

Nature Development and Flood Risk Management combined along the River Rhine – Experiences from a transnational cooperation within the SDF project

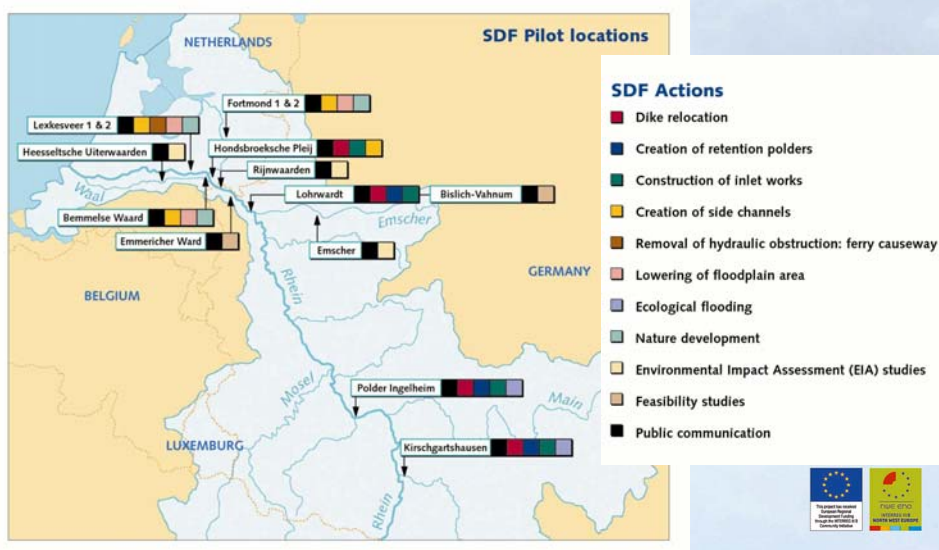
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SDF Pilot Projects



Combined measures

- **Main objective of SDF is to implement flood prevention measures and to contribute to nature development and sustainable nature conservation**
- **Link different interests and objectives, such as improvement of spatial (landscape) quality, added value for recreational use, and even if smartly used possibilities for mineral extraction**
- **4 examples will follow**



Type of projects (1)

- **Nature development** (and landscape development) **is the driving force** and which incorporate protection against the risk of flooding as a secondary objective (these projects include Bislich-Vahnum, Emmericher Ward).



Type of projects (2)

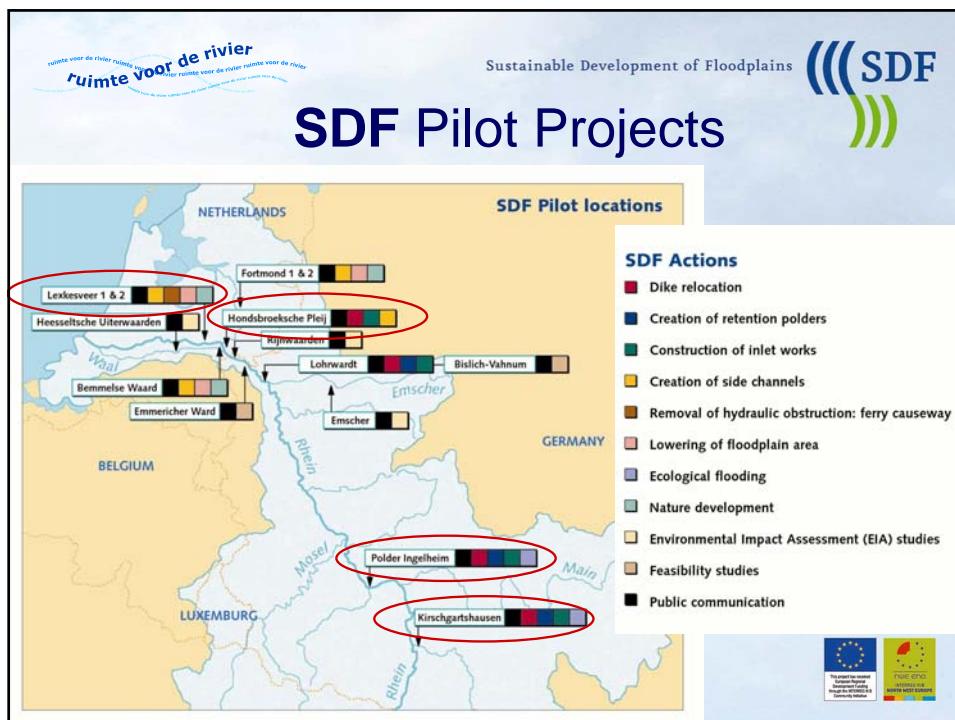
- Projects that were **originally dedicated to nature development** but in which progressive insight caused **security to become a secondary, or even a primary, objective**. This category covers all projects in the Netherlands in the “Nature development in the rivers area” programme (Heesseltsche Uiterwaarden, Rijnwaarden, Bemmelse Waarden, Fortmond, Lexkesveer), and Emscher in Germany.



