



# Webinar on financing of infrastructure and equipment in VET



Helvetas / Simon B. Opladen

## Welcome!



## Technical tips



**If you have comments or questions** during presentation, post them in the chat



**If you can't hear or see:** close and restart webinar, and close other programs.



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**Microphones are off.**

You are invited to use the chat to post comments or questions.



# Webinar team



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HELVETAS



# Webinar agenda

Welcome

Guidance paper

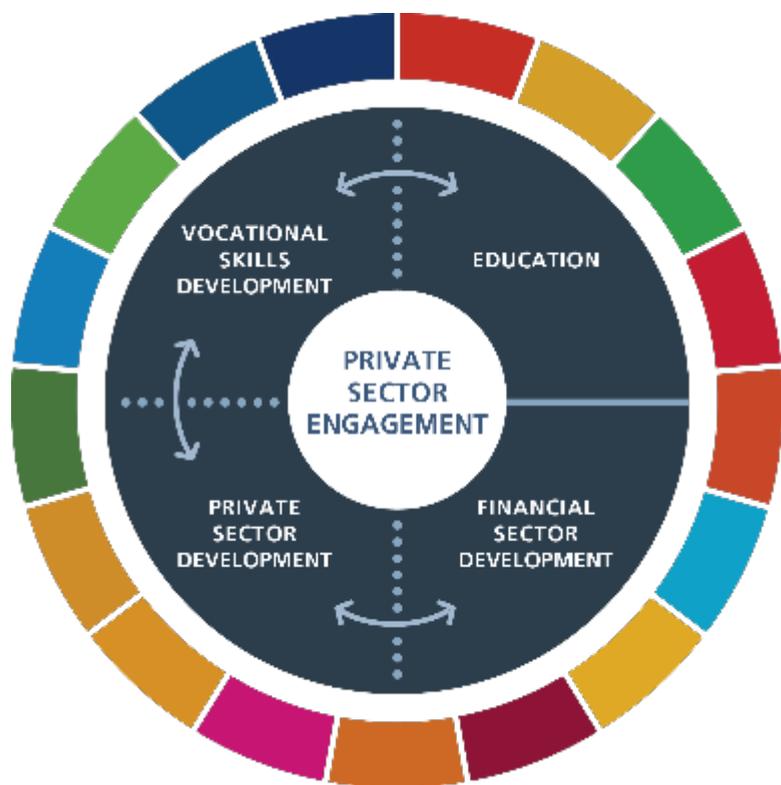
Expert Group Construction and quality control procedure

Q&A

Group work

Reporting back

Closing



SDC [3.1 MB]

**Updated Version 2022** - For SDC, education is a priority theme and comprises both basic education and vocational skills development. The SDC Education Strategy sets out how we will reach this objective through our bilateral and multilateral engagement. It provides guidance to the SDC's South Cooperation, Cooperation with Eastern Europe, Global Cooperation as well as Humanitarian Aid and inspires the SDC's cooperation strategies and its global and multilateral programmes.



SDC [2.9 MB]

This **introduction paper and guidance** is made for Vocational Education and Training (VET) practitioners, donors and implementing partners in development cooperation who want to better understand and analyse how VET systems function and how their different elements interrelate. It shall therefore...

- **introduce** those working in VET projects and institutions into VET systems thinking and provide them with a basic understanding and analytical dimensions;
- **improve** the quality of the Swiss Agency for Development and Cooperation (SDC)'s VET interventions based on a better understanding of VET systems;
- **provide** input for SDC's position in the discussion about systemic approaches to VET systems development and reform.

**Guidance paper**



## Reasons to invest in **infrastructure**

### Non-exhaustive list of arguments

- **Quality**
- **Occupational Safety and Health**
- **Security**
- **Attractiveness**
- **Gender equality**
- **Inclusiveness**
- **Practical training and work experience**
- **Employment opportunities**
- **Collaboration with private companies**
- **Potential for private sector engagement**



Student toilet/bath before and after. SURAFCO Laos,  
Helvetas / Daniel Schwitter



## Reasons to invest in **infrastructure** (examples)

**Security:** SDC projects often operate in fragile contexts, which could make investments in appropriate buildings necessary to protect students, staff and expensive equipment against natural disasters, theft, vandalism, or assaults.

**Gender equality:** Increasing the participation of female students in VET is a common objective of many SDC interventions. This may entail the need to build separate sanitation facilities and/or dormitories in training centers that so far did not offer training for female students, or even the construction of new labs or workshops in order to be able to offer training courses in occupations that are more accessible and attractive for young women.



Female student dormitory before and after.  
SURAFCO Laos, Helvetas / Daniel Schwitter



## Reasons to invest in **equipment**

### Non-exhaustive list of arguments

- **Quality**
- **Occupational Safety and Health**
- **Inclusion**
- **In-company training**
- **Innovation**
- **Attractiveness for students**
- **Attractiveness for companies**
- **Potential for Private Sector Engagement**
- **Income generation**



Enhancing Youth Employment (EYE) Kosovo  
Helvetas / Simon B. Opladen



## Reasons to invest in **equipment** (examples)

**Quality:** For SDC, practical training is indispensable for quality in VET to assure labour-market orientation and thus the employability of graduates. And practical training requires appropriate equipment that often is scarce, outdated or not available in training centers of partner countries.

**Innovation:** Many SDC projects aim at introduction of new courses and curricula in particular for future-oriented pilot projects e.g., in green technologies, and/or at the establishment of centers of excellence, which both often requires equipment that partner countries are usually not able to provide.



# Risks of **infrastructure** investments

## Non-exhaustive list of risks

- **Location**
- **Design**
- **Procurement**
- **Building**
- **Operation**
- **Sustainability**



## Risks of **infrastructure** investments (examples)

**Design:** During the design phase there is a certain risk that premises are planned oversized, i.e., for numbers of students that are unlikely to be reached or unlikely to be absorbed by the labour market. It could also happen that workshops and labs are planned for occupations which are not or no longer relevant for the economy and/or which are already sufficiently offered by other training centers in the region. Finally, there is a certain risk that partner institutions put more emphasis on the appearance of premises than on their functionality, safety, and sustainability for training purposes.

**Operation:** Appropriate and functional premises are useless if no adequate equipment for workshops and labs is available. And if the premises are adequately equipped there is still the risk of inefficient use, i.e., too few students inscribe for the courses or no shift operation is realized.



