Sediment and Society

Methods for involving stakeholders

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HavKyst seminar, November 17th 2010, Tromsø
“Stop dumping toxic waste into Oslo fjord!”

(kilde: www.stopp-giftdumping.org)
When does involvement occur?

<table>
<thead>
<tr>
<th>Problem owner</th>
<th>Technical experts</th>
<th>Local stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem formulation</td>
<td>Concept assessment</td>
<td>Environmental Impact Assess. and permit</td>
</tr>
</tbody>
</table>

Decision | Implementation

- Problem owner
- Technical experts
- Local stakeholders

When does involvement occur?
Develpments under Clean Oslofjord project

Project process

Research
Investigations and project design
Decision
Implementation

Discussion process
Consultation
Hearing
Popular interest

Number of hits "Malmøykalven"

Sparrevik et al. 2010, ES&T (DOI: 10.1021/es100444t)
Perhaps another model is needed

- Problem formulation
- Concept assessment
- Environmental Impact Assess. and permit
- Decision
- Implementation

Problem owner:?
Technical experts:?
Local stakeholders:?
Many levels of involvement

- Be informed
- Be consulted
- Give advice
- Assist in assessments
- Participate in decisions
- Participate in councils
- Recommend solution
- Decide solution

Folders
Questionnaires

Oen et al. 2010, JSS 10 (2), 202-208
Different dimensions of the Oslo harbour issue

Sparrevik and Breedveld 2010, IEAM 6 (2), 240-248
Land disposal at Langøya
Approach for the Oslo harbour study

- Identification of stakeholders through document review & expert judgement
- Selection of stakeholders based on influence, interest and argumentation
- Interview of 23 persons (78% participation). Web survey of 98 persons (91% completed the survey)
- Good sample selection with respect to participation and residence

<table>
<thead>
<tr>
<th>Influence</th>
<th>Interest</th>
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<tbody>
<tr>
<td>Q1 (60%)</td>
<td>Q3 (27%)</td>
</tr>
<tr>
<td>Q2 (13%)</td>
<td>Q4 (0%)</td>
</tr>
</tbody>
</table>
Trusted sources of information

- High trust in scientific reports among both groups
- Communication with project and colleagues more trusted for the aquatic disposal group
- Land disposal group relies more on external sources of information
Controllability

- Risk perception relates to controllability
  - Ability to control spreading
  - Effect of the CAD on the fjord in the future
- Differences relates to the choice of solution (land/sea)
Could the selection of a sediment remediation alternative arouse strong opposition in Bergen Harbour?
Initiating involvement - Identification

• Stakeholder panel
  – Classic exercise of stakeholder analysis
  – 100 potential participants identified
  – 23 invited
  – 16 agreed to participate

• Citizen panel
  – Market research company engaged to identify and invite
  – 30 citizens participated
Motivating stakeholders - Purpose

• Multi-criteria-analysis (MCA)
  – Formal approach to prioritize alternatives
  – Weighting criteria to assess consequences

• Three consecutive meetings
  – Presentations from invited experts
  – Individual preferences quantified
  – Group exercise to reach consensus
Intuitive ranking of alternatives

Remediation alternative

- No remediation
- Capping
- Capping and dredging with nearshore disposal
- Capping and dredging with local disposal facility
- Capping and dredging with national disposal facility

Stakeholders
Citizen Panel

Intuitive ranking (5 is best)
Criteria for assessing the consequences

- Environmental and health
  - Reduction in spreading of contaminants
  - Maximum tolerable health dosage exceedance
  - CO₂ discharges

- Societal
  - Spatial influence during remediation
  - Disposal site location
  - Marine archeological excavations
  - Property development

- Economic
  - Total direct costs
  - Percent of costs paid by municipality
  - Municipal tax earmarked for sediment remediation
Ranking based on MCA approach

![Graph showing ranking based on MCA approach with different remediation alternatives and weighting indicators for different stakeholders.]

Sparrevik et al. 2010, IEAM (submitted)
## Selection of a method

<table>
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<tr>
<th>Method</th>
<th>Advantages</th>
<th>Disadvantages</th>
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</table>
| **Stakeholder group** | Important & useful advice  
Goodwill  
Local knowledge | Lack of participation  
Commitment  
Conflict of interest |
| **Citizen panel** | Local knowledge  
Possible consulting or review function | Recruiting  
Costs |
| **Hearing**     | Established in legislation  
Well known  
Identifies objections | Formal  
Little room for maneuvering  
Passive involvement |
| **Interview**   | Dialogue  
Informal | Time consuming |
| **Questionnaire** | Quick  
Reaches many | One way communication |
Advice for avoiding pitfalls

• Continue to defend a solution with additional scientific arguments
  • Scientists, authorities and citizens have unique knowledge and values and they can learn from each other

• Refrain from involvement because “we will never agree”
  • Objective is to find an acceptable solution
  • Legitimacy does not mean that everyone always agrees on everything

• Refrain from involvement because “it is impossible to involve everyone”
  • It is not necessary for everyone to participate as long as all of the different arguments are represented
Thank you for your interest

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