

Essentials of Practical Forest Crisis Management

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- Preface
- General Characteristics of Management of Natural Disturbances
- Strategic Objectives in Crisis Management
- First Response Experiences
- Long-Term Aspects of Natural Disturbances
- Small-Scale Forestry Issues
- Information Policy and Strategy
- Communication
- **Questions and Discussion**

Each catastrophic event has its own characteristics.

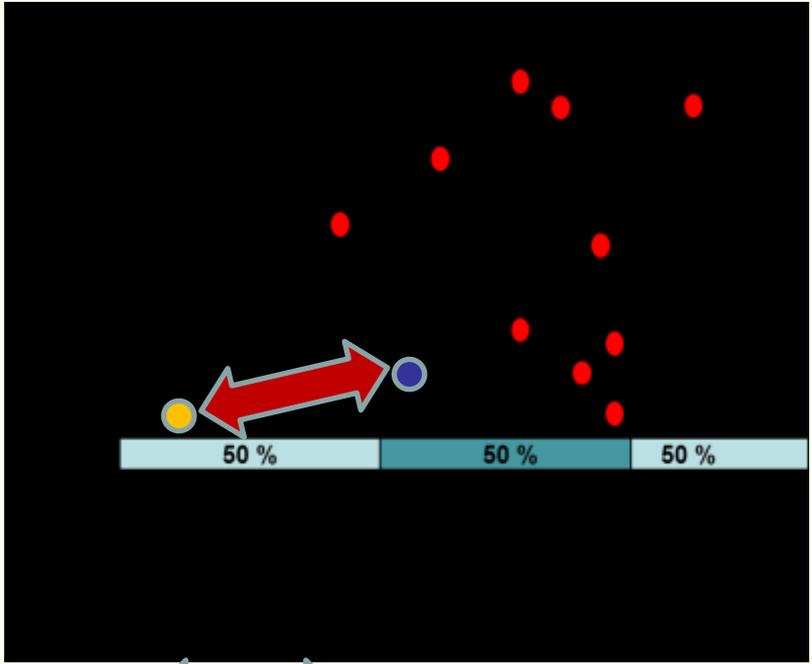
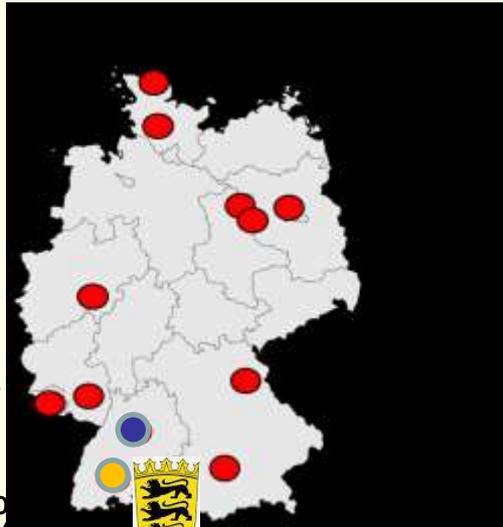
Learning from past experiences is very, very valuable

however

Copying of strategies applied in other regions without critical reflection and without regional and case-related adaptation is dangerous and misleading!!!

General Characteristics of Management of Natural Disturbances II

Too often – too seldom: The time – spatial distance of catastrophic events



- 1990 (150 %) about 15 Mio. m³
- 1999/2000 (300 %) about 30 Mio. m³

Combination of time and spatial distribution:



Natural disturbances are expected to remain rare events at the local level → far from business as usual → experience is missing

General Characteristics of Management of Natural Disturbances III

- **Almost no experience in place after 10 Years**
- **Freudenstadt: Nobody to be found, who has experience from the storm Lothar (about 600.000 m³ in 2000)**
- **However, there is fresh experience from a large summer storm in 2012**
- **Do not expect that your employees know what to do**
- **Uncertainties are a problem, however together with a professional management and a high amount of help and advice provided they can be a part of the solution and can (but not must) contribute to the coordination process**

General Characteristics of Management of Natural Disturbances IV

Don't be happy, but don't worry (too much)

Natural disturbances: A hell a lot of work, but not the end of all days

Look at the smiling crisis experts from different states in Germany



General Characteristics of Management of Natural Disturbances V

Well-known processes but tremendous “dynexity”

- **Dynexity = Dynamics + Complexity**

Dynamics:

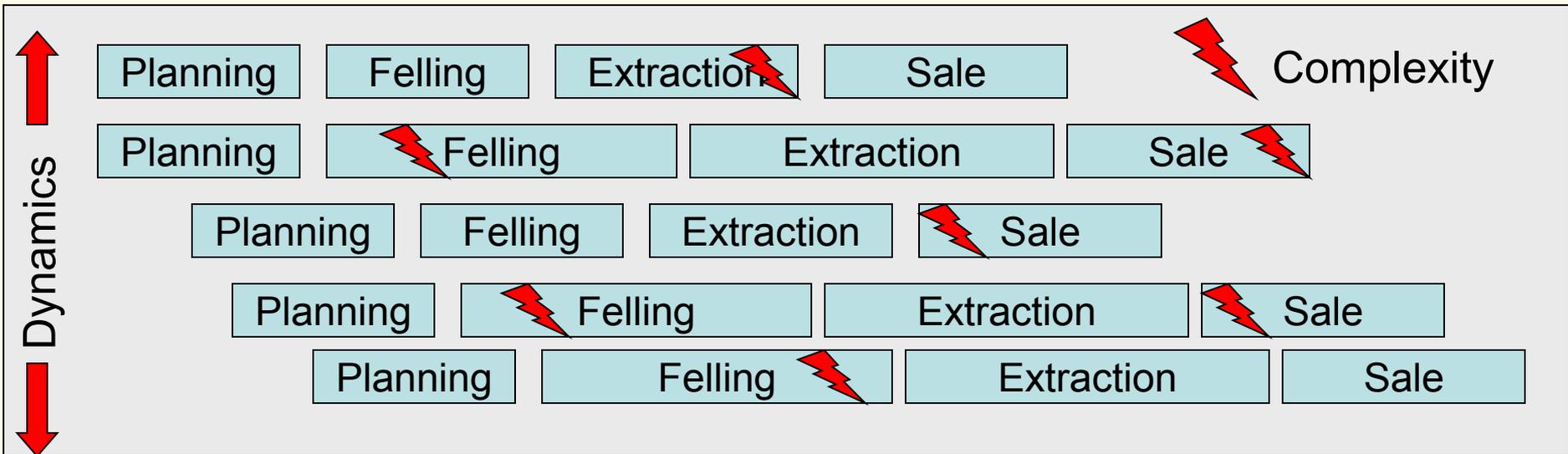
- More processes at the same time, occurrence is unexpected
- External expectation to solve the problem quickly
- Clear external communication needed:
 - We are active! We have a plan of what to do!
 - But as well: It takes time!
 - Vision of what happens when, including schedule for further communicative activities

