening in and around the event.

3.1.2 Helping behaviour on the part of the BOS and the population.

If one considers informing the population about impending hazard (as done in the morning of 16.02.1962) to be a part of relief activity, storm warnings issued via radio and television must be

⁵⁹ Eismann, M. / M. Mierach . Behörde für Bau und Verkehr, Hamburg, Amt für Wasserwirtschaft [Construction and transportation agency, Hamburg, office of water resource management (Ed.) 2002: Wenn die Flut kommt... - Erinnerungen an die Katastrophe von 1962 und heutiger Hochwasserschutz [When the flood comes... - memories of the 1962 disaster and modern flood prevention]. Hamburg, p. 31.

⁶⁰ Sturmflut [Storm surge] 1962. http://de.wikipedia.org/wiki/Sturmflut_1962 (Retrieved 09.01.2012).

⁶¹ Prügel, H. Staatliche Landesbildstelle Hamburg (Ed.) 1962: Die große Sturmflut in Hamburg – Beiheft zur Lichtbildreihe [The great deluge of Hamburg - slide series supplement]. Hamburg, p. 7

⁶² Brunswig, H. 1963b: Sturmflut über Hamburg. Einsätze und Erfahrungen der Hamburger Feuerwehr. Fortsetzung und Schluss [Storm surge over Hamburg. Operations and experiences in Hamburg's fire services. Continuation and conclusion]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 02/1963, p. 32.

⁶³ Prügel, 2002, p. 21.

⁶⁴ Schönefeld, G. / H. Tornow 1985: Angst hinterm Deich. Die Sturmfluten 1972, 1976. 4th unrevised edition [Angst behind the dike - the storm surges of 1962, 1976]. Stade/Buxtehude, p. 69

⁶⁵ Haack, H. W. 1964: Trinkwasserbereiter im Katastropheneinsatz [Drinking water plant in disaster relief operation]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 04/1962, p. 76.

⁶⁶ Tipp, Unger, 2012, p. 13.

⁶⁷ Tipp, Unger, 2012, p. 15.

⁶⁸ Leimbach, C. / K. Wagner 2012: Als die Deiche brachen. – Die Finkenwerder Sturmnacht von 1962 [When the dikes burst. The stormy night of 1962 in Finkenwerder]. Erfurt, p. 19.

⁶⁹ Schönefeld, Tornow, 1985, p. 69.

⁷⁰ Schönefeld, Tornow, 1985, p. 79.

mentioned among the set of relief measures. However, due to lacking risk awareness, people failed to take these warnings seriously⁷¹. Siren warnings sounded after the storm had started at that night, were either not heard⁷² or misunderstood to be insignificant, since siren alerts were associated with fire events only⁷³. Since the power supply system collapsed in the night from 16 to 17 February, it was no longer possible to warn the population of the affected areas via radio and television.

From an analysis of the documents published 1962 by the journal "Brandschutz", it appears that all the reports centre around the enormous efforts made by the roughly 33,000 firefighters⁷⁴, meaning, above all, the 20,000 men deployed in Schleswig Holstein⁷⁵. They indeed managed to cope with the most difficult, dangerous and psychologically burdensome operations. Firefighters acted as "maids-of-all work", i.e. they gave warnings to the population, used helicopters to distribute necessities to residents of flooded areas, filled and transported sandbags, protected dikes etc.⁷⁶ - but they were also present on the spot with (though not well enough by far) trained staff and sophisticated technical equipment. The list of available resources, such as carrying straps, lifting gears, boats, turntable ladders, water treatment plants and gasoline-fuelled heat exchangers illustrates the high equipment level of the fire services⁷⁷.

The fire stations had an important function in the disaster area: In their heated premises, the population was supplied with food and clean drinking water. Sleeping facilities, medical care (vaccination against typhus to avoid danger of epidemic) and fuel supplies were provided⁷⁸. Local government offices and churches served as contact points, where citizens could obtain information and basic supplies⁷⁹.

Some 12,000 out of 20,000 evacuees were accommodated in emergency shelters⁸⁰ provided mainly in schools, sports halls, youth hostels and hospitals⁸¹.

Soon after the disaster had passed its peak, the German Red Cross, the churches and other institutions organised recreational holidays for children (and mothers)⁸².

⁷¹ Eismann, Mierach, 2002, p. 10.; Prügel, 1962, p. 7.

⁷² Eismann, Mierach, 2002, p. 11.

⁷³ Krause, W. (Ed.) 1963: Die Sturmflut-Katastrophe im Februar 1962. 2. erweiterte Auflage [The storm surge disaster of February, 1962. 2nd extended edition]. Stade-Buxtehude, p. 190.

⁷⁴ Deutscher Feuerwehrverband 1962: Einsatz der Feuerwehren bei der Sturmflut-Katastrophe an der nordwestdeutschen Küste [German association of fire services 1962: Operations of the fire services during the storm surge disaster at the north-western coast of Germany]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 06/1962, p. 124.

⁷⁵ Holsten, W. 1962: Schleswig-Holstein. Die Hochwasserkatastrophe in Schleswig-Holstein [The flood disaster of Schleswig Holstein]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 04/1962, p. 113.

⁷⁶ Deutscher Feuerwehrverband [German association of fire services], 1962, p 124.

⁷⁷ Brunswig, 1963b, p. 34 ff.

⁷⁸ Brunswig, 1963b p. 29.

⁷⁹ Krause, 1963, p. 331.; Leimbach, Wagner, 2012, p. 19.

⁸⁰ Eismann, Mierach, 2002, p. 31.

⁸¹ Eismann, Mierach, 2002, ibidem.; Krause, 1963, p. 133.; Tipp, Unger, 2012, p. 15.

⁸² Krause, 1963, p. 198 / 327.

What about citizen participation in the relief process? Reports speak about a great willingness to help: Many people found accommodation with relatives or friends living in non-affected areas. Some 6,000 out of 20,000 evacuees found shelter in the homes of friends and acquaintances, many of them even for several months⁸³.

Hamburg citizens who were not directly affected by the disaster donated clothing and cash⁸⁴. Donations coming in also from the other Federal States totalled DM 44.2 million⁸⁵.

Ten thousands of helpers from all over Germany took part in the most powerful relief action since the end of the war in 1945⁸⁶. A multiplicity of immediate actions could be carried out, in most cases spontaneously, without great planning⁸⁷. Volunteers took care of providing food to the evacuees, the people trapped in the flooded area as well as to the relief forces. They also hauled sandbags to stabilise the dikes⁸⁸. Comprehensive neighbourly help was reported by witnesses of the time: In the affected areas themselves people alerted each other, woke sleeping neighbours when the waters came, warned them not to drink contaminated water or helped each other with food and beverages⁸⁹. Some families managed just in time to carry food supplies, water and other necessities up to the attics before their houses became flooded. People, who lived on the lower floors or had no working heating and therefore were at risk of freezing to death, were put up by neighbours on upper floors⁹⁰. After the acute phase of the relief operations, help for clearing works was received from many sides. Youths and school classes supported residents with clearing works in neighbouring and partner civil parishes⁹¹. They scooped water out of flooded basements, cleaned flats, gardens, streets and squares and filled sandbags for stabilising soggy dikes. In addition, some of the helpers granted sponsorships for distressed people⁹². Merchants supplied their competitors with new goods and dried water-soaked stocks in their warehouses. Suppliers granted to their clients payment deferrals for long-overdue bills, and many things more⁹³.

3.1.3 Cooperation between the BOS and the population

Plans to involve the population did not exist at the time the storm surge struck. Where older reports speak about cooperation, they usually refer to cooperations with other fire services (neighbourly help) and relief organisations. With regard to the first stage of the disaster, the fire services were critical, above all, of the cooperation with the relief organisations, claiming that these were badly organised⁹⁴.

⁸³ Eismann, Mierach, 2002, p. 31.

⁸⁴ Eismann, Mierach, 2002, p. 23.

