Urban Resilience and Crisis Management
Global to local security topics for future collaboration

French-German Expert Working Groups
22/23 November 2017, Cologne, Germany, TH Köln

Summary
Fekete, A.; Després, C., TH Köln, 2017

Workshop Series Organisers:

Bundesamt für Bevölkerungsschutz und Katastrophenhilfe (BBK)

Centre d’études et d’expertise sur les risques, l’environnement, la mobilité et l’aménagement (Cerema)

Ministère de l’écologie, du développement durable et de l’énergie - Service de défense, de sécurité et d’intelligence économique (MEDDE/SDSIE)
Ministère du logement, de l’égalité des territoires et de la ruralité (MLET)

Technische Hochschule Köln,
Institut für Rettungsingenieurwesen und Gefahrenabwehr (IRG)

Université de Lyon, Collegium de Lyon
**Goal and organisation**

This workshop in Cologne is the continuation of a French-German cooperation of experts meeting in Lyon (2016) to discuss the latest developments and demands of security and risk topics. The overarching topic of the first and this second workshop is **urban resilience and crisis management**. Man-made and natural hazards such as industrial accident, sabotage, technical failure, terrorist attacks or climate change extreme events such as heat waves, floods or storms impact on society. At an urban level, these hazards interplay with density of people and cultural and economic values exposed, however, the risk is exacerbated by different compositions of vulnerability and resilience.

Preparation for crisis is key to enable swift yet sensible reaction during a crisis. The workshop looked at recent emerging risks with a focus on resilience as a means of various abilities crucial for society and decision-makers to navigate through a crisis. While risks constantly change, cooperation must be fostered between neighbouring states such as France and Germany. Especially due to the differences in language, experience and organisation, learning from and with each other is beneficial for both countries.

On the first day, recent research and policy and security challenges were discussed. On the second day, the topics were narrowed down to three specific aspects and discussed in working groups. Especially, since global security as well as resilience are such broad concepts.

**Working Groups – Second day:**
- Global security challenges
- Societal and technological change and its impact on crisis management
- Resilience and vulnerability concept and methodology advancement

However, in addition there are cross-cutting topics that guided the discussions of all three key topics. The main cross-cutting topic is the current guiding document of the United Nations – the **Sendai Framework for Disaster Risk Reduction (SFDRR)**. The workshop analysed, how specifically a French-German cooperation can contribute to and boost the targets of the Sendai Framework. This includes the main question and future task that will trickle down from the UN level to the countries and local regions in the coming years; how to put this into action? How can a) better risk knowledge, b) risk governance c) investments by the economy and d) building back better after disasters be monitored and implemented in French and German regions?

24 experts from France and Germany participated in a direct and intensive exchange of state-of-the-art scientific knowledge and real-world experiences. As already practiced at the first workshop, the participants were scientists and decision-makers in policy and practice.
3 Agenda

1. Day: 22 November 2017 (Open to registered visitors)
   Location: Senatssaal, TH Köln, Claudiusstr. 1
   Main entrance, second floor

   13:00 Opening Statement and Workshop Introduction A. Fekete)
   13:15 Opening Statement and Workshop Introduction (C. Després)
   13:45 Wrap-up of outcomes from last workshop (Guezo/Weichselgartner)
   14:15 Introduction of participants and brief statements of interests

   14:45 Short introduction to the topic (Després, Mocilnikar) and open discussion: Global security topics relevant for national risk governance

   16:15 Break and Finger Food Buffet

   16:45 Short introduction to the topic (Fekete) and open discussion: Current risk, security and resilience challenges - Identifying key messages of the workshop to the Sendai process

   18:00 Closure
   20:00 Joint Dinner in the city

2. Day: 23 November 2017 (Open to registered visitors)
   Location: Rotunde, TH Köln, Claudiusstr. 1, Köln

   09:00 Welcome and Introduction to group sessions
   09:30 Parallel Working Group Session
      WG1 - Global security challenges (Racine)
      WG2 - Societal and technological change and its impact on crisis management (Fekete)
      WG3 - Resilience and vulnerability concept and methodology advancement (Guezo/Weichselgartner)
   11:00 Plenary Session: Presentations by moderators (5-10 min each) and Documentation of key messages
   12:00 Roadmap of Next Activities and Closing Statements (C. Després, A. Fekete)
   13:00 Small buffet and departure of Participants
Content in Detail

Global to local security topics for future collaboration

What are recent security threats and actions that do concern crisis management at national level, but also trickle down to civil protection authorities and city departments at the moment? How do terrorist attacks, cyber threats, even hybrid warfare, epidemics and other hazards and threats change to given suite of risks so far? What are the differences to ‘traditional’ risks such as natural hazards, mass casualties, technical accidents and how can crisis managers find ways to continue actions in these still relevant fields with ever changing, ever upcoming novel threats and risks? How does resilience as a concept help or hinder?

