



Experiences from applying the multi- criteria-analysis - and the need for new approaches -

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Brussels March 19th 2014



Overview on exemptions

Distinction between

- **Deadline extensions:** The characterized environmental objectives for water bodies have to be achieved latest 15 years after the WFD came into force (Article 4.1). But the WFD also provides the possibility to extend this deadline (Article 4.4): Up to a maximum of two further updates of the RBMP a deadline extension can be granted. The WFD permits deadline extensions if the required environmental enhancement cannot be reached in the intended period due to **technical infeasibility, disproportionate costs** or **natural conditions**.
- **Less stringent environmental objectives**
(Article 4.5): These can be adopted if achieving the environmental goals is either **technically infeasible** or **disproportionate expensive** due to anthropogenic activities or **natural conditions**.

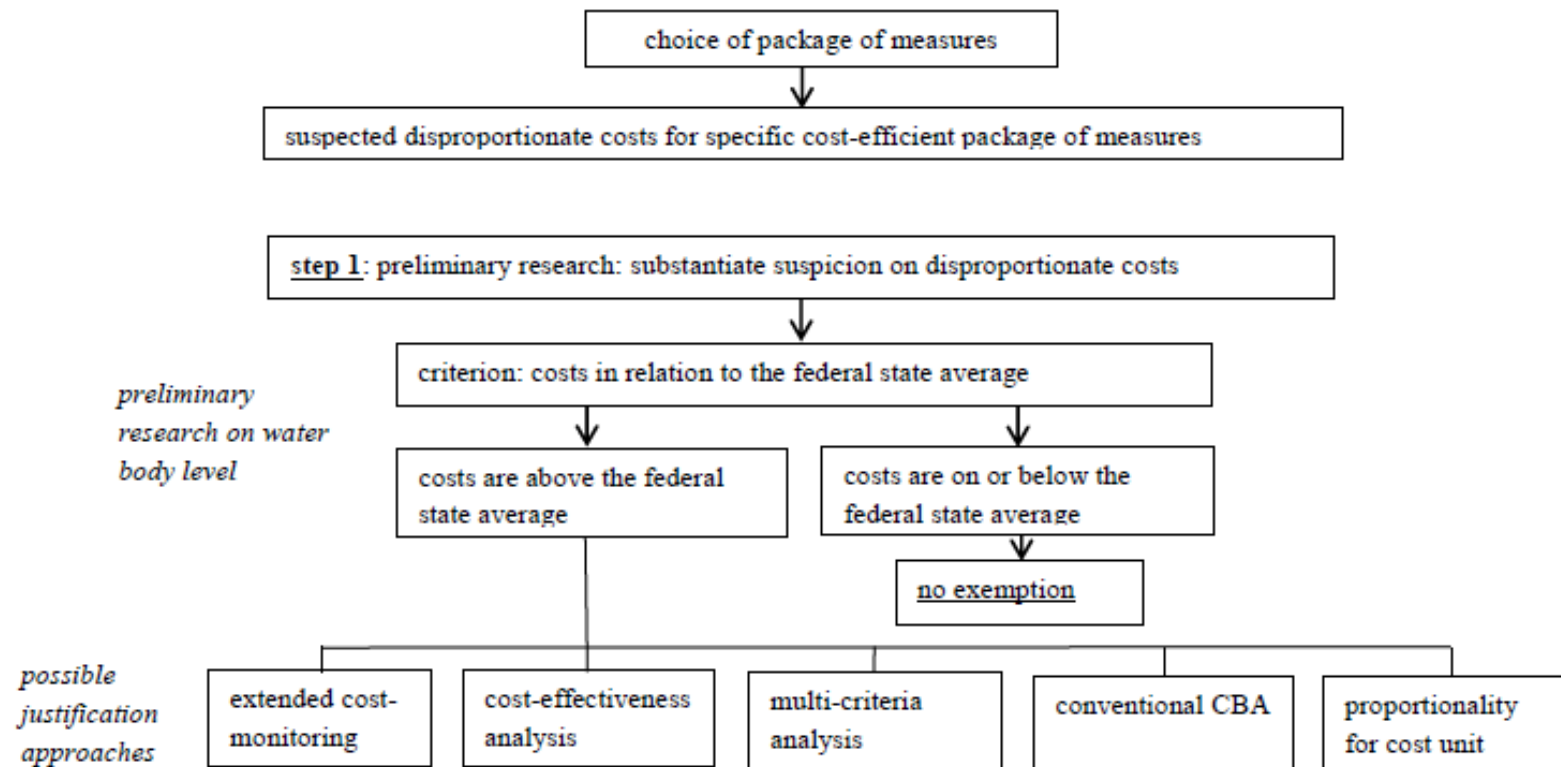
The role of disproportionate costs

“[...] the concept of disproportionate costs is neither defined in the [Water Framework] Directive, nor as a common term in environmental economics”. (Görlach & Pielen (2007))

