

Abstract of the presentation given by Chief Advisor Mads Ecklon, Danish Emergency Management Agency at the DKKV workshop "Severe storms over Europe - A Cross-Border Perspective of Disaster Reduction, 26th - 28th March 2007.

Severe storms in Denmark 1999 and 2005 - did we learn our lessons?

Responses to large-scale events are evaluated on a regular basis and recommendations are put forward. It is, however, an open question whether the organisations learn from these events and perform better the next time a comparable event occurs.

The purpose of this paper is to give a brief account of how state, regional, local and private organisations responded to the storm that hit Denmark in January 2005, with an eye to the deficiencies identified in 1999-storm.

The basic facts

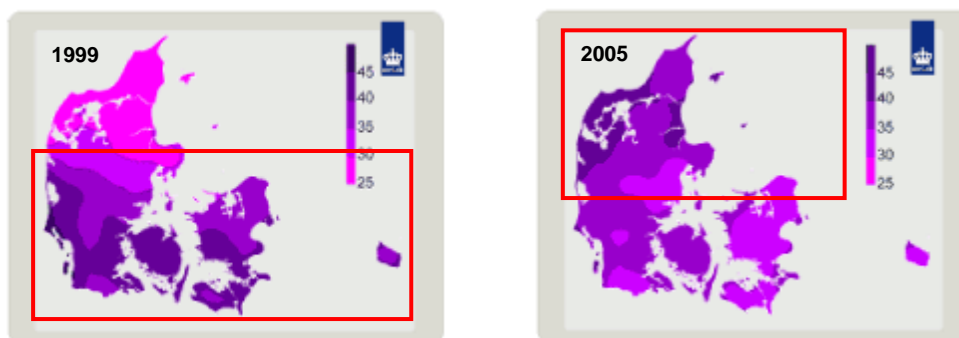
On the 3rd December 1999 Denmark was struck by a severe storm. The storm was the worst recorded in 100 years, with the highest wind speeds in the southern parts.

Seven people lost their lives as a consequence of the storm, there were 350.000 storm- and flood-related damages and 440.000 households were without power due to damages to the power grid. It is estimated that the storm cost approximately 1.100 million Euro.

The next severe storm hit Denmark on 8th January 2005. This storm was not as severe as in 1999, but was one of the 10 worst storms in 100 years, with the highest wind speeds in the northern parts of Denmark.

Four people lost their lives as a consequence of the storm, there were 200.000 storm- and flood-related damages and 200.000 households were without power. It is estimated that this storm cost approximately 500 million Euro.

On both occasions, the consequences were felt in the entire country, putting considerable pressure on state and local authorities as well as private service and utility providers.



(Source: Danish Meteorological Institute, www.dmi.dk)

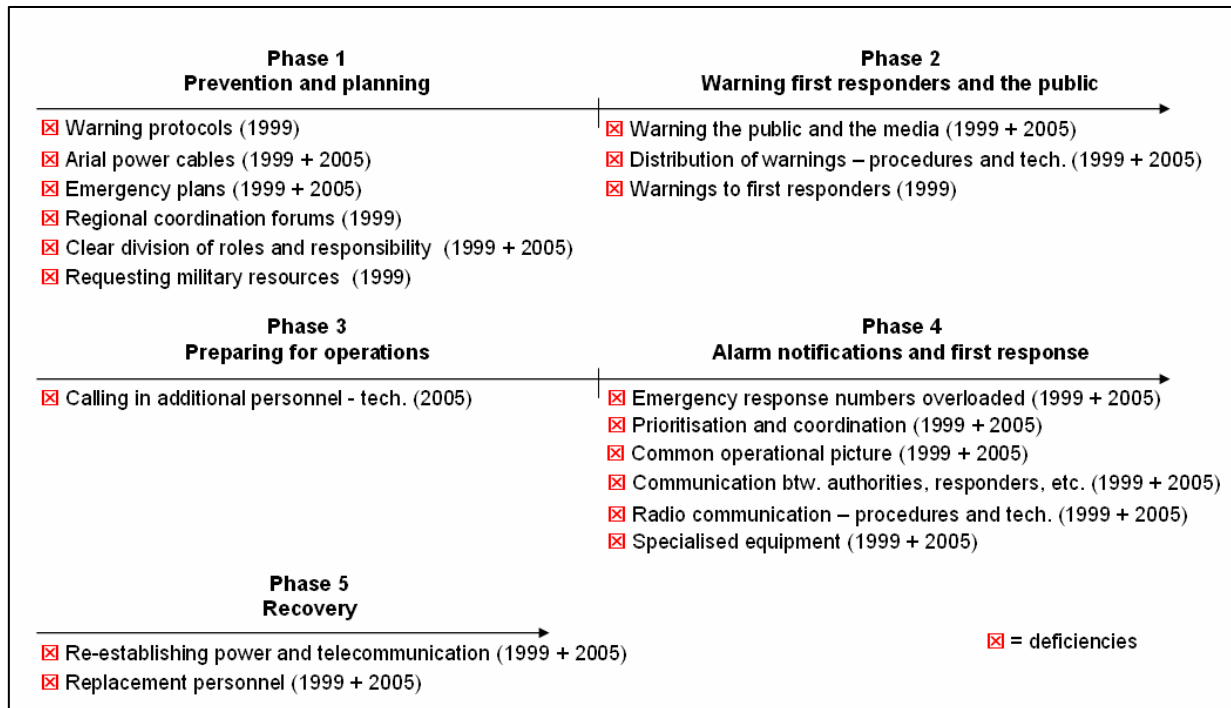
The overall assessment

The lessons learned reports from February 2000 and October 2005 assessed that the numerous different organisations involved were fairly well prepared, as most organisations had their emergency plans and procedures in place and were able to put them into action. The overall impression was that the combined response by was efficient. This contributed to keeping casualties low and stabilising critical situations. After the storms society's critical function were quickly restored - especially when considering the amount of damages.

