

# Development of resilience checker FREEMAN Project



*Antea Group*

***Engineering – Environment  
Spatial Planning - Water***

# Organization Chart



anteagroup

Consultancy

€ 310 M

## USA

500 employees

Turnover (2010)  
€ 70 M



## The Netherlands

1700 employees

Turnover (2010) €  
147 M



## Belgium

250 employees

Turnover (2010)  
€ 24 M



## France

500 employees

Turnover (2010)  
€ 51 M



## Colombia

400 employees

Turnover (2010)  
€ 24 M



anteagroup

# FREEMAN



Das Bild kann nicht angezeigt werden. Dieser Computer verfügt möglicherweise über zu wenig Arbeitsspeicher, um das Bild zu öffnen, oder das Bild ist beschädigt. Starten Sie den Computer neu, und öffnen Sie dann erneut die Datei. Wenn weiterhin das rote x angezeigt wird,

## Flood **RE**silience **EN**hancement and **MAN**agement



Centro Euro-Mediterraneo  
per i Cambiamenti Climatici



Bundesministerium  
für Bildung  
und Forschung

waterbouwkundig  
LABORATORIUM



# *Objectives in brief*

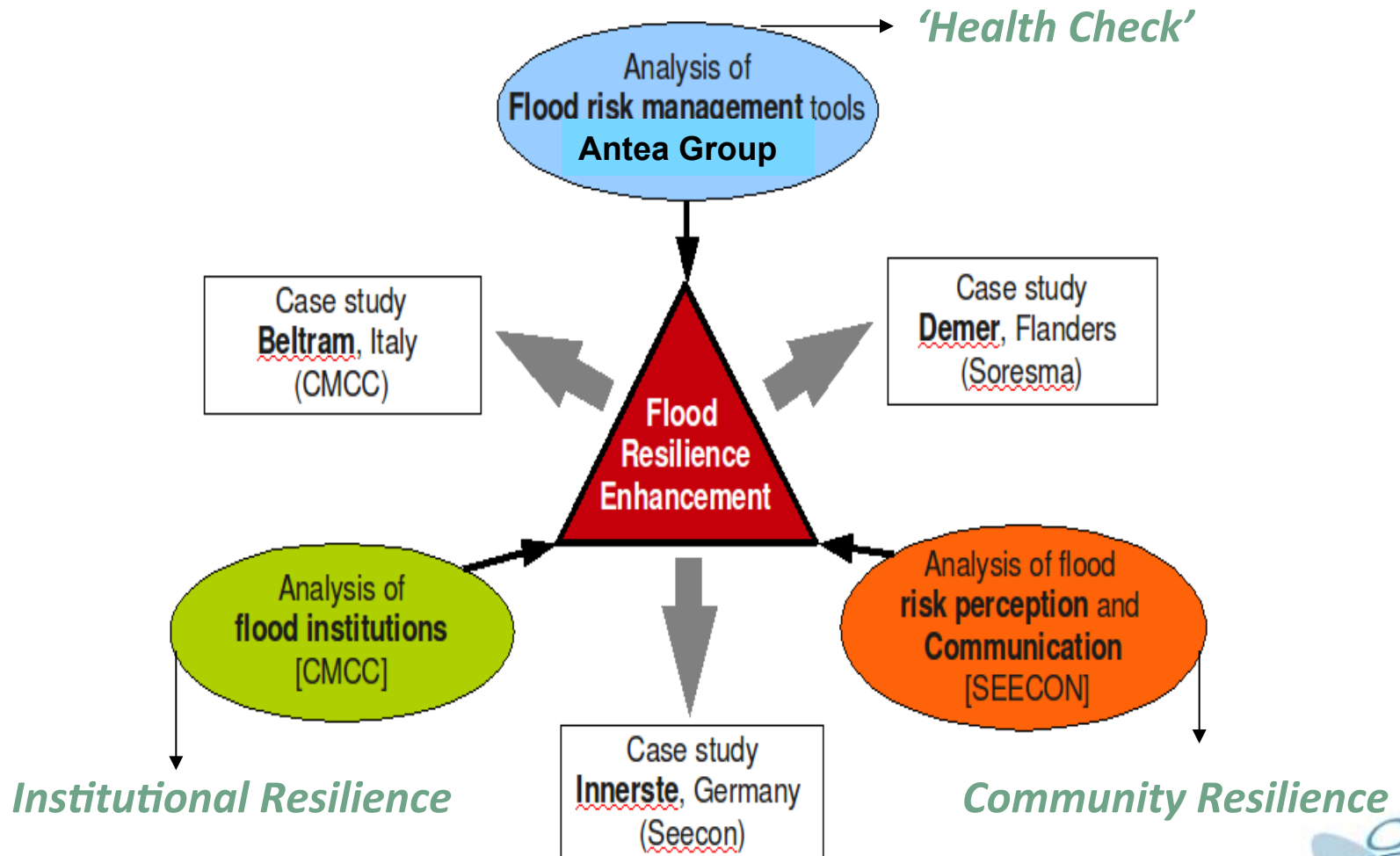
To identify indicators of flood resilience

