



ENvironmental Engineering

Task #4

Comparison of scenarios

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Quantitative comparison of the alternatives

1. Decide, whether there are significant impact during the construction works
2. Identify at least 5 most important (relevant) impacts for the construction and operation stages (impact can differ for each stage)
3. Quantify the impacts for (i) EIA scenario, (ii) no go scenario, (iii) your scenario (find your way of evaluation, or use the proposed methodology – on the next slide)
4. Compare the results for three scenarios
5. Discuss the results and recommend the preferred scenario. Do the positive impacts outweigh the negative ones?

Quantitative comparison of the alternatives – example of evaluation

Evaluation via weighting scheme

Construction of a dam for a new water reservoir

1. Is construction phase important? – **YES**
2. How important compared to operation phase? – construction 2 yrs (but very intensive), operation 50 yrs -> **10% weight construction, 90% operation**
3. Key impacts identification:

Construction	Operation
Noise	Landscape
Dust	Birds
Soil erosion	Meadow vegetation
Employment	Water supply



Quantitative comparison of the alternatives – example of evaluation

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4. Weights (my scale: **-10 very negative**; 0 neutral; **+10 very positive**)

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Construction of a dam for a new water reservoir

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Construction : 0.1		Operation : 0.9	
Noise	-7	Landscape	+3
Dust	-3	Birds	+5
Soil erosion	-10	Meadow vegetation	-6
Employment	+6	Water supply	+10

5. Calculate the impact factor:

$$0.1 \times (-7 - 3 - 10 + 6) + 0.9 \times (3 + 5 - 6 + 10) = -1.4 + 10.8 = 9.4$$

!!! YOU MUST BE ABLE TO EXPLAIN THE CHOSEN WEIGHTS, THE DECISION MUST BE SUPPORTED BY CONCRETE ARGUMENTS FOR THE GIVEN CASE.

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6. Repeat for other alternative solutions (e.g. Alternative : **10.9**; No go: **-1.1**)

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Variants comparison

DEADLINE:

- Present your methodology on the impacts quantification
- Show the result (eg. points per each key problem)
- How does your variant compares to the winning variant from the report and no go alternative?

-FORM: up to you (slides, notes on the paper, oral)

-ATTANDANCE: at least one representative per group

-PENALTIES: no show = -10 p. per person
not prepared = -1 to -5 p. per person

Topic of the following seminar:

- preparation of the report and presentation