# Risks of **equipment** investments

## Non-exhaustive list of risks

- **Planning**
- **Procurement**
- **Operation**
- **Sustainability**



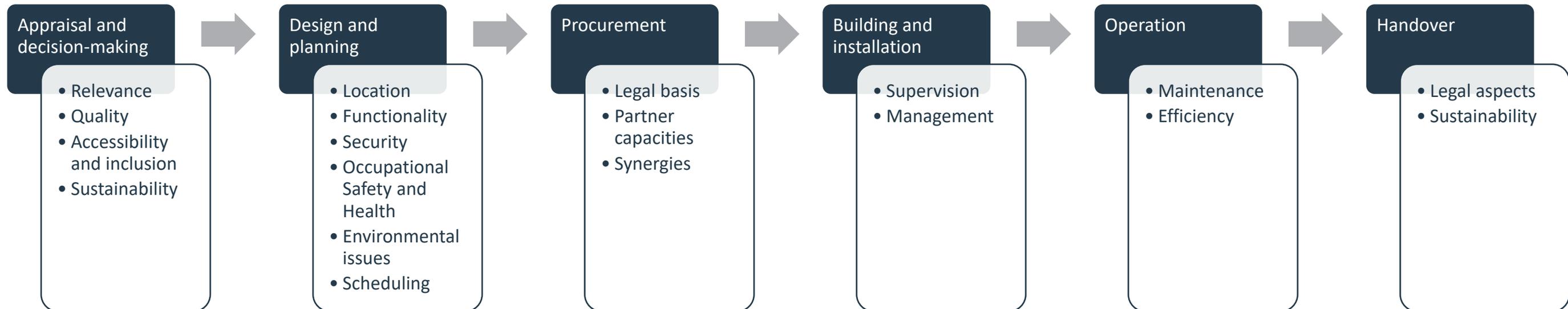
## Risks of investments in **equipment** (example)

**Sustainability:** Sustainability of modern equipment depends to a high degree on regular maintenance, which is often neglected, i.e., there are no clear and regularly monitored maintenance plans and/or no or too small funds for repair or spare parts. Moreover, sustainability of the investments requires that the training institution is able to cover running costs for consumables (electricity, water) and training material needed to assure the operation of the equipment for the envisaged number of students. Finally, there is a risk that equipment is used for other than training purposes, e.g., for private income generation of staff, or even sold.



## Guiding questions

- for 1) infrastructure investment and 2) equipment investment
- organized along the six steps of the project management cycle



Structure of the table for infrastructure investment



## VET infrastructure investments

### Step 1: Appraisal and decision making

To take informed and meaningful decisions regarding the financing of infrastructure or equipment, thorough analysis is necessary. As a first step, a feasibility study including a mapping of all relevant actors and stakeholders and their respective roles and interests related to the infrastructure investments should be conducted. The following criteria have to be considered:

#### Relevance

- Is there a labour-market demand for the training offers to be implemented with the envisaged new infrastructure, and is this demand likely to be persistent for at least the next 10 years?
- Is there a social demand for the training offers, i.e., is the training offer attractive and meaningful for enough potential participants from the envisaged target groups so as to ensure efficient use of the new infrastructure or equipment?
- Is there a need for these additional training capacities in the region, i.e., are there no or not sufficient other providers on the market and can duplication with efforts of other donors or partner country institutions be excluded?
- Is it absolutely necessary that the envisaged investments have to be covered by SDC or is there an opportunity to use public or private sector resources of the partner country for (co-)financing?
- Is the envisaged additional training offer aligned with the partner country's VET policy and strategies and harmonized with other donors in the sector?
- Is the envisaged additional training offer in line with SDC's country strategy or other overarching agreements with the beneficiary country and its institutions?
- Are all relevant stakeholders – multi-level government, private sector, civil society – adequately involved in decision-taking and planning?
- Is the infrastructure investment a prerequisite for the achievement of the project or program objectives and contributes to other components or is it just an add-on or stand-alone measure?
- Does the program or project to be supported with the infrastructure investment adequately consider the cross-cutting issues of gender equality and environmental protection?
- Are the expenses for the infrastructure investment adequate and justifiable in relation to the expected long-term benefits like e.g., number of beneficiaries trained, innovation triggered, VET system development stimulated, economic and social impacts generated?



## VET equipment investments

### Step 2: Design and planning

If an affirmative decision for financing of equipment is taken, the following criteria are to be considered for the purchase:

#### Functionality

- Is the envisaged equipment necessary for the implementation of the curricula? Does it offer significant advantages as compared to already available equipment?
- Will sufficient equipment be available for the envisaged numbers of trainees?

#### Occupational Safety and Health (OSH)

- Are OSH aspects adequately considered in the selection of the equipment and the configuration of the workshops and labs?

#### Environmental issues

- Are energy saving, water saving, and recycling technologies adequately considered in the planning of the equipment?

#### Scheduling

- Will the equipment be delivered, installed and staff trained in due time to assure the implementation of the envisaged courses?



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Expert Group Construction (EGC)

