

Demonstrating the Impact of Applied Research

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Introduction

Who are we?

- Name
- Position
- Type of institution
- What do we expect from this workshop?

Introduction



Who are we?

- Name: *Hans Vossensteyn*
- Position: *Director Saxion Research & Graduate School*
- Type of institution: *Saxion University of Applied Sciences*
 - *3 locations, 12 Faculties, 26.500 students, 27 research groups, 20 labs, 37 professors (research leaders), 300 fte research*
- What do we expect from this workshop?
 - *Stimulate debate, get to know more how other institutions define and measure impact*

Introduction



Who are we?

- Name: *André Roos*
- Position: *Director Saxion Centre for Entrepreneurship*
- Type of institution: *Saxion University of Applied Sciences*
 - *3 locations, 12 Faculties, 26.500 students, 27 research groups, 20 labs, 37 professors (research leaders), 300 fte research, spin-offs*
- What do we expect from this workshop?
 - *Stimulate debate, get to know more how other institutions define and measure impact*

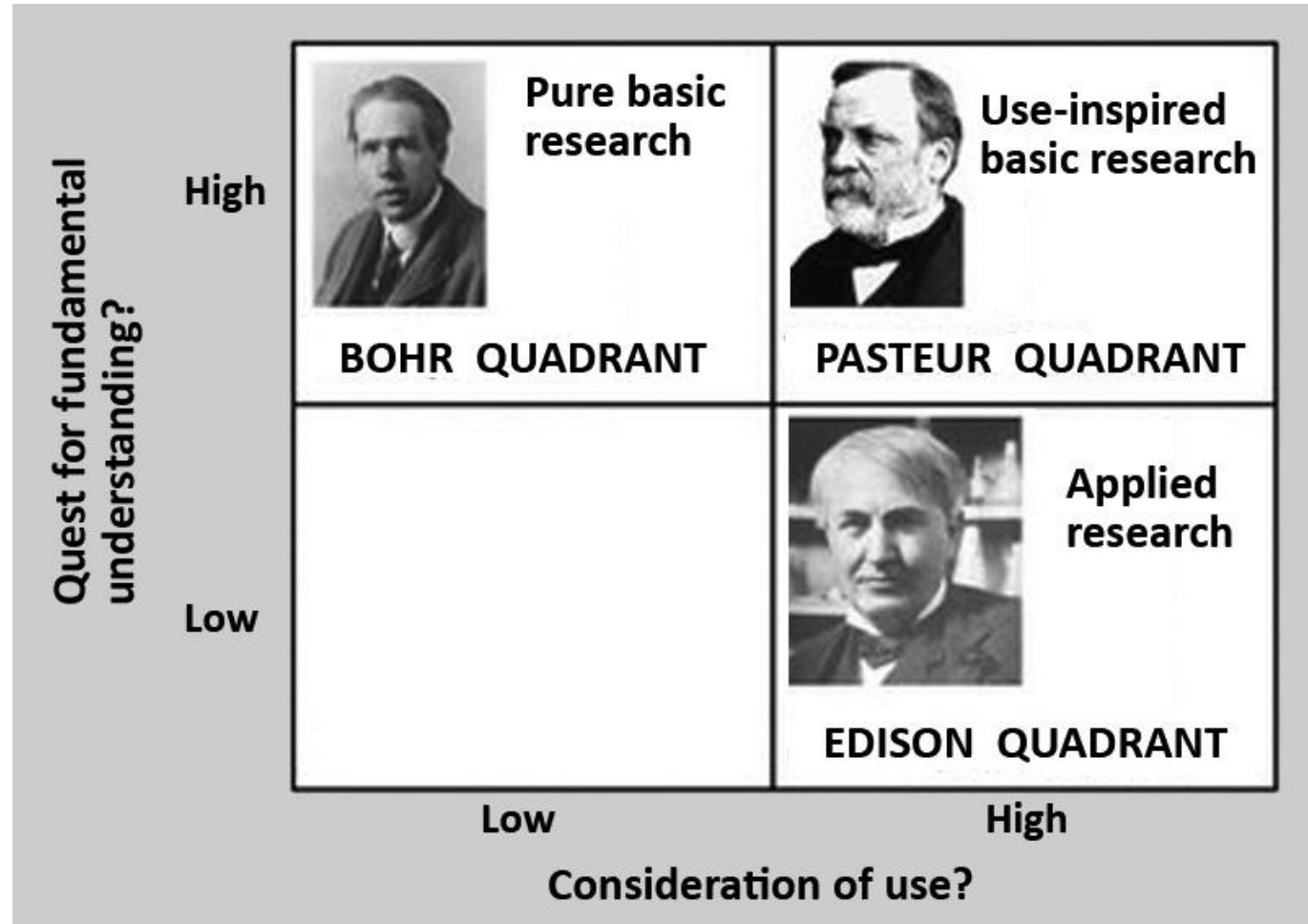
Applied Research

What is applied research?

- Can you define it?
- Or mention elements?

Applied Research

What is applied research?



Impact

Impact a complex and contested concept

- Inputs – outputs – outcomes impact ?
- Perspective of producers
- Perspective of users
- Perspective of society

Impact

What is impact?