To identify strategies and measures, incl. quick wins to enhance flood resilience on case study level

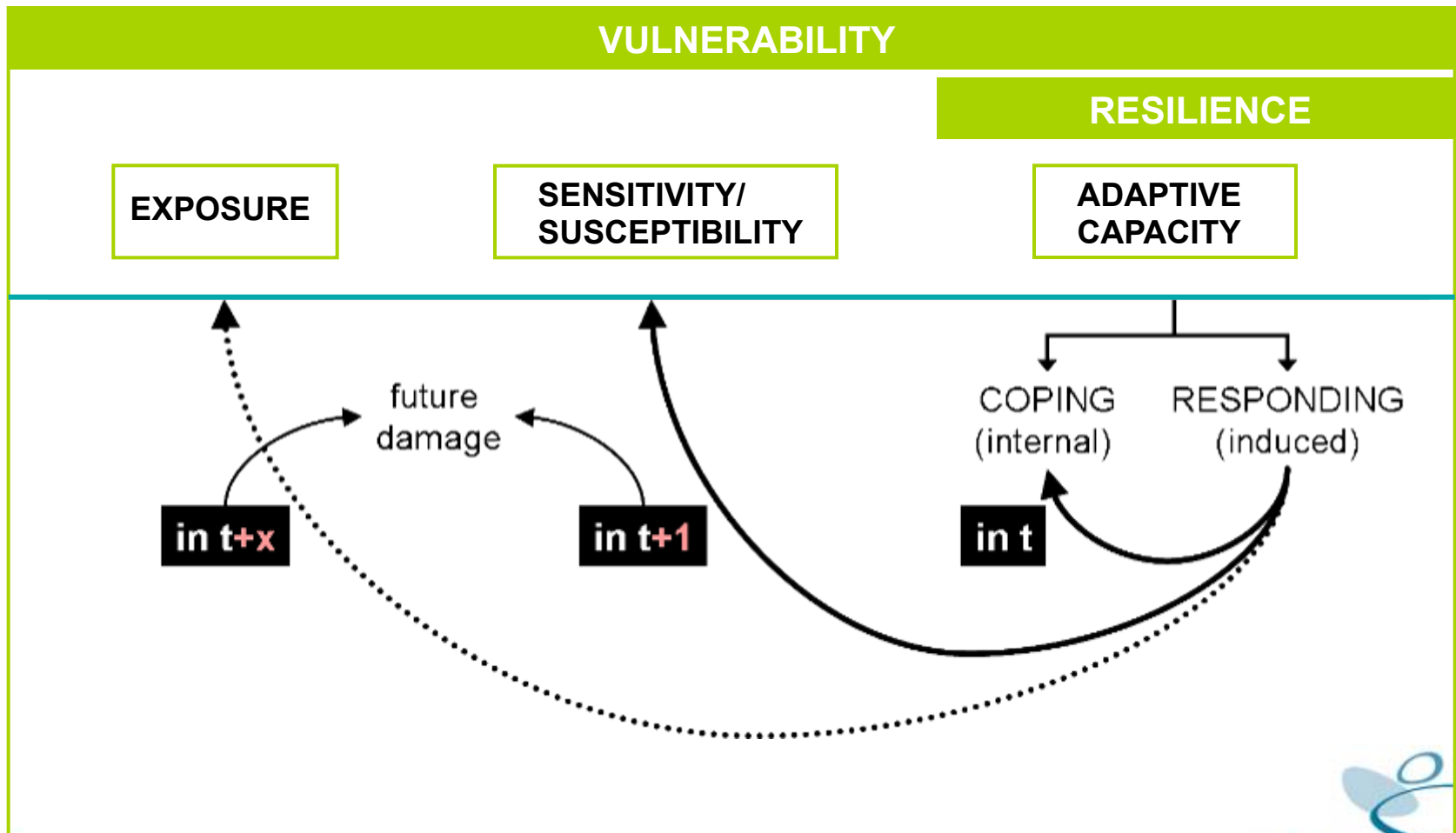
To compare study cases with each other

To explain the benefits of resilience for flood risk managers (incl. added value to Flood Risk Directive) / introduce 'resilience' in flood risk management (FRM)

