



Deutsches Komitee für Katastrophenvorsorge e.V. (DKKV)
German Committee for Disaster Reduction
within the International Strategy for Disaster Reduction (ISDR)

“Strong Storms over Europe – A Cross-Border Approach to Disaster Reduction”

German-French-Swiss Workshop
Bad-Neuenahr / Ahrweiler
24 – 26 March 2003

Recommendations for Preventive Measures

– Largely based on the summaries from the rapporteurs that were submitted in the final session held on 26 March 2003 (item 6 of the workshop agenda) –

Core statements of the introductory statements to the workshop:

– Ernst Rauch, Overview talk entitled “Strong storms over Europe – Looking back over a decade (1990 – 2002)”:

“1990 was the year in the last decade in which the most damage occurred, and nothing has been learned concerning damage (damage reduction and prevention) since the “Daria 1990” winter storm, which was wholly comparable to storm “Lothar 1999” in terms of the damage that it caused.”

A significant increase in the number of extreme depressions has been registered in Europe since the mid-eighties. According to a 2002 study, in addition to a higher frequency and severity of winter storms, we must expect in the future 100 summer storms (tornadoes, small-scale whirlwinds, hailstorms) per year in Europe, most of which will cause large amounts of damage. From the meteorological point of view, these are difficult to detect (one approach: wind measurements by radar).

– Hartmut Grassl, talk entitled “New weather extremes accompanying climatic change”:

“All scientists, services and government agencies must at last recognise the following amongst other things with regard to building codes and the strength of electricity pylons: If the climate changes, there will naturally be new weather extremes in Europe too.

It no longer makes sense to speak of the “flood of the century” or the “storm of the century” when we know that the system is drifting. The 1938 variability analysis is currently still in use. The time series must be continued. We must ascertain whether there is a new trend in variability. This is the decisive message for the economy. We cannot go on like this with our infrastructure in the face of climatic change. There must be another way. We need climate researchers and political decision-makers to join forces as soon as possible.”

1. Storm warnings

They must be communicated more effectively to individuals than was previously the case, using all technical means available today. Any remaining legal obstacles should be analysed and tested.

– Preliminary remark: Strong storm warnings are based on strong storm predictions. Strong storm warnings can be improved –

The prognoses must be improved (primary tasks for research in the weather services) and more effectively translated into storm warnings.

The four-stage warning system presented by the French weather service (see Annex 2) is recommended to form the basis of a co-ordinated European system.

The warnings should contain information relating to the precision of the material that is disseminated, including by means of gradual further regionalisation, and a forecast of how the event will proceed (regular hourly or half-hourly updates).

Recommendations on how to react should be communicated to the public quickly, in a timely manner, only in standardised forms.

- The information channels to be taken by weather forecasts must be defined in detail, and must be reliable.
- Rules of conduct to be followed in strong storms (and other extreme weather events) must be devised and made available to the public offline in “flyers”.
- The quality of the warnings must be improved through regular exercises.
- Ongoing quality control for weather forecasts and storm warnings in the various media should be established and implemented as a matter of routine.
- The “single voice” principle should be the goal in issuing storm warnings; existing legal, administrative or other obstacles should be examined.
- In Germany, management of storm warnings should lie with the German Meteorological Service (DWD).

The establishment of a warning centre (alternative: European “Severe Storms Center” – as in Oklahoma?) could become one of the fixed future tasks of the German Meteorological Service (amendment to the Law on the German Meteorological Service?), where the participation of all meteorological services would be highly welcome.

- A duty incumbent on the media to report in line with the Swiss Broadcasting Corporation (SRG) model and in continuation of section 10 of the ZDF Interstate Treaty on Broadcasting (ZDF Staatsvertrag) (“On announcements in disaster occurrences”) should be examined.

2. Impact of strong storms on the infrastructure: energy utilities, telecommunications, building structures

- The confident assessments of the representative of the German electricity industry and of the representative of the Regulatory Authority for Telecommunications and Posts will be examined in the “2004 National Crisis Management Exercise” planned by the Academy for Crisis Management, Emergency Planning and Civil Defence (AKNZ) in North Western Germany (two Federal Länder). It will be based on the scenario of a large-scale power outage.