Type of projects (3)

- Projects whose **original intention was to reduce the risk of flooding** but which **eventually incorporated the objective of nature and landscape development over time** (Ingelheim, Kirschgartshausen, Hondsbroeksche Pleij, Lohrwardt).





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Sustainable Development of Floodplains **SDF**

Dyke relocation at Kirschgartshausen

- ◆ Retention area of 75 ha with about 1.7 million cubic meters retention volume
- ◆ Dyke relocation
- ◆ Reconnection of an old channel
- ◆ Ecological flooding at every flood event
- ◆ Pumping stations to control ground water levels
- ◆ Development of floodplain forest
- ◆ Land exchange through eco-account principle

Logo of the European Union and the Dutch Ministry of Infrastructure and Water Management.

Dyke relocation at Kirschgartshausen



Recent situation:

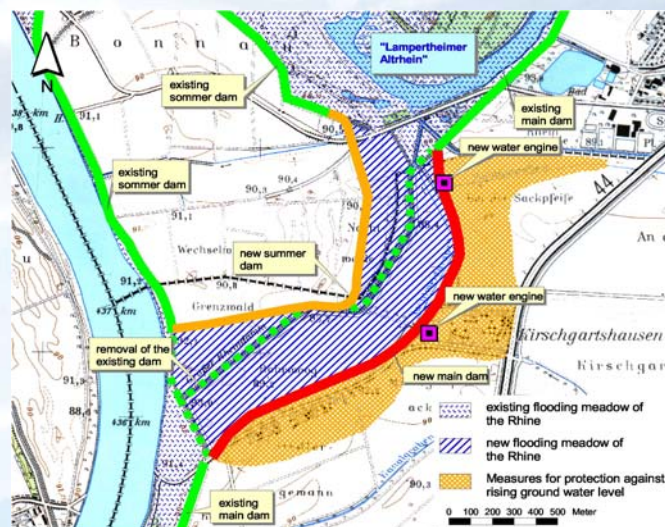
Summer polder flooded at a discharge of 4000 m³/s of the River Rhine

Future situation:

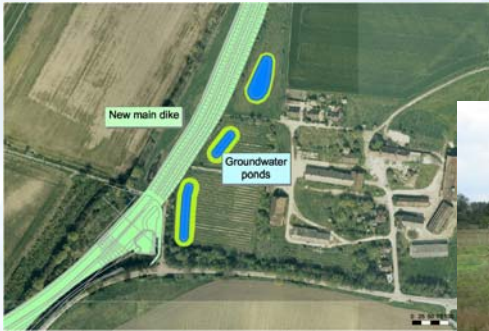
◆ Dike relocation and optimisation of in-stream opening
◆ Ecological floodings