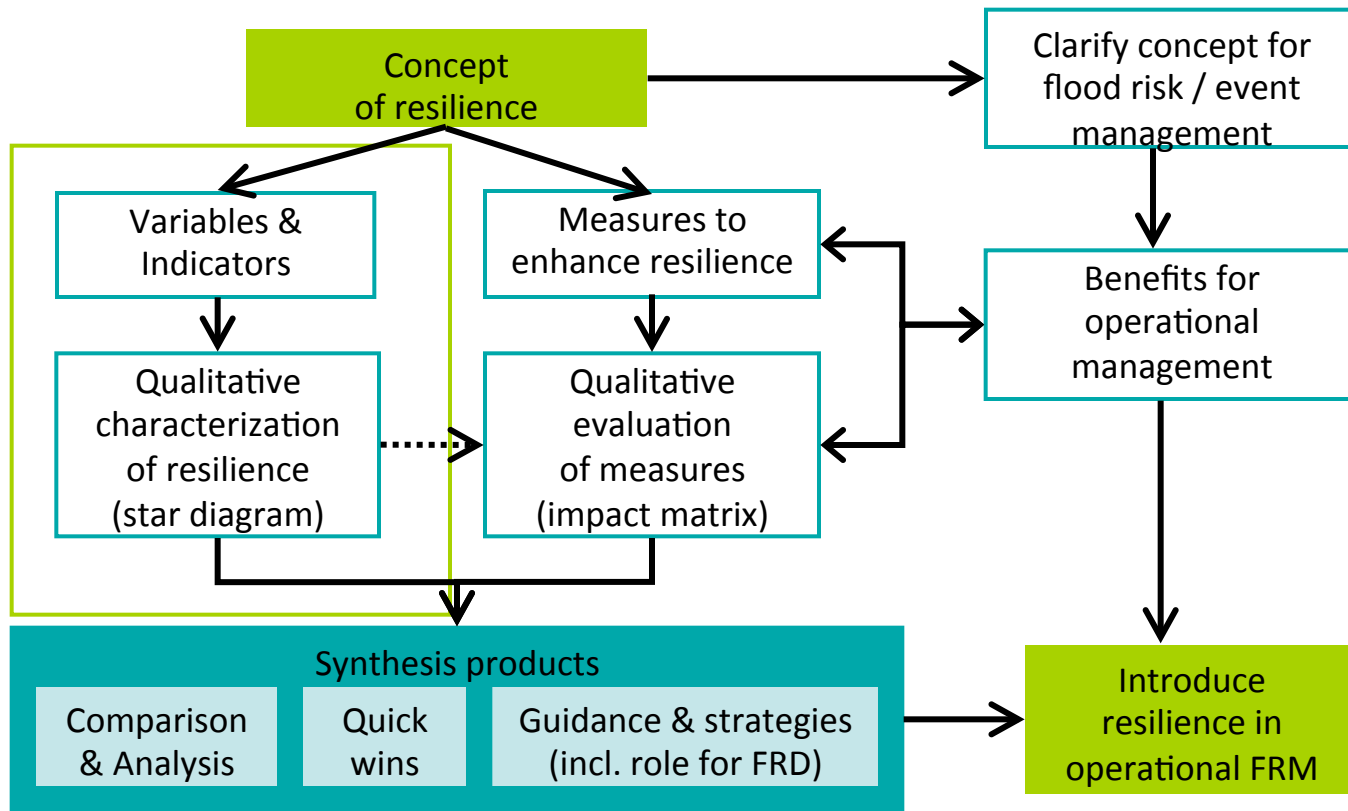
# Project Structure



# Summarized

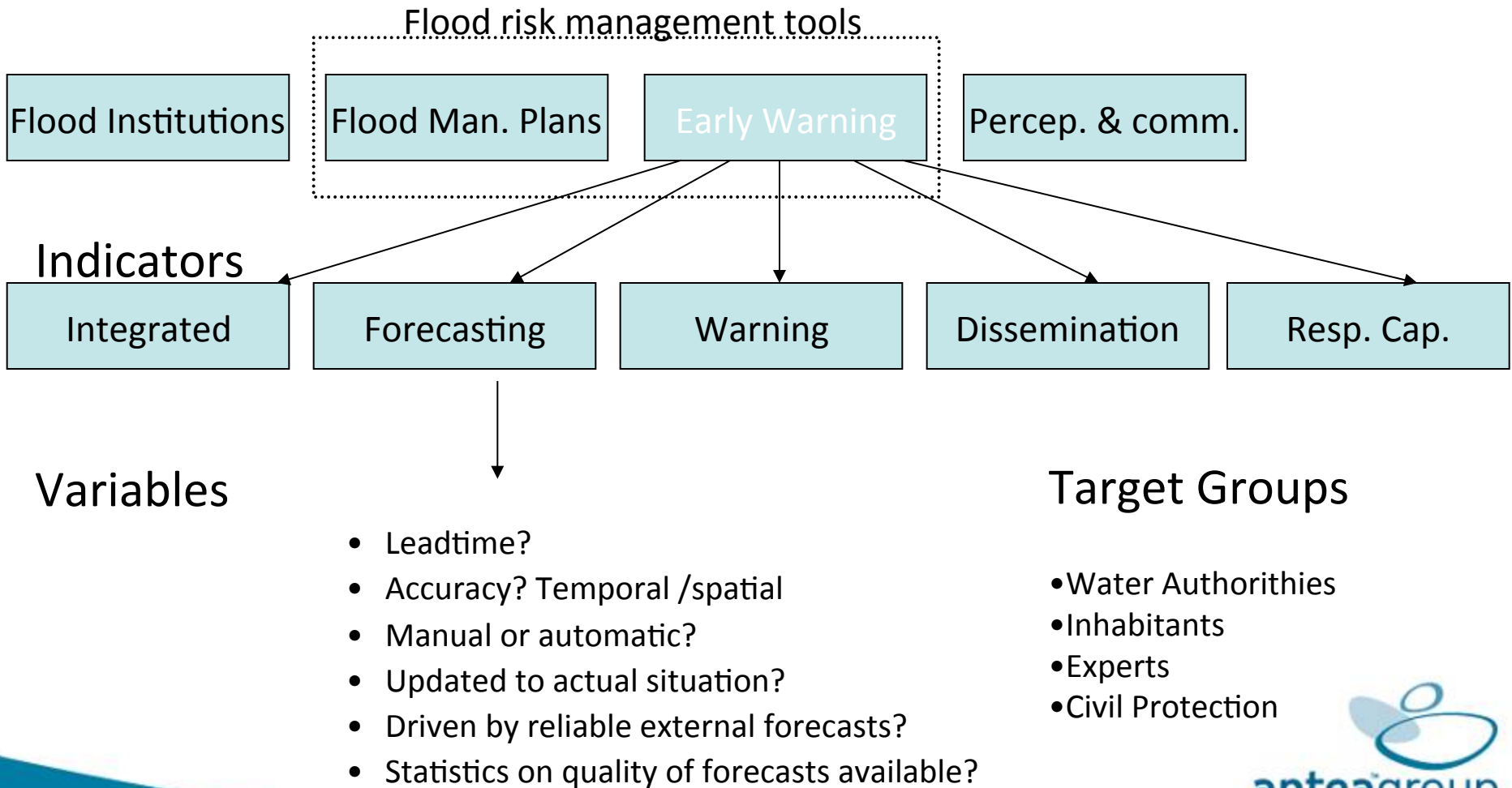


# Methodology & strategy





# Indicators & variables



# *Flood Management Plans*

## *Public awareness & participation/Comm.*

- Are people aware of the risks of living in a flood risk zone?  
**Awareness - participation**
- Do people support FRM measures even if this imply sacrifices? **Participation – cornerstone**
- Is the information on flood prevention and protection plans easily accessible? **Information – accessibility and understanding**
- Is the information on flood prevention and protection plans transparent? **Information - transparency**