# Welcome!

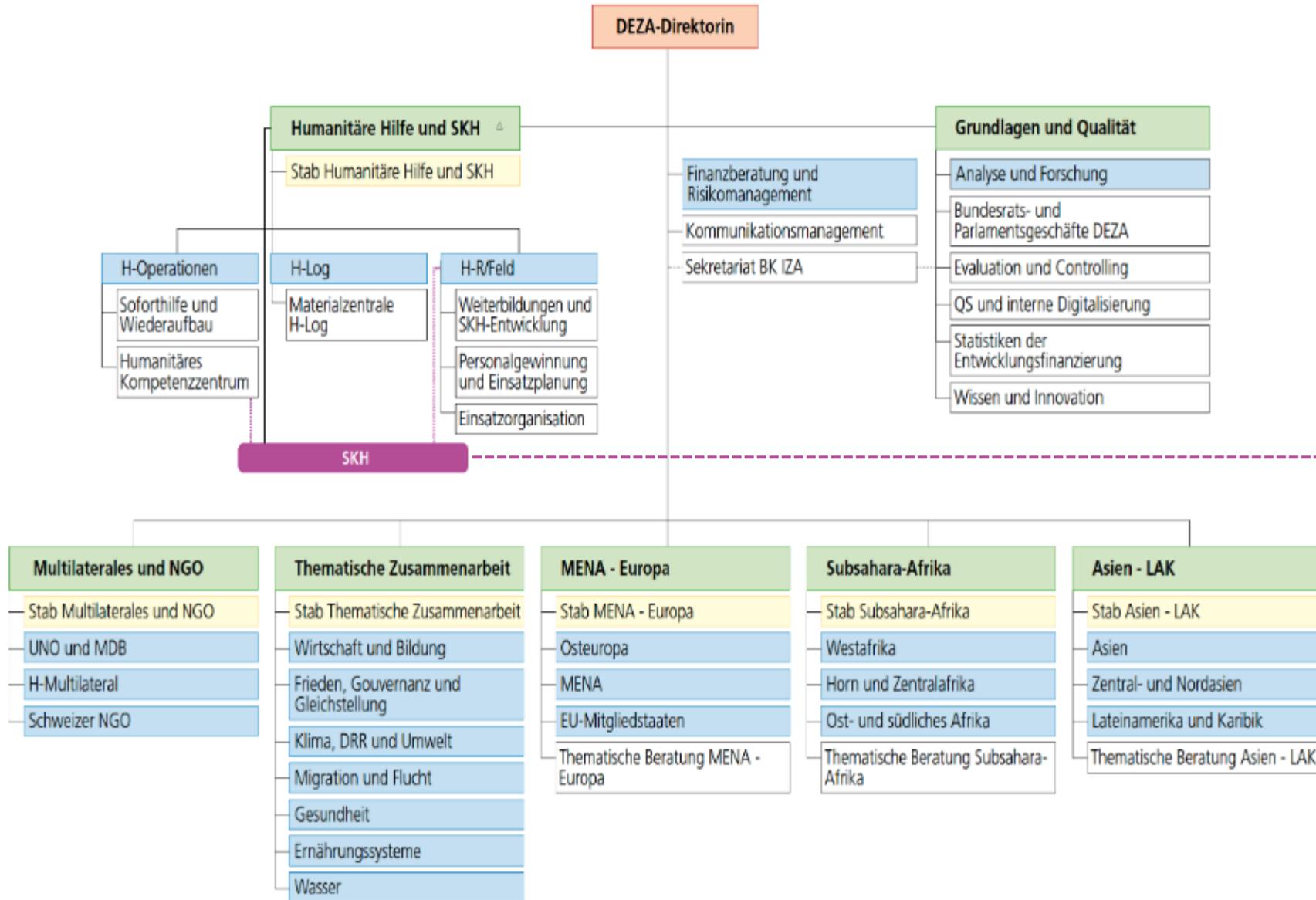
**Martin Bölsterli**, Head of Expert Group construction

**Christian Ubertini**, Member of Expert Group construction, Focal point VET





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- Support und Logistik
- Bau
- Medizin
- Wasser und sanitäre Versorgung
- Information
- Umwelt und Verminderung von Katastrophenrisiken
- Koordination und Administration
- Sicherheit
- Rettung
- Telecom
- Schutz



## The Expert Group Construction

### EXPERTISE

Development of contextualized shelter solutions

Reconstruction of permanent social infrastructure

Site planning

Knowledge transfer

Coordination

Structural engineering

Backstopping and evaluation

Case studies, implementation, management, monitoring of SDC-construction projects.

### APPROACH

Crosscutting themes (e.g. Protection, SGBV)

Towards a sustainable humanitarian aid with other sectors (e.g. WASH, DRR) and partners

Appropriate modalities (e.g. CASH)

Think «Nexus»

### PROFILE

- ❑ **Construction expert / Architect**
  - Public infrastructure reconstruction
  - Housing reconstruction
- ❑ **Construction expert / Engineer**
  - Civil engineering
  - Structural assessment
  - Specialized engineer (other fields of expertise)
- ❑ **Construction knowledge transfer expert**
  - Disaster resistant reconstruction
  - Knowledge transfer & capacity building
- ❑ **Construction: Shelter & Settlements expert**
  - Shelter Officer
- ❑ **Construction: Site planning & mapping expert**
  - Site planning (camps & settlements)
- ❑ **Construction: Coordination expert (Shelter)**
  - Shelter cluster coordinator
  - Shelter cluster technical coordinator



## The Expert Group Construction

### Examples of recent reconstruction initiatives with a Nexus approach

#### Haiti

School guidelines and prototypes endorsed by Gov., currently used by the sector incl. multilateral actors (IADB, WB, etc.)



#### Myanmar

School guidelines and prototypes endorsed by Gov., currently used by the sector.



#### Jordan

Supports to the MoE in non-structural rehabilitation of schools accommodating Syrian refugees



#### Haiti

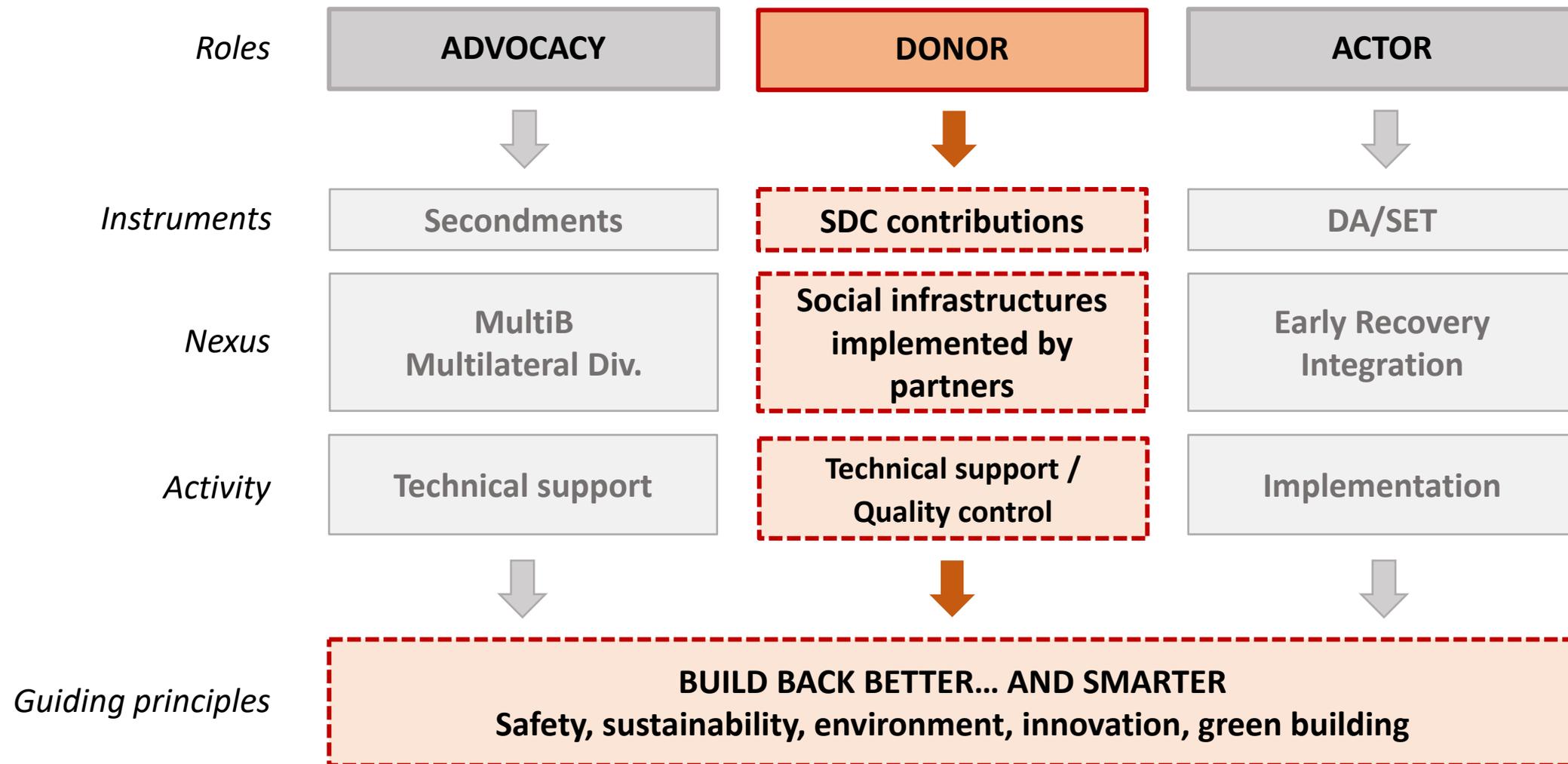
Owner driven housing reconstruction using improved traditional construction techniques (TCLA)