Complexity:

- All processes (cutting, forwarding, grading, forest protection) are known, but more difficult, worse framework conditions etc.
- More planning needed

General Characteristics of Management of Natural Disturbances VI

Dynexity = Dynamics X Complexity



General Characteristics of Management of Natural Disturbances VII

Crises as a part of forestal normality

- Tendency to act too fast → following the idea of “back to normality”
- Rushing is not recommended
- Natural disturbances are part of our job!
- A clear prioritisation e. g. using urgency / importance matrices can even help to **relieve** everybody involved
- Not everything is urgent !!!

- People involved react differently to crisis-phenomena
 - Lone warriors
 - → exposed to overload
 - → can result in intra-organisational competition
 - Help seekers → searching for guidance and advice

Next topic

Psychological support for affected people was heavily missing



Human Resources Management



Overcoming the crisis is a “matter of course”
but no sufficient clarification on the strategy of how to deal with it

Different strategic priorities lead to different operative processes:

- **Maximum velocity**
- **Minimum expenses**
- **Optimised nature protection**
- **Maximum work safety**
- **Priority to private forest owner or state forest**
- **Silvicultural targets after recovery**
 - **Timber production**
 - **Ecological optimization**
 - **Multi-purpose forestry**

Some regional
strategies caused
problems



The set of priority goals has to be defined as early as possible

ForstBw in 1990:

Attempt to avoid “as fast as possible-approach ” and thus competitive course of action

Definition of core objectives

- Level concept: What is organised centralised, what is regional
- “Safety first” policy
- Sequence of salvage logging
 - Save high value timber
 - Avoid secondary damages (especially bark beetle)
- Clarification of priority of private / public forests
 - Priority of timber sales from private and communal forests
- Nature / soil protection remains important

