

Risk perception and emergency food preparedness in Germany

GFS-FSR/OECD-CRP Sponsored Food System Resilience Conference

Martin Banse and Josef Efken – Thünen Institute of Market Analysis



Legal mandate: Emergency food preparedness

Emergency nutrition preparedness: state of play and challenges

What is emergency food preparedness?

- The sum of all measures taken to manage nutrition supply crises, regardless of what triggered them.

Possible triggers:

- Military crisis
- Terrorist attacks, e.g. release of animal disease pathogens
- Natural disasters (e.g. floods, extreme snowfalls, storms)
- Failure of critical infrastructure (e.g. electricity supply, internet, pandemic)
- Accidents in industrial plants (e.g. nuclear power plant accidents, chemical industry)

Emergency food precautions - Origin

Military threats (e.g. Cuban Missile Crisis)

- 1965 Enactment of the Security Acts (food, water, economy, transport)
 - Ensuring the supply of the civilian population and the armed forces in the event of defense

Civil hazard situations

- 1986 Chernobyl reactor accident
 - need for regulation of supply problems in peacetime

Current state of research



Research projects/studies with a focus on emergency food preparedness

- **Critical Infrastructure Protection - Food Security Study (2010-2011)**
- **Review of legislative reform needs in food security (2011-2014)**
- **Study on food storage for crisis situations (2012/13)(not public)**
- **New Emergency Food Preparedness Strategies (NeuENV) (2012-2015).**
- **Simulation-based decision support for cross-actor crisis management in food supply disruptions (SEAK) (2013-2014)**
- **Comparative vulnerability assessment of food supply in OECD countries in the event of major emergencies (VVL-OECD) (2015-2017)**
- **Scalable Emergency Logistics for Urban Areas as a Public-Private Emergency Collaboration (NOLAN) (2018-2022)**

Research projects/studies with a focus on emergency food preparedness

Topics worked on:

- Legal issues
- Precautionary behaviour of the population, private stockpiling, risk communication/ government recommendations
- State stockpiling/ alternatives
- Crisis/emergency logistics
- Exchange of information/preparedness and crisis management in a network of authorities and companies

Integration of all stages of the supply chain



Risk analysis: Key recommendations for action Emergency Food Preparedness

Increase stockpiling in households to bridge bottlenecks

Create preconditions to cope with crisis situations

- Establish central food distribution points for the provisional supply of the population.
- Give priority to supplying the population with ready-to-eat food.
- Accompanying government measures to secure the food supply in the affected areas as well as the preservation of livestock
- Supply of markets with fuel for emergency generators (taking into account competing needs)
- Priority fuel supply for food and feed transports
- Organisation of temporary emergency power supply for milking parlours
- Granting of special permits (e.g. extension of driving hours, makeshift food sales/drop-off points, lifting of regulations on shop opening hours).

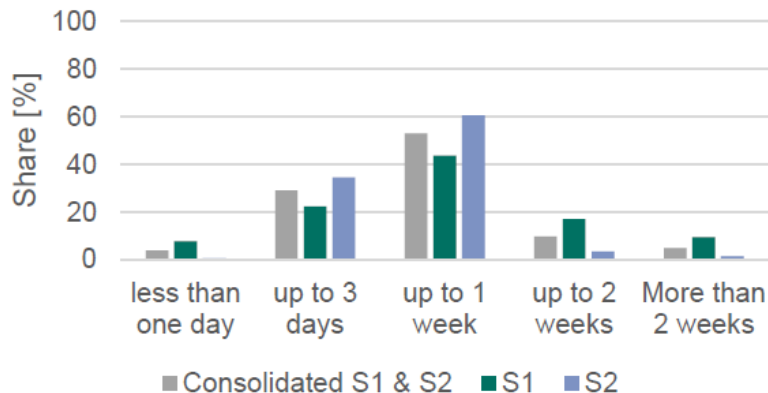
Nolan Project: Scalable emergency logistics for urban regions as a public-private partnership in the event of disaster