⁸⁵ Paschen, 2012, p.42.

⁸⁶ Schönefeld, Tornow, 1985, p. 69.

⁸⁷ Leimach, Wagner, 2012, p. 42.

⁸⁸ Eismann, Mierach, 2002, p. 23.

⁸⁹ Eismann, Mierach, 2002, p. 26f.

⁹⁰ Leimach, Wagner, 2012, p. 49.; Prügel, 1962, p. 21.

⁹¹ Leimbach, Wagner, 2012, p. 49.

⁹² Paschen, 2012, p.42.

⁹³ Handelskammer Hamburg [Hamburg Chamber of Commerce] (ed.) 1962: Mitteilungen der Handelskammer Hamburg [Newsletter of the Hamburg Chamber of Commerce]. Die Flutkatastrophe vom 16./17. Februar 1962. Sonderdruck aus den Heften 3, 4, 5, 6, 8/1962. [Newsletter of the Hamburg Chamber of Commerce. The flood disaster of 16/17 February 1962. Reprint from issues 3,4,5,6,8/1962]. Hamburg, p. 3.

⁹⁴ Brunswig, 1963b p. 28.

Tactically organised forces complained also that some of the population made false or exaggerated calls for help⁹⁵. Such critical statements about the way people call fire services for help indicate the wish for people to behave adequately in disaster situations. From the point of view of the fire services, the population acted mainly as a recipient of relief, although some of the "preparations" were made by people themselves. So, for instance, the farmers brought their live stock away from the water into safety on attics or roofs, but firemen with carrying straps and lifting gears were needed to move the animals from the roofs to safer places⁹⁶.

A particularly negative point was that people clustering around the disaster sites hampered the work of the professional relief forces: Crowds of gazers were in the way of works and relief actions, so that the related areas needed to be fenced off by the police and, later on, the Federal Armed Forces⁹⁷.

Mainly in more recent publications on the Hamburg storm surge⁹⁸ there is a stronger focus on citizen activity with regard to self-help (see above) as well as to cooperation with the tactically organised forces. So, for instance, citizens helped the pumping teams to empty basements and to haul sandbags. Many citizens took over the role of interpreter between the standard German spoken by the officials and the Plattdeutsch of the Finkenwerder region⁹⁹. Supported by tactically organised forces, bakers launched an emergency supply chain to provide fresh bread to flood victims in cut-off villages¹⁰⁰.

Particular mention deserve 39 Hamburg amateur radio operators for their assistance: they offered the police, the fire services and the municipal authorities to set up an emergency radio network. The Hamburg Mitte district administration accepted this offer of help. A radio station was set up in the district administration's city tower. More than 400 radio messages were sent off ore received. They contained requests for drugs, medical first aid and food, as well as telegraphs to relatives. This allowed to forward information on relief needs to authorities and private persons¹⁰¹.

Reports say that fire services used loudspeakers to call on the population for help. So many responded to this appeal that not all of them could be deployed to relief activities¹⁰². In addition, local and district authorities developed action plans with precise task descriptions¹⁰³.

⁹⁵ Brunswig, 1963b, ibidem.

⁹⁶ Brunswig, 1963a, p. 12.

⁹⁷ Krause, 1963, p. 124.

⁹⁸ Eismann, Mierach, 2002; Leimbach, Wagner, 2012; Paschen, 2012

⁹⁹ Paschen, 2012, p.42.

¹⁰⁰ Leimbach, Wagner, 2012, S. 29.

¹⁰¹ DARC-Districtarchiv Hamburg 2012: Vor 50 Jahren – Die Sturmflut in Hamburg [50 years ago: The storm surge of Hamburg]. DARC-Districtarchiv Hamburg 2012: Vor 50 Jahren – Die Sturmflut in Hamburg. Hamburger Funkamateure halfen nach Ausfall der Kommunikationssysteme. Betreuer Gebhard Hover, DJIGE [50 years ago: The storm surge of Hamburg. Radio amateurs stepped in as communication systems failed. Advisor: Gebhard Hover]. (See also DL-QTC 4/1962: Katastropheneinsatz Hamburger Funkamateure 1962 [Disaster relief activities of Hamburg radio amateurs 1962]).

¹⁰² Krause, 1963, p. 124.

¹⁰³ Krause, 1963, p. 232.

3.2 The Niedersachsen forest fires of 1975

3.2.1 Relief needs of the affected population

The documents analysed say almost nothing about the relief needs of the population. Not a word is mentioned about what happened to the 3,000 persons who had to be led to safety from fire. Reports say that people felt helpless and desperate in the face of the never-ending fires¹⁰⁴. For the farmers to whom a large part of the devastated areas belonged (70% of the woodlands were privately owned) and who had no fire insurance, the psychological impact of existential threat and destruction must have been dramatic. But this, too, gets mentioned only parenthetically¹⁰⁵.

3.2.2 Helping behaviour on the part of the BOS and the population.

The reports almost completely neglect the population's contribution to coping with the crisis. There were just two hints at helping behaviour: there is mention of, on the one hand, firemen's wives who were catering for their husbands during their long field hours¹⁰⁶ and, on the other hand, of local residents who told firemen about watering places the latter had not known before¹⁰⁷. Information, according to which only 10% of the 2700 shelters allocated for the 3000 evacuees were actually occupied, may indicate that a great deal of these persons had found accommodation in private homes¹⁰⁸.

For the rest, the publications find nothing but fault with citizen behaviour: Negligent or deliberate acts caused fires¹⁰⁹, and at the onset of the disaster some people were exposed to danger from their own careless behaviour¹¹⁰.

Such representation of the rather passive and, in addition, negatively appraised citizen behaviours strongly contrast with the reports related to the tactically organised forces. The number of rescue staff, who had to work under extreme conditions and did so with tremendous effort, was very high and amounted to about 32,000¹¹¹, as the reports say. The tactically organised forces (ToK) comprised of about 15,000 firemen from 7 Federal States, 11,000 Federal Armed Forces soldiers and many other forces¹¹². Some of them were in action for 4-5 days ceaselessly¹¹³. The forest fire reports

¹⁰⁴ "Unser Feuer machen wir selber aus" [It's our fire - let's put it out ourselves], p. 18.

¹⁰⁵ "Unser Feuer machen wir selber aus" [It's our fire - let's put it out ourselves], p. 25.

¹⁰⁶ Bartels, H. 1975: Feuerwehren im Katastropheneinsatz [Fire brigades in disaster operation]. August 1975: Waldbrand im Landkreis Celle [Forest fire in the district of Celle]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 11/1975, p. 315.

¹⁰⁷ "Unser Feuer machen wir selber aus" [It's our fire - let's put it out ourselves], p. 25.

¹⁰⁸ Luttermann, 1977, p. 29.

¹⁰⁹ Eber, H. / J. Funger / P. Herminghaus / W. Herzing / W. Lewis / H. Raab / Feuerwehr Dietzenbach [Ed.] 1976: Waldbrandkatastrophe in Niedersachsen – Versuch einer Dokumentation [The forest fire disaster of Niedersachsen. A pilot documentation]. Dietzenbach, S. 19, 28.

¹¹⁰ "Unser Feuer machen wir selber aus" [It's our fire - let's put it out ourselves], p. 17.

¹¹¹ Brandenburg, H. 2010: Naturkatastrophen in Norddeutschland [Natural disasters in Northern Germany]. Norderstedt, p. 23.

¹¹² Brandenburg, 2010, ibidem; „Unser Feuer machen wir selber aus“ [It's our fire - let's put it out ourselves], p. 20.

¹¹³ Bürger, A. 1975: Der große Brand in der Lüneburger Heide. Gedanken des Präsidenten des DFV [The great fire in the Lueneburg Heath. Reflections by the President of DFV]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/1975, p. 287f.

devote a lot of space to descriptions of high performance technical resources. Some 3,000 people were evacuated from affected villages, 60 of them by helicopter¹¹⁴.