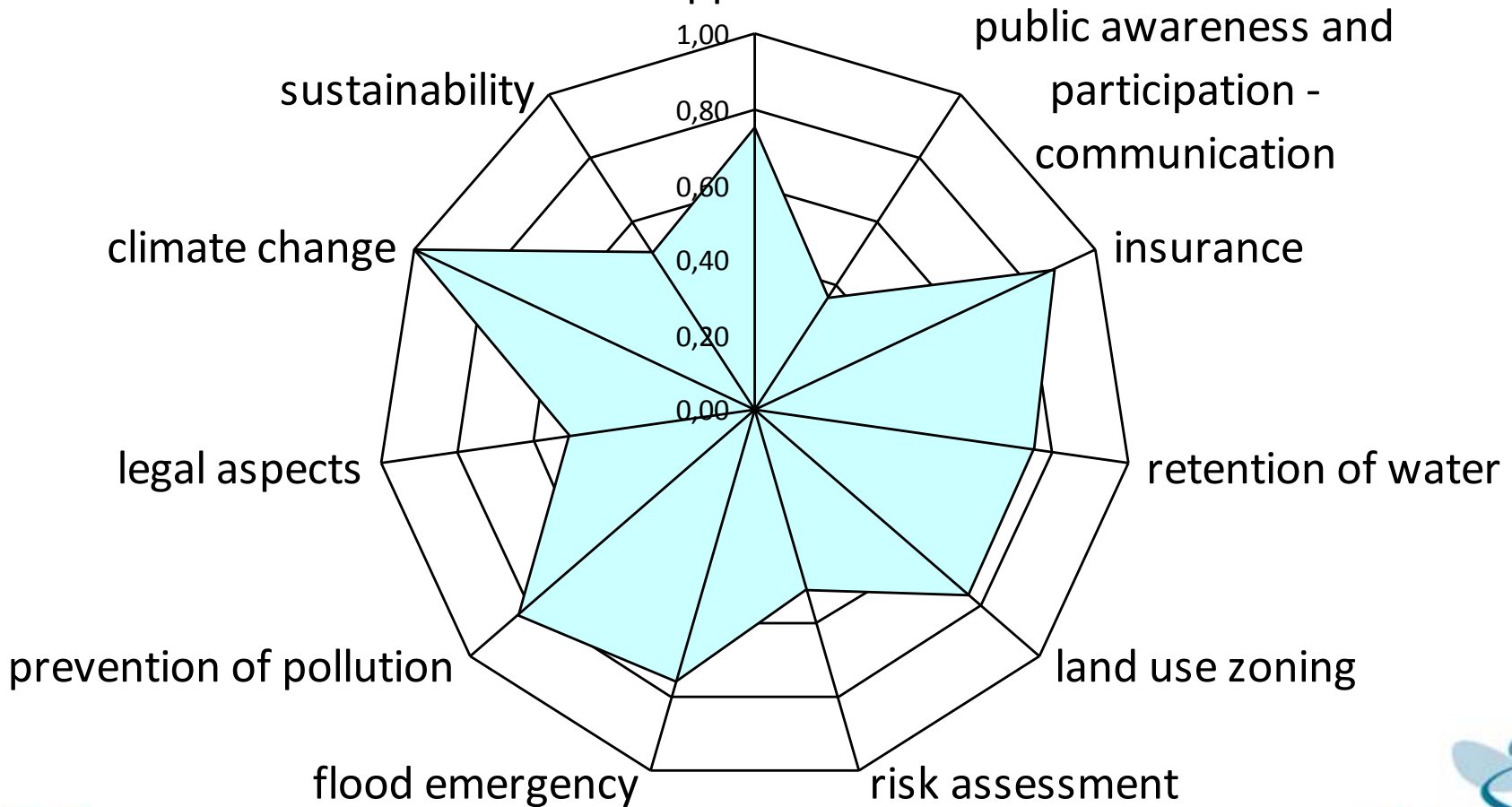
# *Flood Management Plans*

## *Public awareness & participation/Comm.*

- Are people involved in decisions taken on FRM? **Decision-making**
- Are public engagement and support to FRM promoted by many channels? **Awareness – Communication**
- Are local communities, their networks and the institutions prepared for flooding? **Awareness – preparedness**