and more ...



## Towards a Quality Control Framework for infrastructure projects





# Step by step procedure to plan and supervise construction projects implemented by third parties

## Before the project start:

- 0. Team / capacity
- 1. Project proposal

## During implementation:

- 2. Preliminary studies
- 3. Project design
- 4. Execution of works
- 5. Supervision of works

## After the construction:

- 6. Closure and maintenance
- 7. Furniture and equipment

2 PRELIMINARY STUDIES			
<p>At this stage, the executing partner will prepare the Terms of Reference for the design. Depending on the project/context, the outputs can be done either before the recruitment of a design firm or integrated in the mandate of the design firm.</p>	2.1 Preliminary masterplan validation	Before starting the preliminary studies, it is recommended to have an acknowledgement or validation of the conclusion of the preliminary study, and in particular the preliminary masterplan by the Client/Owner.	<input type="checkbox"/> Advice
	2.2 User and community information	It is important to have regular meetings with the community to follow-up on measures proposed by the ESMP and to inform of the next steps.	<input type="checkbox"/> Advice
	2.3 Structural evaluation	In case of a rehabilitation or reuse of an existing building, a structural assessment of the existing building must be done, to assess the possible reinforcement measures required.	<input checked="" type="checkbox"/> Review or prepare ToR <input checked="" type="checkbox"/> Review product <input type="checkbox"/> Assist or execute the task
	2.4 Topographical survey	If not done previously at the feasibility study stage. This is a quite standard work done by a geometer that doesn't need specific technical input.	<input type="checkbox"/> Review product
	2.5 Geotechnical survey	This will assess the soil condition and its load-bearing capacity, that will inform the structural design. Normally, local regulations request that this study be done by authorized firms and laboratories. This is also a quite standard work that doesn't need specific technical input.	<input type="checkbox"/> Review product
3 PROJECT DESIGN			
<p>At this stage, the executing partner will hire a design firm to elaborate the final project design. Here, we need to verify if the design is in adequation with the feasibility study and preliminary masterplan. And, if technical documents are complete for the tender process.</p>	3.1 User and community information	It is important to have regular meetings with the community to follow-up on measures proposed by the ESMP and to inform of the next steps.	<input type="checkbox"/> Advice
	3.2 Procurement	Usually, the donor doesn't interfere in tender processes. However, it is recommended that the donor review the tender documents and selection criteria to ensure that the process targets adequate design firms, in line with the qualitative objectives of the project. A short-listing of firm through an Expression of Interest procedure (Eoi) is recommended. Firms' application must also contain a portfolio of executed project design.	<input checked="" type="checkbox"/> Review or prepare ToR
	3.3 Preliminary project design	It's important that a preliminary review occurs at an early stage of the mandate to correct and adjust the design. Here, we need to verify the compliance of the design with the feasibility study and the norms. Special attention must be given to i) the site organization (density, build area vs green areas); the structural concept; ii) fire-safety norms concept (escape routes, outside areas, etc.); the materials intended to be used.	<input checked="" type="checkbox"/> Review product
	3.3 Final project design	The final project design is a complete set of plans and details (at appropriate scales) allowing a contractor to precisely quote and execute the works. The review will focus on ensuring that the set of documents is complete and that no other design issues remain.	<input checked="" type="checkbox"/> Review product
	3.4 Chronograms and Bill of Quantities (BoQ).	The chronogram and BoQ are required documents for the request of bids. Here also, it's important to verify that the BoQ includes all the planned works, and related chronogram, since these will serve as guiding document during the execution of works.	<input checked="" type="checkbox"/> Review product
3.5 Confidential quotation	Based on the BoQ, it's recommended that the design firm elaborates a confidential quotation that will serve as a basis to evaluate the bidder's financial offer.	<input type="checkbox"/> Advice	
5 EXECUTION OF WORKS			
<p>At this stage, the executing partner will hire the construction firm that will execute the works. Usually, the construction firm will be a general contractor executing all infrastructure related works.</p>	5.1 Contract size and allotting	In case of multiple projects, the allotting, size, and volume of contract are key and needs to be based on the rapid market analysis, experience and lessons learnt. Large size contracts targeting international firms might be a risky approach in fragile context.	<input checked="" type="checkbox"/> Advice
	5.2 Procurement	Usually, the donor doesn't interfere in tender processes. However, it is recommended that the donor reviews the tender documents and selection criteria to ensure that the tender process targets adequate construction firms, in line with the qualitative objectives of the project.	<input checked="" type="checkbox"/> Review ToR and tender documents
	5.3 Bids analysis	Usually, the donor doesn't interfere in the evaluation of the bids, which is done by a committee designated by the executing partner. However, it is recommended that the donor review the evaluation report done by the committee. A special attention must be given on the coherence of the chronogram and the proposed methodology to execute the works. And also, on how the contractors understands the social and environmental context, and the level of inclusion of the user/community in the construction phase.	<input type="checkbox"/> Review the evaluation report



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Swiss Agency for Development and Cooperation SDC

Swiss humanitarian Aid  
Expert Group Construction (EGC)

# Contacts

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Web: [www.shacc.ch](http://www.shacc.ch)

Useful links:

[www.seismico.org](http://www.seismico.org)



# Group work



## Group work

Interest: you can choose the group based on the topic you want to join.