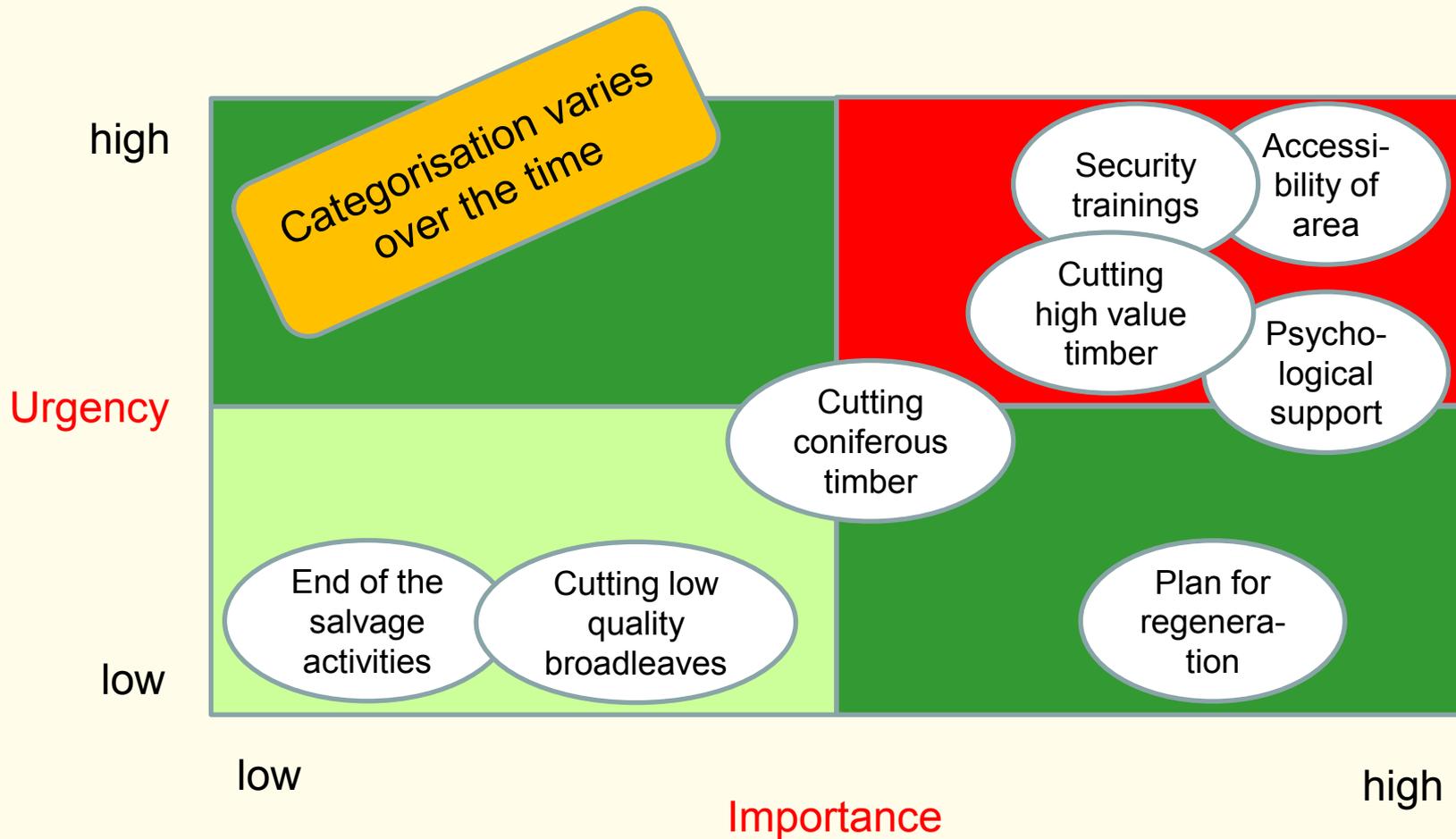
Development of a sanitation plan

- Local level

Only partial success



Strategic Objectives i. c. m. III - Prioritisation: Urgency / Importance¹²



Private forest owners' first strategy

- Extreme institutional support by State Forest Administration for communal and private owners in particular
- Far reaching priority of timber sales from private properties
- High amount of extension- and support- offers for private owners

	State	Municipalities	Private
	[% of sold timber processed]		
After 3 months	18	29	44
After 13 months	71	72	92

A success story!
 Highly appreciated by municipalities and private forest owners.



However:
 Field foresters regionally overcharged.

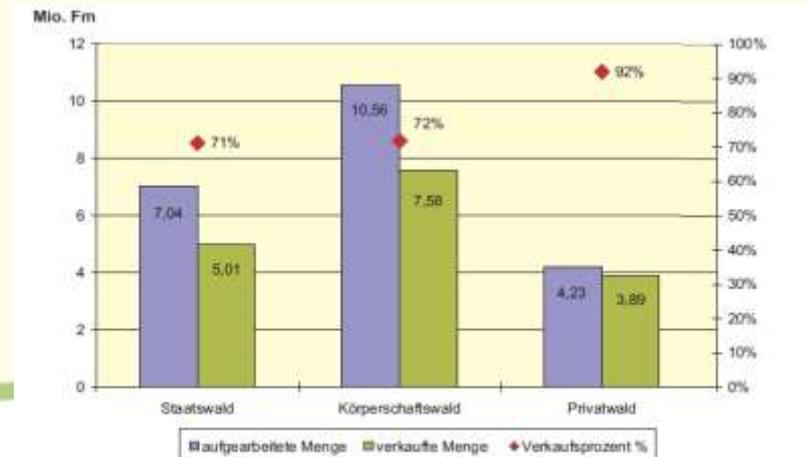


Abbildung 6.2: Aufarbeitungs- und Verkaufstand in verschiedenen Waldbesitzarten zum Stichtag 01. Februar 2001. Die Werte beinhalten das Lagerholz, nicht aber das unverwertbare Derbholz.

Bottleneck identification

The whole process is not better than the weakest link in the chain

Before 1990:

Bottleneck: Often sawmilling capacity

1990: Mainly work with chainsaw

→ Bottleneck: Manpower

2000: Mainly processing with harvesters

→ Bottleneck: Transportation capacity

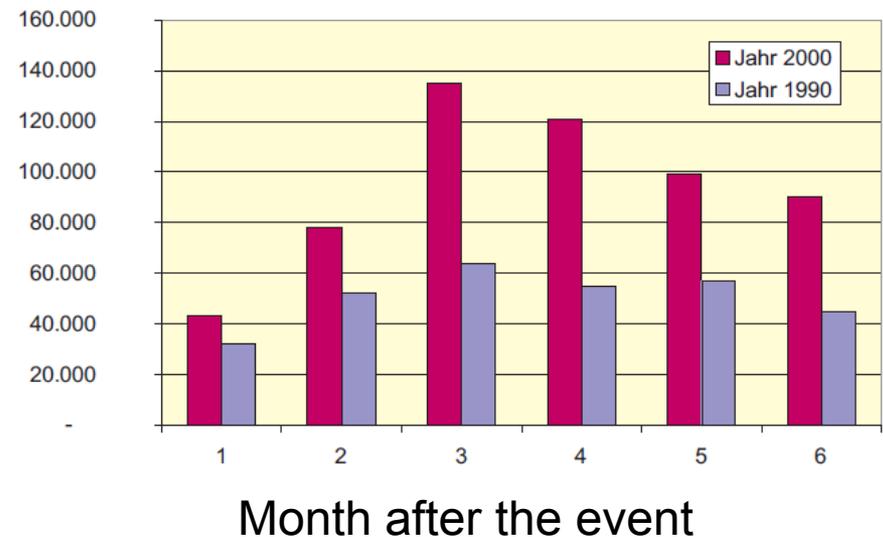
2014: Slovenia: To be analysed

Bottlenecks are extremely case-related

→ Systems analysis approach needed

→ Bottlenecks will change over time

m³/d



In 2000 we were
drowned in processed
timber along roadside
→ Devaluation

Nature protection issues

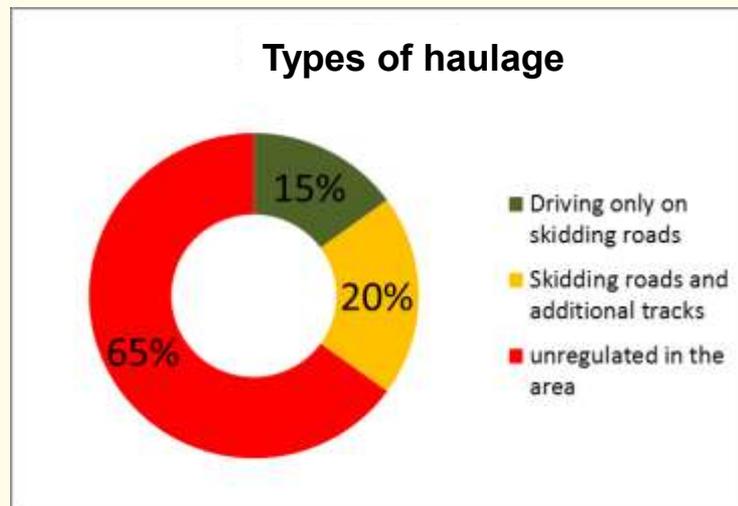
The pressure perceived was partially too high to guarantee these aspects:

- New contractors, no experience about their work-performance
- Contractors want to make money
- Contractors were not familiar with the local situation
- External expectation to show fast progress in salvage logging
- Problems to identify skidding roads and sensitive areas in damaged stands

There was criticism from the environmental NGOs

15 %

65 %



Good job!

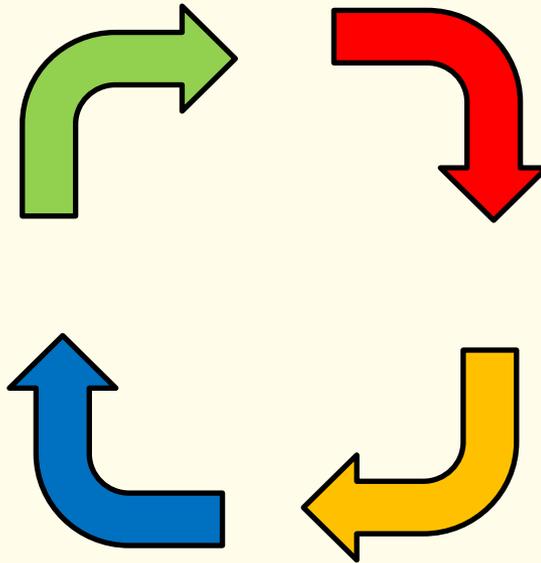
Result of exaggerated rushing and a „the end justifies the means“ policy

Weak performance in soil protection where planning failed



Mitigation

Preparedness



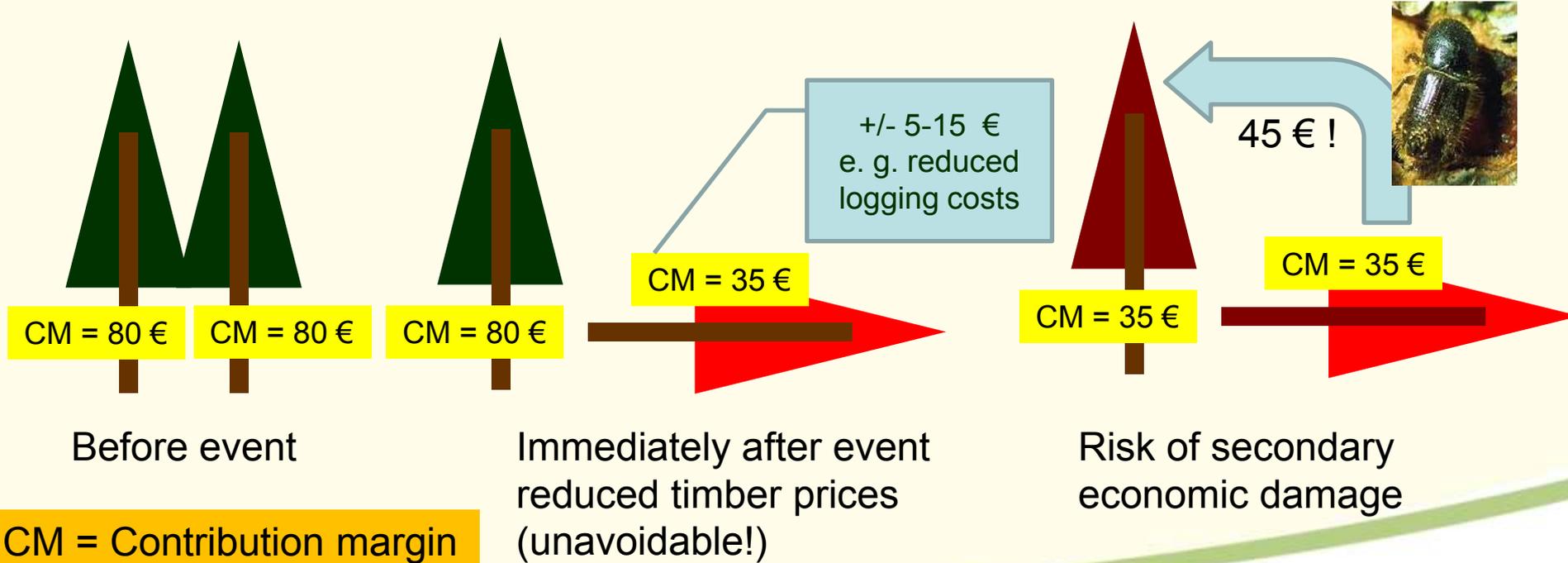
Recovery

Response

Forest Protection Issues I

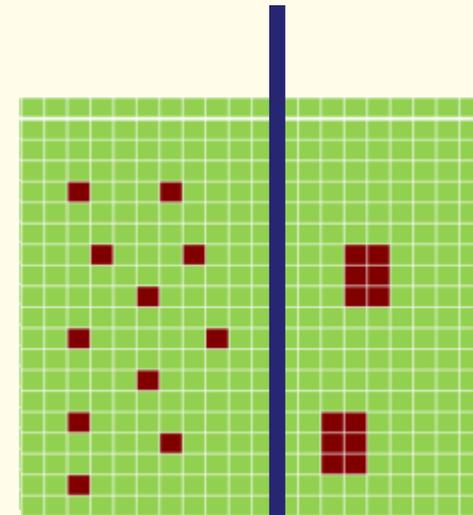
The remaining possibilities to reduce the (economic) damage in the destroyed areas are limited

The larger (monetary) risks are secondary damages (only partially unavoidable) !!!



