

***Driv***ing Innovation in Crisis Management for ***E***uropean ***R***esilience

**GERMANY**  
Policy, Legislation, Organisation, Procedures & Capabilities (PLOPC) in crisis management and disaster response

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Scope and limitations

This study serves as supporting information for further work within DRIVER.

Only limited time and budget has been available for this first general survey, which needs to be considered in terms of scope and completeness of the respective studies.

The author/s of this study is/are responsible for its content and quality.

This report was revised at the end of 2015, reviewed internally by EPLFM and amended according to reviewer's comments and recommendations upon the decision of the author/s.

# Overview

Germany is a federal republic consisting of 16 constituent states (*Bundesländer* or *Länder)*. States have their own government and parliament and possess a high degree of autonomy. Subsequent governmental levels are the administrative counties *(Landkreise)* or county boroughs *(kreisfreie Städte)* – combined in administrative districts –, and the municipalities *(Kommunen)*. The principle of subsidiarity has to be applied wherever possible. As given in the German Basic Law (*Grundgesetz*, comparable to a constitution) and in the Treaty of Lisbon, the states play an active role in the decision making process regarding the German EU policy.

Main risks in the DRIVER context are seen in weather related hazards such as floods, heat waves, and storms, while the risk of major losses caused by earthquakes or landslides is rather low.

Following the terrorist attacks on 11 September 2001, and the severe flood in Germany in 2002, a “New Strategy on Civil Protection” has been enacted in 2002, updated in 2010, providing the new political-strategical framework programme in civil protection. Main goal is an optimized collaboration of the federal level and the states in preparation to and coping with disasters relevant on national level.

The first authority in the event of a peacetime disaster is the cognisant rural district, county or municipality. In case a disaster exceeds capacities of the local government or affects several districts, the next highest hierarchical authority ensures coordination.

If needed, a state can call for the assistance of police forces of other states or of personnel and facilities of other administrative authorities, of the Federal Police or the Armed Forces. Also, the Federal Agency for Technical Relief (THW) may be called.

At the national level first of all the Federal Ministry of the Interior (BMI), assisted by the Federal Office of Civil Protection and Disaster Assistance (BBK) and the German Federal Agency for Technical Relief (THW) are the core institutions responsible for crisis management.

The Federal Foreign Office (AA) plays a role in case of crises abroad, which affect German nationals or German interests. The AA is also the national contact point for requests on assistance from third countries. Contact point for requests from the EU Civil Protection Mechanism is the BMI.

In general, Civil Protection and disaster management in Germany is to a high degree based on the availability of people with an honorary post.

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## List of Abbreviations

|  |  |
| --- | --- |
| AA | Federal Foreign Office |
| AKNZ | Academy for Crisis Management, Emergency Planning and Civil Protection |
| BMBF | Federal Ministry of Education and Research |
| BBK | Federal Office of Civil Protection and Disaster Assistance |
| BMF | Federal Ministry of Finance |
| BMG | Federal Ministry of Health |
| BMI | Federal Ministry of the Interior |
| BMUB | Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety |
| BMZ | Federal Ministry for Economic Cooperation and Development |
| CIMIC | Civil-Military Cooperation |
| CIP | Critical Infrastructure Protection |
| CM | Crisis Management |
| DFG | German Research Foundation |
| MS | Member State |
| THW | Federal Agency for Technical Relief |
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# Policy

## Risk Assessment

While there is no overall record on disasters on federal level in Germany, it can be noted that most recent major disasters have been caused by extreme weather conditions – storms (e.g. storm Kyrill in 2007, 11 dead; storm Felix in 2006, 10 dead), floods (e.g. in 2013 affecting several rivers, 8 dead; in 2002 affecting especially the Elbe, 27 dead), and heat waves (e.g. in 2003, 9.355 dead) (EM-DAT 2014; EC 2014; Badische Zeitung 2014). Further prominent examples are the interruption of the energy supply in the region of Münsterland (North-Rhine-Westphalia) for several days in 2005, or the ICE train accident in Eschede in 1998, 101 dead (EC 2014).

All these crises, however, did not pose a direct threat to the functioning of the state as a whole (Hegemann & Bossong 2013).

Following the terrorist attacks on 11 September 2001, and the severe flood in Germany in 2002, the “New Strategy on Civil Protection” has been enacted in 2002, providing the new political-strategical framework programme in civil protection. Amongst others, this strategy underlines the need for a coherent method for risk analyses between the federal and the state level (BBK 2010a).

Following the Civil Defence and Disaster Assistance Act (ZSKG), the federal level, supported by the states, conducts country wide risk analyses for civil protection, across different sectors. Reports from 2010, 2011, 2012, and 2013 describe the respective status of these risk analyses (Deutscher Bundestag 2013). The Federal Office of Civil Protection and Disaster Assistance (BBK) issued detailed methodological guidance (BBK 2010b). However, the implementation of this risk assessment methodology on state or communal level depends on the initiative of the respective governments, which diverge strongly with regard to their commitment and organisational capacities (Hegemann & Bossong 2013).

## Policy and Governance

Germany is a federal republic consisting of 16 constituent states (*Bundesländer* or *Länder)*, in the following referred to as states. States have their own government and parliament and possess a high degree of autonomy, especially in the areas of education, police, local administration, transport, and some medical measures. They receive income gained through taxation (revenues). Through the constitutional organ “Bundesrat” the states participate in legislation, administration and matters concerning the European Union. Subsequent governmental levels are the administrative counties *(Landkreise)* or county boroughs *(kreisfreie Städte)* – combined in administrative districts –, and the municipalities *(Kommunen)* (MSB 2009). The municipalities administrate inter alia local transport and road construction, electricity, water and gas supply, sewerage and daily life protection (EC 2014). The principle of subsidiarity has to be applied wherever possible. As given in the German Basic Law (*Grundgesetz*, comparable to a constitution) and in the Treaty of Lisbon, the states play an active role in the decision making process regarding the German EU policy.

### Strategy scope and focus

The “New Strategy on Civil Protection” (see above) provides the new political-strategical framework programme in civil protection. It has been updated in 2010 (BBK 2010a). Main goal of the strategy, which still provides the foundation for the new understanding in civil protection, is an optimized collaboration of the federal level and the states in preparation to and coping with disasters relevant on national level (ibid).

However, crisis management approaches in Germany do not follow the clustering by the terms Prevention, Preparedness, Response and Recovery, while with regard to contents, all of these topics are covered. No special focus on one or a few of them can be identified (expert interview).