Reports complain about numerous problems in disaster management - above all, insufficient communication and competence disputes among the tactically organised forces - that seriously obstructed the progress of the relief works¹¹⁵.

3.2.3 Cooperation between the BOS and the population

In this disaster event, there was no sign of any systematic cooperation between tactically organised forces and the population. This type of disaster, however, other than, for example, floods or snow disasters, offers little opportunity for citizens to actively help. All we are told is that, upon instruction by the tactically organised forces, farmers filled slurry drums and water-carrying vehicles with water and kept them ready as backup containers for fire engines. In addition, they ploughed up stubble fields in order to prevent the flames from expanding¹¹⁶.

The population was badly informed about what was happening. Incident commanders had no time or would not see the necessity to respond to the information needs of the media¹¹⁷.

The reports mention that relief forces repeatedly complained about the interfering presence of onlookers on the incident sites¹¹⁸, which eventually led to the adoption of an "Verordnung zur Verhütung von Waldbränden und zur Sicherheit der Waldbrandbekämpfung [Ordinance for the prevention of forest fires and the safety of fire-fighting]"¹¹⁹. Fire services also reported they had problems with volunteer helpers and smaller volunteer fire brigades due to fact that the latter were unfamiliar with professional management and command structures¹²⁰.

As a side note, it can be understood from the reports that, during the disaster, something obviously went wrong with the delivery of information / notification messages to the population, as, in the follow-up of operations, they acknowledge a need for significant change¹²¹.

¹¹⁴ Weidner, 1975, p. 6.

¹¹⁵ „Der Überblick fehlte bisweilen“ SPIEGEL-Interview mit Niedersachsens Innenminister Rötger Groß. ["At times we lost track of things." Spiegel interview with Rötger Groß, minister of the interior of Niedersachsen]. In: Der Spiegel 34/1975, S. 27; Brandenburg, 2010, p. 23 / 29.

¹¹⁶ Niedersächsischer Minister des Inneren 1976: Die Waldbrandkatastrophe im Regierungsbezirk Lüneburg im August 1975. Anlagenband [The minister of the interior of Niedersachsen 1976: The forest fire disaster in the district of Lüneburg of August 1975. Appendix volume].

¹¹⁷ Niedersächsischer Minister des Inneren [The minister of the interior of Niedersachsen], 1976.

¹¹⁸ Luttermann, 1977, p. 8 / 14 / 22.

¹¹⁹ Luttermann, 1977, p. 37.

¹²⁰ Niedersächsischer Minister des Inneren [The minister of the interior of Niedersachsen], 1976.

¹²¹ Deutscher Städtetag [Association of German Cities] 1976: Die Waldbrandkatastrophe in Niedersachsen. Berichte, Einsatzerfahrungen und Vorschläge kommunaler Branddirektoren [The forest fire disaster in Niedersachsen. Reports, operational experiences and suggestions from local fire directors]. Reihe B – DST-Beiträge zur Kommunikation, Heft 2. Köln, p. 58 / 91.

3.3 The snow disaster in Northern Germany 1978/79

3.3.1 The relief needs of the affected population

The effects of this disaster were devastating for many citizens. The snow disaster represented a threat to life and health of the population, endangered vital supplies to humans and animals and caused substantial property damage¹²².

People were cut off from the outside world, left in darkness and without telephone after power breakdown¹²³. Due to weather, shopping was impossible, especially as supermarkets and department stores were often located on the outskirts of towns and therefore difficult to access¹²⁴. The people, of whom only few had sufficient provisions available, found themselves unable to shop groceries. Bakeries were closed, because bakers had not enough yeast on stock¹²⁵. The snow disaster caused many people to be trapped in their houses. In Schleswig-Holstein, 80 villages¹²⁶ were cut off from the outside world. In several northern-German regions (except for Hamburg where, after the flood disaster, overhead lines were replaced by underground cables¹²⁷), not only the power system collapsed and, as a result, telephone and heating failed, but also most of the transportation routes (on land¹²⁸, air¹²⁹ and water¹³⁰) were unusable. Christmas and New Year visitors, and persons trapped in stranded trains or private cars were in particular need of help¹³¹. This was even more true for the elderly who were unable to care for themselves and therefore depended, for instance, on meals on wheels that, e.g. in Hannover, Hamburg and surrounding areas, could not be delivered to their recipients¹³². Other people in urgent need for help included sick persons who required medical treatment, pregnant women who were unable to reach a hospital to deliver their child, or babies when neither diapers nor warm food were available. Many animals - above all those kept in factory farms - died for lack of fodder, or when milking machines stopped working after power supply failed¹³³.

¹²² Meinardus, 2010, p. 33.

¹²³ Herr, (retrieved 23.01.2013).

¹²⁴ Bundesregierungs-Bericht 1979: Erfahrungen und Folgerungen aus den Schneekatastrophen in Norddeutschland zum Jahreswechsel 1978/79 u. Mitte Februar 1979 [Federal Government Report 1979: Experiences and consequences of the snow disasters at the turn of 1978/79 and mid February 1979]. Bonn, p. 26.

¹²⁵ Federal Government Report, 1979, ibidem

¹²⁶ Heed (a).

¹²⁷ Heed, L. (c): Der Schneewinter 1978/79 – ein Überblick [The snowy winter of 1978/79 - an overview]. http://www.ndr.de/geschichte/chronologie/siebzigerjahre/schneechaosueberblick100_page-4.html (Retrieved 23.01.2013).

¹²⁸ Heed, L. (d): Der Schneewinter 1978/79 – ein Überblick. Teil 2. Niedersachsen: Ostfriesland ohne Strom [The snowy winter of 1978/79 - an overview. Part 2. Blackout in Ostfriesland]. http://www.ndr.de/geschichte/chronologie/siebzigerjahre/schneechaosueberblick100_page-2.html (Retrieved 23.01.2013).

¹²⁹ Heed (c).

¹³⁰ Heed (a).

¹³¹ NRD. Was den Norden bewegt – Schneekatastrophe 1978/79 [Concerns in the north - the snow disaster 1978/79]. (Retrieved 23.01.2013); Meinardus, 2010, S. 34.

¹³² Heed (d).

¹³³ Herr (Retrieved 23.01.2013).

3.3.2 Helping behaviour on the part of the BOS and the population

In the GDR - her centrally controlled crisis management will not be discussed here - soldiers of the national army and the soviet army were deployed to assist¹³⁴. Tanks cleared the roads of snow. Helicopters rescued snowbound people and supplied medical drugs and groceries to village residents¹³⁵. Also the islands of Rügen and Hiddensee were supplied by air. Mountains of snow were blown up, entire brigades were shovelling snow¹³⁶.

In the FRG - as said in the federal government's report - rescue services managed to, by and large, ensure the supply of the population with all the primary necessities of life¹³⁷. Helicopters were deployed to carry supplies to smaller places and remote settlements. A total of about 30,000 helpers from the German Red Cross, Federal Armed Forces, THW and other relief organisations were involved in fighting the snow masses¹³⁸. The Federal Armed Forces assisted with clearing the rails. Accommodations for civilians were provided in barracks. The Federal Armed Forces reactivated decommissioned off-road ambulance cars and thus undertook tasks of the civil rescue services¹³⁹. The army provided field heaters and backup generators to relieve the distress of the population¹⁴⁰.

In order to maintain at least a minimum of mobility, in Hannover, for instance, German Rail officials were deployed to shovel snow and thus to keep the switches free from snow¹⁴¹. In many places substitute buses (from the vehicle pools of the fire departments) were used to keep services running¹⁴². More than 70 expectant mothers were flown to hospitals for child birth - hence the newly-coined term 'heli-babies'¹⁴³.