# Flood Management Plans

integrated river basin  
approach



# Early Warning Systems

## Technology

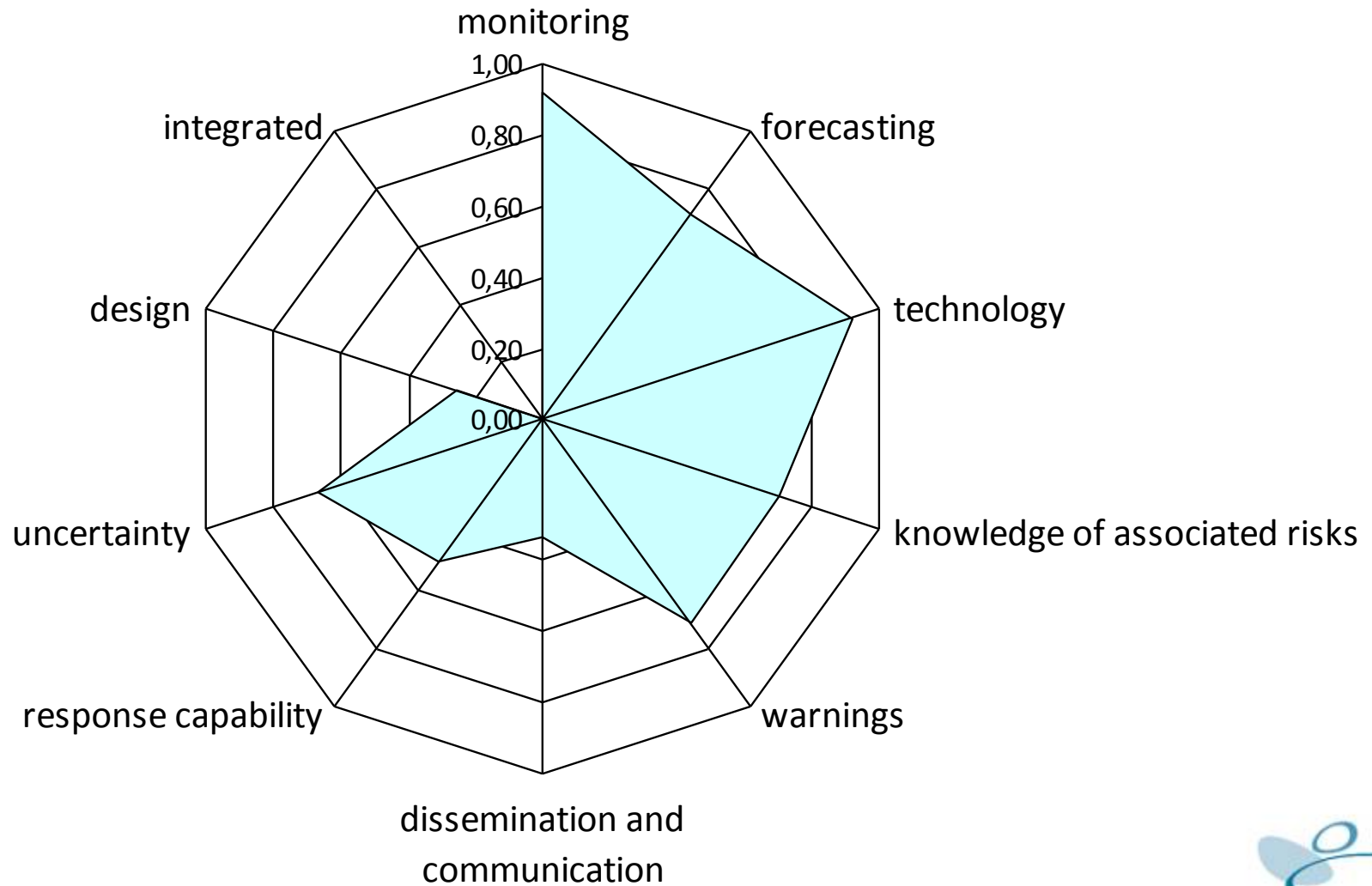
- Is the system state-of-the-art? **Improved/new technologies**
- How often is the system unable to send out warnings? **Downtime of the system**
- Are standard ICT practices implemented in your server centre? **Implementation of standard ICT practices**
- Has the model been tested for extreme/rare events? - **Tested for rare situations**

# *Early Warning Systems*

## *Technology*

- Is the whole chain of the system tested regularly? - **Testing of the whole chain**
- Do you have enough resources for calculations and data handling? - **Resources for heavy calculations**

# Early Warning Systems



# Understanding Today Improving Tomorrow

## Thank You

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