- How would you define impact (of applied research)?
- How is this measured in your institutions?

Impact

Impact for whom?

- Knowledge domain
- Education
- Professional practice / Entrepreneurship

Impact

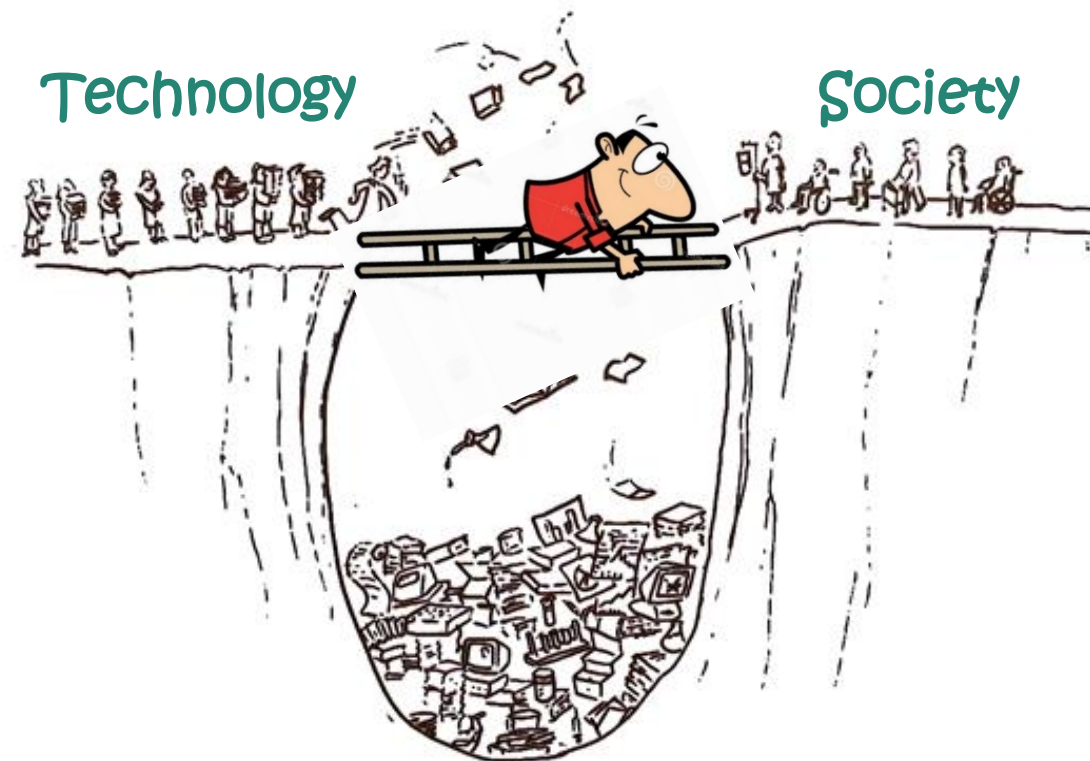
Impact for whom?

- **Knowledge domain:** publications, test-constitutions, presentations, media outputs, ...
- **Education:** new courses, didactical approaches, instruction tools, ...
- **Professional practice / Entrepreneurship:** product innovations, prototypes, artefacts, production & organisation processes, ...

Impact

Impact of applied research

- Practice oriented / Use-inspired
- In order to have impact this is not only a **technical challenge**, but it is also about **societal implementation**



Linking applied research to impact

1. Practice-oriented research

- Involves **research** in response to a **question from practice**
- Solved by **researchers** and possibly students
- **Bridging function** between **practice and science**
 - Designed/conducted in methodologically/ethically sound manner
 - Knowledge exchange/problem solving by involving practitioners/other stakeholders creating communities
- Possible **connection to education** by
 - involving students
 - allowing latest knowledge to be transferred back to courses

2. Micro impacts: Direct and indirect effects

- **Possible solutions**
- Possible that **new/other problems and questions** emerge calling for further practice-based research
- Possible solutions may lead to innovations and those **innovations** may lead to new solutions to **other issues**
- **Development** of actively involved **professionals**
- **Higher quality education** by transferring knowledge and involving students and lecturers
- **New education**
- Scientific knowledge and practical knowledge **reinforce** each other through connection HBO institutions and universities

3. Macro Impacts: Societal benefits

- Directly due to solution problem or answer to question
- Better or different solutions to (future) issues due to newly developed knowledge
- Impact due to actually rolled out innovation
- Higher added value professionals involved during rest of their lives
- Higher added value upcoming professionals during the rest of their lives due to improvement of education

Creating a vision on impact

Research at Saxion aims to improve:

1. Research:

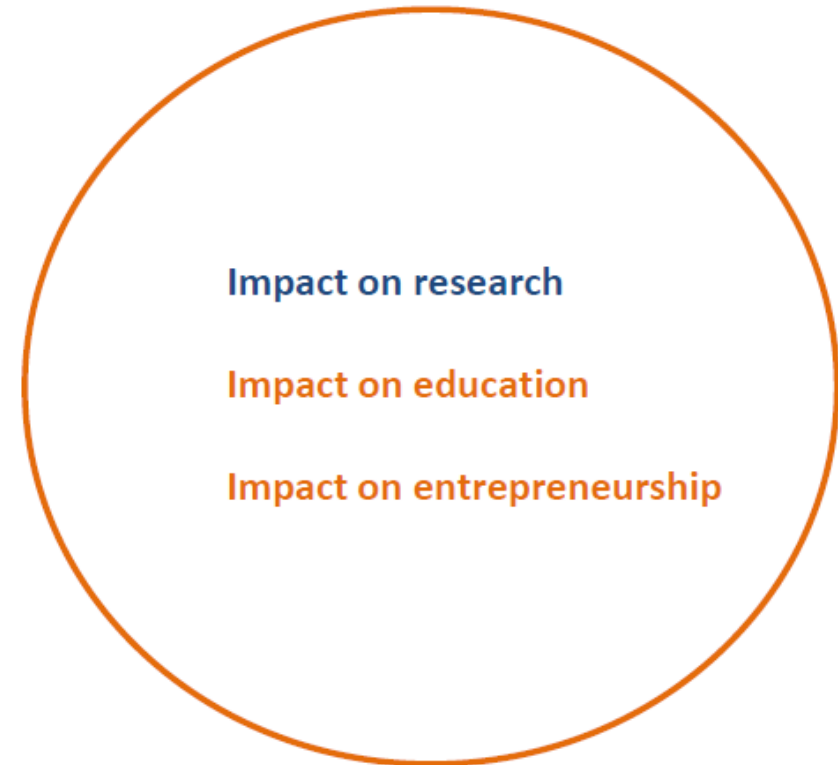
- new knowledge / theory
- innovate research practice: new research methods, analyses and data(bases)
- new (key)technologies

2. Education:

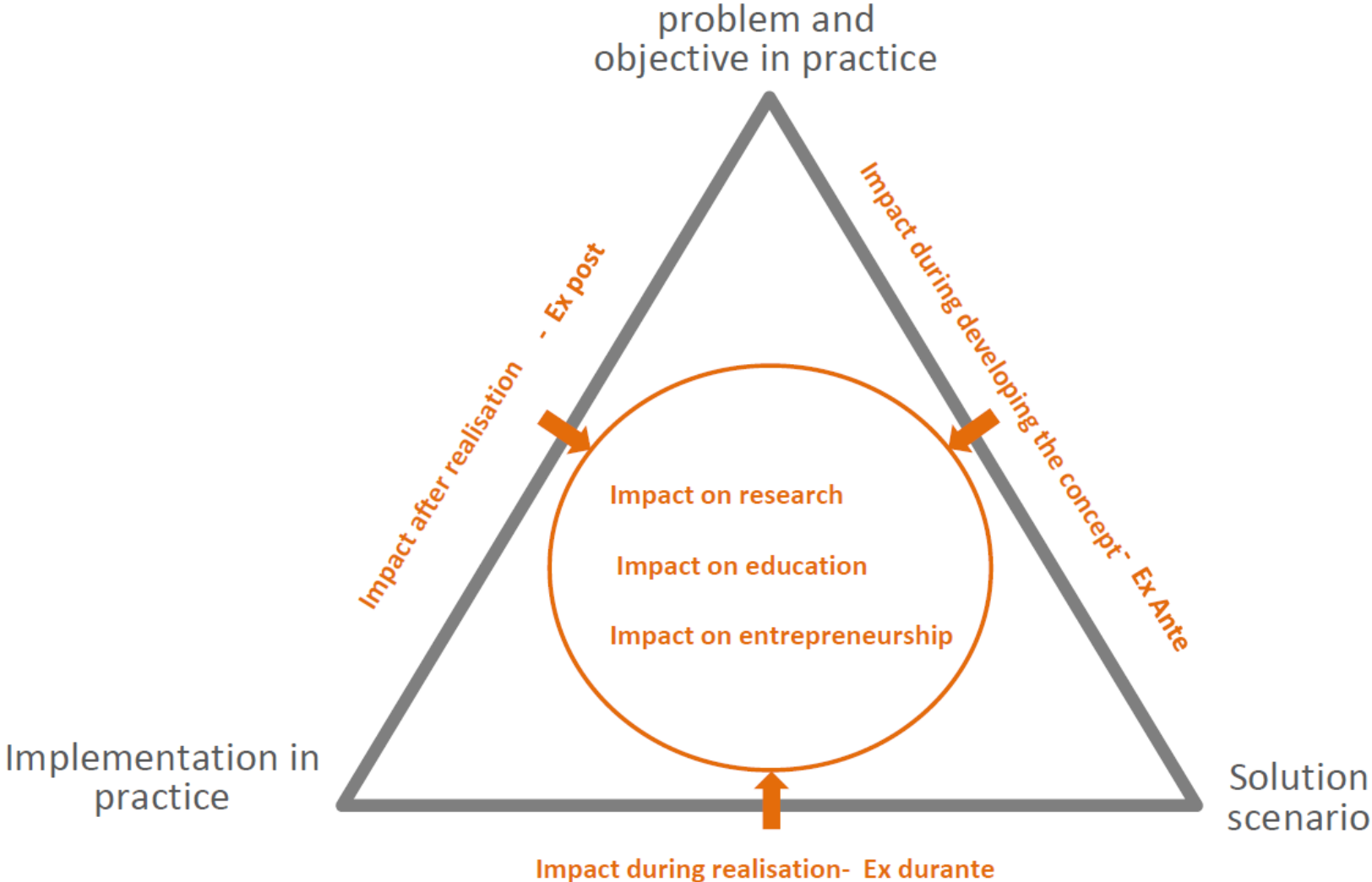
- update en deepen Body of Knowlege of educational programme
- professionalise lecturers
- succesful students

