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Sustainable development of floodplains (SDF) project

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Abstract

The sustainable development of floodplains (SDF) project is an EU-funded, trans-national co-operation between Germany and The Netherlands that deals with flood prevention and nature development along the river Rhine.

The SDF project deals with issues in the catchment area of the river Rhine to ensure sustainable development of its floodplains. The issues addressed in this project are trans-national by nature, because sustainable flood management strategies require interregional and trans-national co-operation throughout the river basin. SDF consists of intensive trans-national co-operation involving eight partners in The Netherlands and Germany, which will increase the mutual respect and understanding, by developing measures with trans-national impacts, common issues and in trans-national teams. SDF encompasses 12 pilot projects with an operational focus. SDF partners share knowledge on project management, technical solutions and public participation processes. SDF is co-financed by the European INTERREG IIIb programme which contributes to accelerated implementation of various plans on flood prevention.

Keywords: Flood prevention; Nature development; Public participation; Communication; EU-funding; Trans-national co-operation; Retention; River engineering; Sustainable development; Multiple land use

1. Introduction

The high-water levels of the last decade at different locations along the river Rhine in Germany and The Netherlands led to drastic measures, such as evacuation of communities and construction of emergency dams and dykes. The damage caused by flooding ran to billions of dollars. In future, flooding risks are predicted to become more frequent and acute due to climate change, sea level rise and land subsidence. To take measures within the catchment area, trans-national co-operation is crucial to protect the people on the long-term.

Between 1997 and 2003, relevant authorities in France, Germany, Luxembourg, Belgium and The Netherlands carried out flood control projects and studies, funded by the Interreg Rhine Meuse Activities (IRMA) programme (INTERREG IIc). SDF's innovative approach will lead to better water retention by increasing the floodplain area and by taking good design solutions in floodplains.

The SDF project is co-financed by the European INTERREG IIIb programme of flood prevention and water management. The SDF project will invest Euro 32 million in relocating dykes, creating new polder, side channels, inlets and in nature development. Through the EU co-financing, various plans on flood prevention can be implemented sooner than anticipated.

2. Objectives of the project

The overall objective of the SDF project is to have developed floodplains for sustainable multifunctional use in and along the main river Rhine aiming at reducing high-water floods. An important underlying objective is a solid operational network, exchanging/transferring knowledge and disseminating it to many other authorities responsible for similar tasks throughout Europe.

Project goals are:

- improved river engineering and navigation by flood prevention measures and technical designs, contributing to the implementation of the trans-national Rhine Action Plan;
- improved nature and environment development, e.g. creating liveable space (sustainable multifunctional land

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use) by elaborating the multiple land use concept into natural development strategies and into territorial planning policies;
- enhanced social action and communication, e.g. setting up a trans-national co-operation network of responsible authorities (to support also other projects in the future) as well as creating a cross-sectoral network for flood management.

The logical framework of SDF is built on the view that sustainability consists of an integrated approach on the above main issues. Sustainability will become prominent in the maintenance stage but has to be taken into account in the design during the planning stage and the implementation (Fig. 1).

3. Innovative approach

The innovative approaches for territorial planning especially aim at multiple land use in floodplains, public–private-partnerships for floodplain and nature development, voluntary interregional co-operation and co-operative planning approaches for retention measures and multi-stakeholder processes.

Due to the diversity of responsibilities for flood management in Europe and by a lack of co-operation in river basins on the implementing level common approaches, quick realisation and mutual understanding have been difficult up to now. Through SDF considerable progress is to be made towards a common realisation of spatially, ecologically and economically important measures for sustainable floodplains. This way of practical co-operation on concrete measures, between trans-national partners from far upstream to far downstream along a main river on concrete measures can be considered as absolutely innovative for Europe.

The standard measure for flood protection that predominated in the past was dyke heightening. After the big floods in the 1990s, there was a radical break from ''higher dykes'' philosophy, and a new approach was launched called ''Room for the River''. The SDF project is a unique opportunity to implement on a large scale this innovative approach to water retention by creating or redeveloping floodplains along the Rhine's main course.

4. Project activities

In the Action Plan of Flood Defence of the International Commission on the Protection of the Rhine (ICPR), 54 floodplain measures in the Rhine catchment were designated along the Rhine river, in the framework of SDF 12 will be developed in a sustainable way. Between now and 2007, a retention capacity of 26.5 million m^3 will be created in an area of 21 km^2. This is one big step in order to reduce the flood levels by 70 cm in 2020.

Through the investments extended floodplains will be created providing space for rare habitats. The investments will contribute to the implementation of different trans-national strategies (e.g. ICPR Action Plan for Flood Defence, European Spatial Development Perspective (ESDP)), to reducing flood-risk in a trans-national river basin and to the creation and improvement of a border-crossing network of environmentally valuable areas along the Rhine.

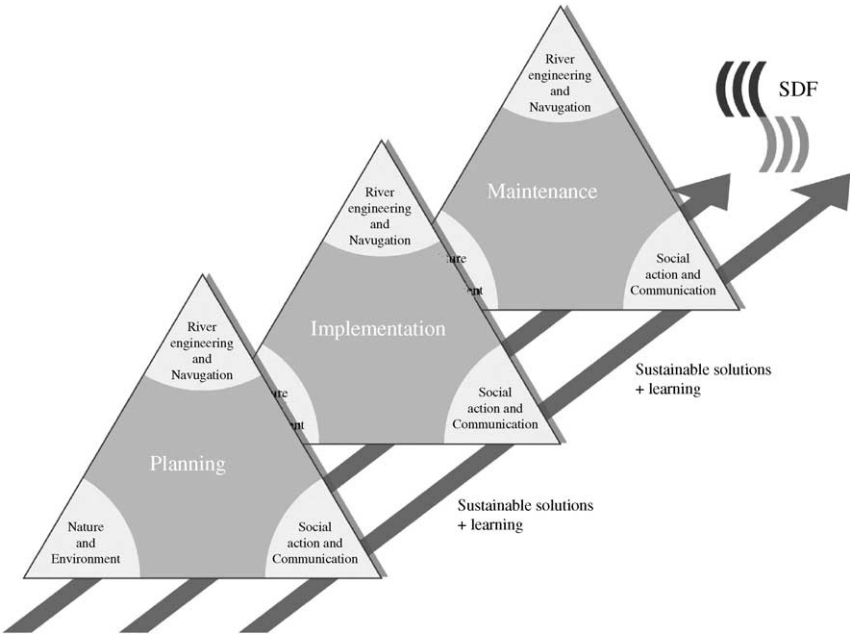

Fig. 1. Logical framework of SDF.