However, on both occasions the reports identified vulnerabilities and deficiencies. On this background the reports put forward recommendations aimed at strengthening the ability to handle large-scale events such as severe storms.

Deficiencies

The figure below sums up the main deficiencies identified in the two reports according to the five different phases in the response:



The majority of the deficiencies were identified both in 1999 and in 2005. They are to a large extent “the usual suspects”, caused by the sheer amount of incidents, e.g. problems with overloaded emergency response numbers, prioritisation, coordination and communication etc. This makes it very difficult to keep up with events as they unfold. These types of deficiencies are hard to eliminate completely, though it is possible to improve performance.

Main differences - 1999 vs. 2005

When comparing the response to the two storms some significant positive differences stand out:

Experience

Many of the persons involved in 2005 had gained first hand experience with response to severe storms in 1999. As a result there was a greater sense of urgency among the responders and the personnel had a better idea of what to expect.

Warnings

Since the storm in 1999 the Danish Meteorological Institute (DMI) has improved the ability to accurately forecast the weather and predict where, when and how hard the storm will hit. As a result, the storm in 2005 was very well predicted. This meant that DMI was able to send out earlier and more precise warnings than in 1999, giving the organisations time to sufficient time to prepare. Several first responders pointed to the quality of the warnings as a significant reason for the subsequent efficient response.

As a direct consequence of the 1999-storm, a formal warning protocol was drawn up between DMI, the Police and the Danish Emergency Management Agency. The warnings from DMI were sent out according to the procedures described in the protocol, thus securing that most of the relevant organisations were warned well in advance, and kept up to date as the storm passed over the country.

Regional Coordination Forums

After the storm in 1999 the report identified an urgent need for cross-cutting coordination forums, where relevant organisations, e.g. state, regional and local first responders, utility providers etc., could meet and coordinate the overall regional response. These forums were in place when the storm hit in 2005, and feedback from the participant indicate that the forums improved the conditions for inter-agency coordination, mutual assistance and exchange of information.

Preventive measures

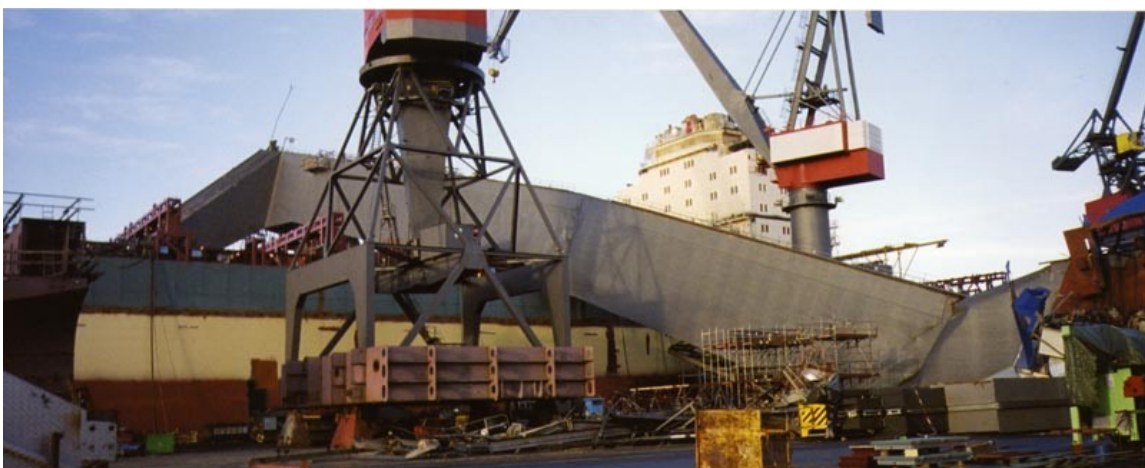
In 1999, approximately 440.000 household lost power because the transmission lines were cut by falling trees and debris flying through the air. Since then the power companies have speeded up the burial of power cables. This contributed to the lower amount of damages to the transmission lines in 2005, where approximately 200.000 household suffered power cuts.

Concluding remarks

As the comparison showed, the organisations had learned some vital lessons from the storm in 1999, which in turn improved the response to the storm in 2005.

But even when a response is deemed satisfactory, it is important not to be complacent. The next large-scale event will be different from the last, and over time the settings change. Furthermore, a number of difficult issues remain, in particular how to achieve coherent and unambiguous crisis communication from the public authorities to the public and the media as well as inter-agency coordination.

An example of major storm damage: The storm in 1999 destroyed the gantry crane at Odense Steel Shipyard.



The crane was secured according to standard procedures, but during the storm the wind gusts were so strong that one of the locks was lifted out of its socket. As a result, the crane started moving and after approximately 10 meters the crane fell over. Nobody was injured, and there were only limited damages to the ship. Shortly after, interim crane capacity was installed, making it possible to resume the production. A new gantry crane was in place in May 2001.

(Source: Odense Steel Shipyard)