It was precisely because a part of the population was cut off from the outside world, that assistance from neighbours became so important¹⁴⁴, even though this had not been considered in initial planning. Accordingly, reports emphasise in particular the way people were prepared to help each other. This is also illustrated in words quoted from Ellermann, the then head of the disaster control agency: *"Citizens were not called on to do relief work, but they became aware that they had to depend on each other, and this made them ready to join for intense neighbourly help. So, for instance, they used their tractor loader buckets to remove the snow and thus helped each other out"*¹⁴⁵.

¹³⁴ Heed (b).

¹³⁵ Heed (a).

¹³⁶ Heed (b).

¹³⁷ Federal Government Report, 1979, p. 26.

¹³⁸ Heed (a).

¹³⁹ The snow disaster in Northern Germany 1978.

http://de.wikipedia.org/wiki/Schneekatastrophe_in_Norddeutschland_1978 (Retrieved 20.01.2013).

¹⁴⁰ Federal Government Report, 1979, p. 12.

¹⁴¹ Heed (d).

¹⁴² Heed (c).

¹⁴³ NRD. NRD. Was den Norden bewegt – Schneekatastrophe 1978/79

http://www.youtube.com/watch?hl=de&v=EBwULNU_fV&gl=DE [Concerns in the north - the snow disaster 1978/79]. (Retrieved 23.01.2013).

¹⁴⁴ Heed (a).

¹⁴⁵ Ellermann, in Meinardus, 2010, p. 51.

3.3.3 Cooperation between the BOS and the population

This snow disaster showed for the first time that, notwithstanding the massive presence of tactically organised forces, coping with the situation became possible only thanks to the support from the population. The cooperation between persons officially responsible for disaster management, and citizens putting in their help resources was successfully implemented: In some places, men who were fit for work - initially unprompted, later on in a more organised way and equipped with shovels - gathered on the village square when the siren had sounded, in order to clear footpaths from snow, for instance, for people to get through to the small village grocery shop¹⁴⁶. Pupils, too, earned a few pennies by shovelling snow¹⁴⁷. Repeated messages "from above", e.g. via radio, called for self-help and provided further instructions to the population. The mayor of Hamburg called, above all, on teachers, pupils and authority employees to shovel snow (shovels, brooms and snow pushers were made available at the town hall and the district offices)¹⁴⁸. The Bundespost (German Postal Services) asked staff of the VFDB (Association of radio amateurs in telecommunication and postal services) for assistance. The amateurs succeeded to set up a functional emergency radio network and thus enabled communication among the relief forces¹⁴⁹. Dombrowsky's statements, however, show that this cooperation also involved specific conflicts. In his opinion, these conflicts arose mainly in situations, where citizens rejected their anticipated role as victims: *"In order to attain full control over all activities running during the disaster, the authorities needed responsible contact persons from the respective areas, who were able to provide information and carry out orders. Whoever drops out of this network or, like the CB radio operators, has never been a part of it, is seen as a threat"*¹⁵⁰.

3.4 The Oder flood of 1997

3.4.1 Relief needs of the affected population

The flood reached Brandenburg on 17 July 1997 - and thus became a rapidly escalating threat for the population. Thinking was dominated by the following questions: "Will the dikes withstand the pressure of the water? Will it be possible to avoid flooding of the adjacent areas? Do we have to leave our homes? What can we currently do?"

This "stand-by situation" caused immense psychological stress. As a result, it was identified that, above all, information and communication were needed to prepare for the situation.

Since it was possible to evacuate in due time all persons who were in acute mortal danger, the catastrophic flood in Germany saw no casualties of humans nor animals. In Poland and Czechia, however, 114 were killed by the deluge¹⁵¹. The deluge started in Poland, where the locks of several retention reservoirs were opened too late, but then at the same time, which caused a flood wave of 8 meters¹⁵². Property damage amounted to € 330 million. In addition to the material damage

¹⁴⁶ Herr, (retrieved 23.01.2013).

¹⁴⁷ Heed (b).

¹⁴⁸ Heed (c).

¹⁴⁹ The snow disaster in Northern Germany 1978.

http://de.wikipedia.org/wiki/Schneekatastrophe_in_Norddeutschland_1978 (Retrieved 20.01.2013).

¹⁵⁰ Dombrowsky, W. R. 1981: Solidaritätsformen während der Schneekatastrophe in Norddeutschland [Forms of solidarity during the snow disaster in Northern Germany]. SIFKU-Informationen, 4 (1), p. 33.

¹⁵¹ The Oder flood of 1997 http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

¹⁵² Zeitzeugeninterview mit Bode/ Franke und Heiden [Interview with witnesses of the time] on 16.01.2014

suffered, evacuation caused high psychological stress, as it was in many instances carried out by coercion¹⁵³.

Even though the acute danger to life could be averted, health hazards from leaking containers, domestic fuel tanks, gas cylinders in junkyards, and from animal carcasses persisted¹⁵⁴.

Unfortunately, the available resources contain little differentiated information about what the 12,000 people in the Oderbruch had to endure.

3.4.2 Helping behaviour on the part of the BOS and the population.

The catastrophic flood led to the hitherto largest disaster relief operation of the Federal Armed Forces¹⁵⁵: 30.000 soldiers¹⁵⁶, 60 helicopters¹⁵⁷ and 3,000 wheeled vehicles¹⁵⁸ were deployed to cope with the deluge and to prevent the related hazards. Other deployed forces included the Bundesgrenzschutz (Federal Border Force), the Technische Hilfswerk (Federal Agency for Technical Relief), the fire services and various relief organisations¹⁵⁹. The Red Cross rendered first aid and distributed donations in kind - also in Poland and Czechia¹⁶⁰. In Germany, altogether 50,000 helpers¹⁶¹ were involved in the disaster relief operations. The tactically organised forces evacuated 6,500 people¹⁶² from areas threatened by flooding (some of them, however, by coercion¹⁶³) 2,000 even had to be flown out by helicopters¹⁶⁴. For the 8,000 evacuees shelters were provided at locations outside the danger areas¹⁶⁵, and vaccinations were offered against hepatitis and typhus¹⁶⁶.

¹⁵³ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 20 / 34.

¹⁵⁴ Schluchter, W. (Ed.) (Technische Universität Cottbus) 1997: Sozialwissenschaftliche Betrachtung und Schlussfolgerungen zum Oder-Hochwasser 1997 und zu seiner Rezeption durch die betroffene Bevölkerung [Social-scientific considerations and conclusions on the Oder flood of 1997 and its reception by the affected population]. <http://www.sozum.tu-cottbus.de/Lehrstuhltexte/oderbericht.htm> (Retrieved 19.12.2012). p. 3f., p.4, Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 38.

¹⁵⁵ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 5.

¹⁵⁶ Linde, J. 1998: „Aus der Katastrophe in eine Aufbruchstimmung“ [Moving from disaster to a spirit of hope]. In: Brandenburg Kommunal 24/1998, p. 7.

¹⁵⁷ Linde, 1998, ibidem.

¹⁵⁸ Oderhochwasser 1997 [The Oder flood of 1997] http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

¹⁵⁹ Ständige Konferenz für Katastrophenvorsorge und Katastrophenschutz [Permanent conference for disaster reduction and disaster protection] (Ed.) 12/1998: Workshop „Ausgewählte Aspekte der Bewältigung von Langzeitlagen: Oderflut 1997“ [Selected aspects of coping with long-term situations: the Oder flood 1997]. Organisier: Ständige Konferenz für Katastrophenvorsorge und Katastrophenschutz, Bundesamt für Zivilschutz [Federal Office for Civil Protection], Akademie für Notfallplanung und Zivilschutz [Academy for emergency planning and civil protection] (AKNZ). Köln.

¹⁶⁰ Oderhochwasser 1997 [The Oder flood of 1997]. http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

¹⁶¹ Linde, 1998, p. 7.

¹⁶² Schiersner, F. 2000: Fallstudie zum Katastrophenmanagement – Die Oder-Flut im Sommer 1997 [A case study on disaster management - the Oder flood of summer 1997]. Kiel.

¹⁶³ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 20 / 34.