Forest Protection Issues II

Objective	Strategies
<p>The damaged high value hardwood has to be harvested as fast as possible to conserve the value of the timber.</p>	<p>Valuable timber of hardwoods is harvested before the timber of conifers.</p>
<p>Secondary damages to standing forest stands by insects are minimised.</p>	<p>Storm broken trees are preferentially harvested. Scattered damaged trees are processed before large storm areas. Broken trees are preferably processed. Ongoing control of live-conserved forest stands for insect attacks. The harvesting strategy is adapted to the actual situation of forest protection.</p>



Directly damaged area

12

12

Secondarily affected area

81

28

Work (Operational) health and safety (OSH)

	State Forest	Private	Communal	Contractors
Volume processed	7.400.000	4.230.000	10.560.000	
Minus share contractors	2.738.000	2.749.500	3.801.600	12.900.900,00
Accidents	409	2742	953	505
Persons killed	1	17		
m ³ / accident	6694	1003	3989	25546

- Unexperienced
- Not trained
- No use of supportive machinery (e. g. excavators)
- Overestimation of one's own capabilities

- Experienced
- Trained
- High share of mechanised processing with harvesters

One of the weakest points in the whole strategy of salvage logging after storm Lothar 2000

Support of private forests by forest administration

Private forest owners are overchallenged
They are seeking help from professionals
Opportunity to show that the State Forest Administration is needed

However:

They are dealing with their problems outside the business hours
They are too many → overload of forest staff

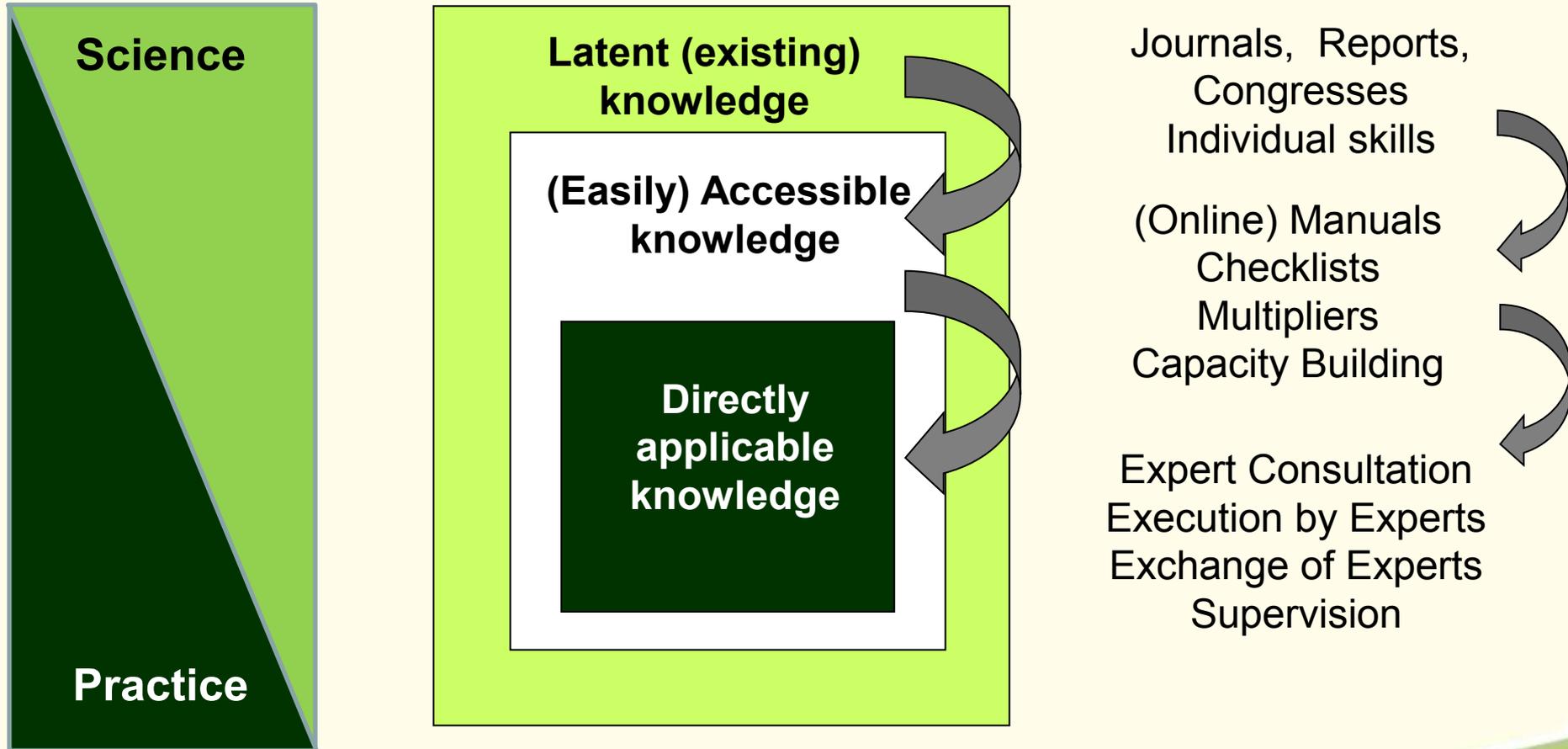
Human Resources
Management

Risk of overload and disappointment when not every problem can be solved immediately

- Relevant problems** with regard to care for own staff
Heads of regional units and field foresters suffered from:
- State of exhaustion
 - Sleeplessness
 - Fear of failure



Accessibility and applicability of information



New information policy after storm "Lothar"

History:

Before 1990 almost no structured documentation → verbal communication

1990: Text Book "Fairy tales about the Storms Vivian and Wiebke"

2000: Breaking all the rules !!!