- For that reason, Member States and research institutes develop methods which should help to justify exemptions with disproportionate costs.
- Klauer et al. (2007) provided a test scheme with 3 stages that helps to identify disproportionate costs.
- CIS (2009) suggests a cost-threshold to make sure that disproportionality does not simply mean an excess of costs compared to benefits.
- While LAWA (2009) proposes the application of CBA for the justification of disproportionate costs,
- the LAWA-financed study by University of Leipzig, UFZ & Ecologic (2009) found that the traditional CBA is not suitable in terms of the WFD because advantages of the implemented measures are not monetary measurable. Instead, they provided a combined approach of MCA and cost thresholds.



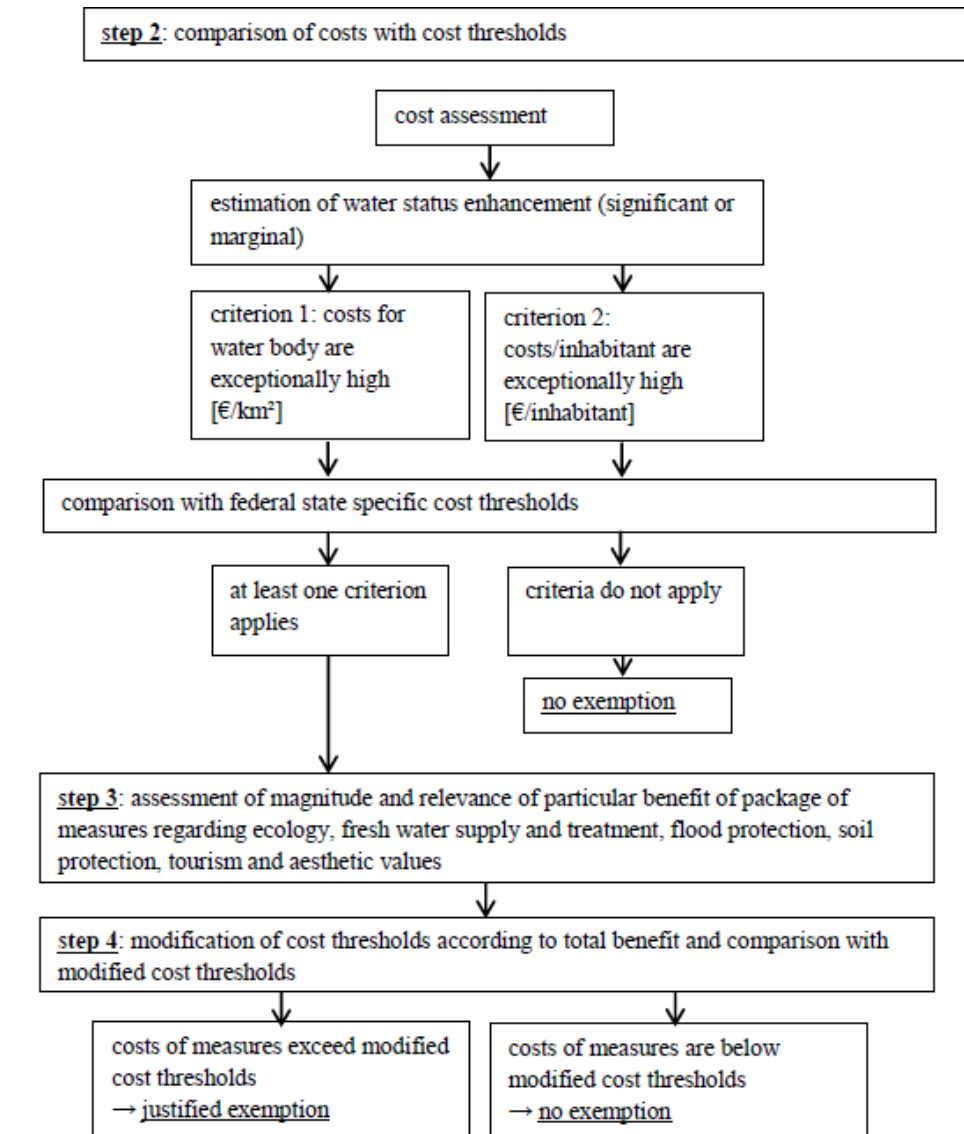
Proposed method for the identification of disproportionate costs