Two topics to choose from:

**Group 1: Guiding questions** (chapter 3, p. 13 onwards)

- 1. Group 2: Quality management supported by the SHA-EGC for social infrastructure projects implemented by partners** (annex 1, p. 29 onwards)

Time for discussion: 20 minutes

Reporting back to plenary: highlights, no documentation requested



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## **GROUP 2: QUALITY MANAGEMENT SUPPORTED BY THE SHA-EGC FOR SOCIAL INFRASTRUCTURE PROJECTS IMPLEMENTED BY PARTNERS**

**Martin Bölsterli**, Head of Expert Group  
construction

**Christian Ubertini**, Member of Expert Group  
construction, Focal point VET

## Where is the technical leadership ?

Design firm

Donor

Client / user



*Contractors*  
/  
Supervisors



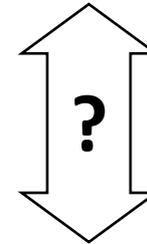
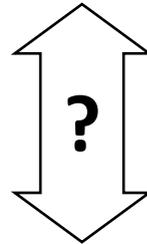
**Climate responsive design,  
environment integration**

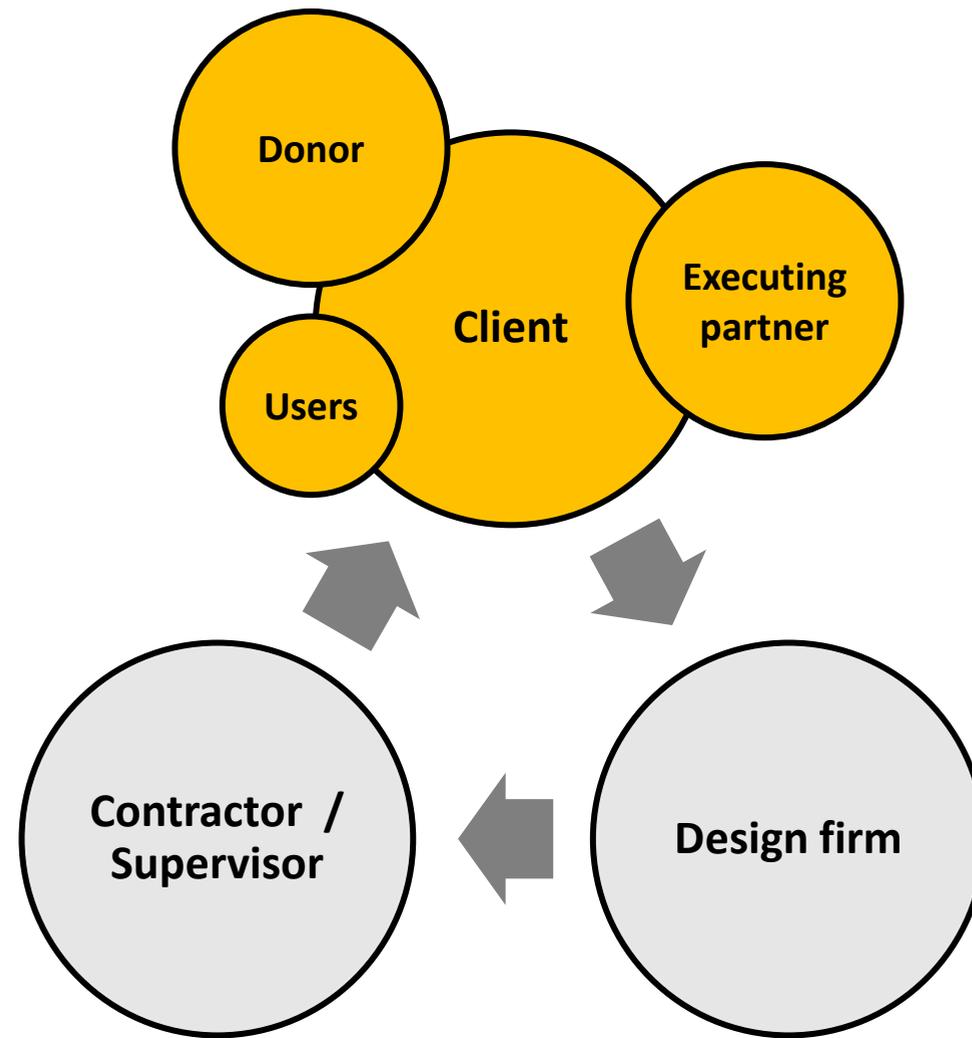


**Functionality, comfort,  
energy efficiency**



**Sustainability, innovative  
approaches**





**The quality of a construction project depends greatly on the quality of the Client, his ability to define his needs and to communicate his vision of the final product.**

# **Frequent weaknesses observed in construction projects implemented by executing partners** (here mainly governmental agencies)

## **1. Weak design**

Often market based solution not adapted to function, environment, climate response and user needs  
No sufficient preparation and user/community involvement  
Incomplete technical documents leading to blockages during execution of works

## **2. Procurement strategy**

Allotting not adapted to firm's capacity  
Unrealistic planning and underestimated costs (lowest bid instead of best bid)  
"Impossible contracts" leading to amendments, delays, cost increases

## **3. Project management by the partner**

Focus on procurement and contract management  
Weak technical leadership  
Missed opportunities