3. Entrepreneurship:

- startups and scaleups
- societal issues
- financial-economical parameters



Using an integrated model for impact



Using an integrated model for impact

Impact phases

- **Ex-ante impact:** impact while defining the needs, issues, goals and targets
- **Ex-durante impact:** impact while executing the research, working on solutions, implementing solutions
- **Ex-post impact:** impacts that arise after the implementation of solutions

Using an integrated model for impact

Impact phases – examples

- **Ex-ante impact:** involving relevant problem owners, articulate the real problem, train stakeholders, ...
- **Ex-durante impact:** involve relevant target groups, develop a business model to support a solution, integrate ethical issues, involve entrepreneurs during development, ...
- **Ex-post impact:** guarantee evaluation of results and process on short and long term

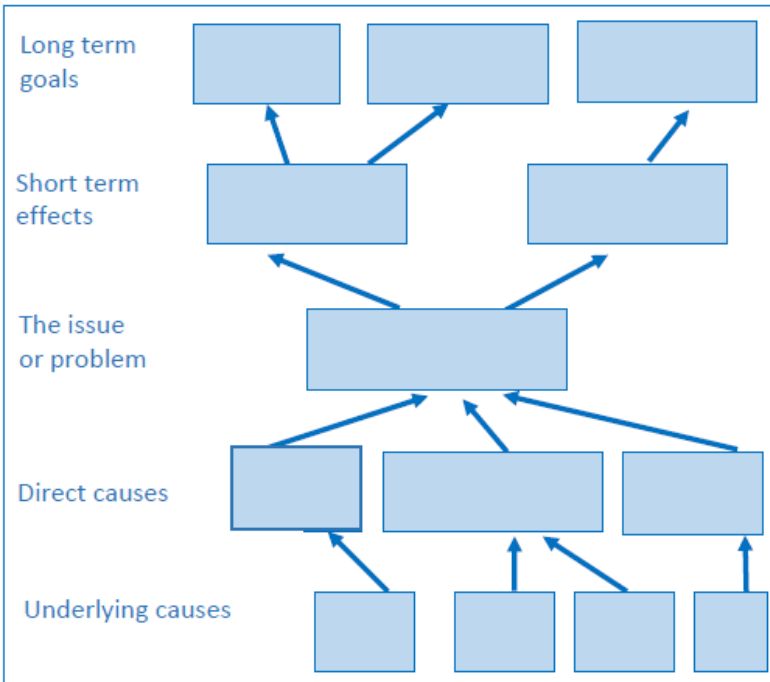
Define focus and impact in research projects/programs

The 3 Tree Model

- Discloses the diversity of knowledge and products
- 3 interrelated trees that need to be aligned
 - A goal needs to relate to an issue/problem
 - An intervention needs to contribute to a goal
 - The long term effect should be different than without the intervention

