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The Interreg IVB  
North Sea Region  
Programme



# FD/ WFD Implementation Process Strategies in the Partner Countries

*Flood Risk Management Conference-  
North Sea Region*

*Speaker: Natasa Manojlovic, TUHH*

17. November 2011



# Agenda

- ❖ Baseline for planning in partner countries
- ❖ Implementation status
- ❖ Flood Risk Management Planning
- ❖ Synergies/Conflicts with the WFD
- ❖ Lessons learned

## Baseline for planning in partner countries



→ What is the appropriate strategy for implementation of FD, focusing on FRMP?




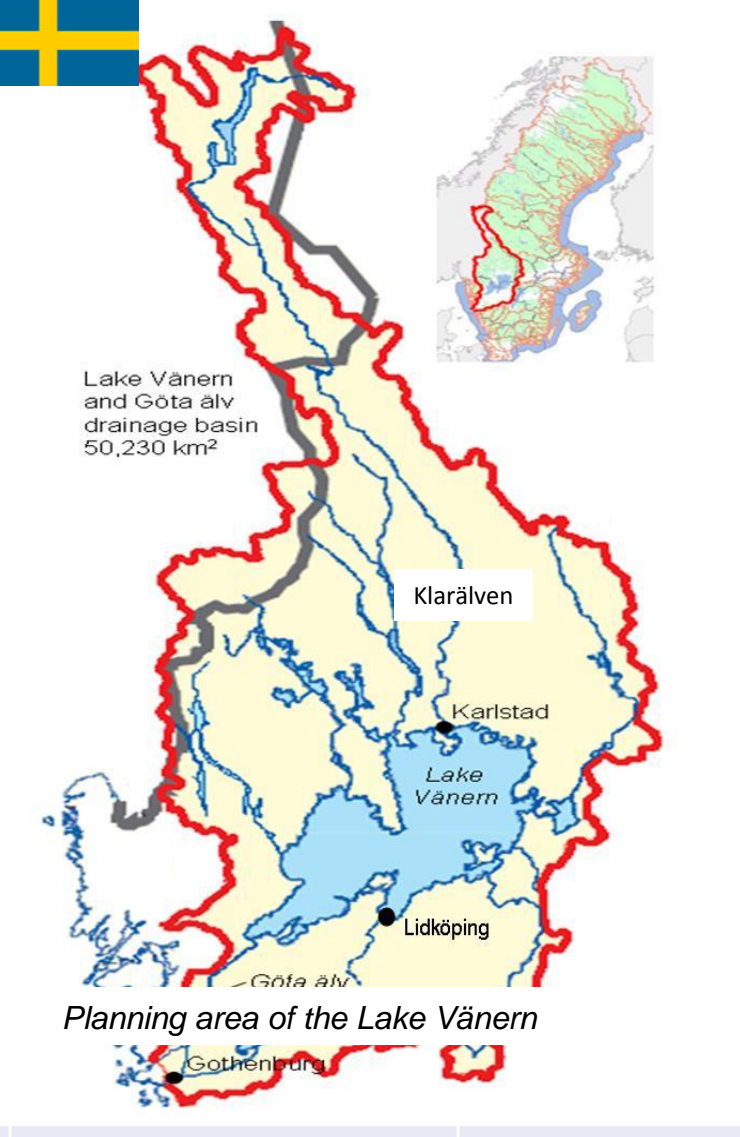





→ Is it possible to have one common strategy?

→ How to involve stakeholders?

→ What is required to develop a FRMP?

→ How to harmonise the FRMPs with RBMPs and other planning activities?

# Baseline for planning in partner countries

|  | Planning area   | Flood Type | Hazard Situation | Physiography & Landuse   | Flood-Runoff [m <sup>3</sup> /s] |
|--|---|------------|------------------|--|----------------------------------|
| <br><br>Vänern<br>Klarälven |  <p><i>Planning area of the river Tana</i></p> |            |                  |  <p>Lake Vänern and Göta älv drainage basin 50,230 km<sup>2</sup></p> <p>Klarälven</p> <p>Karlstad</p> <p>Lake Vänern</p> <p>Lidköping</p> <p>Göta älv</p> <p>Gothenburg</p> |                                  |
| <br>Hunze en<br>Aa's   |   |            |                  |  |                                  |
| <br>Wandse   |   |            |                  |  |                                  |
| <br>Illmenau   |   |            |                  |  |                                  |
| <br>Gaula  |   |            |                  |  |                                  |
| <br>Tana   |   |            |                  |  |                                  |

