



Framework to evaluate biosecurity improvement programs: critical points

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BETTER General Meeting

Skopje

04-02-2025

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Outline of the presentation

- **Objectives of task 3.4**
- **Development and methodological steps**
 - Padova
 - Tartu
 - STSM
- **The framework**
- **Pilot testing**



Objectives of Task 3.4.

Task 3.4. Evaluation of different approaches of existing improvement programs and how effective they have been

- Define **core components** of an evaluation framework for biosecurity improvement programs
 - Define **indicators** relevant for evaluating biosecurity improvement programs
 - Draft an **evaluation framework**
 - Validate the **framework** on selected biosecurity improvement programs
-
- Task coordinated by **Marco De Nardi** (Department of Veterinary Medical Sciences, University of Bologna - UniBo)



Development of Task 3.4.



- Key steps
 1. **Padova (Feb. 2024):** Kick off, and definition of objectives and main vision
 2. **Tartu (May 2024):** World Cafè, definition of key components and methods (i.e. theory of change)
 3. **Uppsala (June 2024) (STSM) by Giulia Graziosi (UniBo) at Swedish University of Agricultural Sciences (SLU):** development of the **1st draft of the tool: Tool_00**
 4. **Bologna, UniBo:** Overall revision of the tool > **updated version of the tool: Tool_01**
 5. **Pilot testing >> final version of the tool: Tool_Final**



- Key steps

1. **Padova (Feb. 2024):** Kick off and definition of objectives and main vision

2. **Tartu (Mar. 2024):** Workshop for finalizing the vision and methods

3. **Uppsala (Apr. 2024):** Workshop for finalizing the vision and Swedish development plan

4. **UniBo: R&D**

5. **Pilot test**



COST Better meeting in Padova

Definition of Biosecurity Improvement program

A structured and systematic approach aimed at enhancing biosecurity practices by implementation of policies, practices and measures.

The focus is **improvement of biosecurity** (not assurance of good biosecurity).

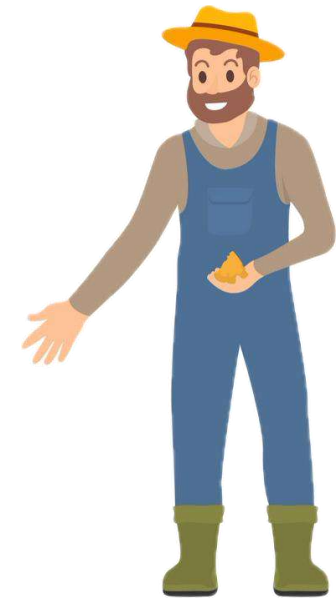
The program **motivates and leads to positive change** (i.e. Reducing outbreaks, and antibiotic use)

Implementation of measures are **periodically evaluated** (audits, moments of evaluation) with identified **priorities** and clear **outputs**.

Etc...



BETTER general meeting in Padova 6-7 February 2024



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- Key steps

1. **Padova** (*Feb. 2024*): Kick off and definition of objectives and main vision

2. **Tartu** (*May 2024*): World Cafè definition of key components and methods (i.e. theory of change)

3. **Uppsala** (*June 2024*): Swedish University of Agricultural Sciences development

4. **UniBo**: Review

5. **Pilot testing**

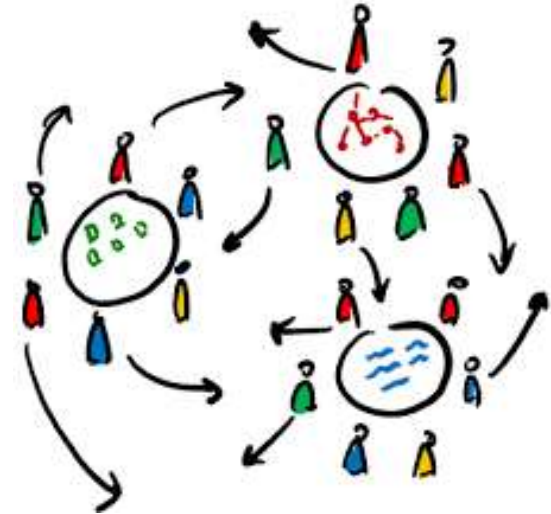


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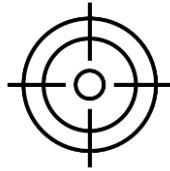
COST Better meeting in Tartu