## Choosing the right project delivery method

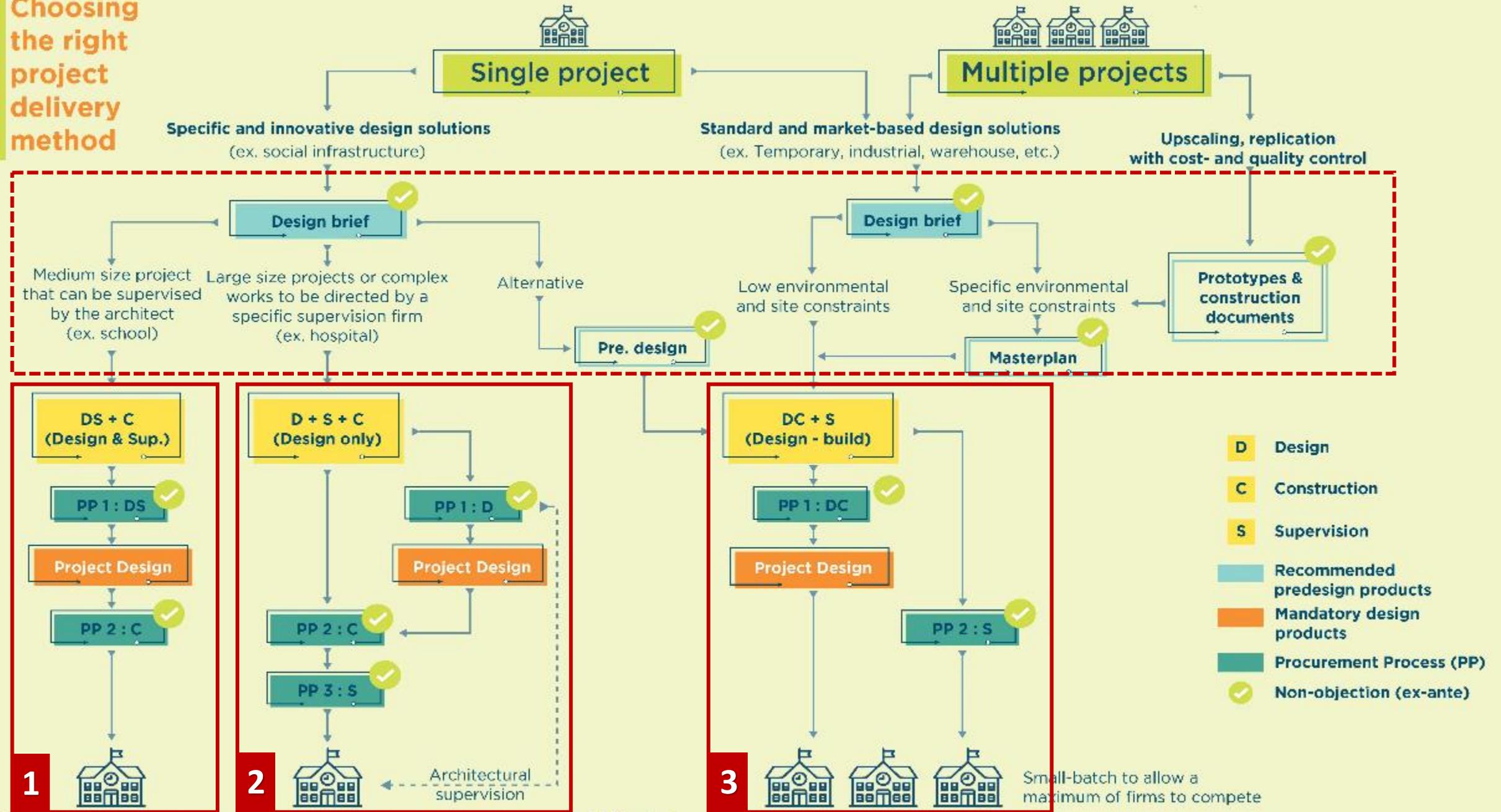


Table 15. Recommended process for each project delivery method. Illustration: C. Ubertini.

## 0 TEAM & CAPACITY

Before starting the planification of a construction project, it is important to assess the technical capacities at both donor and executing partner levels.

0.1 Donor (here the SDC)	As a general remark, it is recommended that the donor aiming to finance a construction activity be accompanied by a construction specialist from the beginning of the project. He will be able to advise the project manager to evaluate the needs and choose adequate approaches to be reflected in the project proposal (result frame, risk matrix, chronogram, budget, etc.).	<input checked="" type="checkbox"/> EGC support to be discussed upon project needs
0.2 Executing partner	The executing partner (NGO, Government, etc.) that will manage the funds for the construction activities, must put in place, before the implementation phase, a local technical team to manage the construction projects. The composition of the technical team depends on the project's complexity. Generally, the team is composed by 1 team leader, architect/engineer, with good management capacities and good knowledge of procurement procedures; and 1 architect and/or 1 engineer to supervise the content and the activities on site. The executing partner must also have a good knowledge of SDC procurement policies and good experience of general contract management. During the execution phase (see chapter supervision of works), the executing partner should also ensure a regular (if not full time) presence on site with at least 1 site supervisor.	<input type="checkbox"/> Training/briefing local technical staff
0.3 Additional expertise	For projects requiring specific expertise (WASH, DRR, etc.), the SHA can provide support through the other expert groups.	<input type="checkbox"/> SHA Expert groups upon needs

## 1 PROJECT/CREDIT PROPOSAL

The SDC has specific project approval procedures where different bodies have to analyze the project and approve it. This includes the Swiss Representation (SR), the country office (SCO), and HQ/HA through the geographical Divisions and the Operational Committee (OpKom).

For infrastructure related projects, it is important that the feasibility and conditionality of the intended project be verified at this stage. A support from the EGC experts is highly recommended here.