¹⁶⁴ Oderhochwasser 1997 [The Oder flood of 1997] http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

¹⁶⁵ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 50.

¹⁶⁶ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 38.

Live stocks (and zoo animals), too, were moved to safe areas¹⁶⁷. Helicopters were used to fly sandbags from the filling places to the dikes and to provide first aid in the flooded areas¹⁶⁸. Other tasks of the relief forces were: loading sandbags, transporting things, performing clearing and pumping works, securing power and water supplies, removing animal carcasses, removing oil pollutions, providing meals and assistance to relief forces and affected persons¹⁶⁹.

What was the contribution of the population? It is reported that citizens showed great willingness to help, and many assisted in filling sandbags¹⁷⁰, but that help was offered by many more than could actually be deployed¹⁷¹. An obviously self-organised citizens bureau was set up to distribute sandbags¹⁷². Citizens also helped with providing meals to the relief forces, like, for instance, the Brieskow-Finkenheerd village ladies who offered treats of home-made cake and fresh coffee¹⁷³.

A look back to disaster management reveals that citizens of the former GDR had a particularly high motivation to self-help, which was essential for successfully coping with the disaster¹⁷⁴. Volunteers, however, were seen not only in a positive light, but also as being either over-motivated or over-challenged¹⁷⁵.

A positive note is indeed that both citizens and companies in Germany did not hesitate to make substantial donations for flood victims (including people in Czechia and Poland): DM 130 million and donations in kind were collected¹⁷⁶.

3.4.3 Cooperation between the BOS and the population

The population's readiness to help largely came to nothing. The sand-filling locations were unknown to many. It was generally quite difficult to organise the potential volunteers, as contact persons who would coordinate activities had not been identified, or there were technical problems¹⁷⁷: So, for instance, companies or private persons kept ringing up the Brandenburg Ministry of the Interior to offer their assistance, which finally caused a telephone blackout for the disaster task force. For national and international journalists, too, there was initially no contact point available¹⁷⁸. Somewhat later, a task force was established that was accessible day and night to coordinate offers of help and

¹⁶⁷ Oderhochwasser 1997 [The Oder flood of 1997] http://de.wikipedia.org/wiki/Oderhochwasser_1997 (Retrieved 22.01.2013).

¹⁶⁸ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 32.

¹⁶⁹ Ständige Konferenz für Katastrophenvorsorge und Katastrophenschutz, 1998, S. 8.

¹⁷⁰ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p.7f.

¹⁷¹ Ständige Konferenz für Katastrophenvorsorge und Katastrophenschutz [Permanent conference for disaster reduction and disaster protection], 1998.

¹⁷² Schluchter, 1997, p. 4.

¹⁷³ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 35.

¹⁷⁴ Ständige Konferenz für Katastrophenvorsorge und Katastrophenschutz [Permanent conference for disaster reduction and disaster protection], 1998.

¹⁷⁵ Ständige Konferenz für Katastrophenvorsorge und Katastrophenschutz [Permanent conference for disaster reduction and disaster protection], 1998.

¹⁷⁶ Linde, 1998, p. 7.

¹⁷⁷ Schluchter, 1997, p. 3.

¹⁷⁸ Schiersner, 2000.

further inquiries. An additional improvement was that the press office posted Oder water levels on the internet and provided hourly updates¹⁷⁹.

Citizens also complained that they had no knowledge of the rules of conduct that must be observed during safety and rescue activities, and that they felt insufficiently informed about the current situation and its development¹⁸⁰. Uncertainties were, inter alia, due to the fact that the FRG had implemented new structures which were not yet sufficiently popular and consolidated for them to function properly. An additional point of criticism was that not enough of specific information about the criteria and options for evacuation was made available to the population. As a result, the affected persons experienced evacuation as a sudden act of willfulness (despite that it had been publicly announced before) and reacted either with panic, or remained in a state of helplessness¹⁸¹. The mammoth operations of the Federal Armed Forces encouraged in many people a sense of individual helplessness. The following quote may serve to illustrate such state of mind: "What should a tiny shovel be good for, where the Federal Armed Forces can move tons of sand"¹⁸².

Nevertheless, there were also numerous examples of cooperation between citizens and professional helpers: A report says that at Ratzdorf, a village of 322 people, volunteer firemen, soldiers and staff from the Federal Border forces and the THW literally conspired to fight the deluge¹⁸³.

There are more examples of successful cooperations: local business people donated beverages, vehicles and materials, residents provided meals to the relief forces¹⁸⁴. One of the reports mentions a so-called "multiplier system"¹⁸⁵. This means that civil helpers were actively involved in relief operations in different places, with the exception of highly vulnerable sites.

3.5 The Elbe flood of 2002.

3.5.1 Relief needs of the affected population

The magnitude of the disaster and the concomitant needs for help were extremely high. About 25,000 houses were inundated¹⁸⁶, in some of them the water reached up to the second floor. Around 100,000 people¹⁸⁷ were forced to leave their homes. Many lost all their belongings in the floods. 21 people¹⁸⁸ were killed in the Elbe flood. The situation became increasingly dramatic with the rising risk of disaster in the Bitterfeld-Wolfen Chemicals Park in Sachsen-Anhalt. Fortunately it was possible to

¹⁷⁹ Schiersner, 2000.

¹⁸⁰ Schluchter, 1997, p. 2f.

¹⁸¹ Schluchter, 1998.

¹⁸² Schluchter, 1998, p. 5.

¹⁸³ Bundesanstalt Technisches Hilfswerk [Federal Agency for Technical Relief] (Ed.) 1997, p. 20.

¹⁸⁴ Schluchter, 1998, p. 4.

¹⁸⁵ Zeitzeugeninterview mit Bode/ Franke und Heiden [Interview with witnesses of the time] on 16.01.2014

¹⁸⁶ Grünwald, 2012, p. 31.

¹⁸⁷ Belitz, H.-J. 2002: Jahrhundertflut: erster Erfahrungsaustausch. Folgerungen aus den Erfahrungen bei der »Jahrhundert-Flut« für die nichtpolizeiliche Gefahrenabwehr. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, S. 872. [The once-in-a-century-flood: an initial exchange of experience. Conclusions drawn for non-police hazard prevention]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, p. 872.

¹⁸⁸ Thorns, J. 2002: Die Jahrhundertflut 2002. Eine Übersicht [The once-in-a-century-flood of 2002. An overview]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, p. 823.

avert this danger¹⁸⁹. The 250,000 litres of heating oil¹⁹⁰ that leaked from oil tanks in Dessau alone caused severe pollution and health hazards. Floating animal carcasses posed another threat to human health, there was danger of epidemic¹⁹¹. Those who remained in their homes suffered in many places from disruption of power supplies and telephone services, as so happened e.g. in Dessau¹⁹². In parts of Dresden drinking water supply collapsed¹⁹³. Patients had to be evacuated from hospitals and old-age homes¹⁹⁴. Transport infrastructure, too, was severely affected, as 180 bridges and 740 km of highways had been destroyed¹⁹⁵. In Sachsen, 33 cases of looting were reported - there was, however, no information about who did it and who was affected¹⁹⁶.

3.5.2 Helping behaviour on the part of the BOS and the population

During this once-in-a-century-flood an extremely high number of tactically organised forces were operating. A total of 100,000 helpers included 40,000 fire service staff¹⁹⁷, 25,000¹⁹⁸ (other reports speak about more than 45,000¹⁹⁹) Federal Armed Forces soldiers, 13,000 staff of relief organisations²⁰⁰, 9,000 THW-helpers²⁰¹ as well as 4,000 Federal Border Force staff²⁰². In addition to evacuating (masses of) people and reinforcing or, respectively, raising the dikes with 10 million sandbags, the tasks of the relief forces included pumping basements and/or houses, closing and securing damaged bridges, railway tracks, railway stations and evacuated areas, rendering first-aid, securing drinking water and emergency power supply, providing helpers and evacuees with meals etc.; special equipment was used to fight the threat of environmental disaster and to suck up spilled oil²⁰³. Helicopters were needed to evacuate patients from hospitals and old-age homes²⁰⁴. In some places field hospitals were established²⁰⁵. After the flood had receded, professional helpers performed large-scale clean-up and recovery works.