- **World Cafe in Tartu (plenary session)**
 - **Group 1 - Preliminary phase of the evaluation framework** – Moderator: Lena-Mari Tamminen, Reporter: Giovanna Ciaravino -> **Flexible tool**
 - **Group 2 – Macro components and elements of the evaluation framework** – Moderator: Alberto Allepuz Palau, Reporter: Susanna Sternberg Lewerine -> **Different areas identified**
 - **Group 3 - Indicators of the evaluation framework** – Moderator: Giulia Graziosi, Reporter: Maria Rodrigues da Costa -> **No overload for the farmer, general or specific indicators**
 - **Group 4 - Validation and future developments of the evaluation framework**
 - Moderator: Miroslav Kjosevski, Reporter: Ilias Chantziaras -> **Development together with programme manager, testing in farms and other settings**



Key points discussed in Tartu :



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- Tool should help **identify gaps** in the program and to **assess the changes** the **program is producing** – no scoring (for now)
- Agreement to apply **theory of change** to build the framework
- Relevant **sections in the tool:**
 - Organisation & Communication
 - Data & Accessibility
 - Resources
 - Awareness, Competency & Engagement
 - Impact
- **Pilot testing** with **existing programs** (i.e. Vaxa , Classyfarm etc...)

3. Uppsala (June 2024) (STSM) by Giulia Graziosi (UniBo) at Swedish University of Agricultural Sciences (SLU): development of the 1st draft of the tool: **Tool_00**

4. UniBo: Overall revision of the tool > updated version of the tool: Tool_01

5. Pilot

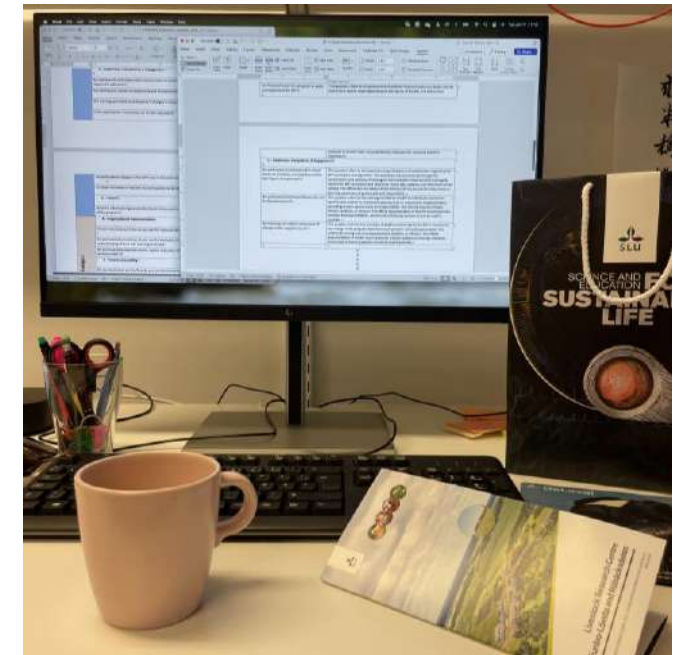


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STSM at SLU (Lena-Mari Tamminen)



- **Meeting with epidemiologists and experts of Theory of Change** (*Susanna Sternberg-Lewerine and Elisabeth Rajala, SLU*)
- **Development of the evaluation framework** (*Lena-Mari T. and Susanna S_L*)
- **Feedback from:**
 - *Ina Toppari* (Animal Health ETT, Finland),
 - *Carla Gomes* (Animal Health Ireland, PigCheck Programme Manager)
- **Regular technical meetings with:**
 - *Marco De Nardi* (UniBo)



Biosecurity improvement program and identification of the change it is introducing