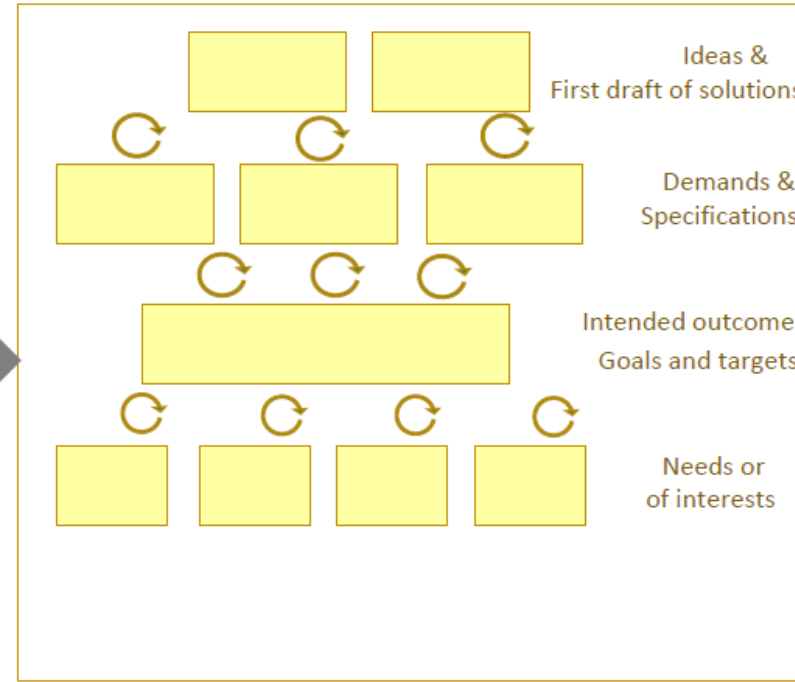
The 3 Tree Model

Diagnosis tree



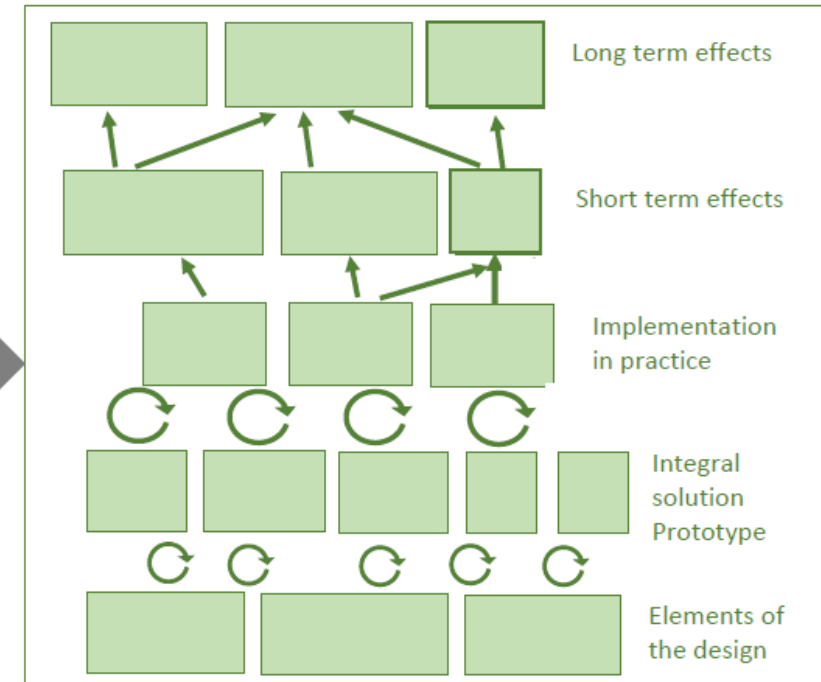
What is the situation?
What caused this situation?
What will happen if we do not intervene?

Goal tree



What are stakeholders' demands or interests?
What is the desired outcome (= external goals)? What requirements should a solution fulfil? What ideas and draft solutions??

Results tree



What are the deliverables (products or partial product? Will it be an integral solution? What would the solution be like in practice? What are expected/intended effects?

The 3 Tree Model

Diagnosis tree

Examples of deliverables:

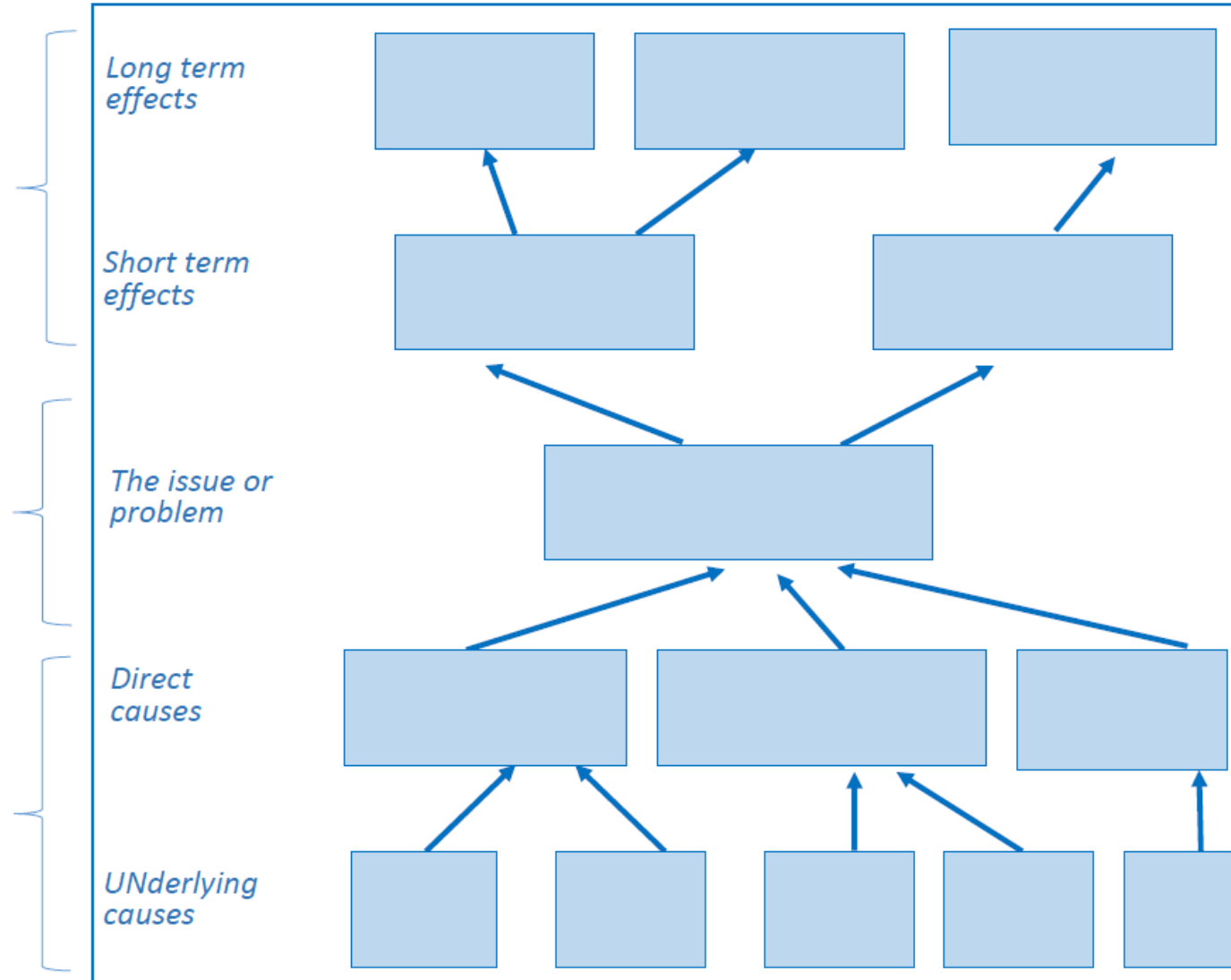
- Risk analysis
- Prognosis
- SWOT-analysis

