



# Norwegian Directorate for Civil Protection

Climate Change Adaptation in  
the Norwegian Planning Act

Gunnbjørg Kindem  
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# Planning for man and society

## Societal safety in spatial planning:

- To make societies **robust** through a high degree of resilience for disturbances and undesired incidents and more sustainable for emergencies and crisis
- Climate change adaptation is in this context nothing new, but a part of the Norwegian work in societal safety



# Societal safety - a consideration in spatial planning

- ***Spatial planning to work for sustainable development*** in best for man, society and future generations
  - Including societal safety
- Spatial planning legitimacy is in the the recognition of freedom for man is dependent on a society that secure common values
- Spatial planning makes frames for development in a holistic and long-term perspective

# Societal safety and values to protect

- To build robust societies we to identify what values we want to protect.
- The goal is to prevent and limit risks for:
  - Life and health
  - Sustainable daily life
  - Critical infrastructures and institutions
  - Environment

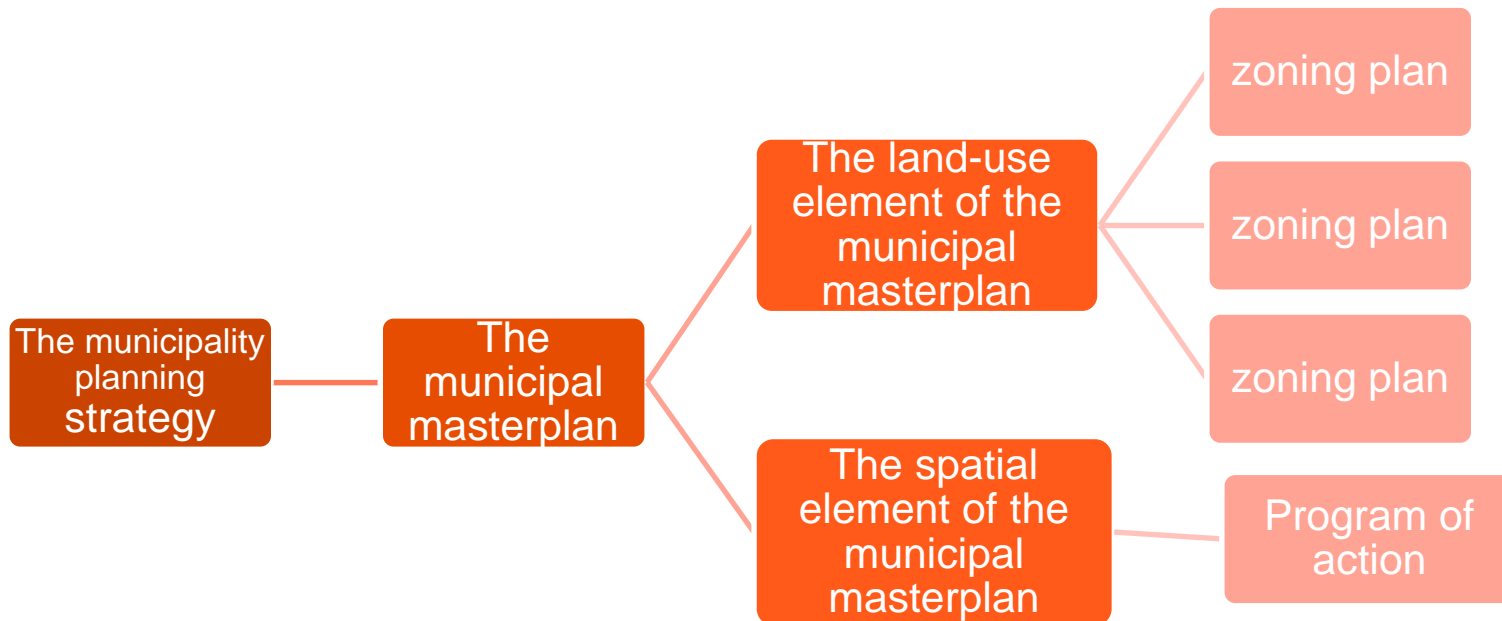


# Spatial planning and societal safety in Local level

The municipality – self-governed body (428)

- The municipalities are local planning authorities
  - Considerations for societal safety including consequences for a future climate, is taken into account together with economy, environment, welfare for children etc. in the municipality
  - Societal safety, including consequences for a future climate, shall be integrated in all planning, and in all levels of the planning process
- The municipalities are also the foundation for social safety
  - Societal safety in integrated in spatial planning