### Monitoring and analytical support to policy making; R&D

There are several R&D programmes that contribute to risk assessment supporting policy making. On national level, there is e.g. the “Research Programme for Civil Security” from the Federal Ministry of Education and Research (BMBF). Its purpose is “to develop innovative solutions that increase civil security while maintaining a good balance between security and freedom. What makes the programme special is that, rather than just being concerned with technology, it includes innovative organisational approaches and strategies for action. The success of the security research programme depends on interdisciplinary projects, knowledge transfer to the general public, social science research on data protection and ethics and transparency. The programme is also integrated in a European framework” (BMBF 2014).

Further, research benefiting civil protection is entrenched in section 4 subsection 1 No. 5 of the [Civil Defence Act](http://www.bbk.bund.de/SharedDocs/Downloads/BBK/DE/Gesetzestexte/Zivilschutzgesetz.html) (“Zivilschutzgesetz”) as a task for the Federation:

“The following shall be in particular incumbent on the Federal Office of Civil Protection and Disaster Assistance...

5...the tasks for technical and scientific research in agreement with the Länder, the evaluation of research results, as well as collection and evaluation of publications in the field of civil defence.”

“Research at the Federal Office of Civil Protection and Disaster Assistance offers scientifically-sound problem solutions for civil protection, as well as new concepts, procedures and technology, and hence makes a major contribution towards upgrading civil protection mechanisms” (BBK 2014).

### Policy for Prevention

As mentioned under 1.2.1, crisis management approaches in Germany are usually not clustered by the terms Prevention, Preparedness, Response and Recovery, while with regard to contents, all of these topics are covered (expert interview).

Prevention is part of the civil protection in Germany. Organisations responsible for prevention work closely together with those responsible for preparedness and/or response (European Commission 2014), see also chapter 3.1.

### Policy for Preparedness

As mentioned under 1.2.1, crisis management approaches in Germany are usually not clustered by the terms Prevention, Preparedness, Response and Recovery, while with regard to contents, all of these topics are covered (expert interview).

See chapter 3.1 for organisations and responsibilities in crisis management.

### Policy for Response

As mentioned under 1.2.1, crisis management approaches in Germany are usually not clustered by the terms Prevention, Preparedness, Response and Recovery, while with regard to contents, all of these topics are covered (expert interview).

See chapter 3.1 for organisations and responsibilities in crisis management.

### Policy for Relief and Recovery

For organisations and responsibilities in crisis management see chapter 3.1.

There is no specific regulation on relief and recovery in Germany. Responsibility is with the states, who would request support from the federal level, if needed. Financial support from federal level would be released by the Federal Ministry of Finance (BMF). For international requested financial support, the Federal Ministry for Economic Cooperation and Development (BMZ), and the Federal Foreign Office are in charge. From EU level, the Solidarity fund can provide financial support, while there is no such fund on national level in Germany (expert interview).

## Financing

### Investing in preparedness

The report on Germany conducted in context with the “Outline for national reporting and information on disaster reduction for the World Conference on Disaster Reduction” (Kobe-Hyogo, Japan, 18-22 January 2005)[[1]](#footnote-1) lists the following budgets in the context of disaster risk reduction: The Federal Foreign Office (AA) has a regular annual budget for disaster prevention projects, and also the Federal Ministry for Economic Cooperation and Development (BMZ) funds programmes on disaster reduction, especially a sector programme to incorporate risk reduction into development projects. The Ministry of the Interior (BMI) funds disaster preparedness structures. Further, two institutions are mainly funding disaster prevention research: the Federal Ministry for Education and Research (BMBF) and the German Research Foundation (DFG).

However, no specific number for investments in preparedness and consequence management (chapter 1.3.2) could be identified. The total number would include budgets from different departments of several organisations, e.g. from those named above, or the Federal Agency for Technical Relief (THW), the Federal Ministry of the Interior (BMI), the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), or the Federal Ministry of Health (BMG). Further, investments in vaccines, and also donations would need to be considered (expert interviews). These specific numbers are not available.

### Investing in consequence management

As explained in chapter 1.3.1., specific numbers are not available.

In the first place, individuals are expected to cover their costs on their own. Then, money from insurance and reinsurances contribute to cover costs of recovery, and specific funds from EU (Solidarity fund) and national level (from BMF) help to cover costs of consequence management (expert interviews).

## Policy review, Evaluation & Organisational Learning

### Post-Disaster Assessment

The information gained on post-disaster assessment is closely linked to information on lessons learned systems, and is thus included in chapter 1.4.3.

### Departmental Lessons Learned systems

There are Lessons Learned systems on departmental level, while overarching information is not available. For example, federal state governments can request evaluation of missions after a crisis, while there is no general regulation. Organisations are handling their Lessons Learned differently, and also differently for different types of crisis. There is no general or common methodology. The THW for example distinguishes between national and international missions. International missions are less complex or more comparable to each other. For the lessons learned in these international ‘standard’ missions, the THW uses prepared sheets to be filled in during the mission. Also for national missions, data is usually collected already during missions, but adapted to the current operation (expert interviews).

See also chapter 1.4.3.

### Centralised (national) Lessons Learned system

There is no centralised Lessons Learned system in Germany. The LÜKEX exercises (see chapter 5.3) are main sources for identification of improvement needs, they are partly conducted together with neighbouring countries, e.g. The Netherlands, and are also observed by EU delegates. Connections to international Lessons Learned are not institutionalised, but respective reports from other countries are in fact considered and evaluated (expert interview).

*The following two paragraphs are mainly taken from the country study Germany, which has been prepared in the context of the ANVIL Project [[2]](#footnote-2) (Hegemann and Bossong 2013):*

One major investigation, the “Kirchbach Report” (Kirchbach et al. 2002) was conducted after the signature crisis Elbe Flood in 2002. It was commissioned by the State of Saxony, focused on regional flood defence mechanisms, but also discussed the general effectiveness of the German civil security system. The report attested a high level of technical competence to first responders and specialised civil protection forces, while the support of military units in upgrading and defending dams was also praised. Thus, the basic principles of the German disaster and crisis response system’s effectiveness, namely a decentralised approach that builds on local capacities[[3]](#footnote-3), were defended. Yet the report also highlighted severe coordination failures across district-level and state-level structures.

At the level of state governments, one could point to ministerial reports on the handling of regional crises, such as storm damages and power failures in 2005-7 (Landesregierung NRW 2010). However, these internal reports did not generate wider attention within Germany's civil security system. The German response to the H1N1 and EHEC epidemics, which generated wide-spread media attention as well as political debates, could be seen as the main exception (Deutscher Bundestag 2011). In the aftermath, professional actors in the health sector and the RKI meticulously documented their actions and worked towards improved coordination, risk assessment and public communication processes (Krause et al. 2010, RKI 2011). This fed into on-going discussions among German emergency professionals on how to revise risk communication strategies to be able to tackle complex emergencies and changing public attitudes (Weinheimer 2011).

