EU-funded Project Management

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The main aim of this course

- EU-funded Project Management is a practical and interactive course on getting a good knowledge of the basic terms, phrases, approaches and methodology of preparing project proposals for students who study at the university in the English-speaking programme

- Project management includes several planning tools to enhance the quality of projects
  - It is useful and necessary for the future generation of economists to get acquainted with these tools

Applied teaching methods & activities of students

- Theoretical parts through presentations → Slides available in PDF formats are provided by the lecturer

- Practice through written exercises & discussion → Materials in printed/electronic formats are provided by the lecturer

- This course requires presence and active participation in class
  - Distance learning will be guaranteed for international students until everyone arrives and is allowed to join the class
  - Physical presence is compulsory for everyone

Assessment and grading

- Terms of subject acceptance (in order to get the signature): active participation during the lessons
  - The maximum number of absence is three

- Terms of the mark acceptance:
  1 (fail) – excellent (5) based on the written test, single tasks and interactive exercises given out by the lecturer during the semester
  - Tasks will be sent out in e-mail form before classes
  - Written test is based on multiple choice questions

1. Basic phrases, principles & approaches

Ready for lift-off ... ?!

Content: overview of phrases

- Project management
- Project – programme – policy
- Agenda – action plan – call for proposal – application – tender
- Applicant – beneficiary
- Main features of a good project, types of projects
- Project partners
- Project manager
- Co-financing/support
- Project cycle management
  - Programme development – identification – project development – financing (grant contract) – implementation – evaluation, monitoring
- Documentation – dissemination

Project management

- **Project management:** coherent and efficient management of different phases of project (life-)cycle
  - **Coherent management:** logical and consistent management
  - **Efficient management:** functioning and competent management that produces a direct effect
  - **Phase:** a distinct stage or aspect of development
  - **Project (life-)cycle:** an order introduced by the European Commission to improve the quality of project planning, project development and project management as well as to increase the efficiency of funding mechanisms

- **Project management:** the application of knowledge, skills, tools and techniques to meet project requirements

Project

- **Project**: objective-oriented, logically and professionally compiled, self-contained task forming part of a complex assignment (e.g. programme, policy)
  - **Objective-oriented:** the project is prepared to achieve particular goals
  - **Logically structured:** the project is built upon a logical objective structure
  - **Professional:** the project shows a high degree of skills of a certain subject
  - **Self-contained:** the project is independent and self-sufficient
  - **Part of a complex assignment:** the project represents the **lowest level of objectives**, it is always limited in its financial and human resources as well as time (temporal activity)

Programme

- **Programme:** structure or plan of medium-level objectives which is developed for particular purposes
  - In this case the **level of programmes > level of projects**
  - It refers to the system of rules to achieve projects
  - *Some examples: strategic programme, operative programme, educational program, space programme, rehabilitation programme …*

- **Programme:** a series of steps to achieve a project plan
  - In this case the **level of programmes < level of projects**
  - It refers to ideas and thoughts as well as plan of actions
  - *Some examples: scheme, schedule, outline, guideline, design, pattern, audit programme …*

Policy

- **Policy:** a course of actions or a guide of principles determined by a government, a political party or business in order to achieve aims and determine decisions, usually summarized in policy documents
  - **Course of actions:** organised activities to accomplish objectives
  - Policy represents the **highest level of objectives**, it is usually a broad framework to achieve specific goals connected to general goals
  - Policy is accompanied by financial and institutional regulations
  - **Policy document:** formal document that reflects policy aims and also presents the rules, guidelines, regulations, values and ethics to follow in order to achieve the aims (e.g. agenda, action plan)
  - *Some examples: fiscal policy, monetary policy, industrial policy, service sector policy, educational policy, healthcare policy, environmental policy, R&D policy, foreign policy, regional policy …*

Project – programme – policy
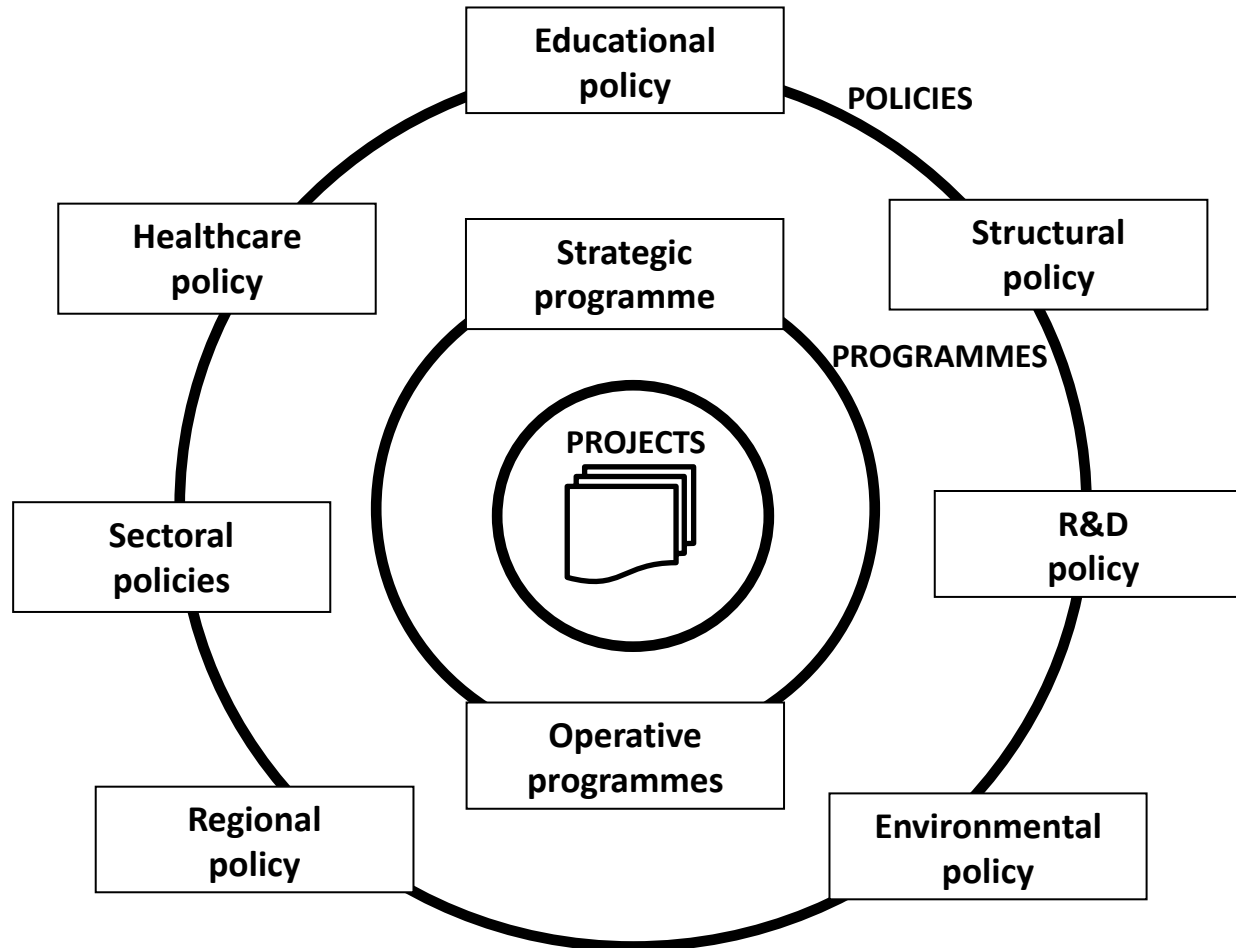
Agenda – action plan

- **Agenda**: a list of aims or possible future achievements to be reached by a finite date in different areas (long-term visions)
  - **Possible aims:** economic growth, jobs, competitiveness, productivity, sustainable economy/development, convergence, social development
  - *Some examples: Europe 2020 strategy, national development plans, national reform programmes, stability programmes, convergence programmes …*

- **Action plan:** a detailed plan outlining actions needed to reach one or more goals, a sequence of steps that must be taken, activities that must be performed (annual or two-year)
  - **Detailed plan:** targets, required actions, funds, resources, responsibilities, time schedule (deadlines)

Call for proposal – application

- **Call for proposal:** in a call, interested parties are invited to submit proposals that will contribute to the achievement of expected objectives of project
    - A call for proposal is launched to **provide financial support for promising project plans**
    - A call for proposals is published in printed format or through the web
    - Some types of calls: **open calls** (still available), **upcoming calls** (not yet available), **closed calls, past calls** (no more available)

- **Application (form):** presentation of the applicant's project to get financial support to realise the project plan
    - Common features: strict and short document or sheet to fill in, the structure is same for every applicant

Tender

- **Tender:** a formal invitation (offer) for projects, a bid for large projects invited by the government or financial institutions
    - A **request for tender (RFT)** is a formal and structured invitation to suppliers to submit competitive bids, which is a public and open process to ensure fair competition among bidders
    - **To put a project out to tender** means to publish an invitation for the activity (a construction project put out to tender is also known as construction bidding)
    - The **tender process (tendering)** guarantees that no parties have the unfair advantage of separate, prior, closed-door negotiations for the contract
    - An evaluation team go through the tenders and decide who will get the contract, usually there is only one winner (beneficiary)

Applicant – beneficiary

- **Applicant:** a person or an institution who has a project plan and applies for some funds to realise the project

- **Beneficiary:** a person or an institution who is the receiver of funds and who gains financial support
  - The beneficiary accepts contractual and financial liability for the project in line with the provisions of the agreement
  - The beneficiary is responsible for the overall management of the project, coordination of tasks, all the reporting, financial statements and information requested by the grant maker

Main features of a good project

1. **A project is transparent for third parties.** The project has to be easily seen through and obvious for anymore who is willing to monitor or control it.