Overarching project goals

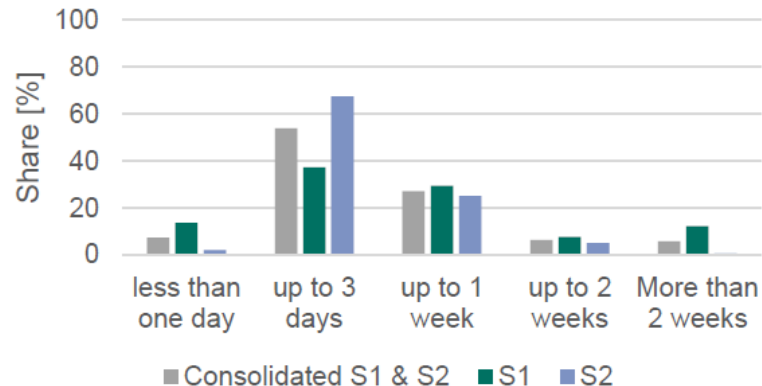
- Identification of a structure for a public-private partnership in the event of a disaster
- Model-based analysis of commercial, humanitarian supply chains, taking into account legal admissibility
- Design of escalation levels and scenarios for a scalable emergency logistics concept

Survey on stockpiling (preliminary results)

Stockpiling milk and dairy products



Stockpiling meat, fish and eggs



Survey results indicate:

- Majority of respondents do not stockpile in the sense of the recommendations
- They are unable to provide for themselves for up to 2 weeks in the event of a disaster
- Large households (>4 persons) have lower stockpiling than households with a smaller number of persons

Source: Lüttenberg (2022).

Business survey on humanitarian crisis management

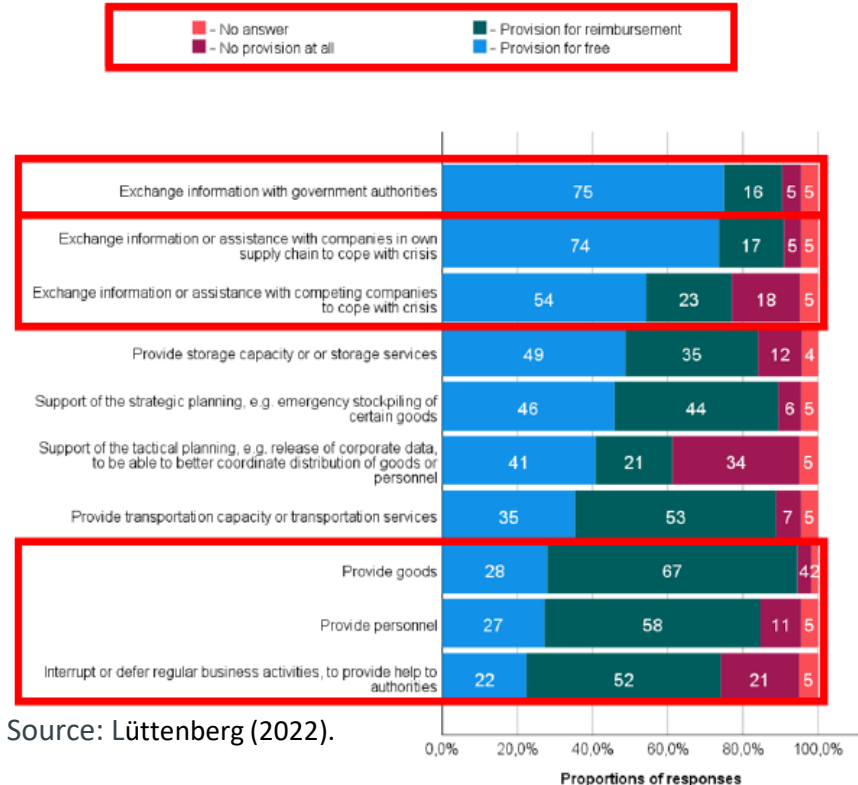
Problem description & research question

Public-private partnerships in crisis management to supply the population with essential goods is a novel approach

Due to the different goals of the actors (common good vs. profit orientation) the preconditions for cooperation must be identified

Motivation and incentives for companies in such a partnership are not sufficiently known

Willingness to provide assistance in cooperation with official authorities



Findings from the project stakeholder dialogue (selection)

Warehousing in commercial supply chains:

- geared towards supplying branches cost-efficiently every day vs. warehousing in emergency food preparedness

Detailed logistics requirements often unknown to authorities or difficult to plan for

The importance of cooperation in the supply chain was especially recognised during the Corona crisis and partly put into practice

Company commitment in the event of a crisis can pay off in several ways

- production of masks to maintain capacity utilisation; establishment of communication channels to authorities for early warning and improved business continuity management

Remaining issues:

Holistic view required:

- Scenario-based supply chain risk/failure analysis across all areas (production, processing, logistics, sales...)
- Identification of cooperation opportunities (Public–Private Emergency Collaborations, armed forces, cross-border cooperation, ...) to provide alternatives in the event of a disaster on the part of the state, as well as creating awareness among the population (stockpiling, ...)
- Establishing and evaluating cooperation (incentive systems, efficient information flows, building trust, ...)