### International exchange for Lessons Learned

See under 1.4.3: Reports from other countries are considered and evaluated. LÜKEX exercises, being main source for identifying improvement needs, are partly conducted together with neighbouring countries, e.g. The Netherlands (expert interview).

### Regular policy reviews

There are no regular policy reviews, but they are conducted following specific occasions. One prominent example is the policy change regarding nuclear power energy after the nuclear disaster in Fukushima 2011 (expert interview).

## Resilience

The concept of resilience has recently been discussed intensively in the academic field. Operationally, the concept is not directly applied, but there are approaches to consider this trend, e.g. as described in a “strategy on future topics in technology” (acatech 2014) (expert interview).

* *Do CM organization, local community and private business apply related standards, e.g. ISO 22301 "Business Continuity Management - Requirements" or any other (formal or industrial) standards? Please specify.*

ISO 22301 "Business Continuity Management - Requirements" is applied by internationally operating organisations (expert interview).

## Information sharing and data protection

1.6.1 Please describe whether the country/ IO has adopted specific policies, measures or derogations from EU law with regard to data protection

Standards on data exchange are currently being developed, e.g. the BBK identified a gap regarding XML interfaces for data sharing in bi- or multinational cooperation and is currently working on a related project. By now, there is no legal basis for collecting data on e.g. spots at risk, critical infrastructures, human or material resources. Data exchange happens, but there is no formal regulation for this (expert interviews).

1.6.2 Does the country/IO have registers/databases of volunteers? If yes, under what circumstances can data be used/ shared? e.g. particular capabilities, level of readiness/ availability, contact information

Volunteers are registered with different organisations (see chapter 3.1), where respective information is stored. There is no overall database.

1.6.3 Does the country have or plan to use data gathered from social media during crises? If so how? (e.g. “crowd sourcing” and “crowd tasking”, "citizen as a sensor")

The guideline on crisis communication (only available in German) from the Federal Ministry of the Interior also includes some guidance on the use of social media during crisis (BMI 2014), but in general, the use of social media (Twitter, Facebook) for both information provision and data collection (e.g. track the outbreak of epidemics) remains very limited (Hegemann & Bossong 2013).

It has been an important topic in research, while the actual use is still under development. There is more and more education of personnel, e.g. for spokespersons, who are increasingly under pressure due to quick information that is spread through twitter or other social media (expert interview).

# Legislation

## Crisis (emergency, disaster) management concept

The states are responsible for “peacetime” disasters (see chapter 2.2), and have their own laws on disaster protection. These laws are listed and provided on the BBK website (BBK 2014b).

## General crisis (emergency, disaster) management law

*The following paragraph is mainly taken from the deliverable D2.1 “Report on current CM framework” of the ACRIMAS project[[4]](#footnote-4) (Vollmer et al. 2012):*

The division of power and assignment of responsibilities is defined in the **German Basic Law** (*Grundgesetz,* 1949). Relevant articles are:

* Article 30, 70 ff, 73 (1) no. 1: Division of legislative powers, the states are responsible for governmental tasks as e.g. threat prevention measures, taken by the police and other government agencies.

Threat prevention measures and related legislation (fire prevention, fire services, police) are competence of the states, as long as these do not involve defence/ protecting civilian population against war-related hazards (🡪 “peacetime” disasters, e.g. natural disasters, terrorist attacks). The Federal Government may supplement with wartime equipment that can be used during peacetime (e.g. NBC-Vehicles). Emergency planning in the event of war incl. war-related hazards or threat thereof is competence of the federal state. Wartime measures for Civil Protection are, however, carried out by the states on behalf of the federal government (Article 73 (1)).

* Article 35 (2): States can call assistance of police forces of other states and of personnel and facilities of other administrative authorities, such as the Federal Police, the Armed Forces (Bundeswehr), or the Federal Agency for Technical Relief (THW).
* Article 35 (3): In cases of major natural catastrophes or accidents, the Federal Government may instruct state governments to provide other states with assistance. It also may employ the Federal Police and the Armed Forces to support the states.
* Article 80a (1), Art. 115 a: Emergency laws can be applied in the case of severe tensions, the event of an armed conflict or the threat thereof.

As threat prevention measures (in peace time) are competence of the states, relevant regulations are **laws on state level**. They are listed and provided on the BBK website (BBK 2014b). Some states have separate laws on fire prevention and fire-fighting, rescue and disaster management (e.g. Bavaria), others have a single law that covers all (e.g. Hessen). In addition, the states have legislations on the police.

The **Federal Law on Civil Protection and Disaster Relief (2009)** was enacted to optimize the collaboration between federal and state level in disaster management.

It provides regulations regarding the provision of the states with Civil Protection resources of the federal government and the opportunity of a coordinated disaster management through the federal government.

## Emergency rule

*The following paragraph is mainly taken from the country study Germany, which has been prepared in the context of the ANVIL Project [[5]](#footnote-5) (Hegemann and Bossong 2013):*

Under the German Basic Law, the declaration of a formal state of emergency at the federal level is reserved to internal and external armed conflicts, or serious (and intentional) threats to the ”free democratic order”, and requires a two-third majority in national parliament. In this situation, it is possible to curtail numerous civil rights and expand the role of the federal government, including the deployment of the federal police and the armed forces (Art. 91 and 87a GG). Legal scholars have rejected the view that a natural disaster or a serious accident could qualify as a formal internal state of emergency, except for the unlikely case that an accident or a natural disaster causes situations that are comparable to civil war (Sattler 2008). Due to the absence of such large-scale violent unrest, Germany has hitherto not declared such a state of emergency.

In contrast, a state of disaster can be declared at the level of counties, cities or intermediary administrative districts by the respective chief administrative officers, which does not authorise wide-spread derogation to civil rights or to act outside regular legislative and judicial control (Kloepfer 2007). At the operational level, emergency responders nevertheless enjoy a considerable sphere of discretion. Based on a “blanket clause” (*Generalklausel*) that is typically included in state laws responsible agencies can take all measures they deem necessary for the fulfilment of their crisis management duties, as long as they remain within the confines to normal legal constraints such as the proportionality principle (Musil and Kirchner 2006).

## Specific, department/agency-level legal arrangements and regulations on emergency and disaster management

There are specific working rules (Dienstvorschriften), often not publically available, which define the procedures within the respective organization in case of a crisis (expert interview).

## Specific to the regional and local authorities legal arrangements and regulations on emergency and disaster management

For regulations on state level, see chapter 2.2. Lower levels have not been investigated.

## Legal regulations on the involvement of volunteers and specialised NGOs

Following the Civil Defence and Disaster Assistance Act (ZSKG), rights and duties of helpers in civil protection are generally regulated in the laws on disaster protection on state level (listed and provided on the BBK website, BBK 2014a).