2. **A project is feasible.** The beneficiary have to implement the project and reach the objectives of the project. The whole structure has to be realistic, and not illusory or utopistic.

3. **A project is built upon a logical objective structure.** The goals have to contribute to the programme level objectives directly.

Types of projects

- **Single project:** a project carried out without any partners

- **Mirror (complementary) project:** at least two partners work together for mutual (united, shared) purposes, but the implementation of the project does not run parallel

- **Joint project:** at least two partners work together for mutual (united, shared) purposes, and the implementation also runs parallel (+ joint staffing and joint financing)

- **Level of cooperation:** joint > mirror > single project

Project partners

- **Partner as general partner (co-beneficiary):** a partner who participate in the design and implementation of project activities, share the relevant tasks and finance as well

- **Partner as associate partner:** a partner who serves the aim of the project, can help brainstorm, provides encouragement, reinforces ideas, but does not appear at all in the budget of the project (participates on a no-cost basis)

- **Partner as co-financing third party:** anyone who provides financial support for the project (e.g. business angels, financial institutions)

Project manager

- **Project manager:** a professional in the field of project management, who has the responsibility of the planning, execution and closing of a given project
  - A project manager is the person who is responsible for
    - Accomplishing the stated project objectives
    - Managing the cost, time and scope in accordance with project purposes
    - Guiding the project team
    - Managing communication with the project stakeholders
    - Managing the conflicts and risks within the project team and with stakeholders
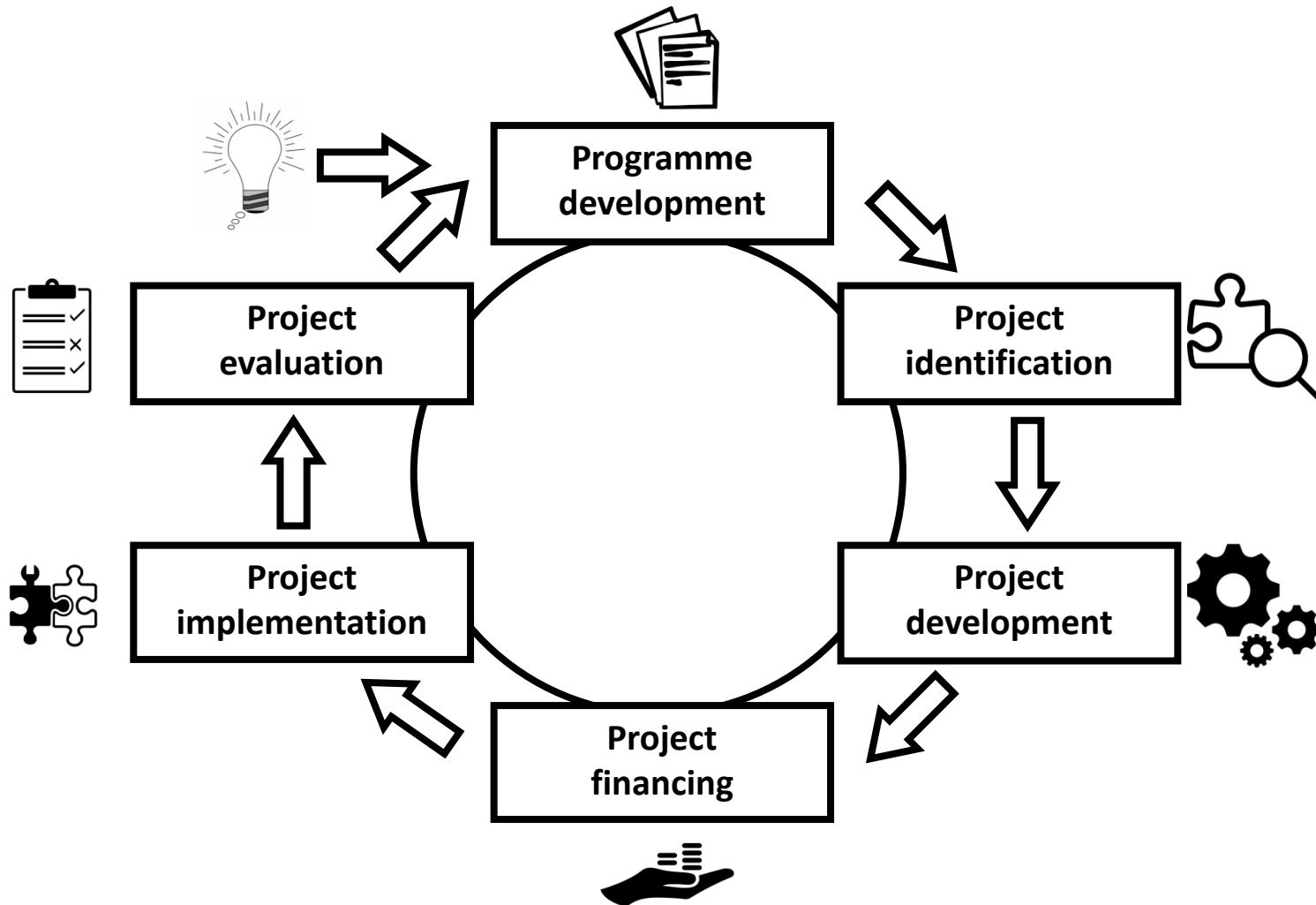
Co-financing/support

- **Co-financing/support:** funding provided for projects
  - Every call for proposal calls attention to the fact that co-financing may not exceed a certain per cent of the total cost of the project (it is the **co-financing rate**)
  - The applicant must contribute of the total project costs from its own resources
    - Rates can be very diverse according to projects and type of applicants
    - Exception: co-financing rate can be 100% in *vis major*
      - **Vis major:** an overwhelming, unanticipated, and unpreventable event, usually caused by a natural force
  - In the context of the EU, it is **strictly regulated**
    - The own resource provisions are based on the requirements of the EU

EU funding video: https://www.youtube.com/watch?v=P62sjnHL59w

The project cycle management

- Programme development
- Project identification
- Project development
- Project financing
- Project implementation
- Project evaluation

PCM: Programme development

- **Activities:**
  - Exploration of problems, limits and possibilities on national and branch level specific levels
  - Exploration of national priorities
  - Elaboration of strategies according to national priorities

- **Output:**
  - The national strategy (and support frameworks)
  - Strategic and operative programmes
  - Branch-specific studies, thematic and preparatory studies

PCM: Project identification

- **Activities:**
  - Exploration of problems and goals, strength and weaknesses, opportunities and threats, risks and interest of potential stakeholders
  - Discussion about the background and objectives of the projects
  - Exploration of different possible scenarios

- **Output:**
  - Analysis of situation: SWOT analysis
  - Problem tree and objective tree
  - Stakeholder analysis
  - Risk analysis
  - Preliminary feasibility study or studies

PCM: Project development
Preparation

- **Activities:**
  - Detailed review of relevant ideas
  - Involvement of potential partners and stakeholders
  - Recognition of the most important documents containing project related policies, recognition of conformity with them

- **Output:**
  - Implementation schedule (time and resources)
  - Financial plan, cost plan
  - Final feasibility study
  - *Ex ante* evaluation (with the expected results)

PCM: Project development
Detailed development

- **Activities:**
  - Choice of relevant support scheme ("the best financing possibility")
  - Establishing or refreshing partnerships (if necessary)
  - Writing the application:
    - With special regard to: introduction of the applicant, general overview of the project, detailed overview of the project, expected outcomes, budget (according to types of costs), sources of financing (own resources, partners' resources, financial contribution), declarations, plans, permissions, other necessary annexes …

- **Output:**
  - **Submitted project**
    - **Submission:** to give or offer something for a decision to be made by other, to allow another person or group to have authority over the applicant

PCM: Project financing

- **Activities:**
  - Evaluation of the submitted project and decision about approval or rejection by the grant maker(s)
    - **Approval:** official permission
    - **Rejection:** the act of refusing to accept
    - **Grant makers:** corporations, foundations, departments of the government or the EU etc.

- **Output:**
  - **Grant contract**
    - **Grant:** an amount of money given to the beneficiary for project purposes, which is non-repayable funds by the grant maker(s)

PCM: Project implementation

- **Activities:**
  - Utilisation of funds for the purposes of the project

- **Output:**
  - The investment itself: the results of the investment
  - Documentation of reached objectives
  - *Intertim* or *mid term* indicators (**project monitoring**)
    - **Monitoring:** a periodically recurring task that allows results, processes and experiences to be documented and used as a basis to steer decision-making and learning processes. Monitoring as a systematic and routine collection of information is for checking progress against plans. The data acquired through monitoring is used for evaluation.