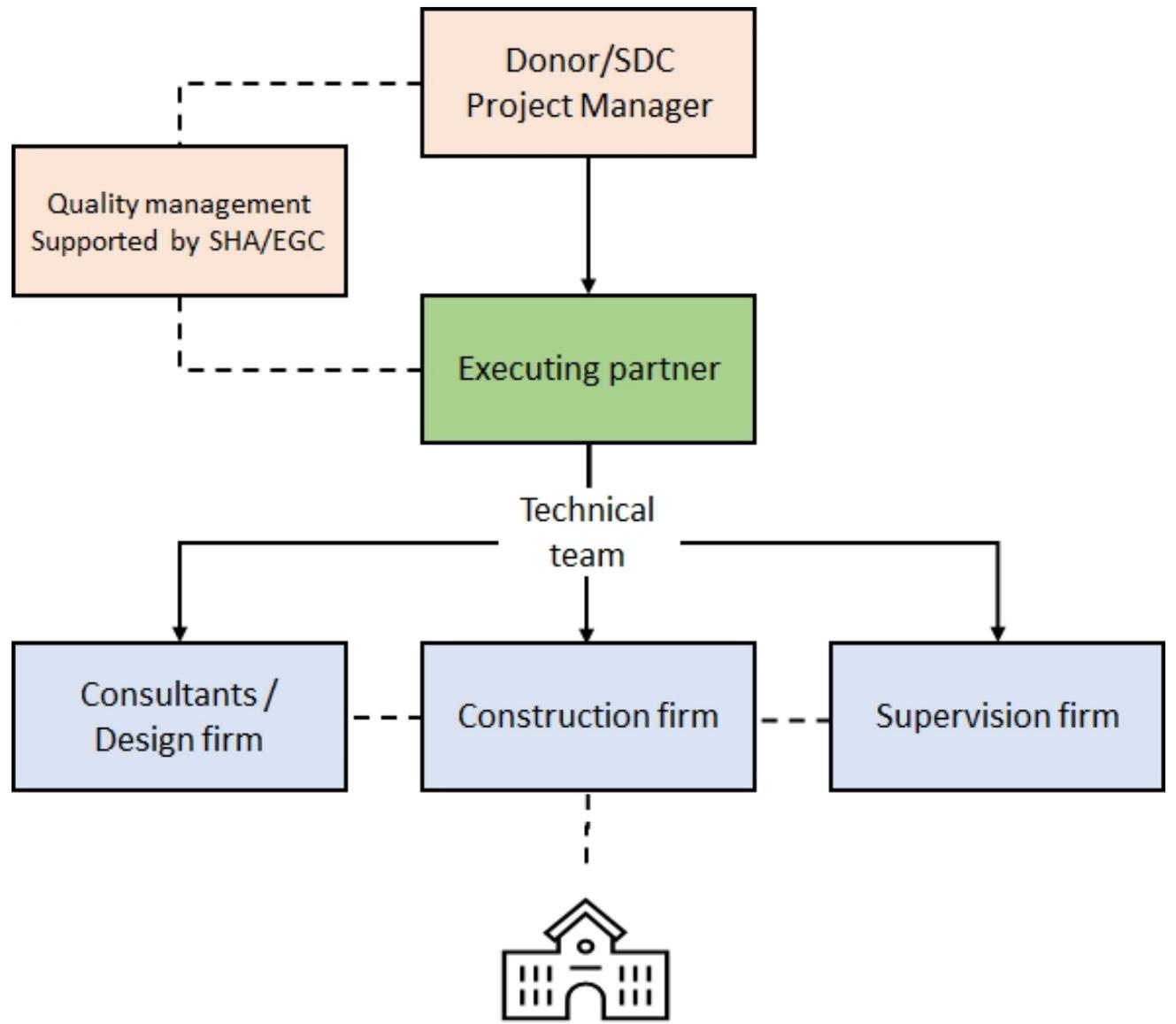
1.1 Identification of needs	The Client/Owner must provide a list of needs in terms of spaces and functional organization, to inform the architectural room program. A list of furniture and equipment needed, with specification and energy supply requirement (in case an hospital, VET, etc.), must also be provided.	<input checked="" type="checkbox"/> Review product <input type="checkbox"/> On site visit if needed
1.2 Land deed	The Client/Owner will also provide the legal documents of the chosen land where the project is intended to be constructed.	<input checked="" type="checkbox"/> Review product
1.3 User and community consultation	See ESA, point 1.4	
1.4 Social and environmental analysis (ESA)	The project should carry out an ESA to identify and assess potential impacts and risks of the construction project on existing environmental and social conditions and vice versa. The results of the ESA inform an Environmental and Social Mitigation Plan (ESMP) to be implemented during the project's execution, such as temporary relocation measures, protection of natural areas, etc. The ESA includes a consultation of the user of the future building as well as the community where the site is located.	<input type="checkbox"/> Review or prepare ToR <input type="checkbox"/> Review product <input type="checkbox"/> Assist or execute the task (through DRR)
1.5 Feasibility study To be done by an architect. Approx. 15-20 days depending on project complexity. A topographical survey of the land will also be done at this stage if not already available.	Before the implementation phase, it is highly recommended to carry out a feasibility study that includes the following tasks: <ul style="list-style-type: none"> <li>- Review and optimize the room program.</li> <li>- Review the applicable norms, sectorial policies, etc.</li> <li>- Define the standards to be achieved.</li> <li>- Carry out the topographical survey of the land.</li> <li>- Assess the land adequacy in terms of dimension, safety, density criteria, immediate environment, risks, etc.</li> <li>- Produce a preliminary masterplan (or zoning plan) proposing a possible scenario for the site organization.</li> <li>- Identify additional studies required before the design phase.</li> <li>- Rapid market analysis to suggest the most appropriate implementing strategy D+C+S, DS+C, DC+S (see Annex).</li> <li>- Establish a cost-estimate based on reference-costs (± 25%).</li> </ul>	<input checked="" type="checkbox"/> Review or prepare ToR <input checked="" type="checkbox"/> Review product <input type="checkbox"/> Assist or execute the task
1.6 Implementation strategy	The project delivery method (D+C+S, DS+C, DC+S) depends primarily on the project objectives (see annex). But the decision must be balanced by the rapid market analysis carried out in the feasibility study.	<input checked="" type="checkbox"/> Advice