Examples of products:

- Problem analysis
- Proces analysis
- Target group analysis
- Stakeholder analysis
- Legal analysis

Examples of products:

- Cause analysis
- Proces analysis



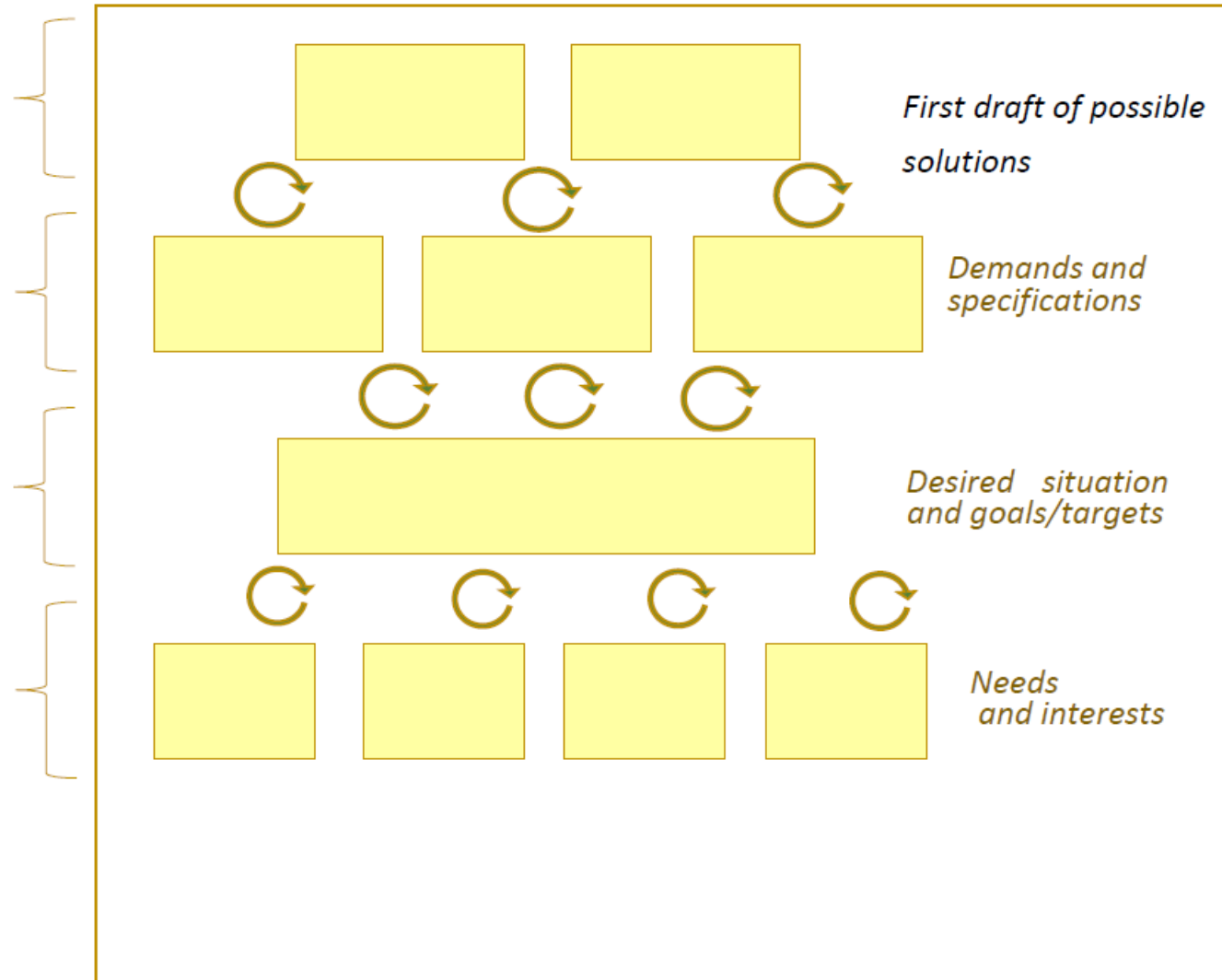
Insight in a situation requires “world views” of the issue or problem

Stakeholders may have different views on the issue or problem at hand, and also different assumptions regarding causes and effects of the issue/problem

By sharing diagnosis trees set up by different stakeholders may deliver a shared view on the situation.