Modified and translated testing scheme by University of Leipzig, UFZ & Ecologic (2009)



Step 2





What is an MCA

Multi-Criteria-Analysis

- A **method** that is based on different scientific disciplines: maths, statistics, computer technology etc.
- **Objective:** to support complex decision situations
- It is a method to order different alternatives/measures with the same objective, it evaluates the typically multiple conflicting criteria
- Economically considered it is part of the superordinated concept cost-benefit-analysis
- It has a long history within the UN, the EU and other institutions

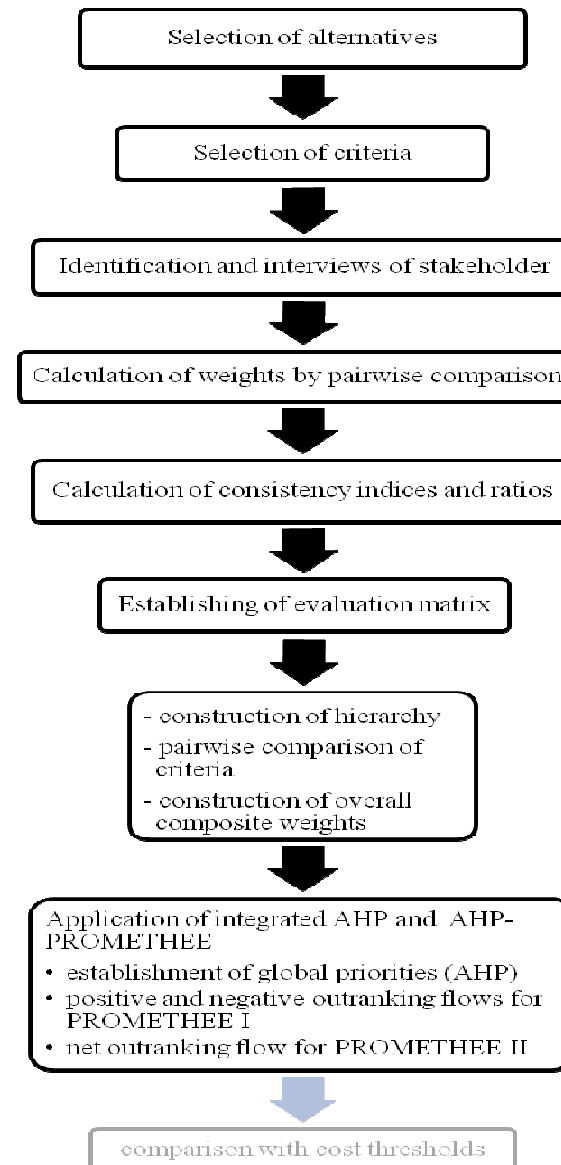


MCA methods and sequence

The four MCA methods used in the different case studies were

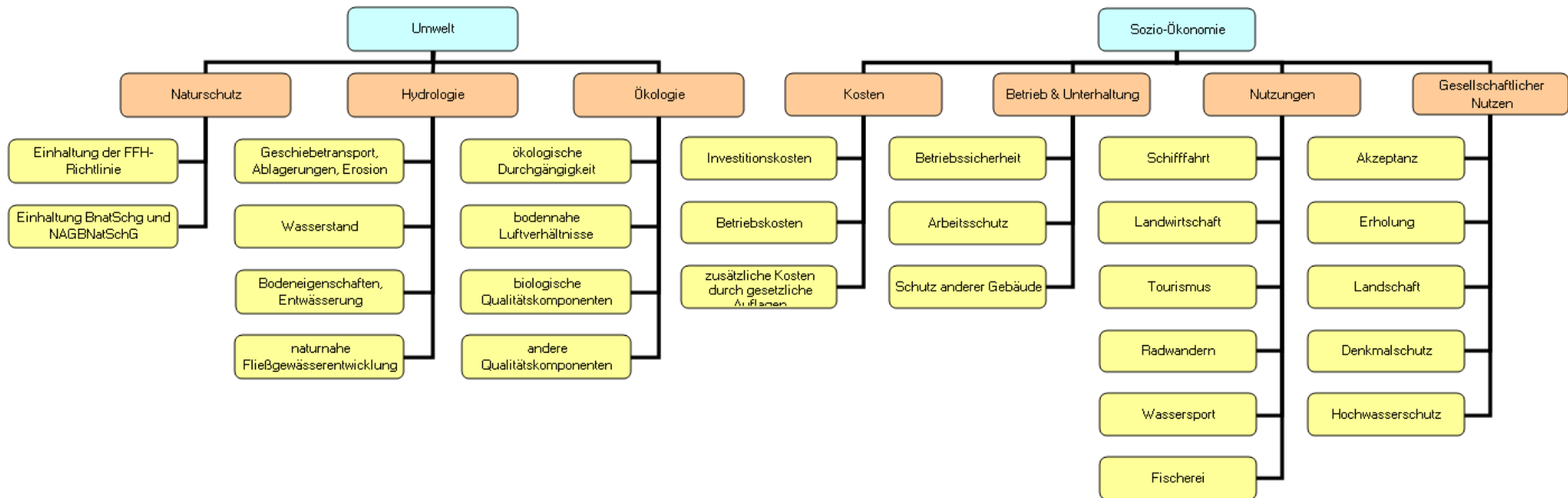
- AHP
- integrated AHP-PROMETHEE I and II
- WLC: Weighed Linear Combination
- PROMETHEE II