Phases	Recommended outputs	Brief description and point of attention	EGC support
<b>2 PRELIMINARY STUDIES</b>			
<p>At this stage, the executing partner will prepare the Terms of Reference for the design. Depending on the project/context, the outputs can be done either before the recruitment of a design firm or integrated in the mandate of the design firm.</p>	2.1 Preliminary masterplan validation	Before starting the preliminary studies, it is recommended to have an acknowledgement or validation of the conclusion of the preliminary study, and in particular the preliminary masterplan by the Client/Owner.	<input type="checkbox"/> Advice
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<b>3 PROJECT DESIGN</b>			
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	3.3 Final project design	The final project design is a complete set of plans and details (at appropriate scales) allowing a contractor to precisely quote and execute the works. The review will focus on ensuring that the set of documents is complete and that no other design issues remain.	<input checked="" type="checkbox"/> Review product
	3.4 Chronograms and Bill of Quantities (BoQ)	The chronogram and BoQ are required documents for the request of bids. Here also, it's important to verify that the BoQ includes all the planned works, and related chronogram, since these will serve as guiding document during the execution of works.	<input checked="" type="checkbox"/> Review product
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<i>At this stage, the executing partner will hire the construction firm that will execute the works. Usually, the construction firm will be a general contractor executing all infrastructure related works.</i>	5.1 Contract size and allotting	In case of multiple projects, the allotting, size, and volume of contract are key and needs to be based on the rapid market analysis, experience and lessons learnt. Large size contracts targeting international firms might be a risky approach in fragile context.	<input checked="" type="checkbox"/> Advice
	5.2 Procurement	Usually, the donor doesn't interfere in tender processes. However, it is recommended that the donor reviews the tender documents and selection criteria to ensure that the tender process targets adequate construction firms, in line with the qualitative objectives of the project.	<input checked="" type="checkbox"/> Review ToR and tender documents
	5.3 Bids analysis	Usually, the donor doesn't interfere in the evaluation of the bids, which is done by a committee designated by the executing partner. However, it is recommended that the donor review the evaluation report done by the committee. A special attention must be given on the coherence of the chronogram and the proposed methodology to execute the works. And also, on how the contractors understands the social and environmental context, and the level of inclusion of the user/community in the construction phase.	<input type="checkbox"/> Review the evaluation report
	5.4 Contracting	Before contracting the firm, it is recommended to ask the supervision firm that will be hired to supervise the works (see chapter 6) to revise the technical documents, plans, etc. with a special attention to the chronograms and the sequence of payments.	<input checked="" type="checkbox"/> Advice
	5.5 User and community information	It is important to have regular meetings with the community to follow-up on measures proposed by the ESMP and to inform of the next steps. The contractors must be represented in these meetings.	<input type="checkbox"/> Advice
<b>6 SUPERVISION OF WORKS</b>			
<i>The supervision of works by an external entity, other than the construction firm, is a highly recommended practice for any construction project. According to project's size and complexity, this supervision can be done by the design firm, through a "design and supervision" mandate, or by a specialized supervision firm, through a "supervision of works" mandate.</i>	6.1 Procurement	Usually, the donor doesn't interfere in the tender processes. As for the project design, it is however recommended that the donor review the tender documents and selection criteria to ensure that the process targets adequate supervision firms, in line with the qualitative objectives of the project. A short-listing of firm through an Expression of Interest procedure (EoI) is recommended.	<input checked="" type="checkbox"/> Review or prepare ToR
	6.2 Supervision protocol	The supervision firm must provide a supervision protocol before the beginning of its supervision mission. Special attention must be given on the organization of the weekly meetings and progress reporting tools. The executing partner must participate to the weekly meeting. The protocol must also consider the level and condition of possible involvement of the user/community in the supervision process. A participation in the weekly meeting can also be considered.	<input checked="" type="checkbox"/> Review product
	6.3 Supervision reports	It is important that the supervision reports are stored by the execution partner and shared with the donor for information.	<input checked="" type="checkbox"/> Review reports upon request
	6.4 Preliminary reception of works	The preliminary reception of works is normally the last quality control of contractor's work. It leads to a series of reservations to be addressed by the contractors before the building will be ready to be used. The participation of the user/community in this preliminary reception is recommended.	<input type="checkbox"/> Advice <input type="checkbox"/> On site mission

Phases	Recommended outputs	Brief description and point of attention	EGC support
<b>7 CLOSURE &amp; MAINTENANCE</b>			
<p>Once the works on site are completed, the project is not officially closed. There are several outputs that still need to be produced and follow-up by the project until the end of the liability period.</p>	7.1 Liability period	Execution defects can still be notified to the contractor and repaired during the liability period which is usually set between 6 and 12 months. This means that the executing unit and the user/community still need to ensure a monitoring of the building during this period.	<input type="checkbox"/> Advice
	7.2 Maintenance plan	Before the closure of the project, the contractor must elaborate a maintenance plan for the building and its equipment.	<input type="checkbox"/> Review product
	7.3 As-build drawings	As-build drawings is a full set of plans updated with all modification/changes that occurred during the construction. The contractors must produce as-build drawings before the closure of the project.	
	7.4 Final reception of works	The final reception of works, and the symbolic hand-over of the "keys", occurs at the end of the liability period and after all defect notifications have been repaired by the contractors. This means that the responsibility of the building and equipment are also handed over to the Client/owner and that the contractor is released from any damage or "visible defects". However, the contractor remains responsible for "hidden defects" for a period which is stated in the contract, usually 10 years. The participation of the user/community in the final reception is also recommended.	<input type="checkbox"/> Advice
	7.4 Final report and factsheet	At the end of the project, a final report and/or a factsheet summarizing the project with the project's technical data (duration, m2, costs, etc.), are important documents for the SDC. The EGC produces factsheets that are accessible online for knowledge management purposes.	<input checked="" type="checkbox"/> Review product <input type="checkbox"/> Assist or execute the task <input checked="" type="checkbox"/> Publish product in EGC webpage.
<b>8 FURNITURE AND EQUIPMENT</b>			
<p>The furniture and equipment are part of an infrastructure project and need to be included in the initial planning. Supply of furniture and equipment must be carefully coordinated with the completion of works on site.</p>	8.1 Description of needs	Specification of furniture and equipment must be done by a specialist (pedagogue in the case of a school, trainers in the case of a VET, medical expert in the case of a hospital, etc.). However, the selection and installation of furniture and equipment need to be coordinated with the infrastructure design and works.	<input type="checkbox"/> Advice <input type="checkbox"/> Support upon needs
	8.2 Supply strategy	The purchase and supply of furniture and equipment must be carefully coordinated with the completion of works on site. Furniture and equipment that are produced or purchased before the completion of works, might face a storage problem in case of construction delays. This risk must be taken into account by a clause ensuring that the supplier bears the responsibility of the storage until the finalization of the works. For specific equipment, it's recommended to include in the contract the testing of the equipment and the training of trainees.	<input type="checkbox"/> Advice
	8.3 Procurement	Same as above	<input type="checkbox"/> Advice
	8.4 Reception of equipment	The reception of furniture and equipment on site must be done only when the premises can be secured by the Client/owner. It is also important that the equipment and premises are used as soon as possible after the installation to avoid risks related to unused premises (deterioration, looting, etc.).	<input type="checkbox"/> Advice







## Thanks for your feedback!

What do you think of this webinar? Are you interested in future support on issue of VET infrastructure/equipment investment? Please fill in the feedback form (link in the chat):

<https://forms.office.com/e/yYA2MawkDZ>

Your opinion matters!





**Thank you!**