# Baseline for planning in partner countries

Preliminary FRA

Flood Maps

Flood Risk Management Plans



Klarälven



Hunze en Aa's



Wandse



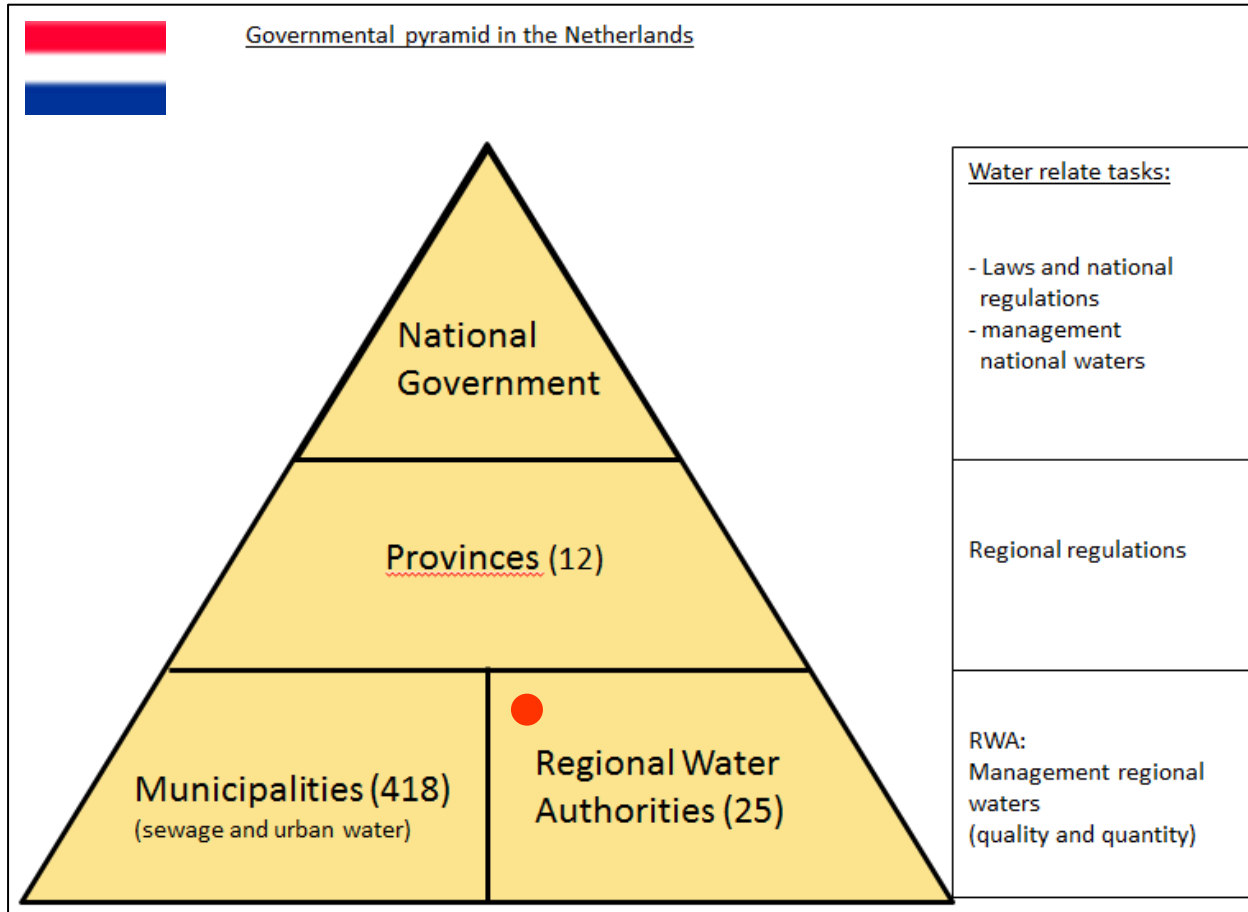
Illmenau



Gaula



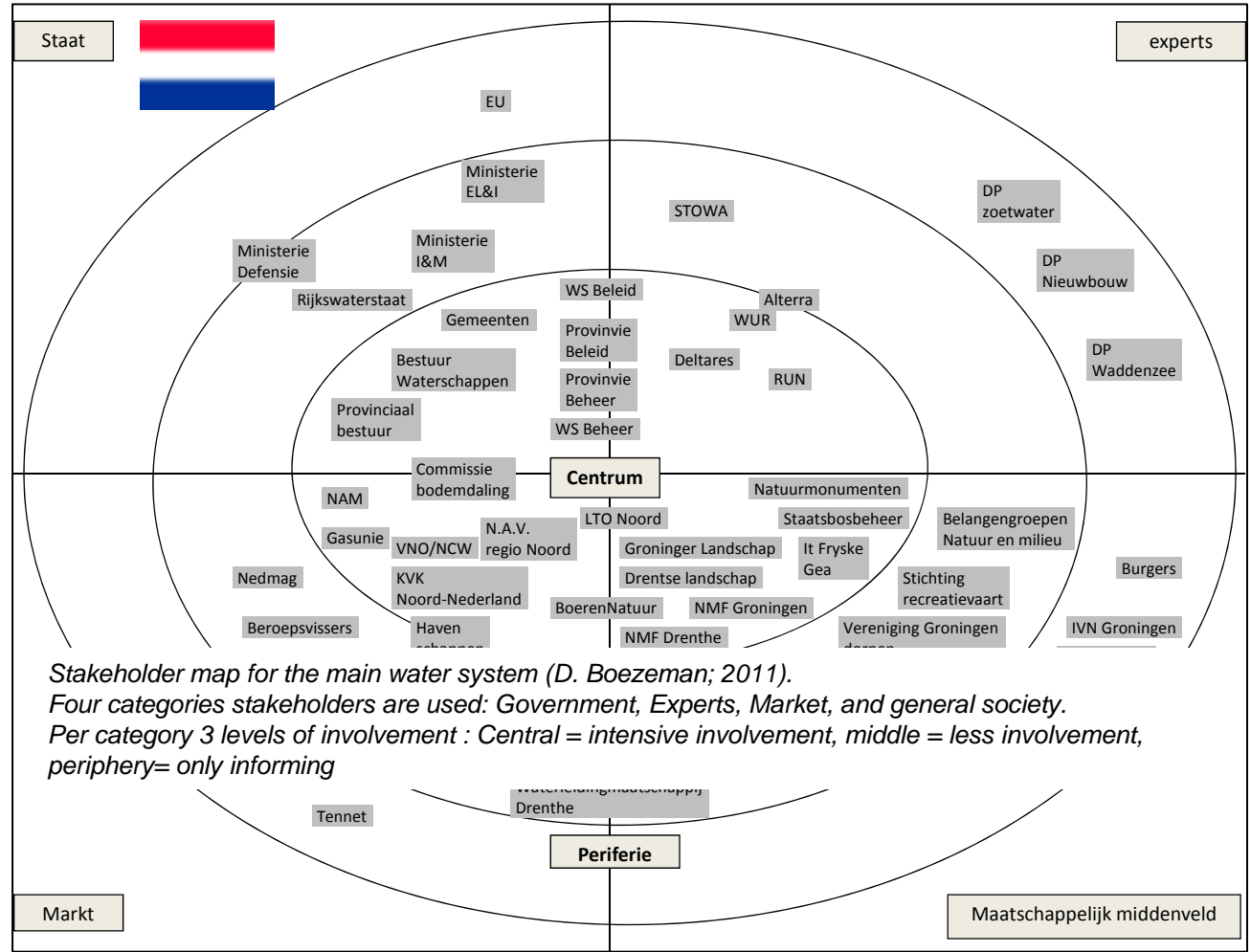
Tana



# Flood Risk Management Planning



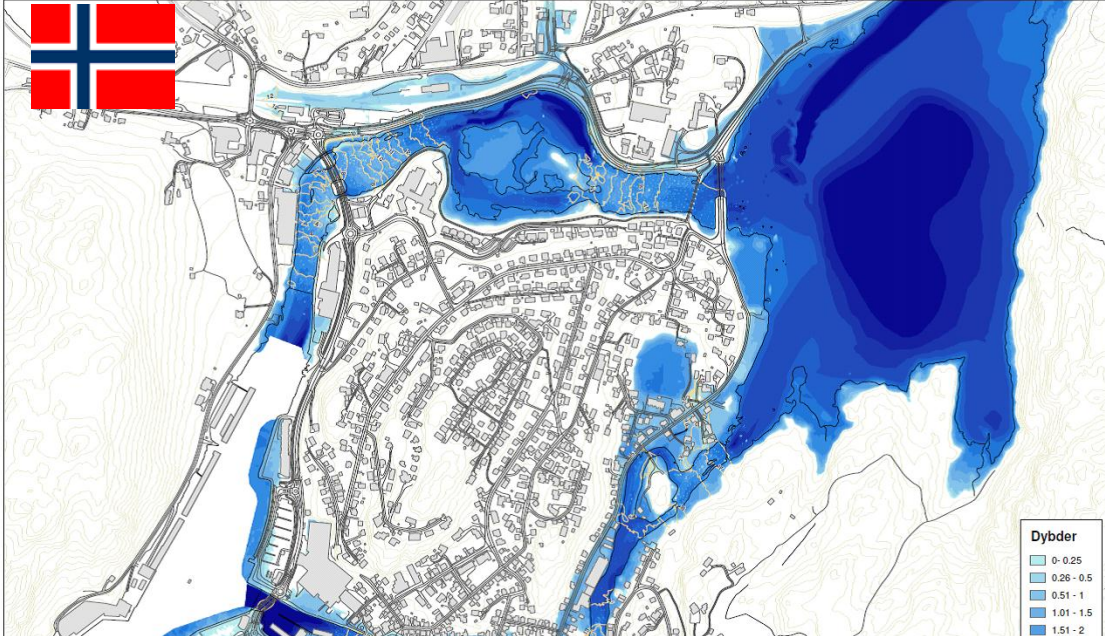



| Type of Stakeholder Involvement | Stakeholders addressed | Final Product and Legitimacy of the plan |
|---------------------------------|------------------------|--|
|---------------------------------|------------------------|--|

-  Vänern Klarälven
-  Hunze en Aa's
-  Wandse
-  Illmenau
-  Gaula
-  Tana



Stakeholder map for the main water system (D. Boezeman; 2011).  
 Four categories stakeholders are used: Government, Experts, Market, and general society.  
 Per category 3 levels of involvement : Central = intensive involvement, middle = less involvement, periphery= only informing

# Flood Risk Management Planning

|  | Definition of objectives  | Climate change aspects  |
|--|---|---|
| <br>Väner<br>Klarälven | -varying the water level in the lake<br>- it is a trade off and should be discussed with the group  | -Projected changes in extreme 'design flood'<br>- Projected changes in 100 year flood |
| <br>Hunze en<br>Aa's   | - CBA as a  |    |
| <br>Wandse             | -a matter of acceptance result<br>- 200 year f  |   |
| <br>Gaula              | Good practice for impl. of t level  |   |
| <br>Tana             | Good practice for impl. of t level  |   |
|  | <p><i>Inundation depths for the 200-year flood for an area in southwestern Norway, taking account of a 40% increase in peak discharge and a 1.26 m increase in sea level.</i></p> |   |