Dyke relocation at Kirschgartshausen



Dyke relocation at Kirschgartshausen



Retention polder at Ingelheim/Mainz

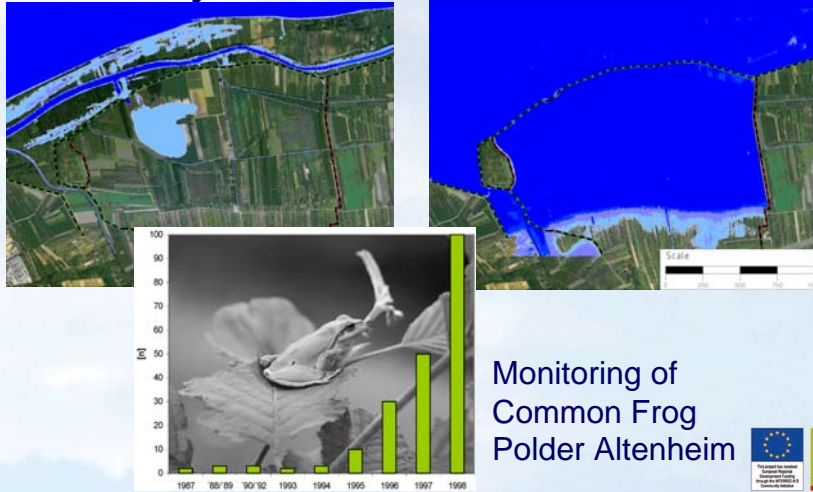
- ◆ 160 ha with 4.5 million cubic meters retention volume
- ◆ 2 new dykes constructed
- ◆ Inlet structure
- ◆ Reconnection of an old channel
- ◆ Ecological flooding
- ◆ Monitoring results from Polder Altenheim are promising



Polder Ingelheim



Retention polder: ecological flooding & 1/200 years event



Retention polder at Ingelheim/Mainz



Inlet and area of ecological flooding





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Dyke relocation Hondsbroeksche Pleij

The slide contains a map on the left and an aerial photograph on the right. The map shows the 'Hondsbroeksche Pleij' area with various features labeled: 'ferry ramp', 'lowered ferry access road', 'river marsh', 'dumping station', 'Westervoort', 'new dike', 'marsh', 'Boswachterpleij', 'old branch', 'high water channel', 'weir', 'new meadow', 'ferry access road', 'LOUWER PLING', and 'HONDSTROEKSCHE PLEIJ'. A scale bar indicates 0 to 200 meters. The aerial photograph shows the river curving through the landscape, with a large area of green fields and a small building complex near the riverbank.

Project "Hondsbroeksche Pleij"

Birds Eye View



Lexkesveer – side channel development



- Removal of hydraulic obstruction: bridge construction
- Replace access road to the ferry combined with a side channel





Benefits from combined measures

- Improvement of network of riverine ecotopes by re-connecting river and floodplain and side channels
- Flood alleviation measures in a big catchment differ a lot (e.g. retention versus drainage), good understanding and exchange of experiences
- Kirschgartshausen was not implemented by now without SDF => EU money has accelerated the decision making process

Further attention for ...

- Dynamic river management and consequences on discharge capacity
- Exchange of concepts on compensation and nature management
- Adjustment and cooperation on boundless ecological networks (Natura 2000, others EU Directives)



Project information / Website

Website:

www.sdfproject.nl

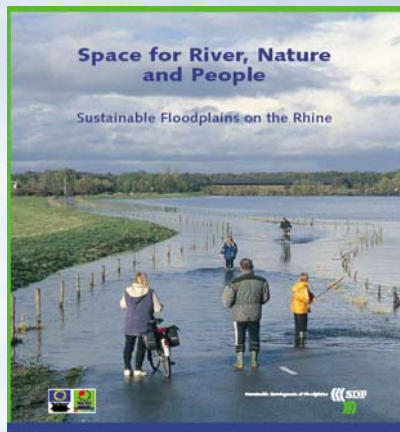
- Three Languages: German, Dutch, English

SDF Video

German, Dutch, English

SDF Project Book :

English, German



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