Societal change and its impact on crisis management

Demographic change, migration, mobility and changes in life patterns but also conflicting political and cultural ideologies constantly push transformation processes. Technological change such as industry 4.0, internet of things, usage of social media, drones and robotics all contribute to changes that first affect society in general, but second, crisis and disaster management as well. Challenges include how to deal with multiple societal and cultural groups but also, how staff numbers and staff skills in crisis management and disaster relief organisations can be maintained and adjusted to recent and future demands.

Selected key challenges

- Increasing job mobility and changing working hours resulting in less availability for volunteer jobs such as fire brigades or relief organisations
- An aging population resulting increasing numbers of vulnerability to specific hazards such as heat waves
- Increasing usage of social media and speed of unguided information spread posing a challenge to established civil protection authorities
- Cascading effects of hacker attacks or weather storm damages to an increasingly interconnected IT, logistic chain or (smart) energy supply.
- ...

Resilience and vulnerability concept and methodology advancement

While resilience and vulnerability have become established concepts in context to disaster risk research, applications are still missing.

Selected key challenges

- Resilience concepts that do not overlap with vulnerability criteria
- Integration and advancement of risk and security concepts and methods through resilience
- Examples of semi-quantitative resilience indicators
- Qualitative resilience assessments
- Interrelating individual and societal level assessments
Feedback on the French-German Workshop in Lyon in September 2016

“Urban Resilience and Crisis Management Global to local security topics for future collaboration”

The following points were discussed in September 2016:
- First challenge for resilience: connected stakeholders working at different scales.
- How to link functional approaches (professionals mainly) and territorial management (local stakeholders)?
- How to integrate a multidisciplinary approach?
- How to link with population?
- How to deal with new technologies?

Once the various people involved have expressed the desire to work together, a question arises: how to organise this co-operation? For this, it will be necessary to identify the main subjects which the people involved want to go into in greater depth together. A link has to be provided between the various subjects under discussion, the projects and the people involved. Networking also requires a scientific function and technical coordination to act as a catalyst. This coordination must also encourage cohesion between stakeholders. Cooperation requires resorting to people who have a global (in the sense of ‘comprehensive’) vision of the situation, enhancing the complementary features of each, their skills and special characteristics.

The Workshop aims at making the collaborative projects part of a strategic vision. A strategic vision helps to identify potential issues, which represent a series of “key challenges”. Political decision-makers, engineering departments, network administrators and users are rarely asked to collaborate. It is therefore necessary to create a more transverse culture. The participants of the workshop considered that it is essential to include the largest number of stakeholders including civil society in the cross-border and multi-sectoral approaches.

During the seminar, the need to create a French-German bilateral pilot group was identified as the first stage to implement the project. This pilot group would include some people from different sectors and of different nationalities, with the aim of building some kind of associative structure. One proposed way to develop cooperation was to build a French-German core-group with the aims:
- to support partnerships
- to link with European level
- to widen the network to other European countries

# Participant list

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Annexes

Outcomes of the three working groups

WG 1 Global security challenges

The working group 1 centred its discussion around three main questions:
1.1 What is global transition of our world?
1.2 What is characteristics of new challenges and risks?
1.3 What is the new approach with which we want to meet theses challenges?

According to guiding question 1.1, a list has been created of examples of transitions and challenges:
- Climate
- Natural
- Economic
- Financial
- Mobility
- Diseases
- Way of Life
- Social relations
- Demography
- Geopolitics
- Resource scarcity

According to guiding question 1.2 the following characteristics of new challenges and risks were identified:
- Hybrid risks
- Geographical extension of risks
- Gravity of impacts, severity
- Unknowns risks
- Increased ambiguity

According to guiding question 1.2 the following new approaches for meeting theses challenges were identified:
- New security demand, increasing
- Systemic approach
- Local territorial approach; all-actors
- Co-production, involving populations
- Multi-scale approach; time and space
- Multi-disciplinarity, transdisciplinarity
- Resiliency
- Matching all phases of risk management
- Quality of governance
WG 2. Societal and technological change and its impact on crisis management

Topics of interest in relation to societal and technological change
- People staying at home needing medical care
- Spontaneous volunteers
- New topics in crisis management: companies
- Remote sensing, drones, robotics
- Globalisation, migration
- Psychosocial crisis management: change in resources, social media competence; as a social question, not (only) a technical
- Technological hazards and cascading effects, stopping chain of reaction as complementing natural hazards
- People using social media in crisis (flooding), reporting safety
- Industrial disaster; risk perception
- Social media, collect and extract information, visual information, geo-data; but also inform people
- Cyber-dependency in a crisis: decision-making systems and organisational

