EPFL EssentialTech Centre

ENV-470 DEVELOPMENT ENGINEERING

# GUIDELINES FOR GROUP WORK 1
## *CRITICAL ASSESSMENT OF A TECHNOLOGY*

Spring 2025

## EVALUATION

**Grading assessment**: one 2-pager per group
**Weight in final grade**: 10%
**Deadline**: Monday, 31st of March 2025 at 11:59pm (Week 7)

*Grading will be based on the expected content and format described below.*

## ORGANIZATION

**TAs:** Klaus Schönenberger, Solomzi Makohliso, Sashidhar Jonnalagedda
**Group composition and technology assignment:** will be published on Moodle on Monday, 4th of March.

- The technologies will refer to a selection of the essential technology domains presented in the MOOCs (Food & Agriculture, Water & Sanitation, Construction, Transportation, Energy, Information & Communications, Pharmaceuticals, Medical equipment).

## PROJECT DESCRIPTION

### SITUATION

You work as an engineer in an LMIC for an NGO which is headquartered in Switzerland (HQ). A young start up presents their brand-new technology to HQ and wants to do a pilot project in the country where you are working.

HQ comes to your office and talks about this technology and start up and want to know if their technology is appropriate in the country where you are working.

You are thus expected to assess with a critical eye a technology to be used in your target country. The objective of this group work is to summarise your critical assessment in a 2-pager document.

### EXPECTED CONTENT

The expected structure and content are described below. The order of the sections must be followed but the content of each section can be re-organized according to your story telling.

The tools listed are not mandatory to use but could be helpful.

One figure/illustration of the technology must be included.

1. Background

- What is the problem the technology is trying to solve?
- Analyse the country's context *in relation with the technology* and assess the needs,
- Describe the technology and possible related service offered by the company,
- Explain how it is addressing the problem.

*Possible tools*

- 5 Whys: Root cause analysis (Is the technology solving the root cause?)
- PESTLE Analysis: Political, Economic, Social, Technological, Legal and Environmental factors
- Infrastructure / Trained personnel / Financial resources / Environment / Governance
-

2. Solution landscape

- Identify the other solutions currently available to solve the issue (competitors and alternative technologies);
- Identify the advantages and disadvantages of your specific innovation;
- Compare your technology to identified competitors and/or alternatives from the perspective of the beneficiaries.

*Possible tool*

- SWOT Analysis: strengths, weaknesses, opportunities, threats

3. Intended Impact

Describe the potential societal impact of the technology in terms of importance, scale and durability within the country of implementation. The Sustainable Development Goals could be used as an anchor to this analysis. Do you see a long-term impact with this solution? What is their sustainability and durability (business) model.

4. Critical Analysis and Recommendations for the HQ (Should we invest our time and resources to pilot this technology)

Give a short and substantiated judgement of the pertinence of the solution for the new country of implementation. Explain why it is or not appropriate for that specific context. This should not a simple summary and should contain some deeper analysis.

5. References

List all the references used. The reference list can be an additional page (it does not count in the 2 pages count)

## EXPECTED FORMAT

- The 2-pager document must include the sections described above.
- By definition, a 2-pager document should include maximum 2 pages (references excluded). No title page; only the references do not count in the 2 pages count.
- The font size should be minimum 10 with reasonable margins.
- Two figures maximum can be included if relevant.
- The 2 pager must be visually appealing.