Preliminary phase:

- Identification of the **context** of the system
- Identification of **evaluators**
- Identification of **stakeholders** and **participants**
- Development of the **evaluation plan**

Characterisation of the program: what the program does, with whom, how they respond and react

- **Organisation & Communication**
- **Data & Accessibility**
- **Resources**
- **Awareness, Competency & Engagement**
- **Impact**

Identification of **indicators** that are **directly** linked to implementation of biosecurity

Organisation & Communication

Data & Accessibility

Resources

Awareness, Competency & Engagement

Impact

Identification of **indicators** that are **indirectly** linked to implementation of biosecurity

Benefit of biosecurity

- Production
- Welfare
- Animal health

Long-term objective of the BIP



4. UniBo: Overall revision of the tool > **updated version of the tool: Tool_01**

5. Pilot testing >> final version of the tool: Tool_Final



Tool_01



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- **Preliminary phase:** to frame the program, to define the aim of the evaluation, define who is conducting the evaluation and to whom the evaluation is addressed
 - A. Identification of the **context** of the BIP
 - B. Identification of the **evaluators** of the BIP
 - C. Identification of **stakeholders** and **active participants** of the BIP
 - D. Development of the **evaluation plan**
- **Evaluation phase:** **5 macro-components** and **35 points of particular attentions** aimed at characterising the program and measuring direct* and indirect change**
 - A. Organisation & Communication
 - B. Data & Accessibility
 - C. Resources
 - D. Awareness, Competency & Engagement
 - E. Impact
- Direct change*: change that the program is directly producing
- Indirect change**: indicators indirectly linked to biosecurity implementation

Tool_01

Biosecurity Improvement Program (BIP) Evaluation Template

This document is supported by "Supplementary Material 1. Guidelines for applying the Biosecurity Improvement Program (BIP) Evaluation Framework". Items colored in blue refer to the section "Characterization the program", items in orange to the section "Measuring direct change", and in pink to "Measuring indirect change".

Preliminary phase.

Name of the BIP under evaluation:

Summary of the context of the BIP:

Name and surname of the evaluator(s) of the BIP a:

- External evaluator Internal evaluator
- External evaluator Internal evaluator
- External evaluator Internal evaluator
- External evaluator Internal evaluator

Supplementary Material 1. Guidelines for applying the Biosecurity Improvement Program (BIP) Evaluation Framework.

Preliminary phase of the evaluation.

This section refers to the initial identification of the context of the BIP and to the development of the evaluation plan, depending on the motivation.

Points of particular attention (PPAs)	Notes
Identification of the context of the BIP	<p>Biosecurity improvement programs (BIPs): mandatory or voluntary programs that foresees or includes improvement of farm biosecurity independent of the context (e.g. can be part of a disease eradication or control activity, improvement of biosecurity in a country or in a region, reduce anti-microbial use in an area, etc.), with a wide range of application and without a minimal number of measures to be implemented. They are applied in more than 1 farm.</p> <p>The BIP under evaluation should be named and described:</p> <ul style="list-style-type: none">• Mandatory or voluntary application• Coverage of the program (i.e. number of farms, regional or national scale)• Livestock species involved and production type <p><i>Fill in this information in the respective box on page 1 of the "Biosecurity Improvement Program (BIP) Evaluation Template" file under "Name of the BIP under evaluation" and "Summary of the context of the BIP".</i></p>
Identification of the evaluators of the BIP	<p>The evaluators of the BIP should be defined. These can be professionals external or internal to the system. A committee with external and internal evaluators should be prioritized. External evaluators should be selected according to their expertise, they provide impartiality and oversee the system to identify gaps and room for improvement or change. Internal evaluators are beneficial for a better understanding of the context evaluated, and are engaged in the system evaluated. Conflict of</p>

Evaluation phase.