In contrast to the poor communication with the population during the Oder flood, information was now provided more efficiently: the Federal Government set up a telephone hotline for affected persons. The Federal Ministry of the Interior advised, inter alia, on details of financial support

¹⁸⁹ Thorns, 2002, p. 834f.

¹⁹⁰ Döbbling, E.-P. 2002: Mit Handy und Fahrrad in den Katastropheneinsatz? »Fliegender Stab« aus Ludwigshafen am Rhein unterstützt eine Technische Einsatzleitung in Dessau [Bicycle and mobile phone in disaster operations? A "Flying task force" for support of an operational command point]. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, S. 847.

¹⁹¹ Döbbling, 2002, ibidem.

¹⁹² Döbbling, 2002, p.845.

¹⁹³ Thorns, 2002, p. 331.

¹⁹⁴ Thorns, 2002, p. 825f. / 830.

¹⁹⁵ Thorns, 2002, p. 823.

¹⁹⁶ Thorns, 2002, ibidem.

¹⁹⁷ Broemme, Pawelke, 2002, p. 868.

¹⁹⁸ Thorns, 2002, S. 823.

¹⁹⁹ Belitz, 2002, p. 872.

²⁰⁰ Thorns, 2002, p. 823.

²⁰¹ Thorns, 2002, ibidem.

²⁰² Thorns, 2002, ibidem.

²⁰³ Bundesministerium des Inneren [Federal Ministry of the Interior] (Ed.) 22.08.2002: Die Jahrhundert-Flut [The once-in-a-century-flood]. In: Innenpolitik Information des Bundesministerium des Inneren II/2002, Aug./Sept. 2002, p. 6.

²⁰⁴ Dresdner Druck- und Verlagshaus GmbH & Co. KG (Ed.) 2002: Jahrhundertflut in Dresden – Wie Dresdner das Hochwasser in ihren Stadtteilen erlebten [The once-in-a-century-flood in Dresden - how Dresdners experienced the deluge in their neighbourhoods]. Dresden, S. 94; Thorns, 2002, p. 826 / 830.

²⁰⁵ Thorns, 2002, ibidem.

actions²⁰⁶. The government allocated € 385 million to support disaster relief operations; every affected household received an initial financial aid of € 2000 and, in addition, € 500 for each person living in that household²⁰⁷.

The citizens' contribution to disaster response was high, especially their share in protecting the dikes. As a prominent example may serve the civil parish of Wörlitz, where the 2,500 helpers included 900 volunteers²⁰⁸. Another important citizens' contribution was that they helped with accommodating and supporting and/or catering for nonlocal forces²⁰⁹.

Accommodating and catering for the evacuees was facilitated by the fact that 30 percent of them could stay with relatives or acquaintances²¹⁰. The significance of neighbourly help is best illustrated by the example of the city of Dresden, which was particularly strongly affected by the deluge. The personal fates described in the book "Jahrhundertflut in Dresden [The once-in-a-century-flood of Dresden]" furnish proof of the people's willingness to help: A master baker enjoyed help from his small staff. Craftsmen helped people they did not even know, without it being clear who would eventually pay the bill²¹¹. A similar situation happened to a pub landlady, when she, with the help of friends and regulars, tried to keep the water away from her pub and, after these efforts had failed, the same people continued assisting her in rebuilding the premises²¹². Residents joined together to build a 150 m footbridge for getting home without wetting feet²¹³. Other residents showed their commitment by gaining entry to the Kraszewski-Museum in order to rescue valuable furnitures, as museum staff was either not available, or had been stuck in their neighbourhoods²¹⁴.

Residents attempted to protect their homes from the incoming flood with sandbags and moved as many things as possible from their basements to upper floors²¹⁵. In some companies, staff succeeded to put computers, papers, chairs and minor equipment into safe places²¹⁶. Even after the disaster itself was over, many found assistance from their neighbours, be it through providing accommodation, money, food or emotional support²¹⁷.

Such tangible support was complemented at home and abroad by a great willingness to give money: donations amounted to several million euros²¹⁸.

²⁰⁶ Bundesministerium des Inneren [Federal Ministry of the Interior], 2002, p.8.

²⁰⁷ Hochwasser in Mitteleuropa 2002 [The central European floods of 2002].
http://de.wikipedia.org/wiki/Elbhochwasser_2002 (Retrieved 30.01.2013).

²⁰⁸ Gressmann, H.-J. / M. Hanne 2002: Weltkulturerbe Wörlitz gerettet. Kompetenzgerangel und Bürgerprotest. The World's Cultural Heritage site of Wörlitz is safe. Competence disputes and civil protest. In: Brandschutz. Zeitschrift für das gesamte Feuerwehr- und Rettungswesen 10/2002, p. 851.

²⁰⁹ Gressmann, Hanne, 2002, p. 852.

²¹⁰ Feuerwehr-Fachzeitschrift 02/2003, p. 73

²¹¹ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 10.

²¹² Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 72.

²¹³ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 56.

²¹⁴ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 72.

²¹⁵ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 162.

²¹⁶ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 146.

²¹⁷ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 162.

²¹⁸ Grünewald, 2012, p. 31.

There are, however, also reports about negative behaviour of the population: In Wörlitz, people performed wilful acts of sabotage to those dikes which were important for flow and flood regulation²¹⁹. People destroyed the dike in order to protect their own village! Mayors would not look beyond the confines of their own little parish.

3.5.3 Cooperation between the BOS and the population

The cooperation between tactically organised forces and citizens was very different depending on the given locations: Dessau has been cited as a positive example: operational leaders and citizens communicated adequately with each other; leaders were approachable for citizens at any time. The local councils established permanently open citizen contact points²²⁰.

In contrast, what happened in Wörlitz, is an example of failed cooperation: Initially, due to competence disputes between administrative staff and staff of the local operational command point, the latter did not even know that civilians wished and were intended to be involved in the relief activities²²¹. Later on, all the numerous helpful citizens did become integrated into the work processes. However, bad communication caused panic among the civilians deployed to the dikes, as rumours spread that the dikes were unsafe²²². Timely communication with the population would probably have helped to avoid also the already mentioned acts of sabotage to the dikes, citizens committed in order to prevent flooding of their village. An expert assessment of the relief operations carried out during the Elbe flood came to the conclusion that, in order to avoid such problems, it is important to keep the population informed about what actions are necessary or possible in the given situation²²³. Therefore the central requirements related to the approach to future disaster response are to involve the citizens' potential for self-help and to communicate adequately with the population, and thus to enable greater hazard awareness and to avoid people's resistances (e.g. to evacuation)²²⁴.

The following describes an important aspect of successful cooperation: The Federal Ministry of the Interior set up a hotline in order to manage the numerous offers of help. The tactically organised forces established on-the-spot meeting points for helpers in order to plan their deployment from there²²⁵. Tasks that civilians could easily perform included, for instance, reinforcing dikes with sandbags²²⁶, sorting donated materials²²⁷, and, after the water had receded, carrying out various clearing works, such as cleaning up roads, lanes and houses, or removing rubbish²²⁸.

²¹⁹ Gressmann, Hanne, 2002, p. 851 / 855ff.

²²⁰ Döbbling, 2002, p.848 / 850.

²²¹ Gressmann, Hanne, 2002, p. 853.

²²² Gressmann, Hanne, 2002, ibidem.

²²³ Grünewald, 2012, p. 31.

²²⁴ Broemme, Pawelke, 2002, p. 869.