From sectoral information policy towards
Case-related information policy - The Storm Manual

One folder contains all !!!



2004: **Structured Textbook** Summary about experiences gathered after Lothar highly accepted, but not practical.

Starting from 2005: **Online Advisory Guide Forest Crises Management**
Focussing on directly applicable knowledge about different kinds of natural disturbances

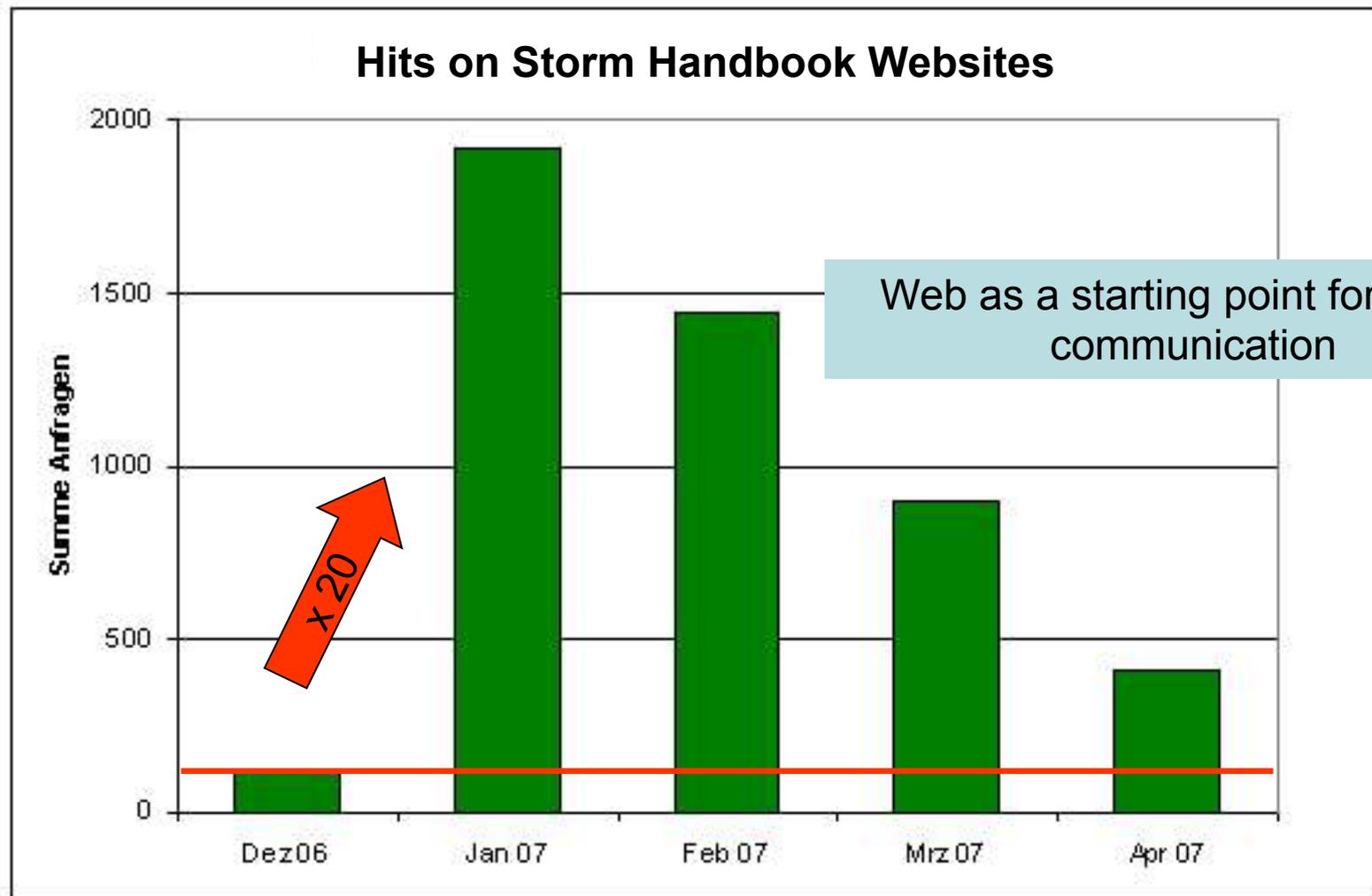
"Forest Crises Management" Advisory Guide



Storms like "Lothar" or "Kyrill", long periods of drought, insect outbreaks, wildfires and various other factors can have devastating consequences on forests. Climate change is on everyone's lips along with predictions about an increase in extreme weather events. Exactly when and where the next extreme weather event will occur can not be foreseen, but that it will happen is certain.

After the "Lothar" storm in 1999 it was recognized that there was a huge need for practice orientated guidance on how to deal with the storm's aftermath. The Storm Handbook, prepared in 2004 and 2005, helped many forest owners deal with storm damages in subsequent years.

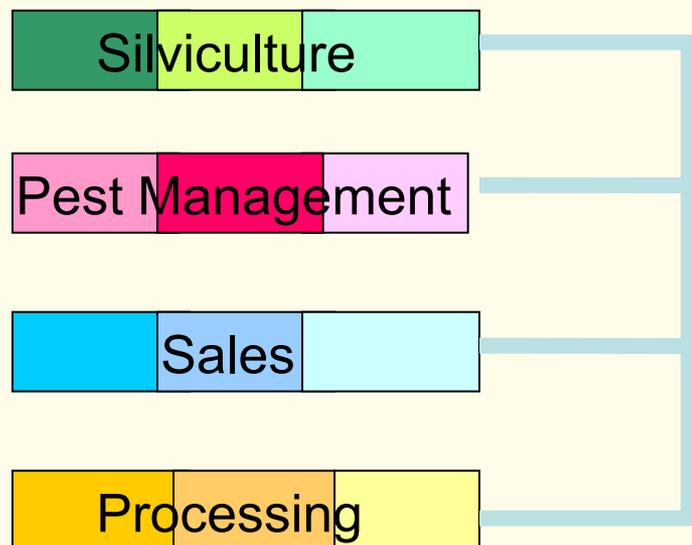
Due to the great demand for practice orientated knowledge, the increase in extreme weather events and the diversity of damage causing factors, the collaborative "Prevention and Management of Forest Crises" (PuMa) project was initiated in 2008.



