Measures to improve water quality parameters in the Curonian lagoon – LT

1. Policy Objective & Theme

- ADAPTATION TO RISK: Integrating coherent strategies covering the risk-dimension (prevention to response) into planning and investment

2. Key Approaches

- Integration
- Ecosystems based approach

3. Experiences that can be exchanged

It can serve as an example of complex measures intended to improve water quality of a single very large transitional water body. The end objective is the water quality in the whole transitional water body rather than the conditions in the river and it shows that straightforward implementation of EU directives does not necessarily lead to the water quality improvements locally.

4. Overview of the case

Following the EU Water Framework Directive along with the earlier Nitrate and Wastewater treatment directives there was a national programme to reduce the nutrient and organic load into the Nemunas river and the Curonian lagoon, adopted in 2006. However, the implementation of the programme could also shift the N:P ratio even more towards the nitrogen limitation, facilitating the development of the nitrogen causing cyano-bacteria blooms.

5. Context and Objectives

a) Context

The recent adoption of the EU Water Framework Directive along with the earlier Nitrate and Wastewater treatment directives facilitated the development of national programmes focusing on the reduction of nutrient and organic loads into the lakes, rivers and coastal waters. In Lithuania, nearly 80% of the territory belongs to the Curonian lagoon watershed. The Curonian Lagoon, being the largest lagoon in Europe, lies along the Baltic coast of Lithuania and the Kaliningrad oblast (province) of Russia. Presently it is characterised by very high levels of eutrophication. The water quality was for long time of concern as a problem for both recreational use of the coastal areas and the fishery because of occasional fish kills during hypoxia events facilitated by the cyano-bacteria “blooms”.

b) Objectives

The short term objective is to reduce the nutrient and organic pollution from both diffuse and point sources in the Nemunas watershed according the EC directives by 2010. The long term objective is to achieve the good state for the water quality in the Curonian Lagoon according to bathing water requirements by 2015.

6. Implementation of the ICZM Approach (i.e. management, tools, resources)

a) Management

As the comprehensive measures cover nearly the whole territory of Lithuania, the Ministry of Environment is the main body responsible for the programme implementation. Parts of the programme (mostly related to the diffuse pollution sources) will also be implemented by the Ministry of Agriculture. Local municipalities are also responsible for the local programmes of sewage treatment and sewage pipeline network development.

b) ICZM tools

This case study presents a complex approach towards ICZM comprising policy, legislative, planning and technical tools including extensive in-basin measurements with a single task focused on the transitional water body. The legislative component includes alteration of already existing norms used in the EIA,

7. Cost and resources

All resources needed to implement the programme are expected to come from the state budget (budget of all institutions involved in the implementation) and structural funds of the EU. The total cost of the programme is to be adjusted during the course of the implementation.

8. Effectiveness (i.e. were the foreseen goals/objectives of the work reached?)

The effectiveness is expected to be different for the implementation of the short term objective (definitely feasible), while the second objective due to the large size of the drainage basin

9. Success and Fail factors

The success probability of the first part of the programme according to the milestones is high, because of the quite straightforward and technically feasible objectives – given the required funding provided. However, the second objective needs much more effort and is less certain, mostly because of the very large size of the drainage basin and the non-linear response of the lagoon environment.

10. Unforeseen outcomes

The preliminary results of the programme implementation show that inter-annual variation in water quality parameters is extremely high and could be a problem for the current assessment of programme effectiveness.

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13. Sources

- “Decision on the programme to improve water quality in the Curonian lagoon”, decision by the government of the Republic of Lithuania, 2006 June 21, No. 614. 22pp. (in Lithuanian)
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