PCM: Project evaluation

- **Activities:**
  - Systematic, final and objective-oriented evaluation of the running or finished project
  - Main principles: fairness, transparency, creditability, impacts (*relevance, efficiency, effectiveness, usefulness, sustainability*)

- **Output:**
  - Evaluation report
  - Feedback and learned experiences
    - **Feedback:** the return of information about the result of a process or activity
  - *Ex post* indicators (final evaluation of achieved results)
  - Decision about continuity, closing or modification of the project

Terms in evaluation
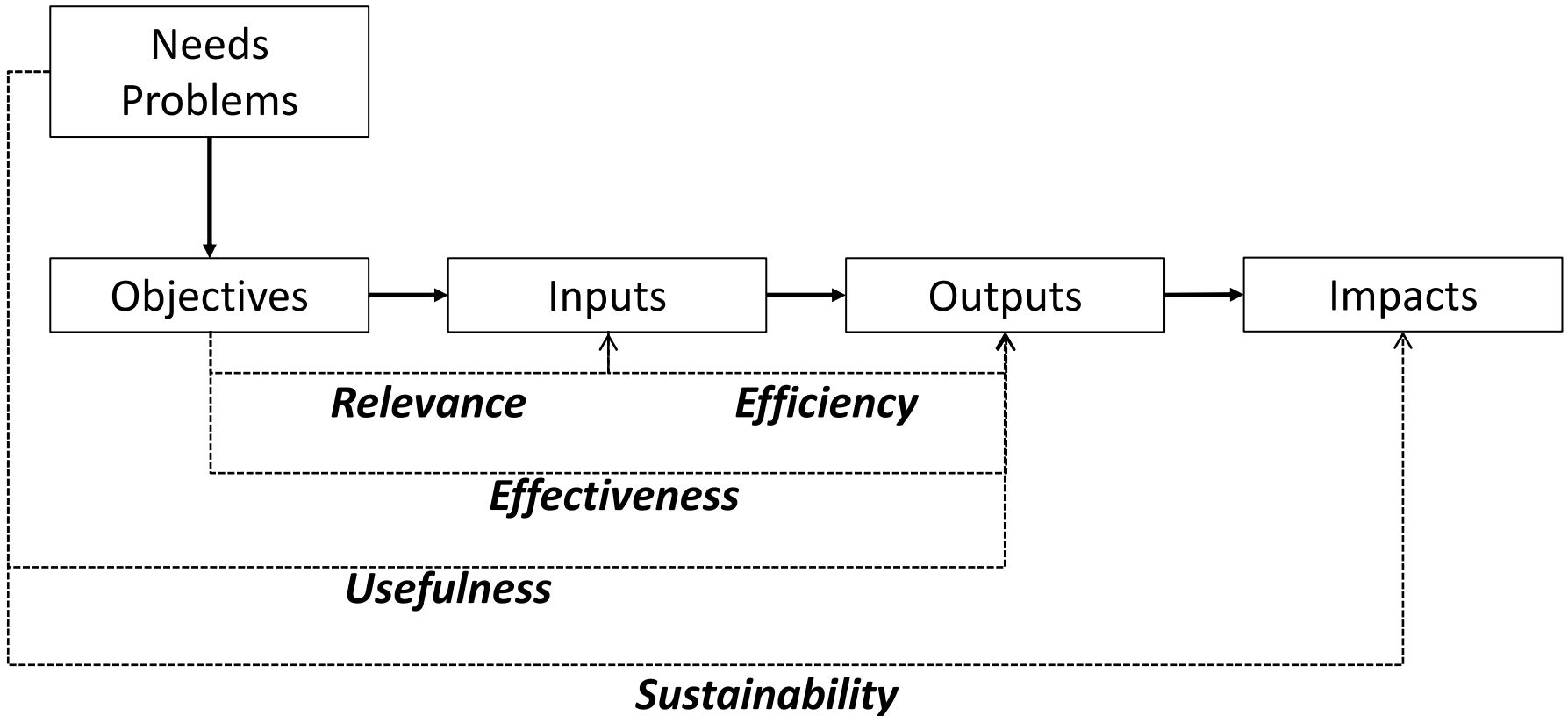
Terms in evaluation

- **Ex ante evaluation:** undertaking an evaluation of the conditions for the launch of a project
  - Purpose: evaluation of expected results and the quality of the project before submission

- **Ex post evaluation:** assessing quality after the project closure
  - Purpose: evaluation of achieved results and the impacts of the project

- **Intertim evaluation:** assessing quality of the project during the implementation
  - Purpose: monitor the outcomes and results continuously
  - **Mid term evaluation:** halftime evaluation

Documentation

- **Documentation:** gathering data and information about the output and impacts of the project
  - Documentation has **dual objectives**: reproducibility and presentation
  - Documents have to satisfy professional and quality expectations
    - It is expected to document the results of project phases separately
    - Systemising documents is a complex task
  - **Traditional (paper based) documentations** are increasingly superseded by **digitalised forms** (recorded on data carriers – CD, pendrive, cloud)
    - The latter maintain documents in good condition
  - Some parts of documentary should be **accessed on-line**
    - Transparency and public access are important

Dissemination

- **Dissemination:** the process of making the results of the project available to a wider audience, the process of broadcasting a message to the public

  - A **dissemination plan** should be elaborated, explaining how the project shares outcomes with stakeholders, relevant institutions and organizations as well as illustrating what the key message is, to whom, why, when and how

  - The **dissemination process** depends on who want to reached and what they can do for your project

  - **Dissemination audience** can be different individuals, groups, and organisations that will be interested in the project and its results need to be identified and informed

Principles

1. **Articulating clear vision and mission**
   - Every project should begin with the end in mind
   - Creating a vision and mission for the project helps clarify the expected outcome or desired state, and how it will be accomplished
2. **Recognising the special characteristics of the project cycle phases**
   - **Six phases of project cycle management:** programme development (programming), project identification, project development, financing, implementation, evaluation
3. **Broad level consultation with stakeholders**, their involvement in the key processes
   - Opinions must be included in the project

Principles

4. **Exact definition of objectives in order to reach sustainable benefits for the target groups**

   - **Central role of sustainability:** capable of being continued after the objectives of the project are reached

   - **Financial sustainability:** project must be able to produce enough benefit after project closure

   - **Institutional sustainability:** the beneficiary must not disappear during the evaluation and after project closure

   - **Environmental sustainability:** it is about making responsible decisions that reduce the project's negative impacts on the environment

2. The methodology of preparing project proposals

The main requirements

1. **Result-orientation:** every change must contribute to the development of the issue through its novelty and innovation

2. **Measurability, accountability:** the results and impacts should be measured

3. **Objectivity, reality, practicability**: planners have to make a fundamental difference between wishes and reality; unrealistic 'castles in the air' will hardly produce advance of merit

4. **Consistence:** there is a harmony between project and programs

5. **Cooperation, equivalence of the professional aspects:** cooperation of economic, social and public actors is important → thinking together ensures the synergic effect (i.e. knowledge spillover, added value, integration of processes)

Content: the planning process

- SWOT analysis
  - General aspects of the most commonly used analysis of situation
- Problem tree analysis
  - Drawing rules and steps of problem tree
- Objective tree analysis
  - Drawing rules and steps of objective tree
- Stakeholder analysis
  - General aspects of identification and grouping of stakeholders
- Setting the indicators
  - Variables that show changes or progress
- Scheduling: the GANTT chart
  - Time scheduling according to work phases
- The HR and budget/cost plan
  - Types of costs and the cost-benefit analysis