# Flood Risk Management Planning

## Examples

Capacity Building  
tool

DSS



Vänern  
Klarälven



Hunze en  
Aa's



Wandse



Illmenau



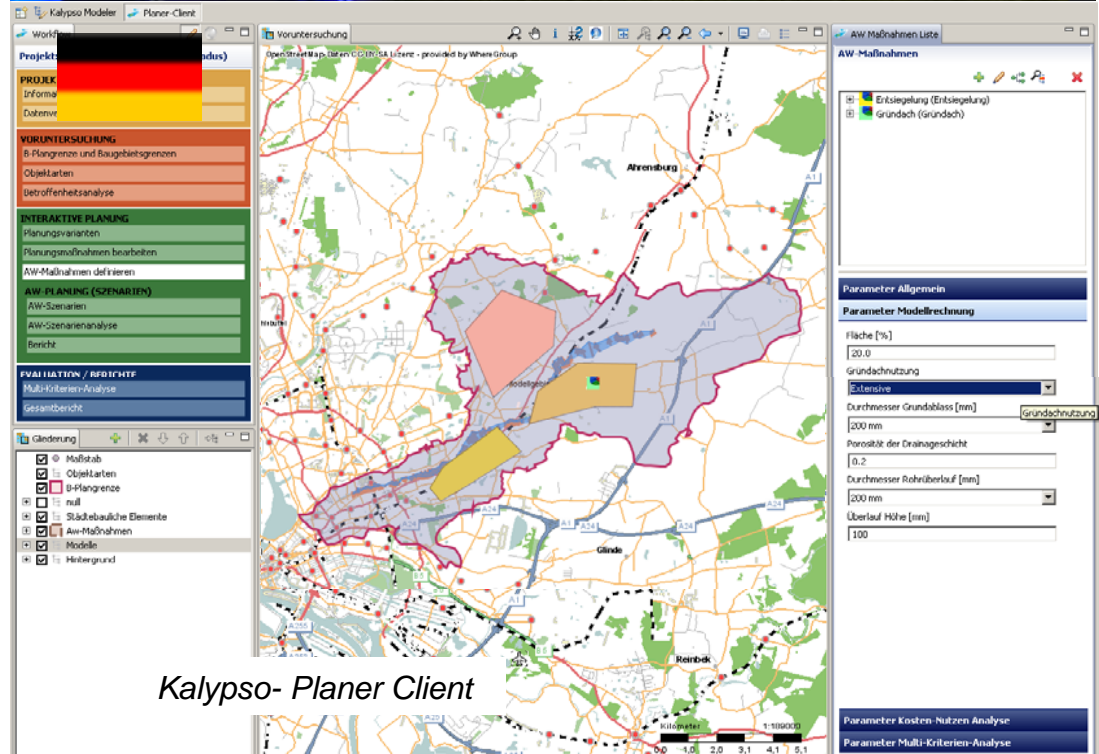
Gaula



Tana




Flood Animation Studio



Kalypso-Planer Client

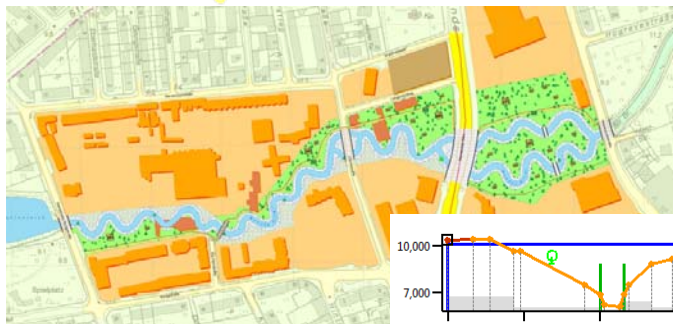
# Synergies/Conflicts with the WFD

|  | Included in planning | Synergies between WFD/ FD                   |
|--|----------------------|---|
| <br>Väneren | no                   | not assessed as relevant for the study area |

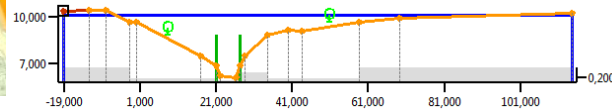
*Wandse, Germany*



*Assessment of potential*



*Planning*



*Quantification of the effect*

*Hunze, the Netherlands*



*Re-meandering of the river Hunze in combination with land use change; near Spijkerboor*



## Lessons learned

- Difficult to get a common approach for FRMP due to variety of flood situations, organisational structures and national contexts (*all*)
- Capacity building is an important aspect and should underline the planning process, make the sessions attractive (*all*)
- Include stakeholders in an early stage (*Germany, Norway*)
- Duration of the process individual from 5 months to 2 years, depends on the level of detail or DSS application (*all*)
- Application of DSS time and resources intensive but necessary! Important to deliver facts (*Germany, The Netherlands*)
- One of the main benefits from the process is seen in initiation of cross sectoral communication and mutual trust (*Sweden, Germany*)
- It is possible to harmonise WFD and FD, but important to quantify the effect of WFD measures to flood situation (*Germany, all*)
- Climate Change aspect in FRMP needs more research (*all*)
- FRMP: For success of the process important to make transparent what is to expect as a result and the legitimacy of the plan (*all*)

# Thank you for your attention!



 **MELHUS  
KOMMUNE**

 Norwegian  
Water Resources and  
Energy Directorate



 **KARLSTAD.SE**

 Länstyrelsen  
Värmland



 Hoogheemraadschap van  
**Delfland**

 **WATERSCHAP  
Hunze en Aa's**

 Waterschap NOORDERZIJLVEST



 Landwirtschaftskammer  
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