## Legal regulations for international engagements of first responders and crisis managers

On UN level, UN OCHA regulations apply; for EU operations, respective EU regulations apply. Decisions on international engagements are taken by the AA, who requests capacities from different organisations (e.g. THW, German Armed Forces). These organisations provide the respective information, afterwards, the decision is taken, which is often also influenced by political reasons. Insurance is usually organised by the respective organisation (expert interviews).

# Organisation

## Organisational chart

*The following descriptions are mainly taken from the deliverable D2.1 “Report on current CM framework” of the ACRIMAS project[[6]](#footnote-6) (Vollmer et al. 2012):*

Crisis management at national level

At the national level first of all the Federal Ministry of the Interior (BMI), assisted by the Federal Office of Civil Protection and Disaster Assistance (BBK) and the German Federal Agency for Technical Relief (THW) are the core institutions responsible for CM.

The Federal Foreign Office (AA) plays a role in case of crises abroad, which affect German nationals or German interests. The AA is also the national contact point for requests on assistance from third countries. Contact point for requests from the EU Civil Protection Mechanism is the BMI.

During a peacetime disaster affecting several states or a long term crisis the BMI may set up an inter-ministerial coordination group consisting of representatives of the BMI and other Federal Ministries, depending on the type of disaster (typically the contact persons for CM and counter-terrorism). The Federal Ministries are prepared to call up specific task forces at short notice, especially the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), in case of serious threats involving the illegal use of radioactive materials, and the Federal Ministry of Health (BMG), in case of pandemics and bioterrorism (EC 2014; BMI 2012).

The BBK conducts conceptual work on fundamentals in CM, including the evaluation of missions, exercises and findings in research. In addition, the BBK provides operational instruments:

* A Joint Information and Situation Centre (GMLZ) for efficient coordination of large area disasters,
* A web-based Emergency Preparedness Information System deNIS I + IIplus[[7]](#footnote-7),
* A warning centre with a satellite based warning system (SatWaS),
* A Centre for the coordination of aftercare and for support of victims and their relatives (NOAH) (BBK 2014b).

During a military crisis the states are responsible for coordination within their respective areas, although the BMI gives respective orders. The federal planning in this case consists of measures to ensure continuity and social functions (continuity of government, Civil Protection, supply of goods and services, support of the Armed Forces).

The capability for Civil-Military Cooperation (CIMIC) has to be ensured at all ministerial levels, incl. planning, training, exercises. The BBK’s Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ) provides obligatory education for CIMIC personnel of the Armed Forces. Regular discussions of preparations for peace- and war-times disasters between civilian and military authorities are conducted (MSB 2009).

Crisis management at sub-national level

In Germany, the first authority in the event of a peacetime disaster is the cognisant rural district, county or municipality. Respective authorities manage local response assisted by (if necessary) representatives of other authorities, services, organizations. For the technical and tactical execution a director of operation, assisted by a staff composed of the involved organizations and units (e.g. police, fire department, non-governmental organisations, private enterprises) is appointed. In case a disaster exceeds capacities of the local government or affects several districts, the next highest hierarchical authority ensures coordination (MSB 2009).

If needed, a state can call for the assistance of police forces of other states or of personnel and facilities of other administrative authorities, of the Federal Police or the Armed Forces. Also, the Federal Agency for Technical Relief (THW) may be called.

In the “New Strategy on Civil Protection” (enacted in 2002, see above), the states agreed amongst others on standardizing recommendations for command and control structures (e.g. through a common “Fire Services Regulation 100”; guidelines for setting up administrative-organizational task forces) (BMI 2012).

Figure 1 illustrates the role of the different levels of government in Germany in Civil Protection and disaster response:



Figure 1: Organisation of Civil Protection in Germany[[8]](#footnote-8)

In general, Civil Protection and disaster management in Germany is to a high degree based on the availability of people with an honorary post. This leads to a comparatively high degree of tolerance and independence, but also to the fact that the availability of personnel is dependent on preferred recreational activities of the population, which might change over time. Also, the demographic change in Germany will have an impact on the availability of volunteers in the future.

*Main parts of the following are taken from the country study Germany, which has been prepared in the context of the ANVIL project[[9]](#footnote-9) (Hegemann & Bossong 2013), and from the “Vademecum for Civil Protection”, provided by DG ECHO (EC 2014):*

Strict limitations on the military in domestic crises

Due to Germany’s historical experience under Nazi rule, the distinction between internal and external security and between civilian and military forces is deeply encoded. The domestic deployment of the armed forces is confined to especially severe disasters or the hitherto hypothetical scenario of a state of emergency that would be constituted by intentional threats and wide-spread violence. In practice, military assistance has to date been limited to, and not required beyond, short-term technical and logistical support for civilian authorities in response to exceptional natural disasters. The military would not be used for the maintenance of public order or beyond what could potentially be done by civilian responders who maintain overall command.

The role of the military in Germany also exemplifies how legal accountability may be maintained in the face of extreme threat scenarios. The attacks of 11 September 2001 led to calls for the employment of the *Bundeswehr* to protect potential targets, such as government buildings, and assist civil security agencies in the response to attacks, for instance through its CBRN units. The most controversial debates pertained to a law that would have allowed for the shooting down of hijacked airplanes. The Aviation Security Act, which was passed in 2005, was declared unconstitutional by the Constitutional Court only a few months later because it violated the right to life and especially the right to human dignity, which is enshrined in Article 1 of the Basic Law. According to the court, authorities could not pit the dignity of people in a potential target of the plane against the dignity of the people on the plane.

Volunteers; Role of societal/non-profit organisations/NGOs

The German civil security system officially and strongly relies on non-profit relief organisations and their volunteer staff. Their main task is emergency and crisis response through medical, rescue and ambulance services on behalf of public agencies. Most management tasks and everyday emergency services are carried out by professional staff, but volunteers remain essential for membership fees, training, public outreach, and more exceptional crisis management situations. Thus, non-profit organisations are included in all public crisis management structures and exercises, but retain their independent character and have to bear the costs of crisis operations. However, depending on their size and scope of activities, they receive official financial compensation.[[10]](#footnote-10) Despite the continuingly high number of volunteers, voluntary organisations face increasing challenges from various societal trends, as mentioned above.