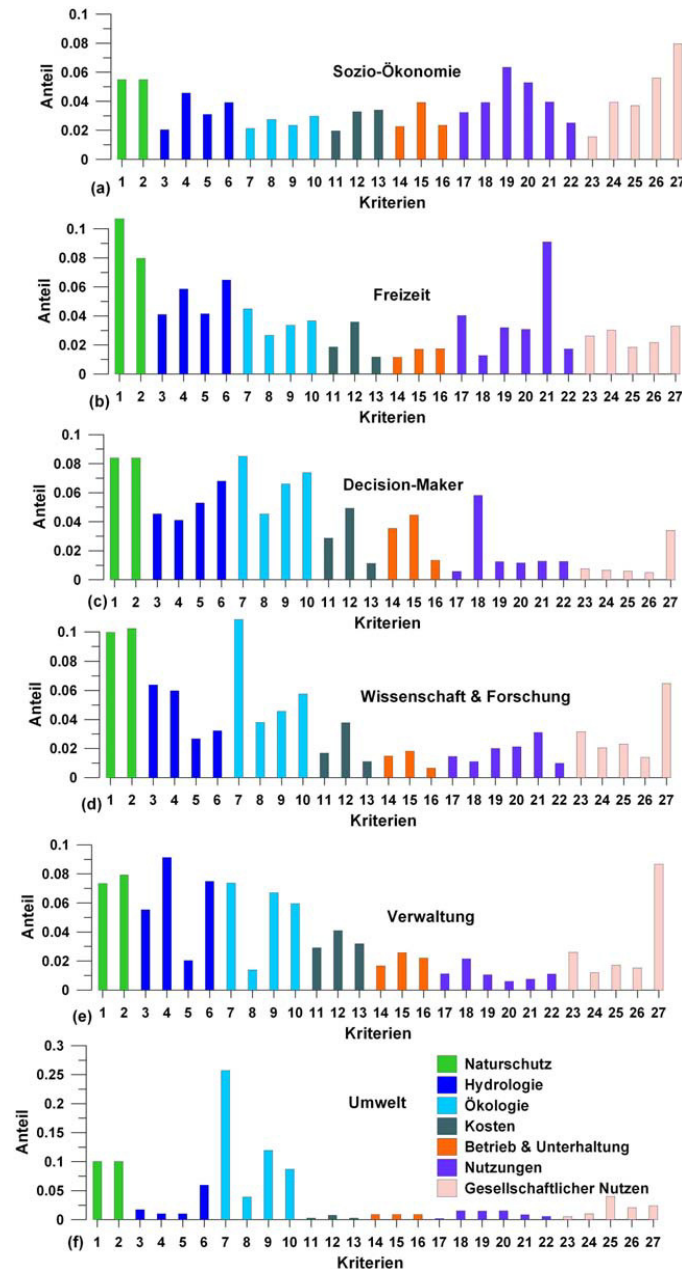
because these methods have been widely used in the field of water management (Hajkowicz & Collins, 2007). The sequence of the described methodology is displayed here:





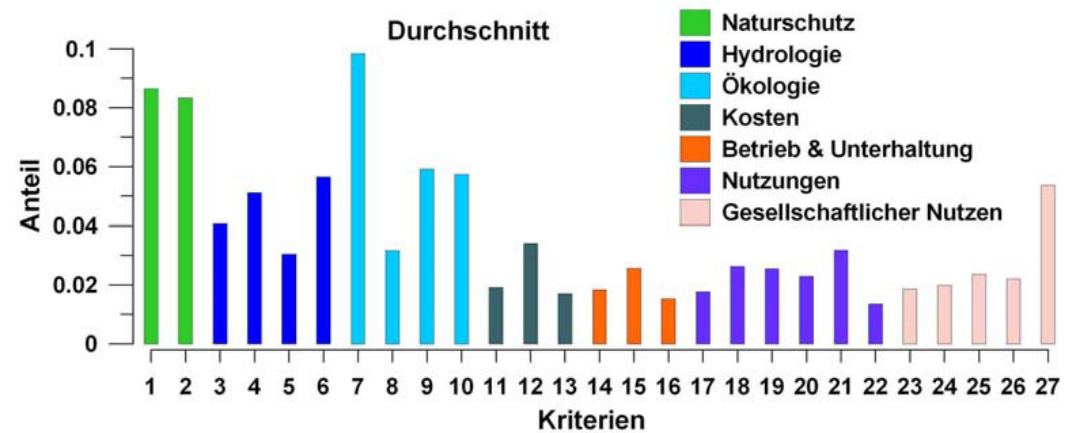
Hierarchy of criteria





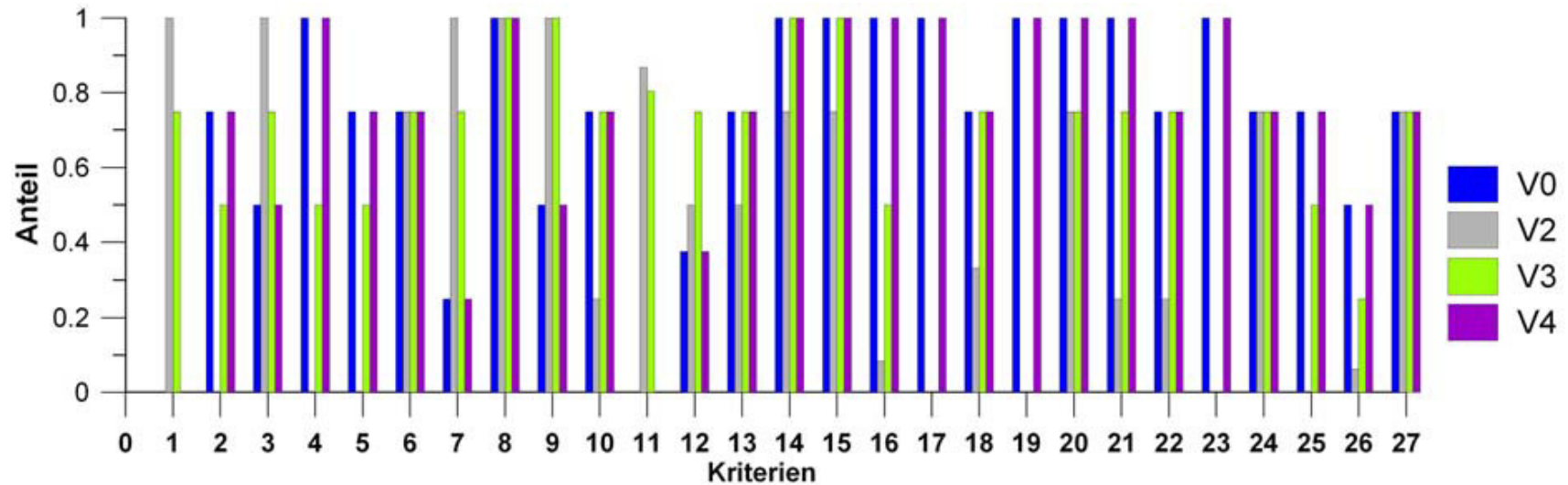
Weighing of the criteria from the different stakeholder groups

Here an example with 27 criteria





Analysis and comparison of results and rankings



Normed evaluation values for the criteria of the four alternative measures



Results from applying the MCA

Results from two case studies show:

1. MCA is a very good method for reflecting and weighing all stakeholder views
2. High transparency in decision making
3. The complexity of the application of the method (and its limitations to a state-wide application)

But: we were not able to identify disproportionate costs because of the lack of cost thresholds. So in the end MCA did not help to identify disproportionate costs but gave a very good overview on the multiple conflicting criteria

Further ideas for procedure:

- Follow the practical needs of water management:
When and under what circumstances does the suspicion of disproportionate costs appear?