# Municipal planning hierarchy

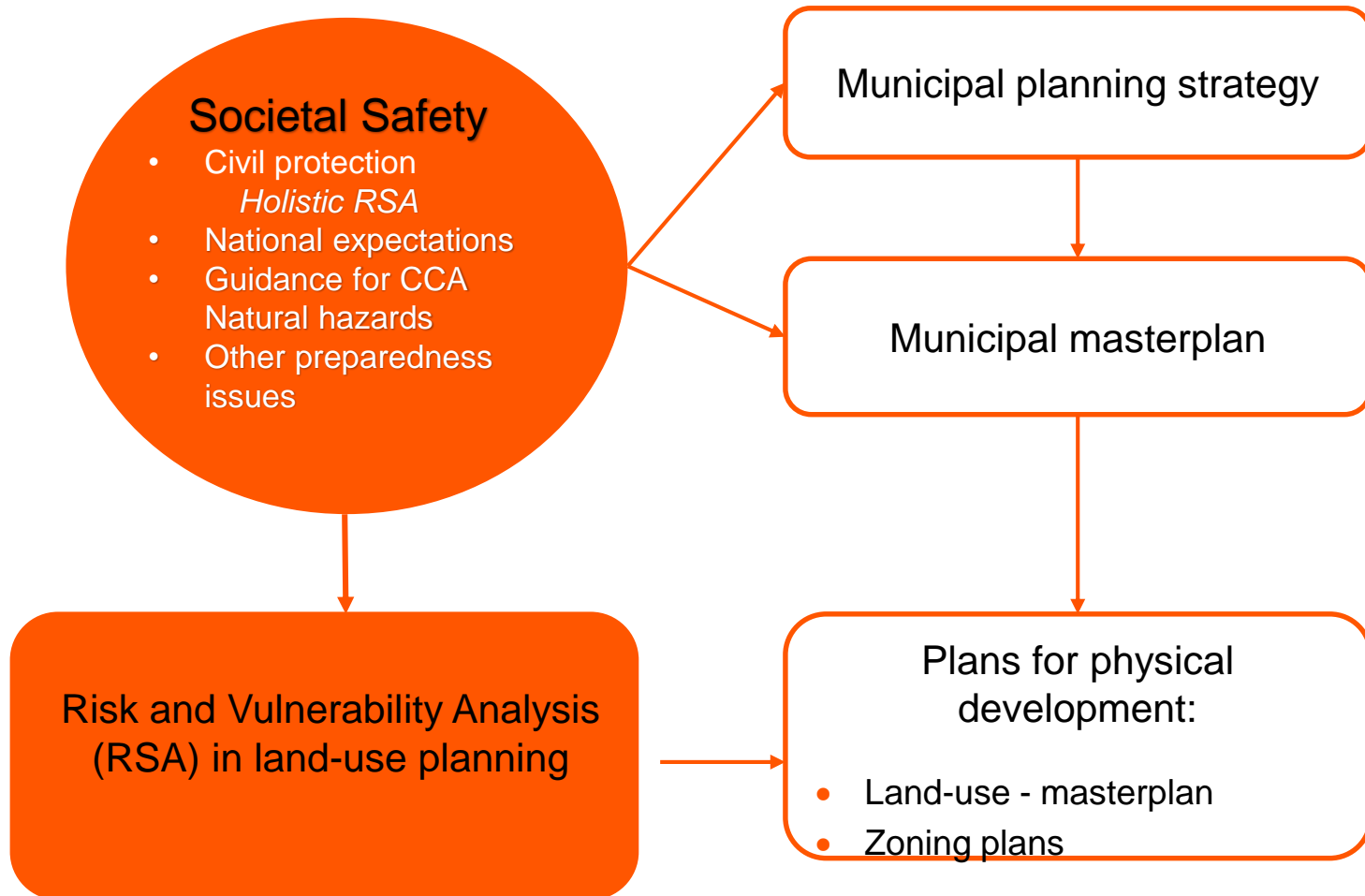


# Legal claims and societal safety

- Plan and Building Act
  - Societal safety is to be considered in all planning
  - Risk and Vulnerability Analysis (RSA) to identify risks and risk management measures for safer planning and development of the area
  - All building shall be safe and sustainable
  - National Expectations regarding regional and municipality planning
  - Secondary Law: Natural hazards and the plan and building act
    - All buildings are placed and built to have adequate security against natural hazards
    - If societal values is threatened by floods and landslides, it is prohibited to place buildings of such values in a natural hazard area without preventive measures
- Civil protection Act
  - Societal safety in municipalities