The most important non-profit actors are the German Lifeguard Association (DLRG), the German Red Cross (DRK), the Order of Malta Ambulance Corps (*Malteser*), the St. John Accident Assistance (JUH), the Worker’s Samaritan Federation (ASB), and the German Maritime Search and Rescue Service (DGzRS). The role of the DRK is illustrative in comparison with other countries. It constitutes a legally privileged actor in some respects, but otherwise closely corresponds to other non-profit actors in Germany. In 2011 the DRK had 3.38 million members with about 400,000 active volunteers (including youth groups) and a professional staff of 140,342 (DRK 2012). It is divided into 19 state associations.[[11]](#footnote-11) There are 513 county branches and 4,609 local branches. Moreover, the DRK distinguishes five special sub-chapters dealing with emergency preparedness, mountain rescue, lifeguard service, youth work and social welfare. The local branches carry the primary responsibility for all operational tasks, including especially ambulance and rescue services. The federal office aims to ensure coordination and coherence (DRK 2012). These chapters are part of a “complex assistance and rescue system” (DRK 2011). The DRK’s emphasis is on crisis response through its emergency and rescue services, but they also contribute to preparedness through research and first aid training (Lange et al. 2012).

In addition, volunteers work in voluntary fire brigades. The German Firefighter Association (DFV) represents the interests of the German fire brigades national-wide and abroad.

Further, important NGO’s are the “[Deutsches Komitee Katastrophen Vorsorge](http://www.dkkv.org/)“ (DKKV), the „[Ständige Konferenz für Katastrophenvorsorge und Bevölkerungsschutz](http://www.katastrophenvorsorge.de/)” (SKK), and the „[Bergwacht](http://www.bergwacht.de/)” (Mountain Rescue Experts).

Role of private/profit-oriented organisations

In the field of the protection of Critical Infrastructures (CIP) as a part of civil protection, Germany closely cooperates with critical infrastructure providers on sectorial as well as on cross-sectorial issues, usually in a less formalized way. Theses providers represent different CI-sectors (e.g. provision of electricity/ energy transmission, rail traffic, financial services, water supply (further information in available in the [National Strategy on CIP (2009)[[12]](#footnote-12).](http://www.bmi.bund.de/cae/servlet/contentblob/598732/publicationFile/34413/kritis_englisch.pdf)

Close cooperation exists in the field of the protection of IT-infrastructure (CIIP, see also the “National Plan for Information Infrastructure Protection”[[13]](#footnote-13)).

Germany has highly developed regime of health and safety regulation as well as more general liability rules to protect employees, citizens, buildings, infrastructures and other privately-owned assets from harm and accidents. In line with EU law, privately-owned sites that can pose wider risks maintain special emergency plans and first response mechanism, such as plant fire brigades. Further market mechanisms for emergency and disaster management (e.g. mandatory insurance against flood) have been suggested, but are not yet part of the German civil security system (Schwarze and Wagner 2008).

In non-regular emergency situations, state actors and security authorities bear responsibility for response operations, but can require private actors to provide additional assistance. This mainly pertains to the granting of priority access to, and maintenance of, essential services or goods. Beyond utility companies (power, water, fuels, telecommunications), this can apply to transport companies, apothecaries and pharmaceutical corporations.[[14]](#footnote-14) The maintenance of stockpiles and the distribution of emergency foodstuff remain an exclusive competence of state actors.[[15]](#footnote-15)

While the restoration of power, transport and infrastructures has been a core mission of the THW since its establishment in the 1950s, state representatives have recognized the need for deeper engagement with private industry in the area of critical infrastructure and cyber-security. Since 2005, related strategy documents call for private inputs to detect new vulnerabilities and ensure the required technological expertise (BMI 2005, 2009b, 2011). Aside from numerous consultation rounds and preventive efforts, a notable result has been the private involvement in a 2011 national civil emergency exercises on cyber-attacks and food crises (Borchers 2011).

However, for the most part public actors maintain a distant approach, whereby private companies are expected to implement additional security measures (BMI 2011b), whereas they receive no direct compensation or influence on security planning. Private companies are also not widely mentioned as security partners for emergency preparedness.

## Organisational cooperation

*Main parts of the following descriptions are taken from the deliverable D2.1 “Report on current CM framework” of the ACRIMAS project[[16]](#footnote-16) (Vollmer et al. 2012):*

Collaboration between national and sub-national levels of administration

In Germany, in case they ask for support, local and regional authorities as well as the states are supported by the federal government with (a) its own operational forces (Federal Agency for Technical Relief (THW), the Federal Police, and the Armed Forces (with limitations as regards the use of weapons)) and (b) services provided by the Federal Office of Civil Protection and Disaster Assistance (BBK) (MSB 2009).

All Civil Protection authorities contribute to the planning, administration, material & resources to the prevention of, disaster management during, and recovery from all kind of disasters as well as during armed conflicts.

Efficient interaction between federal and state CM is practiced in interministerial, interstate exercises (LÜKEX) on a biennial basis (BMI 2012), see also chapter 5.3.

CIMIC (see also paragraph on *Crisis Management at national level* in chapter 3.1) at regional level is ensured by joint planning for regional crisis, local training and exercises (MSB 2009).

An Interministerial Coordination Group provides an important supplement to the setup that coordinates between the state and federal levels in case of threats that affect more than one state over a long period of time (e.g. accidents at nuclear power plants, pandemics and major natural disasters) (BMI 2012).

Collaboration with critical infrastructure providers

See last paragraph in chapter 3.1. Further, the Federal Ministry of the Interior (BMI) provides recommendations (in German) on how to ensure collaboration between crisis management on governmental level and critical infrastructure operators. It presents requirements for governmental institutions as well as the critical infrastructure operators when reacting to and coping with a crisis in order to assure an effective collaboration (BMI 2010).

Bilateral agreements, international assistance and collaboration with the EU

Germany is part of twelve bilateral support agreements (with its nine neighbouring countries plus Latvia, the Russian Federation and Hungary) that in some cases also include joint training and exercises and supports the development of new CM structures in Europe and third states (e.g. China). The agreements are available for download on the homepage of BBK.[[17]](#footnote-17)

The information management for international assistance works as follows:

* In case of requests from the EU Emergency Response Coordination Centre (EERC), the Joint Information Centre (GMLZ) is the national contact point.
* In case of requests from third countries, the Federal Foreign Office is the first contact point.
* The BBK with its Joint Information Centre (GMLZ) provides information about the availability of appropriate resources to the BMI, the Foreign Office and the requesting state (EC 2014).

It is planned, however, to enable requests in the future directly via the BBK without engaging the Foreign Office or the BMI.

In general, Germany opts for the principle of subsidiarity for CM, also on European level. Based on the national approach, Germany advocates similar procedures on EU level: In order to limit coordinative and cooperative hurdles, the management of a crisis should be executed by the authority whose territory is affected. The local management might, however, be supported through provision of personnel and equipment by higher government levels or other EU MSs (BMI 2009).

The Academy for Crisis Management and Civil Protection (AKNZ) of the BBK offers training and education on the basis of the EU training & education system. The GMLZ (see above) operationally coordinates with the EERC (BMI 2009).

