

Spatial planning, geo-information and risk management

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Introduction

- How are safety issues addressed in spatial planning,
- and which contribution can be made by geo-information and systems to support the consideration of safety risks in planning?

Focus on two important safety hazards

- Industrial hazards (externe veiligheid)
- Flood risks (binnendijks door falen primaire kering)

Spatial planning and industrial safety

- External safety issues are explicitly considered in local planning practices
- Spatial *plans* are used to reduce the exposure to industrial hazards through the regulation of land use such as safety distances
- Spatial planning is an important *process* through which safety issues can be addressed and additional opportunities for risk reduction can be identified
- Spatial plans can reduce exposure, whereas spatial planning can reduce the hazards itself and can increase the capacity of an area to deal with the hazards
- Implementation of measures needs further attention

Spatial planning and flood risks

- Spatial plans contribute to flood risk reduction through facilitating dike improvements
- Spatial planning processes are hardly used to address flood risk or identify opportunities for flood risk reduction
- Psychological factors and higher-tier government policies and the interpretation of these policies explained the use and non-use of spatial planning for flood risk reduction

Spatial planning and flood risks

- Attention for flood consequences and the capacity of an area to deal with potential flood consequences is increasing, especially on the national and regional level
- Informational requirements are changing as well: flood patterns, evacuation times, capacity of emergency services.

Spatial planning and geographical risk-information

- Information requirement of spatial planners and emergency services are increasingly overlapping
- An integrated information infrastructure should be strived for (instead of developing data and services for one particular activity)

In conclusion

- The way spatial planners deal with safety risks shape the use risk information
- The further development of geo-information and systems begins with a conception of planning and how particular issues are addressed in planning

Risk as a characteristic of an area

Table 1. Different risk components

| Risk components | | Definition | |
|-----------------|--|---|---|
| Risk | Hazard | A potentially damaging physical event, phenomenon or human activity that may cause injury or the loss of life, property damage, social and economic disruption, or environmental degradation. | |
| | Vulnerability | Exposure | The proneness to being affected by a particular hazard, without taking into consideration the capacity to deal with the hazard. |
| | | Resistance capacity | The ability of a system to prevent hazardous events, such as water defences to resist high water levels. |
| | | Adaptive capacity | Capacity of a society to adapt and to adjust to uncertain future developments and hazards. |
| | | Coping capacity | Capacity to respond in the (immediate) aftermath of an event. |
| | | Recovery capacity | The capacity to return to the pre-disaster status. |
| Processes | Physical and social processes that affect hazards and vulnerability, such as climate change or | | |



Topografische ondergrond (c)
Topografische Dienst Kadaster

0 1000 m

x:173208
y:439553

- Veiligheidsafstanden
- Ongevallen gevaarlijke stoffen
- Inrichtingen
 - ▲ LPG
 - Opslag
 - Ammoniak
 - Emplacement
 - Vervoer
 - ★ Vuurwerk
 - ☢ Nucleair
 - Ontploffbare stoffen
 - Defensie
 - Overig
 - BRZO
 - Terreingrens
- Transport
 - Weg
 - Spoorweg
 - Waterweg
 - Buisleiding
- Ongevallen verkeer en vervoer
- Natuurrampen
- Paniek/verstoring
- Kwetsbare objecten
 - Kwetsbare objecten
- Kaart ondergrond