²²⁵ Kirchbach 2003: Flutkatastrophe 2002 in Sachsen. Gesamtbewertung und Vorschläge - Kirchbach-Bericht 1. Teil. [The 2002 flood disaster in Sachsen. General assessment and suggestions - Kirchbach report, part 1]. In: Feuerwehr-Fachzeitschrift 02/2003. p. 72.

²²⁶ Gressmann, 2002, p. 853.

²²⁷ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 180.

²²⁸ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 6.

As an example for unsuccessful cooperation may serve the crowds of onlookers hampering the rescue operations. In beautiful summer weather, "flood tourists" travelled to Dresden and hindered the helpers from doing their clearing work²²⁹.

4 Understanding the experiences from the five disaster events

None of these five disaster events were immediately attributable to human impact, instead, they originated, above all, from forces of nature, such as storm surge, strong rainfall, enduring drought, as well as snow and extreme cold.

The disasters differ in duration. The shortest one, but worst in terms of casualties, was the two-day storm surge of Hamburg. The snow disaster of 1978/79 in Northern Germany and the Elbe flood were the longest ones, with a duration of over ten days each. It is, however, difficult to determine the exact time-scale of the disaster. Even after the immediate danger to the lives of the population had passed and experts believed that the situation had been overcome, many people remained in a subjectively disastrous condition.

The events differ also with regard to the size of the affected area. Some of the events were locally confined, such as e.g., the Hamburg storm surge, which affected mainly the district of Wilhelmsburg, or spread over a large area as in the case of the Elbe flood of 2002, which ravaged altogether 60 administrative districts and non-district cities.

Another significant difference is whether a situation that was beyond individual control occurred suddenly and unexpectedly (as did the Hamburg storm surge) or whether it built up gradually (for instance, when dikes that were initially holding threatened to give way).

There is a wide variety of type and scope of disruption of everyday's normality, depending on the nature of the respective disaster. It makes a big difference in the subjective situation of citizens, whether they are forced to leave their (devastated) homes or can continue to stay there. It is a heavy burden for citizens to have to abandon their private living space, because it has been destroyed by water or fire.

The extent of damage can be assessed with reference to the number of human (and animal) casualties, the severity of health damage, the amount of material loss and the degree of (frequently concomitant) psychological stress. However, except for casualty data, there are no criteria that would allow to exactly assess "damage". The total physical, psychological, social and economic situation of people in the aftermath of disaster is co-determined by the disaster management process itself, which, for that reason, must be given particular weight. Experiencing support from the community during and after disaster, as well as an individual's own role within the disaster relief process are key elements in coping with the course of events.

²²⁹ Dresdner Druck- und Verlagshaus GmbH & Co. KG, 2002, p. 48 / 64 / 88.

4.1 Relief needs and necessary assistance activities

The available disaster reports allow to list the major impacts on the population and, on this basis, to specify relief needs and necessary assistance activities.

A high subjective threat is given, even if personal damage has not yet occurred, whilst, at the same time, damage may occur sooner or later (for instance, when dikes are about to burst, fires continue to spread, or toxic barrels are in danger of leaking). In such situations, the most needed kind of assistance is to provide continuous information on the situation or its development, as well as on appropriate activity options. Social research has shown that the psychological situation of people depends not as much on "objective" hazard, as on their subjective risk perception, which is influenced by various factors - inter alia by the way crisis communication is managed.

However, once damage has already occurred - when, for instance, a somebody's home has become uninhabitable, transportation routes have been destroyed or all food has been consumed, assistance may be provided either by replacing such goods or providing their equivalent. The same applies in response to the lack of accommodation, food, lighting, heating, clothing, fuel, cash money and medical drugs. In this case, too, supplying specific goods must go along with the related information and communication in order to reduce as much as possible any uncertainty about the future.

A different approach is needed, where disaster struck people with the loss of emotionally close humans or animals. Such loss is irreplaceable and can be coped with only through providing personal support and psychological first aid. (At this point, though, it should be mentioned that the reports in hand largely neglect such needs, both for assistance and for psychosocial help.)

4.2 Indispensable assistance from the BOS

For crisis and disaster management, it is of paramount importance to decide what kind of assistance can be delivered only by authorities and bodies entrusted with safety-related tasks, i.e., the tactically organised as well as the administrative-organisational forces, and what assistance is required (also) from the population. In the context of the five disaster events described above, the tasks to be performed by the tactically organised forces are as follows:

- directing crisis and disaster management
- carrying out such activities as require both the special materials, protective equipment, technical equipment (e.g. helicopters, fire-fighting devices, turntable ladders, transportation vehicles, backup generators), and the skills for their use
 - in order to rescue or salvage people from specified situations, as well as
 - to prevent hazards
- rendering medical (first) aid

4.3 Tasks to be performed by the population

Many of the tasks can be taken over by citizens or performed by them in cooperation with the BOS. These tasks include, above all, "simple" jobs that do not require special skills, such as, e.g., delivering messages, shovelling snow, filling sandbags, distributing materials, catering for the relief forces and providing accommodations.

On the other hand, the population has a huge potential of abilities, skills and knowledge that may be usefully employed in coping with disaster. Apt examples are, for instance, amateur radio operators or people who are able to render psychological first aid (clerics, psychologists, pedagogues etc.). The forest fires of Niedersachsen demonstrated also the importance of relying on the local knowledge of citizens in order to find watering holes for firefighting. At this point, it is appropriate to mention also those many citizens, especially craftsmen, who provided their professional know-how at no charge.

From the reports on the above-mentioned five disasters we have extracted such relief activities, as were performed either by citizens themselves or with their participation or support:

- warning or alerting people
- searching and rescuing people and animals
- rendering first-aid
- rendering psychological first-aid / psychosocial support
- taking injured persons to hospitals
- organising accommodations
- offering accommodation to others
- caring for those living in accommodations
- donating money and goods
- offering their knowledge
- registering persons missing or remaining in the disaster area
- acting as guards to prevent looting
- coordinating disaster relief activities in individual places
- connecting the relief forces (e.g. by carrying messages, also by bicycle or on foot)
- catering for the relief forces
- hauling materials
- distributing materials
- collecting and distributing donations
- supplying drinking water
- supplying groceries
- shovelling snow
- filling sandbags
- hauling sandbags
- building sandbag walls / protecting dyke's
- watching the dikes
- pumping basements
- performing clearing works
- carrying out repair works ('contributing professional skills)

4.4 Reasons for involving the population

Examining the disasters Germany experienced after World War II yields numerous reasons why it makes sense and is necessary to involve the population in disaster relief activities.

Notwithstanding the numerical strength of the BOS forces, above all, the tactically organised forces of the fire services, the Federal Agency for Technical Relief, the Federal Armed Forces or the relief organisations etc., these alone were (are) far away from being able to cope with all the tasks necessary to eliminate the disastrous effects or to prevent further damage. Without citizen involvement, the millions of sandbags would not have been filled in such short time, the towering masses of snow would not have been removed, and the many people would not have been supplied with what they needed most. Especially for unexpected disaster events, such as the Hamburg storm surge, there are no preliminary plans how to meet the relief needs of the population adequately and in due time. Moreover, the quality of assistance rendered, e.g. in the form of giving private accommodation, is, as a rule, better than what the public can offer by providing shelter, for instance, in sports halls.

People actively involved in disaster management will benefit from the fact that their effort works as a form of stress management: instead of freezing in a state of helplessness and waiting for assistance from professional helpers, they can employ their own strength and thus experience themselves as being self-efficient. At the same time, their involvement in the disaster relief process enables them to comprehend, why in some circumstances operations, despite all efforts, would not yield the desired results, when, for instance, the dike they tried to protect with sandbags, none the less, burst under the pressure of storm water. For persons not actively involved in the process there is a risk that they turn adverse emotions, like disappointment or anger, at the professional actors who, for their part, are not responsible for such negative course of events. Attributing such feelings to uncontrollable external causes instead of the performance of the tactically organised forces prevents escalating emotions and destructive conflict.