# Societal Safety in Municipal Planning





# Risk and Vulnerability in land-use planning



# About Risk and Vulnerability Analysis

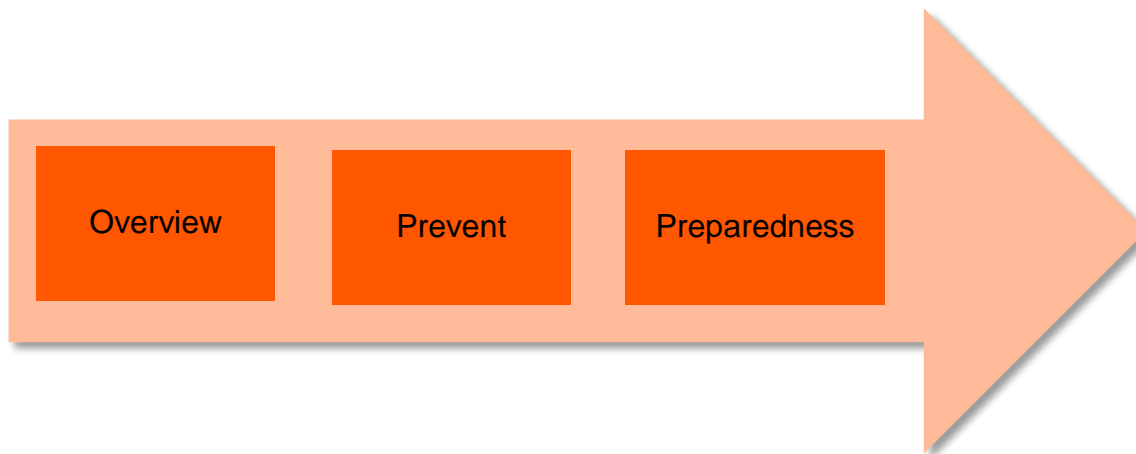
Not a goal in its self, but a collection of knowledge and awareness for better planning

- Collect information about the planning area – multidisciplinary focus
- Which values to protect – and Why?
- Knowledge about measures to prevent incidents and increase the land-use plans robustness



## In other words: RSA gives .....

- *Overview and knowledge of the planning area*
- Knowledge about measures avoid and reduce risk and vulnerability to prevent incidents in the planning area
- Knowledge about relevant preparedness measures





# Aspects in the analyzing process

## Risks can be related to

- the land as it has **developed from nature** (to day, but also futures effects on climate change)
- physical development and **introduced** through the land-use
- **surrounding areas** eg. a forest to prevent avalanche

## Vulnerability can be related to

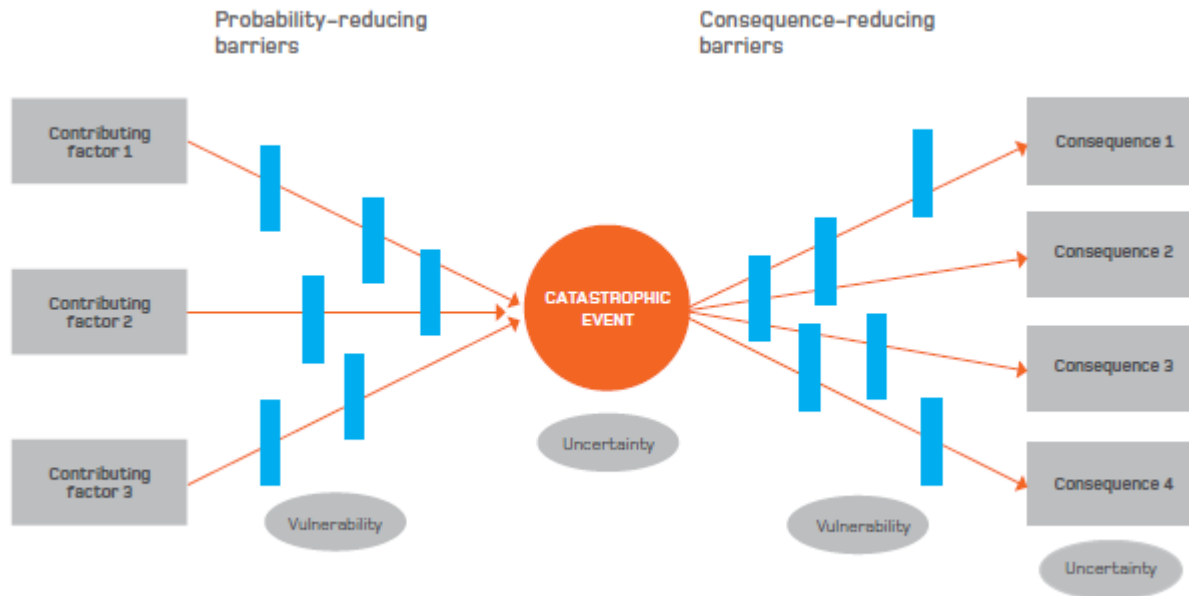
- location and robustness of **critical infrastructure** eg. electrical transmission net, waterworks, telecom, roads,
- location and robustness for **essential functions** eg. hospitals, police, schools etc.