Analytical phase

Design phase

SWOT analysis

```
┌─────────────────────────────┐          ┌─────────────────────────────┐
│  Analysis of internal       │────┐────▶│       Strength (S)          │
│  factors                    │    │     └─────────────────────────────┘
└─────────────────────────────┘    │     ┌─────────────────────────────┐
              │                     └────▶│     Weaknesses (W)          │
              │                           └─────────────────────────────┘
              ▼
┌─────────────────────────────┐          ┌─────────────────────────────┐
│  Analysis of external       │────┐────▶│     Opportunities (O)       │
│  factors                    │    │     └─────────────────────────────┘
└─────────────────────────────┘    │     ┌─────────────────────────────┐
              │                     └────▶│        Threats (T)          │
              │                           └─────────────────────────────┘
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│  Cross-check of external    │─────────▶│     Strategy building       │
│  and internal factors       │          └─────────────────────────────┘
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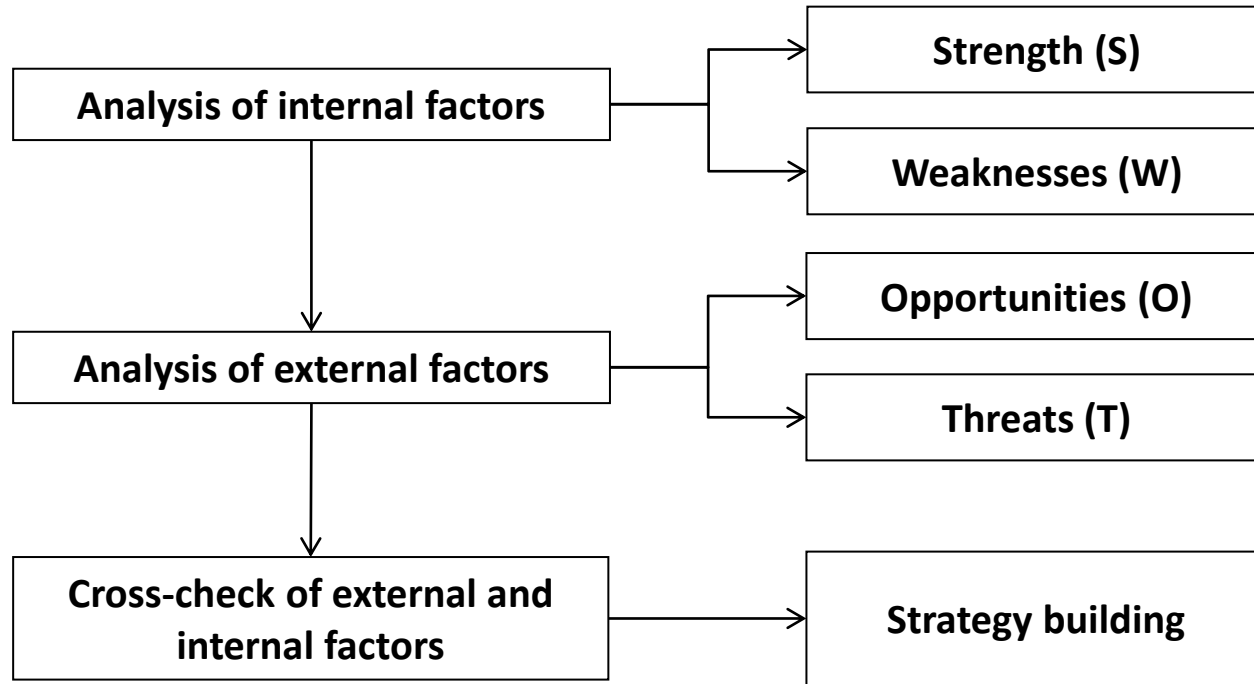
Strengths: characteristics of the project that give it an advantage over others

Weaknesses: characteristics of the project that is disadvantageous relative to others

Opportunities: elements in the environment that the project could exploit

Threats: elements in the environment that could cause trouble for the project

SWOT analysis

- Analysis of internal factors (S+W)
  - Financial resources (e.g. funding, investment opportunities)
  - Physical resources (e.g. company's location, facilities, equipment)
  - Human resources (e.g. employees, volunteers and target audiences)
  - Current processes(e.g. employee programs, department hierarchies)

- Analysis of external factors (O+T)
  - Market trends (e.g. new products, technology, shifts in needs)
  - Economic trends (main local, national and international trends)
  - Demography (attributes of population)
  - Relationships to others (e.g. export, import, possible cooperation)
  - Political, environmental and economic regulations

SWOT analysis

- Strength
  - **What we do well?** Our advantages, assets, resources, processes, reputation, capacities and capabilities, competitive advantages …
- Weaknesses
  - **What could we do better?** Our vulnerability, disadvantages, limitations and criticism …
- Opportunities
  - **Could chances improve our performance?** New trends, knowledge, values, products, technologies …
- Threats
  - **What kind of obstacles do we face?** External roadblocks, challenges, fears, backwash effects, troubles

SWOT analysis: example

STRENGTHS
- Technological skills
- Leading brands
- Work experience
- Special marketing expertise
- Good location
- Financial reserves
- Low operational costs

WEAKNESSES
- Absence of human resource
- Poor access to distribution
- Low customer reputation
- Gaps in capacities
- Poor strategic alliances
- Low investment in R&D
- Weak leadership

OPPORTUNITES
- Expanding business sector
- Changing consumer tastes
- Technological advances
- Lower personal taxes
- New distribution channels
- Increased investment opportunities
- Tax decreases

THREATS
- Downturn in economy
- Changes in governmental policies
- Closing of geographic markets
- New competitor in the market
- Slowdown in demand
- Low trust in the community
- GDP increases

Problems and objectives

The next important steps:

1. Identify the **negative aspects (problems)** of the current situation
   - Source: the weaknesses and threats from the SWOT matrix
2. Convert them to **positive, expected and realistic objectives**
3. Visualise the problems and objectives (**problem tree, objective tree**)

| PROBLEMS
Current
situation | | DIFFERENCE | | OBJECTIVES
Ideal
situation |
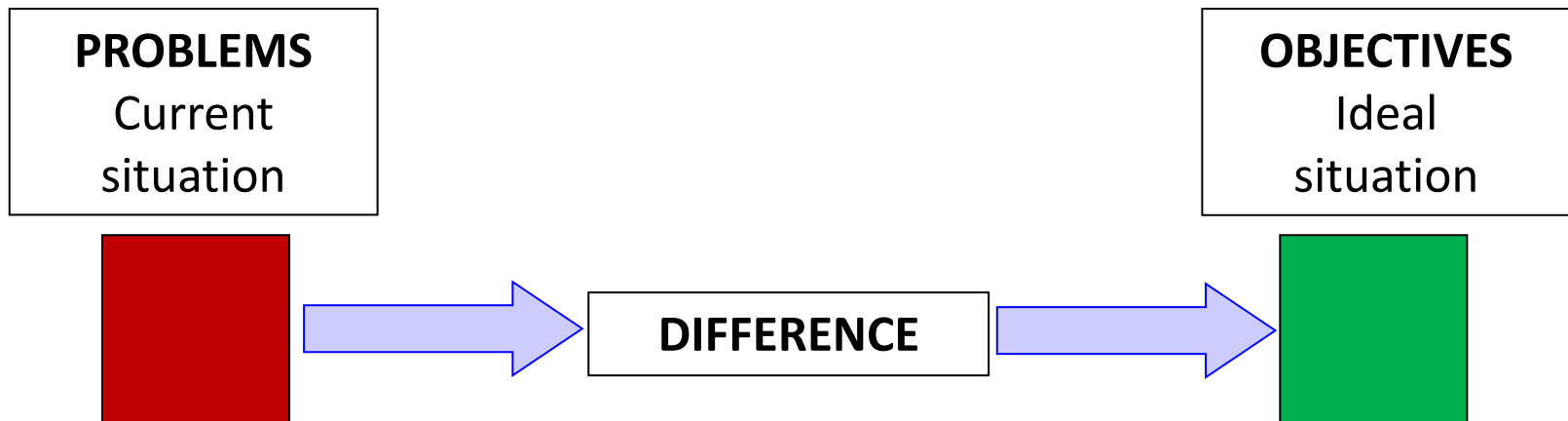
Problem analysis

- **Problem tree:** problems in cause-effect relations
- Drawing rules:
  - Make a list of problems
  - Find the key problem
    - The problem tree is built around a key problem of the project which is in connection with a key problem that has been already identified in a programme
  - If A is the cause of B, place it below B
  - If A is the result of B, place it above B
  - If neither cause, nor result, put it beside