The 3 Tree Model

Goal tree



Examples of products:

- Idea
- Solutions scenario
- Strategy
- Business model

Examples of products:

- Design brief
- Multicriterium analysis

Examples of products:

- Description of goals
- Mission
- Vision

Examples of products:

- Needs inventory
- Force field analysis

Needs, goals, demands and first draft of possible solutions will depend on targetgroup and stakeholders. This requires stepping into the shoes of the stakeholders, e.g. via empathy mapping.

Determining a commonly shared image of desired situation and approach by determining needs, goals, demands and first draft of possible solutions of stakeholders.

Results tree

Possible products:

- Evaluation
- Impact analysis

Possible products

- Evaluation
- Effect analysis

Possible products

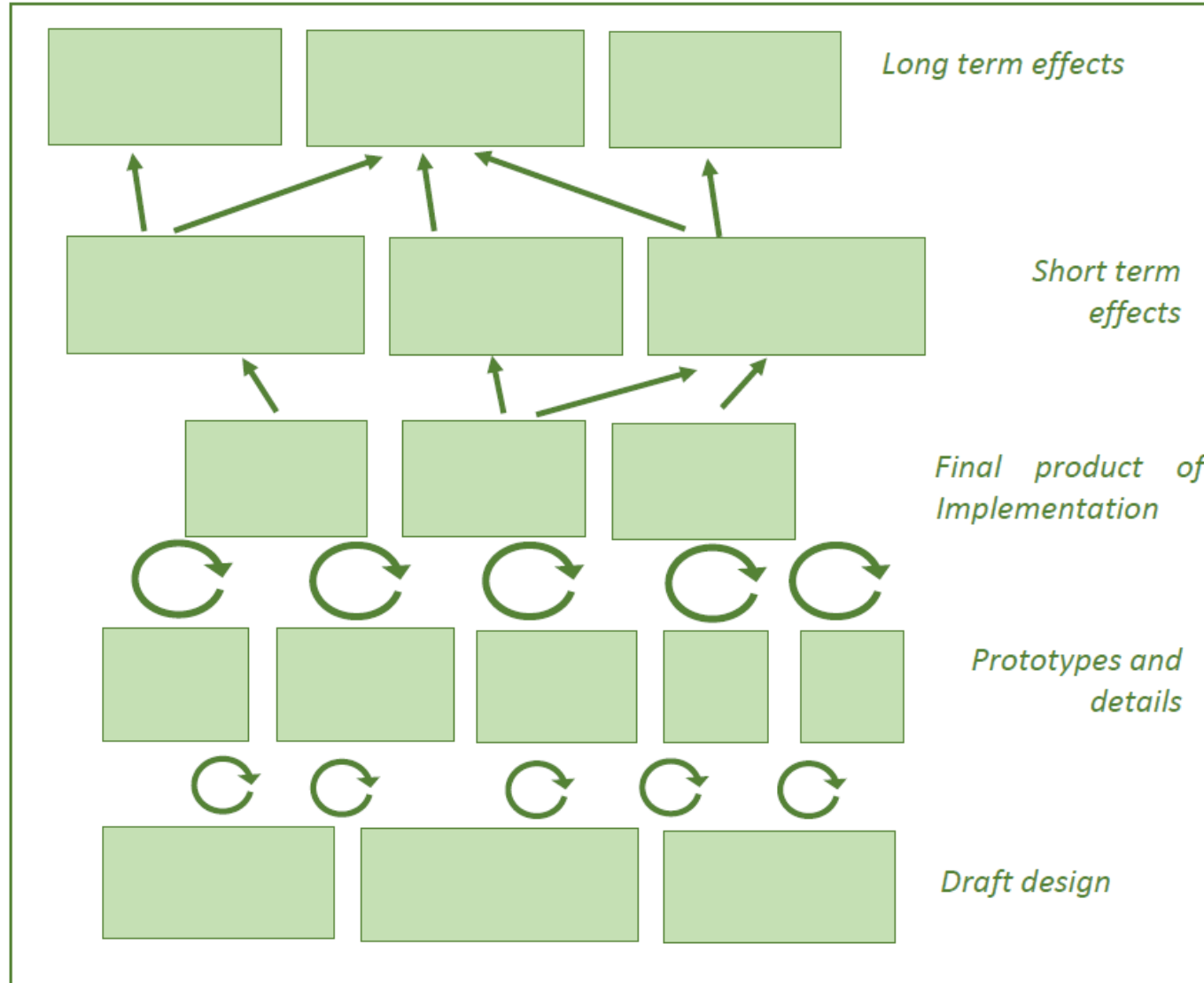
- (Semi finished) product
- Action
- Implementation

Possible products:

- Design
- Prototype
- Test

Possible products:

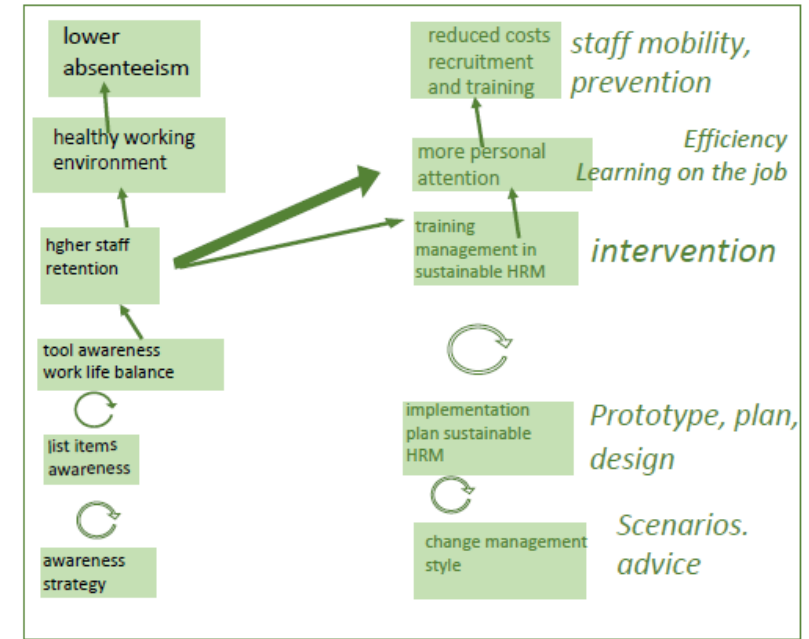
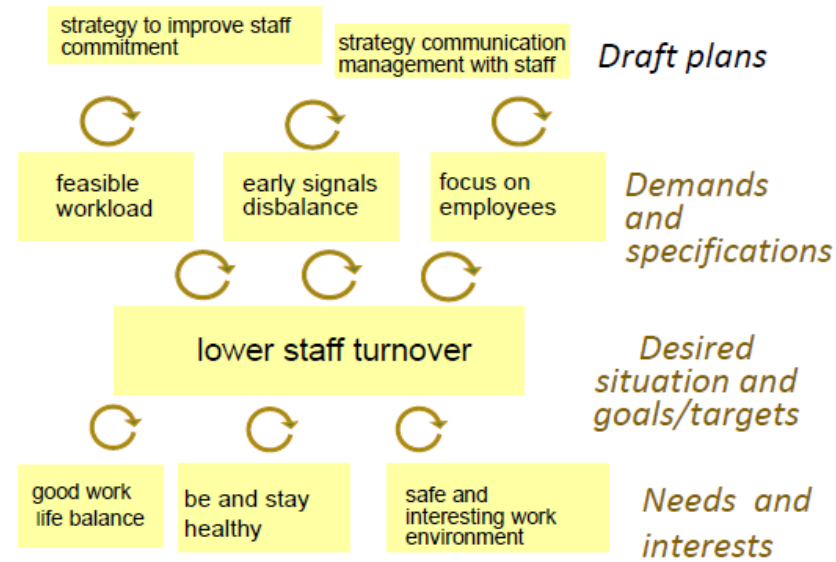
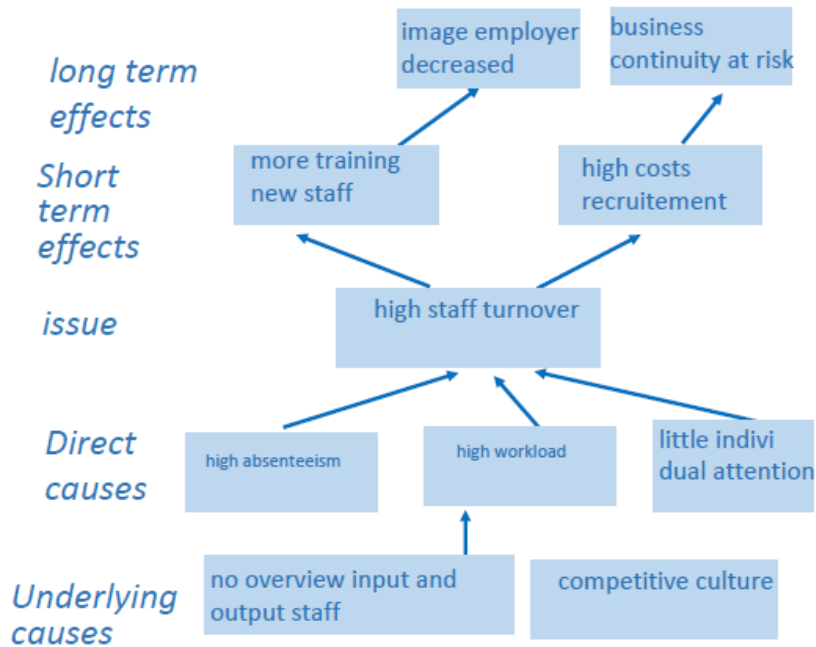
- Advice
- Design
- Plan



Designs, prototypes final products and/or implementation of intervention/product are needed to go from current to desired situation

Stakeholders may differ in opinion as to what is needed. Therefore, create support by involving users and stakeholders in the proces

The 3 Tree Model: Example



Assignment

Apply the 3 Tree Model

- Form small groups (2-3 persons)
- Define a topic / applied-research project
- Design a 3 tree model to define the envisaged impact
 - First round 30 minutes
 - Visit each other (inspiration)
 - Second round to finalise your 3 tree model