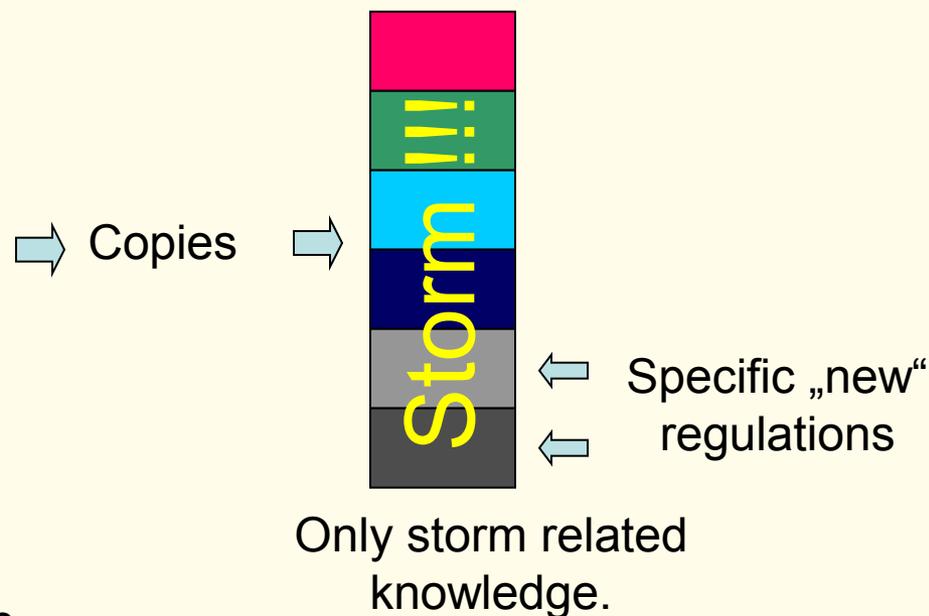
Information Policy and Strategy IV

Approach: All information was gathered in one information base.
Establishing a Matrix Information Structure.

Regular Information Structure



Storm-Related Structure



But: Considerable time gap in 2000;
Decision 2003: Proactive, precautionary information-system.

The KISS-Concept: Keep it Short and Simple

1. Änderung des Verbuchungsverfahrens in der ZBB ab Januar 2001

Für die EU-Kofinanzierung von Sturmschadensbewältigungsmaßnahmen im Staatswald ist abweichend vom bisherigen Verfahren die Erlässung der Nettoauszahlungsbedingen (ohne Umsatzsteuer) notwendig. Die Ermittlung erfolgt im Rahmen des ZBB-Verfahrens.

Die ZBB-Verbuchung der Aufwendungen zur Sturmschadensbewältigung "Lothar" im Staatswald wird deshalb ab Januar 2001 wie folgt modifiziert.

1.1 Getrennte Verbuchung von Nettoauszahlungsbetrag und ausgesetzter Umsatzsteuer

Die Verbuchung eines Rechnungsbetrags mit ausgewiesener Umsatzsteuer in der Haushaltsüberwachungsdatei (VH 1-DIE) erfolgt zukünftig in 2 getrennten Zeilen:

In einer Zeile wird der Nettoauszahlungsbetrag ohne Umsatzsteuer eingetragen. Die strengen Verbuchungsregelungen bezüglich Buchungszyklen, Kostenarten etc. bleiben unverändert. Dies gilt insbesondere auch für die Regelungen zur Kennzeichnung jeglichen Aufwands zur Sturmschadensbewältigung "Lothar" sowie von Aufwendungen für staatliche Waldarbeiter anderer Bundesländer mittels landeseinheitlicher Positionsnummern gemäß MLR-Verfügung vom 16.10.2001 Az.: 56-0036.55/Lothar.

In der folgenden Zeile wird der ausgesetzte Umsatzsteuerbetrag unter dem gleichen Buchungszeichen und der gleichen Kostenart wie der Nettobetrag verbucht. Die Kennzeichnung erfolgt abweichend vom Nettobetrag mittels neuer landeseinheitlicher Positionsnummern:

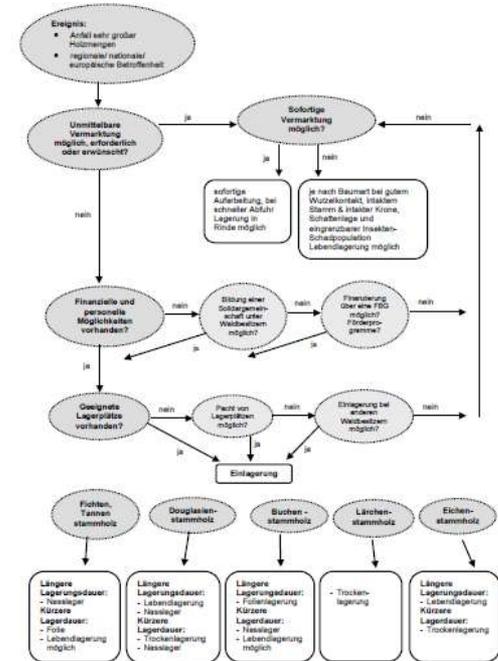
- 33 Umsatzsteuer aus laufendem Betrieb
- 83 Umsatzsteuer bei Investitionen

Buchausgleichbuchungen werden in diesem Verfahren nicht einbezogen.