In events that require a coordinated response by EU MSs, the Secretariat General of the EU Council calls together the members of the EU Crisis Steering Group. The MSs concerned send their permanent representative or other specially designated representative to this group. Agreements have been made to ensure the flow of information between the Federal Foreign Office, the Federal Ministry of the Interior and other affected ministries as needed (BMI 2012).

Concerning events outside the EU, the THW was, amongst others, engaged in international disaster relief operations in China, Myanmar, Ecuador, Moldavia, Haiti and Japan. The THW provides rapid reaction forces for Search & Rescue operations as well as for water supply. Additionally, further critical resources and experts may be provided. In general, the THW may act upon request of the Ministry of Foreign Affairs, the EU and UN in areas as ad-hoc humanitarian aid, relief and reconstruction (BMI 2009).

The THW is the main public organisation in Germany, which contributes to international emergency operations. In the context of the EERC, it lists 14 specialised units for the EU’s civil protection mechanisms. The THW also regularly contributes to EU exercises and research project. Since December 2006, it has been appointed by the European Commission as coordinator for the EU Exchange of Experts in civil protection (Hegemann and Bossong 2013).

# Procedures

## Standing Operating Procedures (SOPs) and Guidelines

There are SOPs in terms of disaster protection plans (“Katastrophenschutzpläne”) for specific areas, e.g. pandemics[[18]](#footnote-18), nuclear power (emergency plans), or mass casualty incidents (expert interview).

These specific plans for special disaster situations like storm surges supplement the normal disaster contingency plans (see 4.2). For this, states request plans for supporting the state disaster management from the local authorities[[19]](#footnote-19).

## Operations planning

The report on Germany[[20]](#footnote-20) conducted in context with the “Outline for national reporting and information on disaster reduction for the World Conference on Disaster Reduction” (Kobe-Hyogo, Japan, 18-22 January 2005) states that there are disaster contingency plans in place at Länder (states) level. Each Land has its own law and its own plan. Lower Saxony for example, has a uniform structure for plans, which have to be developed by all disaster relief agencies, containing relevant contact persons, materials, capacity in hospitals and assignment of relief units. This common structure enables the collective coordination at state level.[[21]](#footnote-21)

## Logistics support in crises

*Main parts of the following descriptions are taken from the country study Germany, which has been prepared in the context of the ANVIL project[[22]](#footnote-22) (Hegemann and Bossong 2013):*

With regard to emergency *logistics*, German authorities can utilise, but also have to protect a very dense network of road, rail, water and air transportation. Respective federal regulatory authorities (e.g. the German Authority for Freight Transport) maintain links with the BBK through the web-based Emergency Preparedness Information System deNIS (see chapter 3.1). The decentralised organisation of the civil security system adds a layer of resilience, as emergency response capacities do not regularly have to be brought in over long distances. The THW adds substantial logistical capacities for disaster management, including sixty-six specialised logistic units at the regional level (THW n.d.). In especially severe crises, the German army may provide additional logistical help through its so-called territorial network (Baumgard 2012), as has been the case during the 2002 Elbe flood. Additional legal provisions allow for the requisition of private actors for logistical purposes, for example up to 12,000 trucks from freight companies (Bundesamt für Güterverkehr 2009), but have not been used at the federal level to date.

## Crisis communication to general public; Alert system; Public Information and Warnings

The Federal Ministry of the Interior (BMI) provides a guideline on crisis communication (only available in German, BMI 2014). Main goal of this guideline is to mentally instruct responsible personnel in agencies and companies for planning crisis communication. The guideline encompasses instructions on how to develop a crisis communication plan (BMI 2014).

In general, the responsible institution (depending on the type of crisis, see under 3.1) is also coordinating crisis communication to the public, while actually a “one-voice policy” applies. This policy is not always followed (expert interview).

*Main parts of the following are taken from the country study Germany, which has been prepared in the context of the ANVIL project[[23]](#footnote-23) (Hegemann and Bossong 2013):*

German security organisations are in the process of transforming their emergency *communication* system, which can be summarised under three components. First, the German emergency law on telecommunication and postal services foresees prioritised access and special capacities for emergency responders. Since the end of the Cold War, the activation threshold has been lowered from a formal state of emergency to natural or technological disasters and terrorist attacks. Second, German security actors aim to integrate their different analogue radio networks, which experienced severe capacity limits during the major 2002 Elbe flood, into an integrated digital communication system. The introduction of the system is overseen by the newly created Federal Agency for the Digital Radio of Agencies and Organisations with Security Tasks (BDBOS).[[24]](#footnote-24) Third, the BBK created the central web platform deNIS[[25]](#footnote-25) (see chapter 3.1) that is directed to emergency professionals as well as the general public. The network provides a wealth of general information on crisis management, but also up-to-date situation assessments and sector-specific warning and communication platforms.

**Communication to the general public**

According to a Eurobarometer poll for September-October 2009, 27 percent of the respondents felt informed about disaster preparedness and 34 percent about disaster response (European Commission 2009). This reflects a lack of interest among the public as well as of pro-active strategies of civil security agencies. Administrative and political actors at each level of government are responsible for the information of citizens regarding threat levels and impending crises, supported by different emergency services and specialised bureaucracies, such as the BBK. The nation-wide system of alarm sirens, whose main purpose was to warn citizens in the case of war, has been gradually deconstructed since the end of the Cold War. In 2001, Germany instead created the satellite-based system SatWaS to send priority alarm messages to participating news agencies, TV and radio stations as well as to the specialised electronic networks for security authorities (BBK n.d.). The increasingly coordinated, targeted and effective activation of different communication systems should transform SatWaS into MoWaS[[26]](#footnote-26), the modular warning system, which should improve coordination across Germany and use a targeted mix of communication channels to maximise effectiveness (Tiesler 2010).

While large-scale TV and media campaigns are not undertaken, actors in the German civil security system seek to improve their information provision on both preparedness and response management via the internet. The publicly accessible online platform deNIS (see above/ chapter 3.1), offers information on current crises, crisis preparedness and response capacities and behavioural guidelines for concrete emergency situations. In addition, several web-based platforms offer news on water levels and the threat of floods[[27]](#footnote-27) or the risk of forest fires[[28]](#footnote-28). The use of social media (Twitter, Facebook) for both information provision and data collection (e.g. track the outbreak of epidemics) remains very limited.

# Capabilities

## Human resources

The number of relief personnel in Germany is approx. 3 million in total. The voluntary fire brigades account for approx. 1.2 million, medical personnel for 1.2 million, the THW for 80.000, and the Police for 600.000 (expert interview).