  - Problems should be formulated as negative statements
    - With problems do not suggest solutions
  - Problems should be existing ones, not future or imagined problems

Problem tree
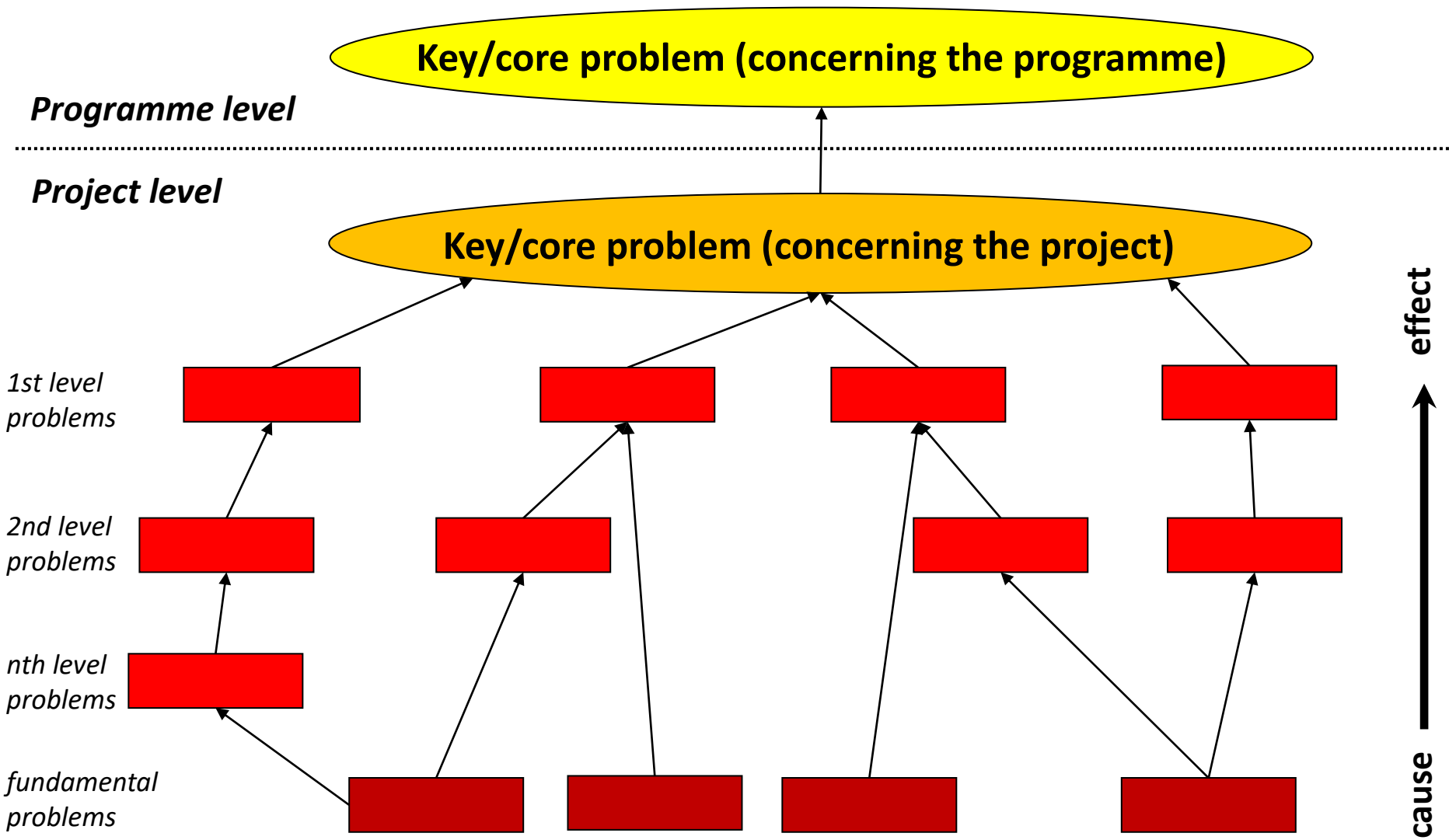
Objective analysis

- **Objective tree:** objectives in resource-result relations
- Drawing rules:
  - Convert the problems to expected and realistic positive actions
  - Define the project's specific objective based on the key problem of the problem tree
    - The objective tree is built around the project's specific objective which is in connection with the programme's objective (it is already identified)
  - Check the resource-result relations
    - Whether the relations are valid
    - Whether the structure is complete and consistent
    - If necessary: reformulate statements, add new objectives, cancel non-relevant objectives

Objective tree

Programme objective

Programme level

Project level

Project specific objective

1st level objectives

2nd level objectives

nth level objectives

basic objectives

result

resource
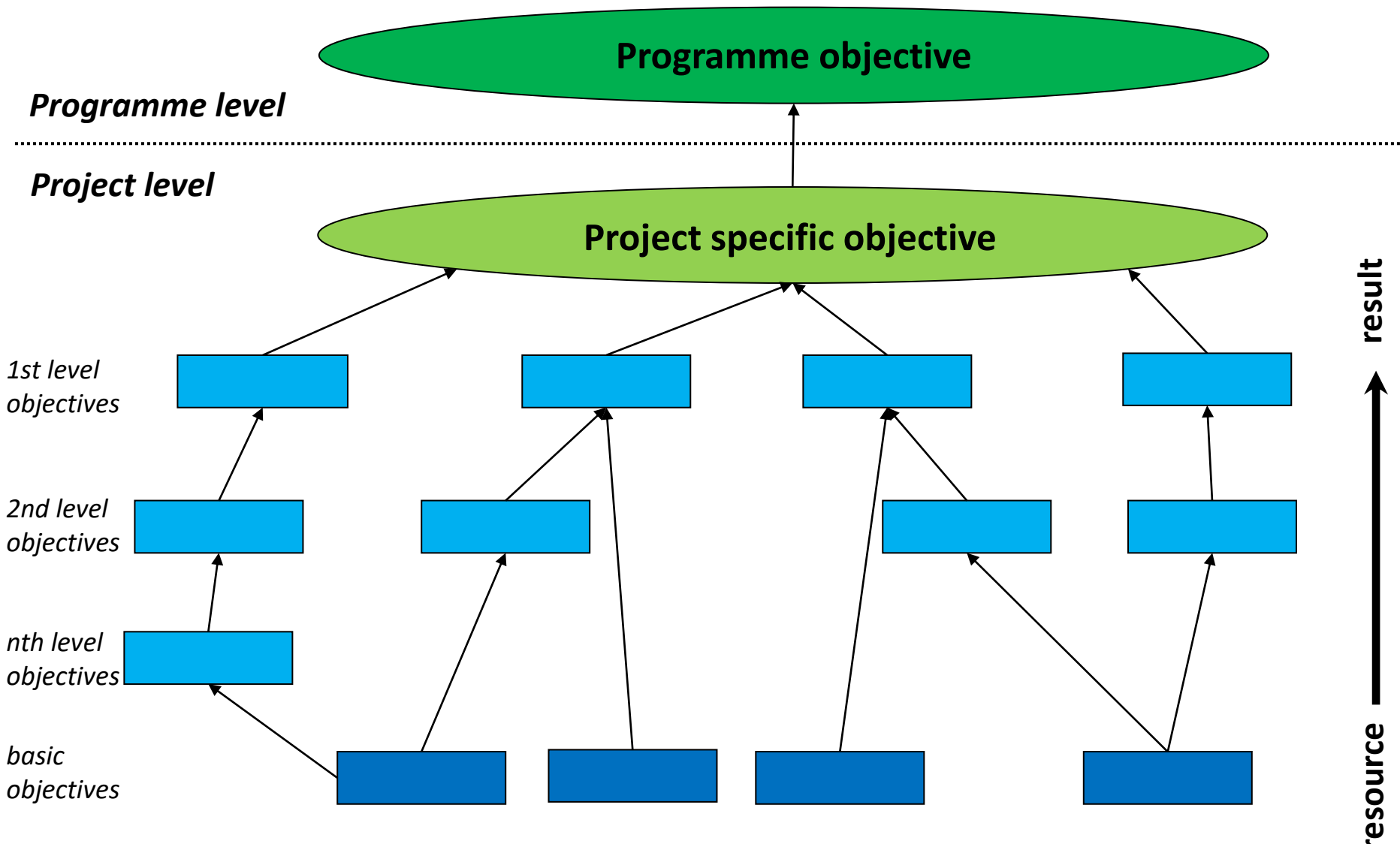
Problem and objective tree:
An ordinary example
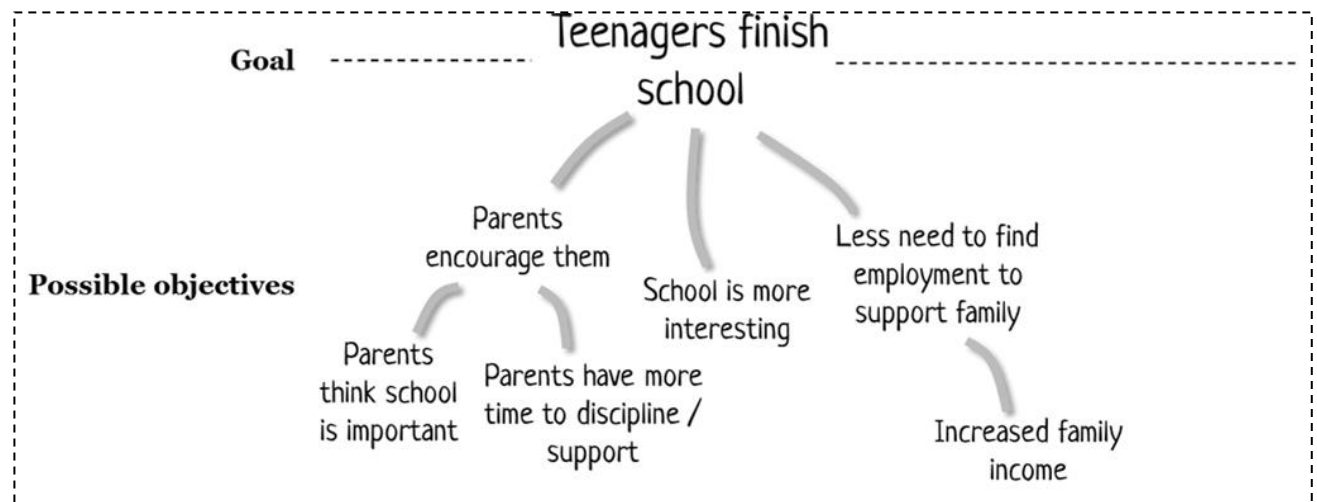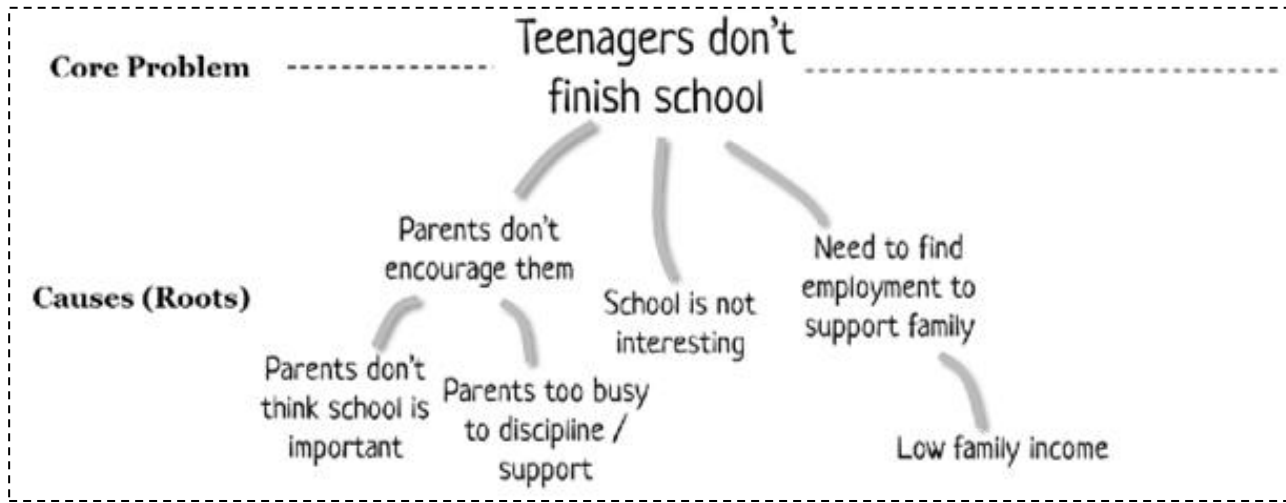
Problem tree:
An economic example

Decreasing quality of living of local population

Decreasing water quality in the river

Waste is let into the river without control

Water treatment facilities do not meet environmental standards

Households are not aware of danger

Companies are not controlled

Inadequate levels of capital investment and poor business planning

No public information or education available

Existing legal regulations are inadequate

Pollution has been a low business priority

Objective tree:
An economic example
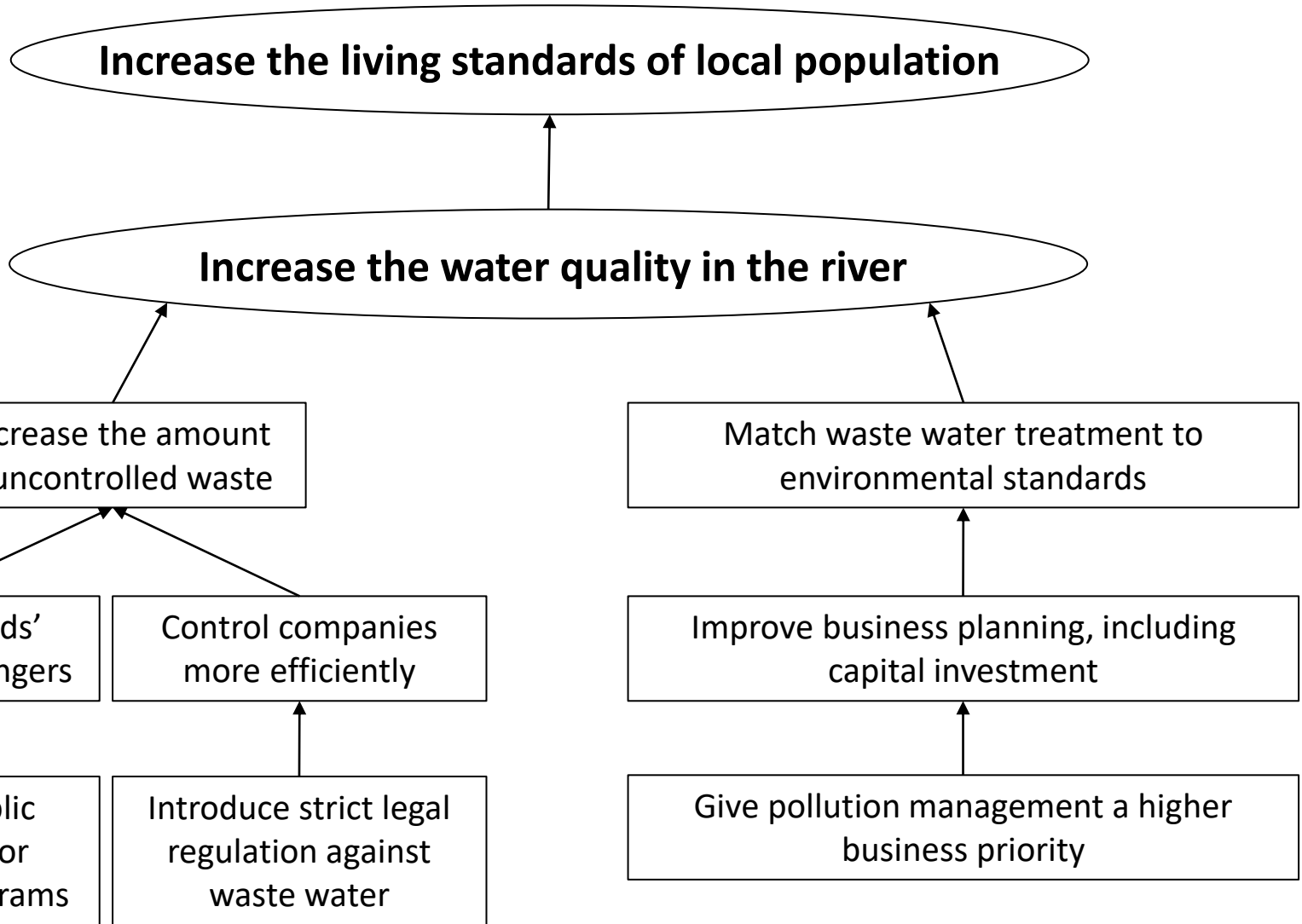
Stakeholder analysis

- **Goal:** identification and characterisation of the most important stakeholders
  - **Step 1: Identification of stakeholders**, who
    - can influence the project
    - are influenced by the project
    - can be a useful partner
    - may be a problem source because of a conflict of interest
    - takes part in the project anyway
  - **Step 2: Grouping by functions**
    - takes part in the project
    - provides financing
    - utilises the benefits
    - has a central role
    - …

Stakeholder analysis

- The stakeholder analysis takes more stakeholders into account than the company stakeholder mapping
- The possible stakeholders concerning a project:
  - Suppliers, owners, employees, costumers, investors, managers
  - Partners of the applicant
  - Competitors of the applicant
  - Financial institutions, banks, credit unions, savings and loan associations
  - Industry trade groups, trade associations
  - Non-profit organisations, environmental organisations
  - Schools, universities, R&D agencies, research centres, laboratories
  - Legislative bodies, local, regional or national government
  - The local community

Stakeholder analysis

- Drawing the stakeholder matrix:
  - **Grouping from 'degree of supporting' perspective:** based on interest and reactiveness
    - How much we can count on stakeholders or groups of stakeholders?
    - **Three categories: supporter, neutral, resistance**

  - **Grouping from 'sensitivity' perspective:** based on influence of the project
    - To what extent our project influence the activities of stakeholders or groups of stakeholders?
    - **Three categories: low, average, high**

  - **Relations between the different interest groups have to be visualised**

The matrix for stakeholder analysis
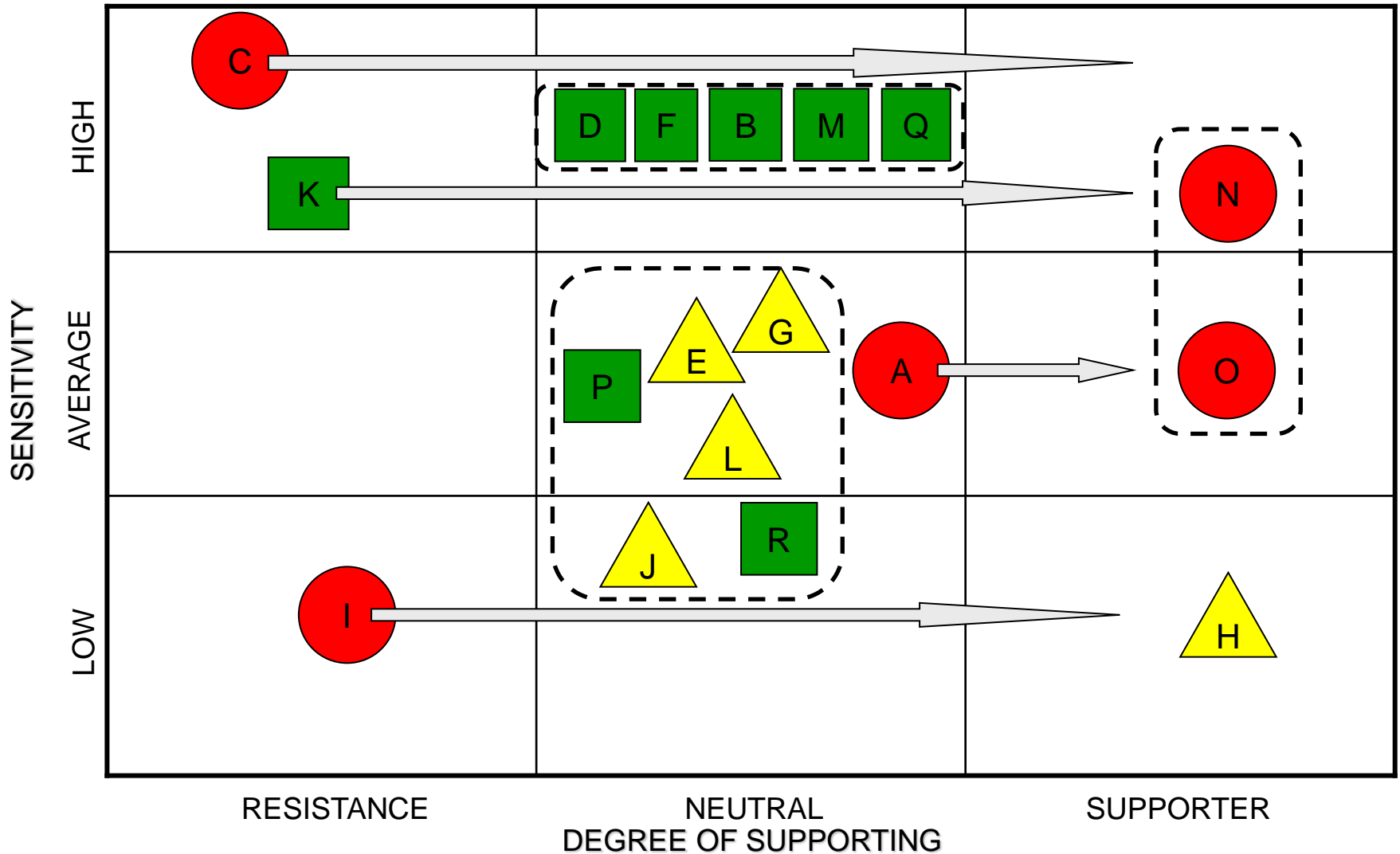
Stakeholder analysis

- Ideal outcome of stakeholder analysis:
  - Identifying all stakeholders of a project
  - Grouping stakeholders' on interest and power
  - Creating clear and transparent structure of stakeholders

- Utilisation of the stakeholder analysis:
  - Helps to understand the perspective of stakeholders
  - Helps to see the problems from the stakeholders' perspective
  - Helps to answer whose interests should be prioritised
  - Helps to understand how we should handle different stakeholders
  - Helps to prepare for possible conflicts

The indicator

- **Indicator:** a specific, observable and measurable variable that can be used to show changes or progress making toward achieving a specific outcome
  - An indicator should be defined in precise, unambiguous terms that describe clearly and exactly what is being measured
