Feasibility analysis

Feasibility analysis (FA, also called feasibility study) is used to assess the strengths and weaknesses of a proposed project and present directions of activities which will improve a project and achieve desired results. The nature and components of feasibility studies depend primarily on the areas in which analyzed projects are implemented.

In this section of the interactive teachingl tool we will present theoretical background of feasibility analysis for projects in the field of sustainable development and spatial planning with particular emphasis on the theory and application of geographic information science and technology (GIS&T). Spatial information and its availability as well as analysis and visualization capabilities will, therefore, play an important role in the analyzed projects. Therefore, references made to the INSPIRE directive will be one of the important points of the feasibility study.

What is a feasibility analysis?

Any feasibility analysis consists of three basic steps:

Step 1: Evaluation of a project according to selected criteria

In the first step of a feasibility analysis an evaluation of a project according to established criteria is conducted. These are usually five major criteria. One possibility of carrying out a quick and easy evaluation is to use a tabular statement presented below.

The evaluation of a project in the field of sustainable development and spatial planning taking into particular account the application of geographic information science and technology (GIS & T)

Evaluation of technological and system capabilities/requirements			Evaluation of legal capabilities/ requirements	Evaluation of operational capabilities/ requirements		Evaluation of economic capabilities/ requirements	Evaluation of capabilities/ requirements related to the schedule
The type of data/methods/software necessary in the project	The name of the source of data/methods/software	The quality of the source of data/methods/software	The rules of publishing and using	Owner	Knowledge and skills	Participation	Cost	Time
…	…	…	…	…	…	…	…	…

The evaluation of a project in the field of sustainable development and spatial planning taking into particular account the application of geographic information science and technology (GIS&T)

Evaluation of technological and system requirements

The evaluation of technological and system requirements refers basically to issues related to the type, availability and quality of the following, used in the project:

- data sources
- methods of data processing, analyzing, and visualizing
- software

Evaluation of legal requirements

The evaluation of legal requirements concerns basically the rules of publishing and using data, software and methods. A part of the rules concerning publishing spatial data (mostly future) can be found in the INSPIRE directive and in copyright laws. Most data and software include information on the form of publishing in metadata or websites where such data is published.

Evaluation of operational requirements

Allowing for the level of knowledge and skills necessary for data acquisition, and later to process, analyze and visualize them, as well as to implement the results, is of paramount importance in the evaluation of operational requirements. Since the projects involved concern sustainable development and spatial planning it is also important to allow for public participation (e.g. practitioners or representatives of local community).

Evaluation of economic requirements

Two components are important in the evaluation of economic requirements:

- the cost of data or software procurement,
- the cost of employing workforce for specific tasks,
- the cost of possible improvement of qualifications of the workforce employed.

Evaluation of requirements related to the schedule

The evaluation of requirements related to the schedule concerns the estimation of time necessary to complete respective parts of a project, e.g. data procurement and processing.

Step 2: Summary of evaluation results

A summary of project evaluation results, by presenting the strengths and weaknesses of suggested solutions, is another step of feasibility analysis. This part of analysis can be carried out using the components of SWOT analysis.

Stage 2 and 3 of feasibility studies (summary and recommendations) carried out using SWOT analysis

	Positive	Negative	Stages of completing feasibility studies
Internal	Strengths of the	Weaknesses of the	Summary

features of the surrounding	project	project	
External features of the surrounding	Opportunities - new solutions that can additionally emerge in the project	Threats concerning the additional solutions suggested in the project	Recommendations

Step 3: Recommendations

Recommendations are the last element of feasibility analysis. They contain directions of actions in the project which allow its better implementation. Similarly to step 2, elements of SWOT analysis can be used here, too.
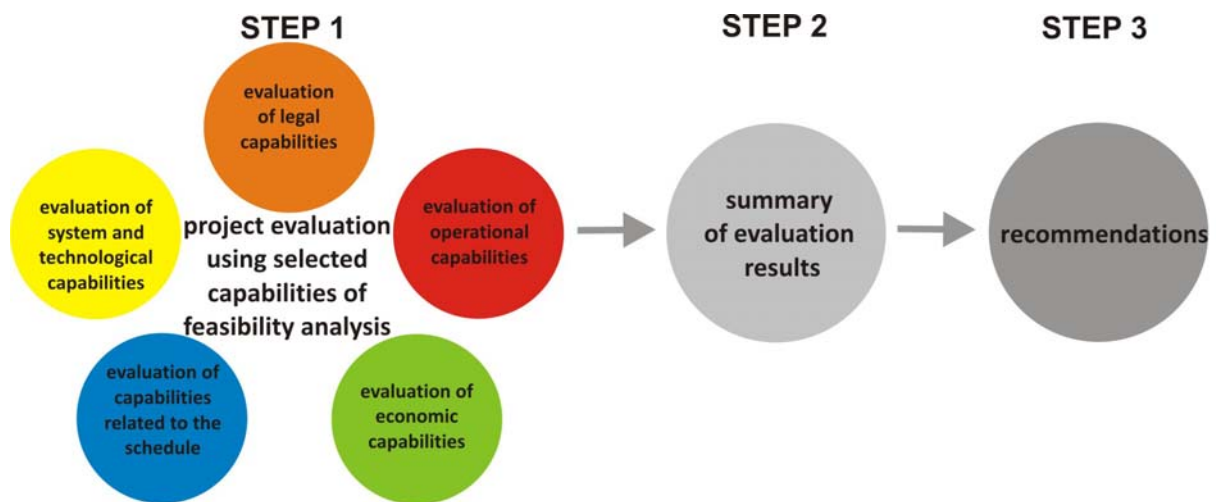
Workflow in feasibility analysis