Concerning volunteers, non-profit organisations can draw on about 520,000 active volunteers, many of which contribute a substantial number of service hours per week. Volunteer figures or estimates provided by individual organisations are as follows: the German Lifeguard Association (DLRG) has 40,000 active members (DLRG 2011), the German Red Cross (DRK) 401,113 (DRK 2012), the Order of Malta Ambulance Corps (Malteser) 35,000 (Malteser 2012), the St. John Accident Assistance (JUH) 29,738 (Die Johanniter 2012), the Worker’s Samaritan Federation (ASB) 12,559 (ASB 2011) and the German Maritime Search and Rescue Service (DGzRS) 800 (DGzRS n.d.)[[29]](#footnote-29) (Hegemann and Bossong 2013).

For education and training of human resources, see chapter 5.3.

## Materiel (non-financial) resources

No specific numbers on material resources are publicly available. The number would be a sum of declarations from several institutions, while official governmental numbers would probably not reflect real numbers, as the latter should be much higher than the expected official numbers resulting from the expenses of the country/states. Since there is a long history of high volunteer involvement in Germany, many local groups of such volunteers often have way more materiel resources at their disposal than financed by the states or country resulting from donations (expert interview).

## Training

Training

The Federal Office of Civil Protection and Disaster Assistance's (BBK) Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ) in Bad Neuenahr-Ahrweiler is responsible for the training of senior civil protection experts in Germany. It is the only training institution in Germany, which brings together experts up to the political level from all actors involved in national emergency management, i.e. armed forces, intelligence services, the police and civil protection and critical infrastructures. In addition, the AKNZ is involved in the training activities at EU level, inter alia running the "High level Coordination Course" under the EU Civil Protection Mechanism (EC 2014).

The Federal School of the Federal Agency for Technical Relief with its two headquarters situated in Hoya and Neuhausen provides practical and theoretical training for its specialists and executive staff. The school in Neuhausen provides also training at EU as well as at UN level (example: the "Operational Management Course" within the framework of the EU Civil Protection Mechanism.

All states provide training for fire-fighters in their respective schools for fire brigades (in total 19 schools).

Specialists and executive staff of the relief organisations are trained in the respective schools of each relief organisation (ibid.).

Further, AKNZ provides obligatory education for CIMIC personnel of the Armed Forces (MSB 2009), see chapter 3.1.

Exercises

The AKNZ is also in charge of civil protection exercises at national level. A biannual series of National Crisis Management Exercises (LÜKEX) is organised following the "Zivilschutz- und Katastrophenhilfegesetz" law. LÜKEX stands for 'Länder Übergreifende Krisenmanagement-Übung/Exercise' (National Crisis Management Exercise). LÜKEX is structured as a strategic staff framework exercise, i.e. it is not a complete exercise. During the execution phase, up to 3,000 persons from the crisis staff of the core states and other participants (the so-called framework management) are involved in the exercise. Periodical exercises are organised at regional and local levels (EC 2014).

Further information on LÜKEX is available (also in English) in a respective flyer[[30]](#footnote-30) provided on the BBK website (BBK 2013).

Also some of the bilateral agreements as described in chapter 3.1 include joint training and exercises.

## Procurement

### Procurement regulation

Basically, the public procurement law („Vergaberecht“) applies. It comprises all regulations and directions that public agencies have to follow when procuring material resources and services needed to fulfil its function. It also includes regulations that define rights of bidders, when procedural rules have been broken in the procurement process.

There is not a lot of joint (cross-border) procurement, which is usually also not wanted in Germany. Reason is the principle of subsidiarity that Germany ops for (see also chapter 3.1). Thus, also additional legislation with regard to cross-border procurement is not wanted, as this would increase EU power and decrease MS’s power (expert interview).

### Procurement procedures

Responsible agency is the Federal Interior Ministry Procurement Office (Beschaffungsamt des Bundesministeriums des Innern), with its different departments. Depending on what is procured, for IT issues the Federal Office for Information Security (BSI) can be involved as well (expert interview).

## Niche capabilities

Niche capabilities of interest to the EU could be available helicopters for disaster response in case of forest fires, C3 (Command, Control & Communication) forces including respective experts, drinking water provision, and the Centre for the coordination of aftercare and for support of victims and their relatives (NOAH) from the BBK (expert interview).

# Resources

## Legislative acts

*Grundgesetz für die Bundesrepublik Deutschland (German Basic Law, 23.05.1949)*

*Zivilschutzgesetz – ZSG (Civil Defense Act)*, <http://www.bbk.bund.de/SharedDocs/Downloads/BBK/DE/Gesetzestexte/Zivilschutzgesetz.pdf?__blob=publicationFile> (Accessed November 13, 2014).

*Gesetz über den Zivilschutz und die Katastrophenhilfe des Bundes (Zivilschutz- und Katastrophenhilfegesetz - ZSKG)*<http://www.bbk.bund.de/SharedDocs/Downloads/BBK/DE/FIS/Zivilschutz-Katastrophenhilfegesetz.pdf?__blob=publicationFile> (Accessed November 14, 2014).

## Other normative acts

*Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, Official Journal of the European Union C 306 (2007):* [*http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2007:306:SOM:EN:HTML*](http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2007:306:SOM:EN:HTML)

## Official documents (white papers, strategies, etc.)

Bundesamt für Bevölkerungsschutz und Katastrophenhilfe – BBK (2010a): Neue Strategie zum Schutz der Bevölkerung in Deutschland. 2. Auflage. Wissenschaftsforum, Band 4. Bonn.

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Bundesministerium des Innern – BMI (2005): *Nationaler Plan zum Schutz der Informationsinfrastrukturen (NPSI)*. Available at <http://www.bmi.bund.de/cae/servlet/contentblob/121734/publicationFile/13577/Nationaler_Plan_Schutz_Informationsinfrastrukturen.pdf> (Accessed December 21, 2014).

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Bundesministerium des Innern – BMI (2011): *Cyber-Sicherheitsstrategie für Deutschland*. Available at <http://www.bmi.bund.de/SharedDocs/Downloads/DE/Themen/OED_Verwaltung/Informationsgesellschaft/cyber.pdf?__blob=publicationFile> (Accessed December 21, 2014).

Bundesministerium für Bildung und Forschung (2014): Research Programme for Civil Security, <http://www.bmbf.de/en/11773.php> (Accessed November 13, 2014).

Deutscher Bundestag (2011): *Antwort der Bundesregierung auf die Kleine Anfrage der Abgeordneten Nicole Maisch, Friedrich Ostendorff, Birgitt Bender, weiterer Abgeordneter und der Fraktion BÜNDNIS 90/DIE GRÜNEN: Strukturelle und kommunikative Konsequenzen aus der EHEC-Krise*. Drucksache 17/6911.

Deutscher Bundestag (2013): Unterrichtung durch die Bundesregierung. Bericht zur Risikoanalyse im Bevölkerungsschutz 2013. Drucksache 18/208. <http://dip21.bundestag.de/dip21/btd/18/002/1800208.pdf> (Accessed November 12, 2014).