  - Characteristics of good indicators: **the SMART criteria**
    - **Specific:** target a specific area for improvement
    - **Measureable:** quantify or at least suggest an improvement in process
    - **Achievable:** specify who will do it
    - **Realistic:** state what results can realistically be achieved
    - **Time-bound:** specify when the results can be achieved

Indicators: some examples

Type	Output	Result	Effect, impact
Industrial park construction	Increase in usable area, roads, buildings (m, m^2, m^3, km, pcs, ha)	Increase in number of companies settled (pcs) Investment value of companied settled (M EUR)	Increase in profit (M EUR) Increase in employment (ps) Increase in innovation potential (scoring)
Road network development	Length of constructed roads (km) Ranking category (scoring)	Shortening of distance (%) Decrease in the number of accidents (%) Increase in the frequency of public transport (%)	Increase in the number of commuting employees (ps, %) Increase in tourism (ps, %)
Waste treatment, environmental protection	Increase in capacity of waste processing (m^3/day)	Increase in recycling rate (%) Decrease in the number of illegal waste deposits (%)	Decrease in the rate of illness due to pollution (%)

Indicators: some examples

Type	Output	Result	Effect, impact
Education institution improvement	Number of new/refurnished classrooms (pcs) Number of new/updated visual aids (pcs)	Utilisation of the new rooms and equipments (ps/month) Improvement in average studies acheivement (%)	Increase in the number of qualifications (%) Increase in income (EUR)
Healthcare institution improvement	Number of new hospital beds (pcs) Number of new medical equipments (pcs)	Decrease in average treatment time (%) Increase in the standard of healthcare services (scoring)	Decrease in the rate of sick leave days (%) Increase in life expectancy at birth (age)
Cultural institution improvement	Number of new places, locations, buildings (pcs) Number of new exhibitions, events (pcs)	Increase in the rate of those using the services (%) Increase in average cultural level (%)	Increase in tourism attraction (ps, %)

Indicators: some examples

Type	Output	Result	Effect, impact
(Scientific) studies elaboration	Completed work, paper, article, according to type and themes (pcs)	Research theme foundation, exploration, description, explanation (verbal)	Increase in absorption (score) Increase in multiplier (score)
Education, (re-)training	Number of students participating the programme (ps)	Number of students completing the programme (ps)	Increase in income (EUR) Rate of decrease in unemployment
Event organising	Number of successfully organised events (pcs) Number of participants (ps)	Knowledge improvement (verbal) Relational capital improvement (verbal) Network building (verbal)	Change in attitudes (verbal) Identity building (verbal) Improvement of personal capabilities (verbal)

Time horizons of planning

The **time factor** plays an important part in the presentation of project plans.

Plans should be built upon not only in structural term, but in the terms of time horizon as well.

Literature usually distinguishes:
- **Long-range plans:** 20-25 years
- **Long-term plans:** 5-7 years
- **Medium-term plans:** 2-4 years
- **Short-term plans:** 1 year
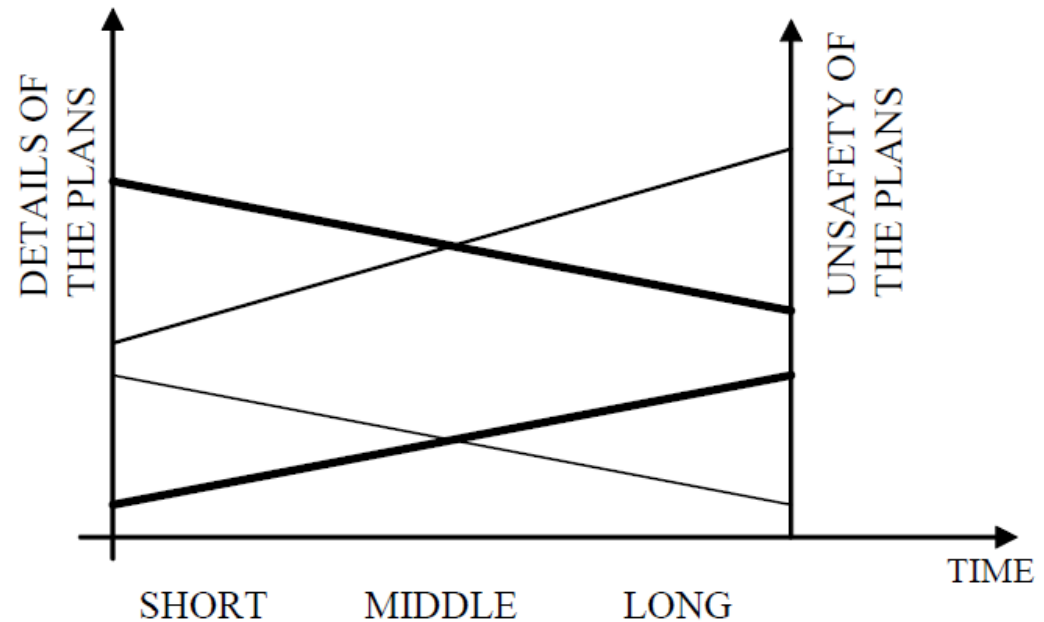
Time scheduling

- **Schedule:** a basic time-management tool, consists of a list of times at which possible tasks, events or actions
  - A formal schedule must be created in carrying out a project
  - A schedule is obtained by estimating the duration of each task and noting any dependencies amongst the tasks
    - Dependencies are tasks that must be completed in order to make other tasks possible
  - **Milestone:** significant event in a project (e.g. finish of a work phase)

- Drawing the schedule: **the GANTT chart**
  - Named after *Henry Gantt*, American engineer → first application: WWI (by US Army), became widespread in the 1980's due to PCs
  - *Task:* Listing the activities in chronological order and marking the implementation of each activities according to weeks or months

GANTT chart

	Activities	Implementation (weeks/months)							
		1	2	3	4	5	6	...	n
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
...									
m									

GANTT chart: example

	Activities	Implementation (8 months)							