Points of particular attention (PPAs)	Answers
<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 8px; margin-right: 5px;">Organisation & Communication</div> <div style="background-color: #e6f2ff; padding: 5px;"> Are the objectives of the BIP defined and clearly outlined? </div> </div>	<p><i>List the objectives (examples provided in Supplementary Material 1, page 4).</i></p> <ul style="list-style-type: none"> • ... • .. • • • • •
<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 8px; margin-right: 5px;">Organisation & Communication</div> <div style="background-color: #ffe4c4; padding: 5px;"> What are the indicators for assessing the achievement of the objectives? </div> </div>	<p><i>List the indicators (examples provided in Supplementary Material 1, page 8).</i></p> <ul style="list-style-type: none"> • ... • .. • • • • •

Items in **blue**

>> "Characterization the program",

Items in **orange** >> "Measuring direct change",

Items in **pink** >> "Measuring indirect change".

Measuring indirect change	Prioritized indicators indirectly linked to biosecurity implementation	<p><i>List indicator(s) (examples provided in in Supplementary Material 1, page 13). In case no indirect indicators are collected, mention it in a narrative answer.</i></p> <ul style="list-style-type: none"> • • ... • .. • . •
Measuring indirect change	Change of selected indicators over evaluation timespan	<p><i>List trends for each chosen indicator(s).</i></p> <ul style="list-style-type: none"> • • • • •

- Key steps

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Pilot testing of the tool

- **Cattle: dairy herds**

Sweden: *Växa* (ongoing, contact point: Lena Mari T.)



- **Pig production**

Italy: *ASF - Classyfarm* (Confirmed-Kick off in March 2025, cp: Marco DN)

Ireland: *AHI Pig Health Check* (to be confirmed, cp: Carla G.)



- **Aquaculture**

Colombia: official biosecurity program for aquatic animal farms (Confirmed, cp: Maria Fernanda Serrano D.L C.)

Norway: biosecurity program for salmon farms (To be confirmed, cp: Maria Fernanda S.)



- **Poultry ??**

Piloting the evaluation protocol in Sweden



- **Växa** – producer organisation responsible for the national biosecurity program for dairy herds.
- A **voluntary program** where farmers pay to participate
- **85% of Swedish dairy farms** currently participate
- Participating farmers receive **higher compensation** if the farm is found to be *Salmonella* positive (→ compulsory actions in Sweden).



The *Vaxa* program in brief:



- **Three stages**
 - **First stage**: Farmer finishes a **compulsory course on biosecurity** and makes a **self-evaluation** (repeated every 18th month).
 - **Second stage**: Farm **passes a biosecurity assessment** by a specialised veterinarian. At this visit they also **receive advise** on improvements. This is repeated every **18-24th month**
 - **Third stage**: Farmer organises an **on farm course** for the farm employees.
- The company has performed **an evaluation of the program** (after 10 years of running) during 2024.
↓
- The two representatives **feel that the extent and impact of the program was not fully captured** in the evaluation.

Evaluation process with Tool_01



- About **5 hours** (in **three online sessions**) to get through the protocol
- Although the representatives got the documents to look at before, some **moderation** was necessary to keep moving forward.

Overall impression:

- The participants were **very happy and inspired** after going through the process.
- The discussions brought **lots of new ideas** on how the biosecurity program evaluation can be improved
- The protocol identified/clarified **different views of the program** between participants and stakeholders which has practical impact on implementation of biosecurity on the participating farms.

Next steps

- Concluding the **pilot phase**
- Revising Tool_01 >>> **Tool_Final**
- Describe potential **further development of the tool** (on-line systems, app, scoring ? Etc...)

- **Publication** on the tool (within Better Biosecurity timeframe)
- **Publications** on the pilot phases?

Aknowledgments

UniBo

- **Giulia Graziosi**



SLU

- **Lena Mari Tamminen**
- **Susanna Sternberg-Lewerine**
- **Elisabeth Rajala**

- **Ina Toppari** (Animal Health ETT, Finland),
- **Carla Gomes** (Animal Health Ireland)
- **Maria Fernanda Serrano De La Cruz** (Norwegian Veterinary Institute)
- **Saraya Tavornpanich** (Norwegian Veterinary Institute)



- **All WG3 participants and Cost Better WGs**

Thank you!

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