Worthy of particular mention is what spontaneous helpers have repeatedly reported as the emergence of a sense of community which markedly contrasts with the experience of isolation and day-to-day selfishness. Joining together to pursue a meaningful objective conveys an experience of satisfaction and happiness that can (partly) compensate the loss of material goods.

4.5 Population involvement requirements to be met by the BOS

For the population's involvement in disaster management to be successful, the BOS forces must work to comply with certain specific requirements. Most importantly, this is a cooperative attitude on the part of the tactically organised and administrative-organisational forces that, however, should already exist at the time the disaster occurs. Even though the technical and organisational know-how and skills of these forces is, beyond doubt, indispensable for the success of many of the relief actions, BOS staff should be able to recognise and/or accept that it makes sense and is therefore necessary to involve the population. Only by breaking through the black and white thinking about helpless and incapable citizens, on the one hand, and the omnipotence of the BOS representatives, on the other, it will be possible to make the people's willingness to help useful for the disaster management process. Here it is appropriate to take a differentiated look at the "population": Some citizens, for instance, have specific local knowledge that may help to cope with the situation, others are able to carry out simple activities but, for that purpose, will depend on guidance.

Even if the BOS forces are, in principle, open to involving the population, this attitude must be implemented into such activities as allow cooperation to succeed. These include regularly providing

situation information to the people, establishing contact points to coordinate help offers, and communicating basic knowledge on how to successfully perform specific relief actions. When, for example, staff from the tactically organised forces get worked up about the "dumb" spontaneous helpers who do not even know that sandbags must not be stuffed to the brim, the question arises, why nobody cared to think about how to provide the helpers in time with such necessary information.

For cooperation to succeed, not only information, but also communication is required. This implies more than just to convey facts. It also needs an explanation of what are the short, mean and long-term (operation) goals. When several actions appear to be possible and sensible at the same time, BOS staff should, where appropriate, involve the affected persons (these often act as spontaneous helpers, too) in the assessment of pros and cons, in order to make sure that the decision will meet with acceptance. Whenever there are no alternative options, it is necessary to explicate the reasons why a given decision was made. This is the only viable basis on which BOS and spontaneous helpers can cooperate.

4.5.1 Appropriate dealings with onlookers during disaster events

The problems related to the presence of onlookers were discussed in the context of the responses to the described disasters (e.g. the Elbe flood). It is, above all, the rescue forces who see them as hindering their work, as their very presence or their parked cars obstruct access or rescue routes, or because they distract attention by making comments or asking questions. Behaving incautiously, they may even expose themselves to danger and thus aggravate the challenge for the rescue forces. But also those currently affected by the disaster feel uncomfortable with finding themselves being gaped at. The exclusively negative perception of onlookers leads to aggressively toned interventions by rescue forces that, in the worst case, evoke resistance from onlookers and thus hinders the desired goal of working undisturbed on the spot.

Dealing appropriately with onlookers implies not to condemn these people wholesale, but, instead, to try to understand the diversity of motivations underlying their behaviour: These include, in addition to innate curiosity and the eagerness to witness emotion from a safe distance²³⁰, also a quest for information on survival strategies for dangerous situations²³¹. Many of the onlookers are indeed willing to provide their assistance. The fact that they fail to act on their own accord is partly due to fears of making mistakes or being unable to make oneself useful in the given situation. If, however, they are given specific instructions how to perform easy and simple tasks, an "inert" crowd can turn into groups of active helpers. A most important factor in dealings with onlookers is therefore the style of communicating with them: Either by addressing them directly in order to get them involved in a reasonable way, or by giving them, in a neutral tone of voice, precise instructions

²³⁰ Apter, M. 1994: Im Rausch der Gefahr. Warum immer mehr Menschen den Nervenkitzel suchen [Intoxicated by risk. Why more and more people need the thrills]. Kösel, München.

²³¹ Sumpf, J. 1995: Von Bären und Autos oder: die Zuschauer im Straßentheater ‚crash‘ [On bears and cars or: the spectators of the "Crash" Road Show]. Unpublished manuscript by BMW AG, München (cited in Fiedler et al. p. 193).

to move away from the situation. Fiedler²³² et al. even suggest to select onlookers for the very job of getting other onlookers out of the place.

4.6 Requirements to be met by citizens for getting involved in disaster management

If one concludes that the population should be involved in disaster management, and that the BOS must meet certain prerequisites for cooperation to be successful, one should not circumvent the question of what will be important and/or helpful on the part of the citizens and enables them to do their best to support the disaster response process.

The foundation for helpful citizen behaviour in disaster management is to be provided already before disaster occurs. Since in Germany the probability of being struck by disaster is rather low, people are used to rely on support from the state or state experts. As a result, many people have little or no awareness of risk and have made no preparation to face such events. Knowledge of risk and corresponding education towards self-help and help for others should become a part of everyday life. Another important aspect is seen in the conveyance of such knowledge of the structure of disaster management in Germany as will enable a faster understanding of the roles of BOS staff and their activity in the given situation and thus generate adequate expectations. For these purposes it is necessary to institutionalise this process on different levels. In addition to corresponding education in public institutions like schools and kindergartens²³³, the media and other communication channels should be used to inform the population about the existence and occurrence risk of danger (risk communication). Along with this, people should be given precise instructions how to prepare for crisis and disaster, and how to act in such events.

Many people apparently are not aware that their own behaviour in disaster may become a burden for the disaster management process: for example, by moving around on disaster sites just for sightseeing, or exposing themselves to danger (for example, by refusing to follow instructions to evacuate the area).

²³² Fiedler, H. / B. Gasch / F. Lasogga 2004: Zuschauer bei Notsituationen [Onlookers in emergency situations]. In: Bengel, J. Psychologie in Notfallmedizin und Rettungsdienst [Psychological approaches in emergency medical and rescue services]. Berlin, Heidelberg.

²³³ In this context, see BBK „Max und Flocke Helferland“ [Hyperlink](#) (retrieved 31.03.2014)

5 Résumé of findings

- The organisation of disaster protection in Germany has been shaped under strong influences from societal developments (Cold War; German reunification; transformation of the Bundeswehr etc.).
- The type of disaster, the time-span available for preparations, the duration, the intensity of impact and the scope of effects of disaster are the main determinants of the population's relief needs and relief options.
- During disaster, the quality of communication among the population, among the forces of the disaster protection organisations (internal communication) as well as between the BOS and the population (external communication) is of prime importance for the successful shaping of the disaster response process.
- The success of both internal and external communication also depends essentially on the available technical possibilities. The described disasters have revealed the deficiencies of the technical possibilities existing at the respective times, and have given impulses to improve on communication equipment and performance.
- Disasters require specific assistance activities which are to be performed by the BOS - first of all, by the tactically organised forces: This includes the higher level crisis and disaster management as well as such assistance activities as require recourse to technical aids and special knowledge.
- Local authorities should do more to emphasise their role as contact and coordination points for citizens' needs and get prepared to become publicly more visible during the disaster response process.
- The process of disaster management allows and requires the population to take on many different tasks, starting from simple jobs like shovelling snow, filling sandbags, providing supplies to helpers, accommodating people at home, up to complex activities requiring special knowledge and skills, such as radioing, performing handicraft activities, contributing local knowledge, or rendering psychological first aid.
- For the cooperation between the forces of the disaster protection organisations (tactically organised and administrative-organisational forces) and the population to be successful in the event of disaster, both sides must make sure that the following prerequisites are met:
 - The staff of the disaster protection organisations must believe in the necessity of citizen involvement in crisis and disaster management and, based on this conviction, learn the communicative and organisational skills needed to concretely shape such involvement.
 - The population should get, or be, better prepared for crisis and disaster situations. Citizens should understand the role authorities and bodies entrusted with safety-related tasks (BOS) have to play in disaster events, and acknowledge the legitimate leadership of the latter. When rendering assistance in disaster situations, citizens should avoid endangering themselves, i.e., they should recognise the limits of their possibilities.

6 List of references

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