		1	2	3	4	5	6	7	8
1.	**Project Kick-off (establishing the team)**	▓							
2.	**Give pollution management a higher business priority**		▓	▓	▓				
2a.	Overview of existing business priorities		▓						
2b.	Develop new business priorities with regard to environment			▓	▓				
3.	**Establish public information or education programs**		▓	▓	▓	▓	▓	▓	
3a.	Course organisation		▓	▓	▓				
3b.	Course arrangement, teaching					▓	▓	▓	
4.	**Introduce strict legal regulation against waste water**		▓	▓	▓				
4a.	Overview of existing regulations		▓						
4b.	Develop new legal regulations with regard to environment			▓	▓				
5.	**Communicate new business priorities and regulations**					▓	▓	▓	
6.	**Project monitoring**		▓	▓	▓	▓	▓	▓	▓
7.	**Project closure, dissemination**								▓

GANNT chart: further examples
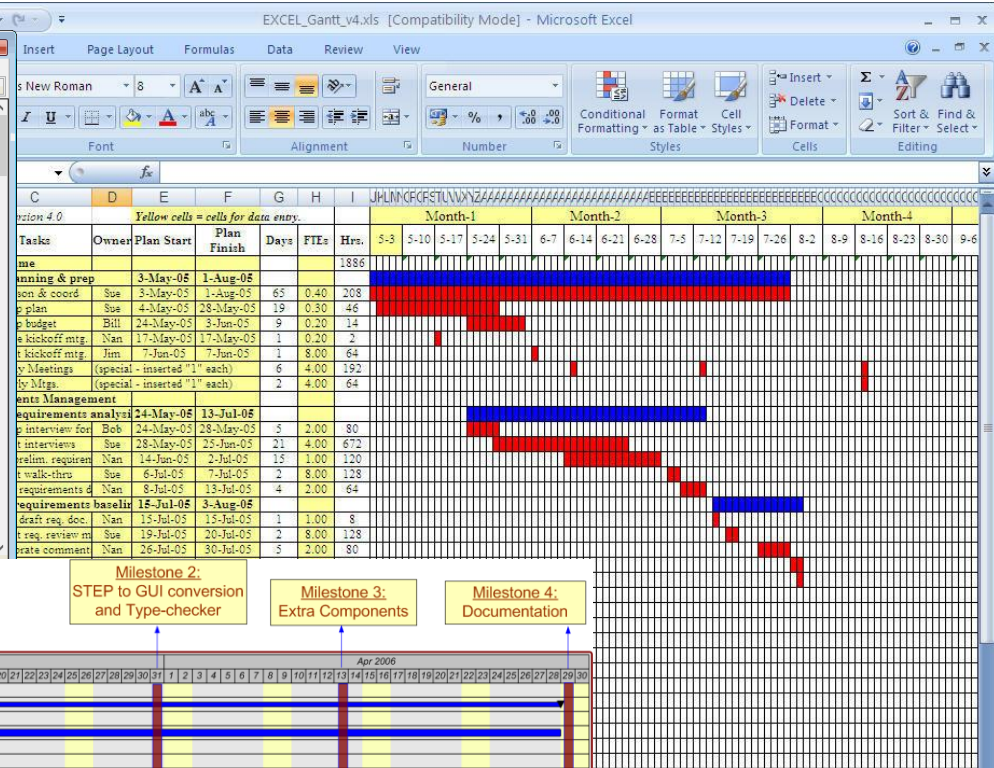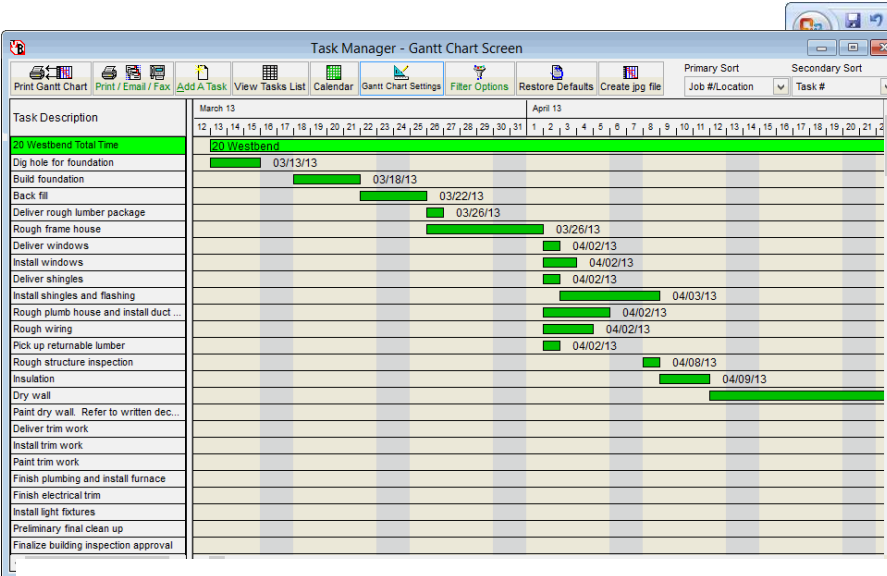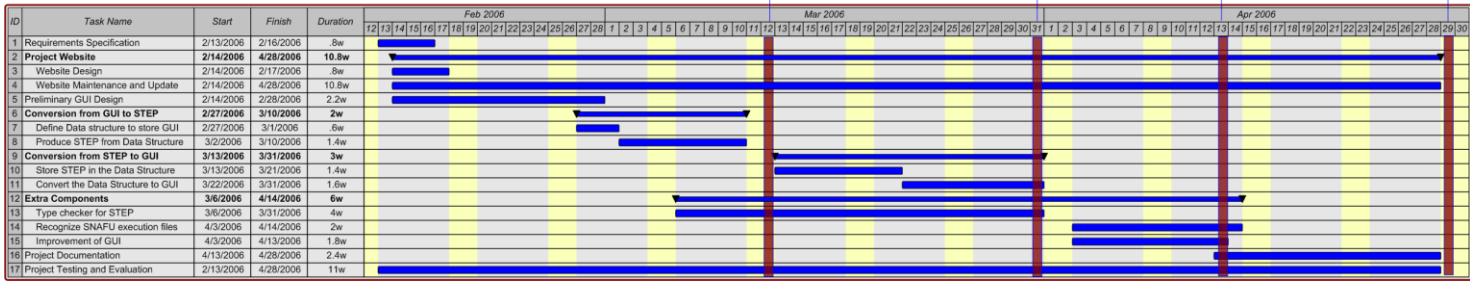
The HR plan

- Human resource planning is based on:
  - **Defining competencies** (based on skills, proficiency, experiences)
  - **Selecting experts and assigning them to exercises and activities**
- Personalities can be very different
  - Leader, pushing (venturesome), smart (creative), motivator, resource manager, analyser, realizer, critic (reviewer), coordinator, administrator…
  - *Generalist vs. Specialist:*
    - The **generalist** has broader knowledge base, he/she is not afraid to step out of his/her comfort zone, relies on his/her talent
    - The **specialist** has deeper knowledge level, he/she experts in his/her own field and relies on own experience

The HR plan

- Contains the different elements of the project
  - E.g. new machines acquisition, improvement of infrastructure, software engineering, training, communication etc.
- Contains the activities for each elements of the project
  - E.g. preparation, tendering, realization, production, acquisition, transport, monitoring, audit, controlling etc.
- Contains experts according to their profession
  - E.g. construction site manager, builder, software engineer, system administrator, production manager, HR manager, project manager etc.
- Assigns experts to activities
  - How many experts are needed in the different work phases of the project?

The HR plan: sample examples

Document Information

Project Name:	Project Name		
Prepared By:	Document Author	Document Version No:	Version Number
Title:	Document Author Title	Document Version Date:	Version Date
Reviewed By:		Review Date:	

[This worksheet may be used to plan project resource requirements and to identify potential candidates to fulfill those requirements.

Resource Requirements

WBS ID	Resource Type (A)	Resource Quantity	Preferred Labor Cost Range	Delivery Location (B)	Can Work Be Done from Remote Location?	Start Date	End Date	Total Work Effort Hours	Follow-on Phases? (C)	Is Travel Approve?	Non-COMPANY'S NAMES? (D)	Contact In-Progress? (E)
1												
2												
3												
4												
5												

Project Skill Requirements

	Task/Deliverable	Resource Type	Source	Skill Level	Quantity	Hours Required	Controller
Phase-1 From Date	Site Layout Design	Designer	Internal	Macromedia Flash	2	50	Project Manager
	Java Scripts	Programmer	Internal	Java	1	30	Project Manager
	Content	Writer	AC content firm	APA style	2	30	PR Manager
To Date	Images	Photographer	LY Photo Co	Business photos	1	10	PR Manager
Phase-2 From Date	Site Integrating Placing Advertisements						
To Date							
Phase-3 From Date	Site Testing						
To Date							
Phase-4 From Date	SEO Internet Marketing						
To Date							

Team Project - Common Team Workflows

Name	%	Rate	Units	# People	Performed By
Common Workflows					
Simple Process					
Design	25% of	10	LOC per Hour	1 person	«developer»
Design Review	15% of	10	LOC per Hour	1 person	«developer»
Code	25% of	10	LOC per Hour	1 person	«developer»
Code Review	15% of	10	LOC per Hour	1 person	«developer»
Compile	3% of	10	LOC per Hour	1 person	«developer»
Code Inspection		200	LOC per Hour	3 people	«developer», «inspectorA», «inspecto...
Unit Test	5% of	10	LOC per Hour	1 person	«developer»
Integration Test	12% of	10	LOC per Hour	3 people	«developer», «testerA», «testerB»

The cost plan

- Cost plans are usually prepared by **cost consultants**
- There are **different types of cost plans**; however, when submitting a project, the initial cost appraisal is important