According to Energie Baden-Württemberg (EnBW), 540,000 customers were affected by power cuts as a result of storm Lothar. 95% of these customers had power again within 24 hours. The key: redundancy in various electricity areas (n-1 principle). However, South Western Germany got off lightly with Lothar. For this reason, the experience of electricity utilities in Switzerland and France should be used: Pylons are not always stable (as a result of heavy local storm effects), trees should be cleared where cables pass. A point of view that must be considered here is also the fact that telecommunications can only work if the electricity supply is ensured. The provision of an emergency supply for sensitive facilities is therefore particularly important.

Emergency planning is needed.

The question of whether in future, in the event of strong storm reliance upon “force majeure” can release electricity utilities of all liability needs to be discussed in greater detail (inclusion of the circumstances and state of the debate in the neighbouring European countries).

- There is a noticeable lack of regional and sector-specific risk and vulnerability analyses, in particular in Germany.
- The need for a co-ordinated European concept to protect critical infrastructures was stressed, and the inclusion of disaster reduction in spatial planning and regional planning at Federal or Federal Land level was called for.

The German Committee for Disaster Reduction has been involved in a long-running debate, partly in the shape of a conference on the topic (Bad Neuenahr-Ahrweiler, 16 & 17 January 2001, “Disaster Reduction in Germany – the Need for Research from a Practitioner’s Point of View”) and in the further initiatives born of this conference. Consequently, it is right for the topic to take its permanent place on the agenda of the 2003 Scientific Plenary of the Academy for Spatial Research and Planning entitled “Risks in the Environment and Technology: Prevention through Spatial Planning” (Saarbrücken, 20 –21 November 2003).

Rebuilding structures:

A fundamental redefinition of collapse loads (DIN 1055-4 wind loads) is particularly necessary with regard to building envelopes (including roofs and façade elements), as is the development of a preventive list of measures. The standard values from 1938 are still being used as a basis today.

- There are shortcomings in the field of building analysis.
- A record of local wind loads is needed.
- There is a need to develop a “windzone map”, which as yet exists only for tower-type buildings (1985).
- As to non-engineered-parts, there is a need for the following: systematic dissemination of knowledge to all craft trades involved (including roofers, façade manufacturers and builders) and in conjunction with this, monitoring of their storm stability; the proposal for an MOT for buildings should be examined – linked to topic No. 4 “Insurance against storm damage” (indent 6).

Letters from the Chairperson of the German Committee for Disaster Reduction to

- the Federal Minister of Transport, Building and Housing,
- the Chairperson of the Conference of Land Ministers of Building, and
- the Federal Minister of Education and Research, as well as to the Member of the European Commission responsible for research (with reference to inclusion of relevant projects in the 6th Research Framework Programme and the relevant Specific Research Programme).

should be considered.

3. Disaster reduction

A final analysis and where appropriate an evaluation of the disaster reduction measures of the Land Baden-Württemberg on the occasion of hurricane “Lothar” in 1999 will be postponed until after the expected reports by the district government (decree of the Ministry of the Interior of Baden-Württemberg dated 24 January 2000) regarding deployment on the occasion of hurricane “Lothar”.

Independently of this, there is a need for the following:

- to improve technical communication in comparable natural disaster situations, and
- to make individuals better able to help themselves (cf. on this also No. 1 of the summary at hand). This requires above all things also a detailed instruction. There is still a lot to be done here, to which reference should be made in the letters of the Chairperson of the German Committee for Disaster Reduction to the Federal Länder, and where appropriate at EU level.

4. Insurance against storm damage

Forecasts/warnings of storms have a major economic impact:

- Shortest- and short-term warnings (hours/days) improve prevention and reduce damage in the public and with those with an economic interest in receiving warnings (above all industry/transport).
- Confirmation of the warnings by the police/fire service control points heightens credibility.
- Extreme cross-border occurrences can be recorded by networked reporting and prediction systems, and warnings can be given.
- Medium- and long-term prognoses (weeks/months/years) are beneficial to production and delivery planning in industry and in the business community, as well as for weather derivatives.