# What is a Risk and Vulnerability Analysis?

An assessment of :

1. Risk: which incidents can happen in the future?
2. Probability: How likely is it that the incident will happen?
3. Consequence: Which consequences will the incident have?
4. Vulnerability: Will different systems tolerate an incident if it occurs?
5. Uncertainty: How well is the fundament of knowledge to assess the incident?



# Analysis form

Analysis form	
<b>Describe the unwanted incidents</b>	
<b>Causes</b>	
<b>Existing preventive barriers</b>	
<b>Probability</b>	
<b>Consequences for life and health</b>	<p>Consequence categories are used. The basis for the categorization must be discussed and uncertainty must be described.</p> <p>DSB suggests consequence categories, but the municipality can establish their own.</p>
<b>Consequences for societal stability</b>	
<b>Economic consequences</b>	
<b>Vulnerability</b>	
<b>Uncertainty</b>	
<b>Suggested new measures</b>	
Preventive measures in planning	



# Collection of results for safer planning

- Collection of results from analyzing forms
- Collection of risk management measures and planning instruments for the land-use plan
- Riskmatrix - per consequence

		KONSEKVENNS FOR LIV OG HELSE - DØDSFALL					
		Ingen døde	1-2 døde	3-5 døde	6-10 døde	>10 døde	
SANSYNLIGHET	E: 10-100 % 1 gang per 10 år eller oftere						1. Bussulykke i Lysløstunnelen
	D: 2-10 % 1 gang per 10-50 år			2			2. Flom i Lilleelva som rammer Lilleby
	C: 1-2 % 1 gang per 50-100 år					1	3. Skred i boligområdet Huslås
	B: 0,1-1 % 1 gang per 100-1000 år				3	4	4. Brann på Sorgenfri sykehjem
	A: < 0,1 % Sjeldnere enn hvert 1000 år				5		5. Skyteepisode på Lærerik skole



# Reduce and avoid risk and vulnerability in land-use planning

- Identified risk management measures must be by regulations in planning:
  - compensate risks through claims on building adaption in danger areas
  - prohibition on housing, infrastructure and important institutions in danger area
  - more detailed identification in zone planning like geological and hydrological explorations in front of new development in area
  - Zone planning with mitigation measures like levies and flood and landslide walls



# Instruments in the land-use planning process

## - a societal safety perspective

Land-use objectives	Zones requiring special considerations	Special planning regulations
Objectives to secure decided development	Special considerations in the land-use objective	Specific regulations for zoneplanning
Flooding areas can be given land-use objective "public recreation area"	Regulate an area of risks to a "danger area" where further development has follow essential safety regulations	Regulate safety measures to prevent incidents and/or reduce the effects of incidents, eg. <ul style="list-style-type: none"><li>• further investigation of ground conditions</li><li>• regulations of types of building</li><li>• preparedness measures</li></ul>





## Our challenges are

- Municipalities lack of attention on prevention in societal safety through the planning act
- A lot of danger zones are yet to be identified
- A lot of housing is already placed in known and unknown danger zones
- Climate change consequences will increase the impact of natural hazards, and natural hazards will occur in new areas and zones
- Economical growth is put up against societal safety



## Word of wisdom..

"The significant problems we face cannot be solved at the same level of thinking we were at when we created them."

Albert Einstein

[www.dsb.no](http://www.dsb.no)

[gunnbjorg.kindem@dsb.no](mailto:gunnbjorg.kindem@dsb.no)

# Spatial planning in Norwegian administration

- Central level:
  - Ministries - legislative bodies
  - Directorates: experts, technical aspects and guidelines, instruction and recommendation and methods for Climate Change Adaptation and Societal Safety in spatial planning
- Regional level:
  - **County council districts (19)** - self-governed body
    - Planning authority for county planning
    - Societal safety is a topic for the county master plan
    - Guidance for municipalities
  - **County governors (17)**– regional representatives for central level
    - **participate** in the planning processes and **inform** about societal safety, including climate change, both regional and local
    - **control** plans in the consultation processed to see if societal safety is taken into consideration
    - **object** to local land-use plans where societal safety, including future climate consequences in societal safety is not taken into consideration