From this range of topics, Social media and cascading effects were then discussed in detail

Clarification of the term „social media“:
- Social media are not just technologies
- But also (a small part of ) social support networks. And civil society.
- Social media is also information distribution but also how people interact.
- Not all people have it

Which cascading effects could be related to social media?
- What happens if (the technical) networks shuts down?
- What happens if (the social) networks shuts down? (Example of Munich shootings 2016, „panic‘ triggered by social media)

Informing and saving people
- Case of self reporting „I am safe“
- If many people report the same thing, how can the development be guided?
- More functions needed to report on incidents.
- Thresholds to trigger alarm; can that be better organised?
- Need to verify and control media flow.
- Communication flows and control
- Problem of one-way and top-down information dissemination
- Two-way approach needed: add education of young people to utilise / deal with information
- Fake news was a motivation to take this more into account
- Old-fashioned may of top-down information distribution. Is controllable.

Special topics and organisations emerging in both France and Germany:
Germany: VOST Team, also in France, and using VGI
VOST: Virtual Operations Support Teams
VGI: Volunteered Geographic Information
Was it any different before the social media age?

- Complaints about bad quality of information even form authorities even using just paper
- Social media technology speeds it up
- Also a problem of misuse and interest groups
- What happens in a big catastrophe, when this technology is interrupted? (cascading effects)
- Testing of sirens and systems needed to raise awareness of possibilities of crises
- Technical systems not updated for several years. Differences between suburbs
- More education needed. All types of experts and settings and people

The final common finding was, that we have to include other competencies – from different fields

WG 3 Resilience and vulnerability concept and methodology advancement

The French national framework for vulnerability to floods

Common framework presented for floods
- Cerema provides a tool for decision-makers, used in France, usage connected to funding.
- Objectives: save people, reduce damages, improve recovery
- Different structures in France and Germany: Institutional structures, framework, responsibilities

There was a discussion in working group on this framework as an example of the link in France between European directive on the assessment and management of flood risks (2007), French institutional policy process (2010-2021) and the development and technical tool and method by Cerema to evaluate vulnerability to floods (2015-2016). The development of this tool needed governance of the project (a national monitoring committee), partnership for example with IAU (Urbanism institute of the Parisian area) and with the City of Vichy to experiment the tool and develop it further. The users of this framework will be local authorities.

The French workshop in Lyon in October 2017 deals with dreaded crisis, expected resilience and milestones

Report from workshop Cerema in France 2017
- Scenarios, cascading effects in a multi-disciplinary approach
- It seems to be a challenge in Germany to bring different institutions together or make usage of a tool or framework mandatory

There was a discussion in working group on this workshop that gathered 40 participants with various profiles:
- French Ministry of Ministry of Ecological Transition and Solidarity
- State services at a supra-regional level
- State services at local level
- Local authorities
- Universities and High Schools : Strasbourg, Savoie, Saint-Étienne, ENTPE, EISTI
- Experts: forest fire, snow, flash floods, slow floods, land collapse, industrial risks.
- Private and public experts: energy, transportation, urban logistic, crisis management, resilience.

It has dealt with four typical configurations of crisis mobilizing in a different way the resilience:
- Urban system locally affected by a shock produced by a natural or technological hazard, of natural or anthropic origin.
- Extended pools of life and activities likely to be strongly impacted by a progressive effect hazard.
- Urban system faced with a misidentified hazard posing the issues of precaution, more than that of risk management, and the systemic effects potentially generated by the measures taken.
- Urban area affected by the disruption of one or more vital infrastructure(s).

The discussions focused on four types of possible responses.
- Resp 1: Construction of a response to imminent danger in a situation of strong urban issues, a response that can mobilize counter-intuitive options
- Resp. 2: Modeling and digitization: possibilities and limits; temporalities of use.
- Resp. 3: Mobilization of the actors.
- Resp. 4: Put slow, harmful processes on the agenda of crisis prevention.

There will be a Cerema report and a presentation in the magazine Préventique.

Organisation Committee

While the first workshop in Lyon was organized by Juergen Weichselgartner (Collegium de Lyon) and Bernard Guézo (Cerema), the local organizers of this follow-up event are Alexander Fekete (TH Köln - University of Applied Sciences, Institute of Rescue Engineering and Civil Protection) and Christian Després (French Ministry of the Environment, Energy and the Sea / Defense, Security and Economic Intelligence Service), though both institutions in France as well as the German Federal Office of Civil Protection and Disaster Assistance (BBK) support the organization of the workshop in Cologne.

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