Text-prone
Detailed regulations
Most part of the potential
outcomes included

Pictures
Only essentials
Only probable outcomes
are included

Entscheidungshilfe - Sturmholzlagerung



This change in information policy was highly welcomed by all members of the State Forest Administration

One folder on the manager's desk answered most parts of the questions

The advisory guide is the largest collection of information related to natural disturbances in German → First Stop Shop

If you enter „advisory guide crisis management“ (without forest/forestal) it's position one in Google

English version is expanding, first pages in Spanish.

Open source: Further translations in other languages are welcome
Cooperation is welcome

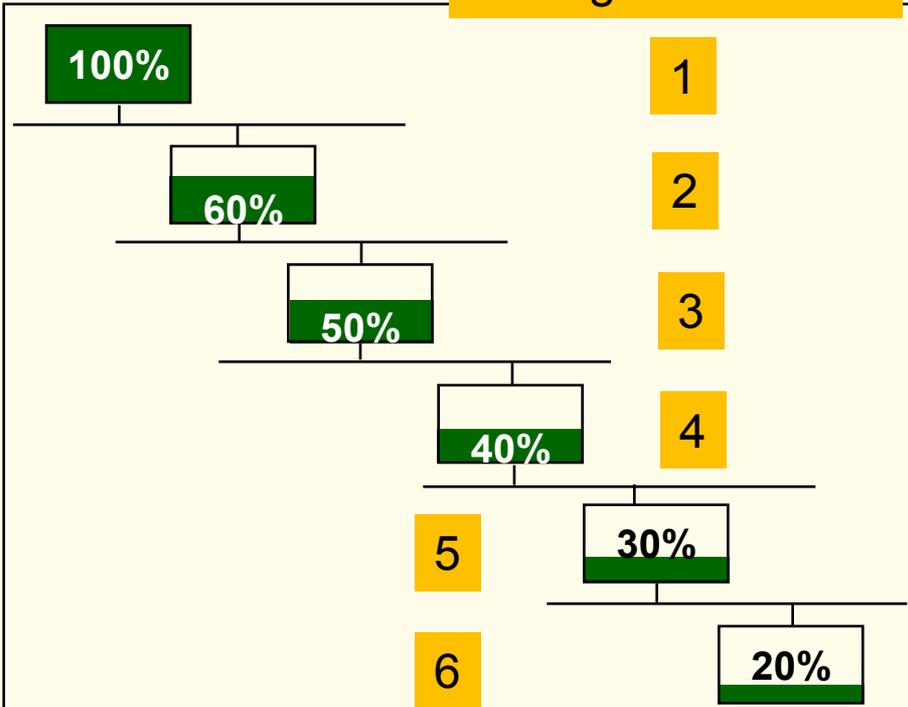


Management by perception: Provide accessible information and a lot of people will follow your recommendations! → Today easier because of Internet

- **Most parts of the problems during a recovery campaign are not of technical nature**
- **Most weaknesses are related to communicational problems**
- **Internal and external communication has to be kept in mind**
- **In times of crisis recovery the intensity and frequency of communicative actions should be (at least) kept at the normal level**
- **An intensification can make sense**

Communication II – The Lack of Strategy-Knowledge Trap ³⁰

Management Level

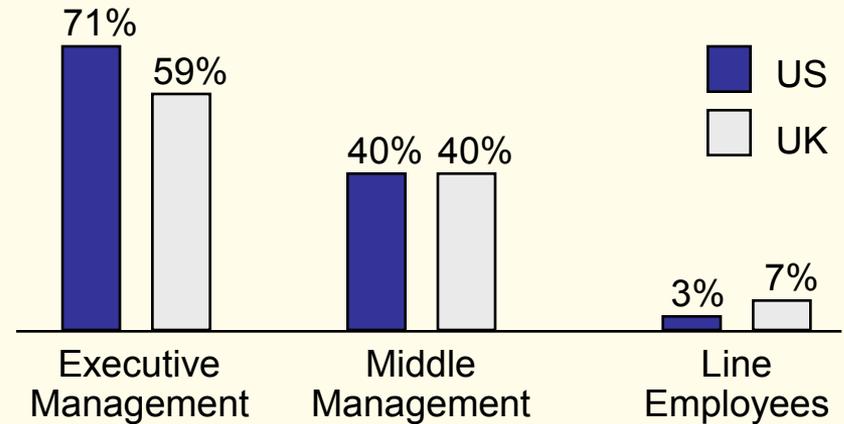


Problem: Loss of information throughout the hierarchy

Even under normal conditions only 50 % of the basic strategies is known

Source: Hinterhuber, 1997

What percent of the employees have a clear understanding of the objectives?



Source: Renaissance / CFO Magazine Survey

nach Horvath und Partner, 2003, verändert

Communication III – External Communication

Risk to come into a reactive mode → Here are mostly problematic problems to discuss.

Active, participatory external communication can help to control the topics and to disseminate their own messages.

Formal processes are thinkable, however not really applied so far.

Stakeholder	Formal Participatory Processes	Intensity of Informal Processes	Remarks
Environmental NGO	none	low	Only way of reforestation was a topic of interest.
Forest Owners Association	none	medium	High satisfaction proved by a survey. ¹
Timber Industries Associations	none	medium-high	Attempts to establish a joint strategy widely failed.
Communities on Local Level	none	high	The communities often decided to delegate the whole responsibility to the forest experts. High satisfaction of the communities.

- Learn from past experiences but do not copy them
- Safety first, provide training offers for salvage logging
- Ask for support and information

- Define your strategy

- Do not rush, there is usually more time to deal with it than expected

- Use machinery

- Operational safety and health is a big issue in private forests

- Make information easily accessible → management by perception

- Communication should be intensified

**Thank you very much
for your attention!**

Questions? Discussion!