  - **Initial cost appraisal:** cost plan (containing expenditures) prepared before the submission of the project
  - **Project cost plan:** cost plan (containing expenditures) agreed with the contractor during the project contracting phase
  - **Final account:** provides mechanisms for final payment after the project closure
- Cost plans usually contain the following types of cost:
  - **Personnel (staff) costs:** labour's actual salaries plus social charges
  - **Material costs:** amount of money invested in materials apart from labour

The cost plan

- **Personnel (staff) costs:**
  - **Payroll expenses (compensation package):** pay, earnings, salary, wages
  - **Supplementary expenses (fringe benefits, 'perks'):** bonus, overtime pay, language allowance, family allowance, dress allowance, travel allowance (reimbursement), cafeteria, lunch voucher
  - **Single payment:** premium, commission
  - **Contributions:** employers' + employees' contribution, pension contribution, healthcare contribution
    - According to the available rate of tax

The cost plan

- **Material costs:**
  - **Stock investment, equipment:** stationery, books, IT (computer, monitor, mouse, keyboard, pendrive, tablet, printer, scanner, camera, speaker, headset etc.), ornaments and furniture (lamp, chair, desk etc.), accessories (bulb, lock), building materials, fuel …
  - **Service expenditures:** office rent, office maintenance, cost of public utilities (water supply, electricity, heating, cleanup, security), cost of communication (mail, telephone, fax, internet), cost of IT services (system administrator, server leasing, website support), cost of financial consultation (accounting, controlling), cost of banking, subscriptions …

The cost plan

- **Material costs:**
  - **Cost of meals:** breakfast, lunch break, coffee break (mineral water, juice, coffee, scone), evening reception
  - **Cost of travelling:** transportation costs (car rent, bus rent, day trips, excursions), tickets and fares (train, bus, plane, tube, taxi, local travel), travel insurance, loading, storage and transport
  - **Cost of accommodation:** according to number of nights and category
  - **Cost of marketing (reputation, representation):** advertising, cost of press, calls, events (conference, annuals, workshop, seminars), cost of publishing (editing, formatting, proofreading, designing) …
  - **Taxes and charges:** land tax/charge, estate tax, taxes on motor vehicles

Cost-related requirements

- **General requirements on project expenditures / costs:**
  - They must be directly connected to the activities of the project and its objectives
    - Invoices and receipts must clearly indicate the activity to which they relate
  - They must be present in the original estimated budget
  - They must be reasonable, justified and in accordance with the principles of sound financial management (in particular in terms of value for money and effectiveness)
    - All deviations between budgeted and actual costs must be explained

Cost-benefit analysis

- A **cost-benefit analysis** attempts to quantify the expected benefits and costs of the project plan
- The task can be solved in 3 steps:
    1. **Determination of costs** by cost type (e.g. personnel or material, investment or operational)
    2. **Determination of the expected benefits**
    3. **Comparison of costs and benefits at present values:**
        - **Rate of return:** it expresses the discounted benefit per discounted costs. A project is qualified as beneficial if the rate of return is > 1

$$Rate\ of\ return = \frac{\sum_{t=1}^{n} B_t \dfrac{1}{(1+r)^t}}{\sum_{t=0}^{n} C_t \dfrac{1}{(1+r)^t}}$$

Cost-benefit analysis: example

Costs	Years					
	0	**1**	**2**	**3**	**4**	**5**
Investment costs	-50,000	0	0	0	0	0
Operating costs	0	-75,000	-80,000	-90,000	-100,000	-110,000
Total costs	-50,000	-75,000	-80,000	-90,000	-100,000	-110,000
Discount factor (r=15%)	1,00	0,87	0,76	0,66	0,57	0,50
Present Value of Costs	-50,000.00	-65,217.39	-60,491.49	-59,176.46	-57,175.32	-54,689.44
Cumulative Present Value of Costs	*-50,000.00*	*-115,217.39*	*-175,708.88*	*-234,885.34*	*-292,060.66*	*-346,750.10*
Benefits	0	120,000	130,000	145,000	160,000	175,000
Present Value of Benefits	0	104,347.83	98,298.68	95,339.85	91,480.52	87,005.92
Cumulative Present Value of Benefits	*0*	*104,347.83*	*202,646.51*	*297,986.36*	*389,466.88*	*476,472.80*
Rate of return	*0.00*	*0.91*	*1.15*	*1.27*	*1.33*	*1.37*