## Online resources (e.g. websites of key CM organizations)

Badische Zeitung (2013): Insgesamt 8 Tote bei Hochwasser – Weiter Gefahr von Deichbrüchen. <http://www.badische-zeitung.de/nachrichten/panorama/insgesamt-8-tote-bei-hochwasser-weiter-gefahr-von-deichbruechen--72691971.html> (Accessed November 11, 2014)

Bundesamt für Bevölkerungsschutz und Katastrophenhilfe – BBK (2014b): *Rechtsvorschriften der Länder zum Katastrophenschutz*. <http://www.bbk.bund.de/DE/Service/Fachinformationsstelle/RechtundVorschriften/Rechtsgrundlagen/Bundeslaender/bundeslaender_node.html> (Accessed November 14, 2014).

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Borchers, D. (2011): LÜKEX 2011: Deutschland wehrt sich gegen Cyber-Angriffe. *Heise Online,* [online] 2 December. Available at <http://www.heise.de/newsticker/meldung/LUeKEX-2011-Deutschland-wehrt-sich-gegen-Cyber-Angriffe-1388833.html> (Accessed December 21, 2014).

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## Expert interviews

Federal Office of Civil Protection and Disaster Assistance (BBK), October 2014

Federal Agency for Technical Relief (THW), November 2014

1. Outline for national reporting and information on disaster reduction for the World Conference on Disaster Reduction (Kobe-Hyogo, Japan, 18-22 January 2005), Report Germany 2004, <http://www.unisdr.org/2005/mdgs-drr/national-reports/Germany-report.pdf> [↑](#footnote-ref-1)
2. Analysis of Civil Security Systems in Europe, <http://anvil-project.net/> [↑](#footnote-ref-2)
3. Even though civilian actors needed to be temporarily reinforced by military units. It may be noted that the president of the investigative committee, Kirchbach, was the chief military commander that supported the response to the Elbe flood. [↑](#footnote-ref-3)
4. Aftermath Crisis Management System-of-systems Demonstration Phase I, <http://www.acrimas.eu/> [↑](#footnote-ref-4)
5. Analysis of Civil Security Systems in Europe, <http://anvil-project.net/> [↑](#footnote-ref-5)
6. Aftermath Crisis Management System-of-systems Demonstration Phase I, <http://www.acrimas.eu/> [↑](#footnote-ref-6)
7. <https://www.denis.bund.de/> [↑](#footnote-ref-7)
8. *The public alert system in Germany, Dr. Miriam Haritz, Head of the president‘s Office BBK: 8th GESA Conference in cooperation with EURALARM, Brussels, 16 June 2011*. (taken from the ACRIMAS deliverable 2.1 Report on CM framework) [↑](#footnote-ref-8)
9. Analysis of Civil Security Systems in Europe, <http://anvil-project.net/> [↑](#footnote-ref-9)
10. That is, in addition to organizational membership fees. Regular emergency services are also paid for, such as by health insurances. [↑](#footnote-ref-10)
11. There are two organisations for Baden-Württemberg, North-Rhine Westphalia, and Lower Saxony respectively due to historic reasons. [↑](#footnote-ref-11)
12. <http://www.bmi.bund.de/cae/servlet/contentblob/598732/publicationFile/34413/kritis_englisch.pdf> [↑](#footnote-ref-12)
13. <https://www.bsi.bund.de/SharedDocs/Downloads/EN/BSI/Kritis/National_Plan_for_Information_Infrastructure_Protection.pdf?__blob=publicationFile> [↑](#footnote-ref-13)
14. For legal bases, see Kloepfer (2009). [↑](#footnote-ref-14)
15. This traditional aspect of civil defence planning is regularly criticised, but has not been replaced by public-private partnerships. It is also worth mentioning that oil companies are to maintain a strategic stockpile of gasoline, whereas strategic gas reserves (for heating and power generation) are based on a voluntary agreement among corporations. [↑](#footnote-ref-15)
16. Aftermath Crisis Management System-of-systems Demonstration Phase I, <http://www.acrimas.eu/> [↑](#footnote-ref-16)
17. <http://www.bbk.bund.de/SharedDocs/Downloads/BBK/DE/FIS/DownloadsRechtundVorschriften/Katastrophenhilfeabkommen/Gesamtliste%20der%20Abkommen.pdf?__blob=publicationFile> [↑](#footnote-ref-17)
18. E.g. national plan on pandemics: [http://www.rki.de/DE/Content/InfAZ/I/Influenza/Pandemieplanung  
    /Nationaler\_Influenzapandemieplan.html](http://www.rki.de/DE/Content/InfAZ/I/Influenza/Pandemieplanung/Nationaler_Influenzapandemieplan.html) [↑](#footnote-ref-18)
19. Outline for national reporting and information on disaster reduction for the World Conference on Disaster Reduction (Kobe-Hyogo, Japan, 18-22 January 2005), Report Germany 2004, <http://www.unisdr.org/2005/mdgs-drr/national-reports/Germany-report.pdf> [↑](#footnote-ref-19)
20. see 19 [↑](#footnote-ref-20)
21. <http://www.mi.niedersachsen.de/portal/live.php?navigation_id=14969&article_id=62914&_psmand=33> [↑](#footnote-ref-21)
22. Analysis of Civil Security Systems in Europe, <http://anvil-project.net/> [↑](#footnote-ref-22)
23. Analysis of Civil Security Systems in Europe, <http://anvil-project.net/> [↑](#footnote-ref-23)
24. Further information (in German), e.g. on legal basics and state of play regarding the successive introduction of the system, is available at the BDBOS website <http://www.bdbos.bund.de/DE/Digitalfunk_BOS/digitalfunk_bos_node.html> . [↑](#footnote-ref-24)
25. https://www.denis.bund.de/ [↑](#footnote-ref-25)
26. http://www.bbk.bund.de/DE/AufgabenundAusstattung/Krisenmanagement/WarnungderBevoelkerung/Warnmittel/MoWaS/MoWaS\_einstieg.html [↑](#footnote-ref-26)
27. http://www.hochwasserzentralen.de/ [↑](#footnote-ref-27)
28. http://www.dwd.de/waldbrand [↑](#footnote-ref-28)
29. It needs to be underlined that the accuracy of these estimates is also affected by the fact that many organisational members may be passive or fulfil other social services beyond civil security and emergency management (e.g. regular care and social support for disadvantaged people). [↑](#footnote-ref-29)
30. <http://www.bbk.bund.de/SharedDocs/Downloads/BBK/DE/Publikationen/Broschueren_Flyer/Fremsprach_Publikationen/Luekex_englisch-flyer.pdf?__blob=publicationFile> [↑](#footnote-ref-30)