Shortcomings / recommendations

- Optimise warning systems in terms of time and space (e.g.: warning network of the Bavarian Insurance Chamber).
- Better networking of warning services with the deployment centres of the police/fire service.
- Expand seasonal and annual forecasts (e.g. El Niño/NAO) and provide them to businesses.
- Establish a European Centre for Storms and Warnings (perhaps also for other natural dangers).

Storm damage and potential for damage on the increase

- More/stronger winter and summer storms.
- Storm damage increases to the power of four with wind speed.
- Potential for damage resulting from extreme storm disasters currently exceeds cover capacity of the direct insurance and reinsurance industry.
- Consequential damage from hail, power outages/telecommunication/transport and flash flooding cannot currently be insured.

Shortcomings / recommendations

- Improve climate prognoses for future storm activities affecting North Atlantic/Europe.
- Develop/calculate damage scenarios from extreme storm disasters (with probabilities).
- Expand risk partnership customer/insurer/state in order to cover extreme damage potentials (excesses/indemnity bond/obligatory insurance).

A variety of storm insurance systems in D/F/CH guarantee extensive financial protection, but there is still room for improvement.

- In the main exposed sectors of building, contents, trade, industry and motor insurance, full and cheap cover is available; thus high insurance density.
- Damage to forests not covered or low insurance density because of high premiums (cf. No. 5 of this summary below).
- Prevention conduct on the part of insurers can be influenced positively, e.g. by means of excesses, information on damage prevention, regular checks on maintenance.

Shortcomings / recommendations

- Reveal and close gaps in cover; examine the introduction of obligatory insurance, including a package solution covering other dangers caused by the elements.
- Increase availability of information regarding means of damage prevention.
- Implement regular checks on the condition of buildings ("Building MOT").¹
- Offer alternative excesses.

5. Hurricane damage in the forestry industry: Remedial and prevention measures that have been introduced or planned**Insurance of damage to forests:**

Only 5 % of forest owners in France have taken out insurance, whilst in Germany this figure is no more than 2 %.

There are differing points of view concerning the insurability of damage to forests: One participant took the view that insurance protection against damage to forests was not realistic.

The majority view was that something had to be done, and that it had to be done at EU level in connection with the concept of "all-risk cover" in agriculture. There is also thought to be a lack of an organised dialogue between forest owners and insurers. Thought should be given to a mixed system of private insurance protection and state intervention. Reference is made to tried and tested forest insurance models in Denmark, the United Kingdom, the South-Eastern USA and New Zealand.

¹ The main problem when it comes to building damage is small-scale damage (< EUR 2,000) which is caused by poor implementation or lack of maintenance: loose rooftiles, aerials on chimneys: The key to damage reduction (after the code is improved) is therefore to reduce small-scale damage by (a) disseminating knowledge, (b) regulating and carrying out checks, and through (c) financial incentives such as excesses that are payable towards the damage – linked to topic 2 "On building structures " (indent 4).

The German Committee for Disaster Reduction should consider whether it could offer help in initiating the dialogue between forest owners and insurers which all participants find to be lacking.

Improving detection of forest damage:

The performance of long-distance monitoring (satellites, aerial photography, use of helicopters) must be decisively improved.

Reduction measures:

- An “Evaluation and Research Programme” has been under way in Switzerland since 2000/2001 with a budget of SFr 10 million. The programme is currently scheduled to finish sometime in 2004.

The implementation of a multidisciplinary research programme has been initiated in France.

The German Committee for Disaster Reduction should ascertain whether the German forestry science institutes are already involved in these programmes in any way, or whether – which would make sense – there is a special and political interest in getting them involved.

- The French participants propose the creation of an “Observatory of storms and forests” at European level, or as appropriate only at national level. Its remit should include the establishment of a central European database, which would keep a record amongst other things of all experience reports and analyses of previous storms and hurricanes that relate to the forestry industry.

International co-operation:

The participants emphasised the need for co-operation between Germany, France and Switzerland, as well as with other countries affected by the same challenges in matters related to forests.

Dr. Hermann Schmitz-Wenzel, DKKV
Conference Chairman
Bonn, 27 June 2003