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*International Network of Evaluators & Guideline for a Methodological Approach in Exercise Evaluation*

INEGMA-E²

# D4.2 Evaluators' training concept

# WP4 – Network of Evaluators

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## KEY WORDS

Training concept, training requirements, evaluators, lead evaluator, civil protection exercise evaluation

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# Executive Summary

The main goal of this report is to elaborate on an evaluators' training concept, which is supposed to help future lead evaluators and his/her core evaluation team to provide all deployed evaluators with crucial knowledge and information to conduct a high-level evaluation. It serves not only as a guideline for novices in exercise evaluation management but also experienced lead evaluators by reminding them of all highly important aspects to be considered during (application[1]), planning, preparation, conduct and after-action. Its goal is to set a standard for the training of exercise evaluators, thus contributing to the overall quality management of civil protection (CP) exercise evaluation.

After a short introduction on evaluation training in the CP exercise context and the explanation of the methodological approach (chapter 1), the training concept developed in INEGMA-E² will be presented in detail (chapter 2). To conclude the deliverable a short wrap-up of the concept will be given and further issues in the context of evaluators' training will be discussed (chapter 3).

# About this project

In the context of civil protection exercises, well-considered and extensive evaluation plays a crucial role in documenting the best practices and shortcomings recognized during the exercises' conduction. By identifying lessons learnt evaluation is essential for a constant improvement in training efforts, thus promoting the capacities of response units in the European Union and its neighbouring countries for dealing with real disaster scenarios. The project INEGMA-E² is building upon an upcoming approach of independent evaluation and aims for a new level of exercise evaluation in context of civil protection, which will meet high standards concerning documentation, replicability, and goal orientation.

The three pillars of the project are: 1) The development of an adequate and versatile evaluation methodology, addressing the different types of existing exercises. Each of those has different needs and goals, thus requiring diverse evaluation approaches. 2) Exploring the great number of existing tools, which can facilitate the data collection throughout the exercise process. Software solutions and technical tools like databases and hand helds empower the evaluators to collect a great amount of data even under difficult circumstances as part of the training reality. 3) The creation of an international pool of evaluators, which will be accessible by all institutions managing those kinds of exercises, to ensure the availability of highly skilled experts when needed. Those invited to this pool of evaluators will have to meet a certain skill set developed during the project.

A strong interconnection of all three essential fields – methods, tools and network – is crucial for setting new standards in civil protection exercise evaluation. By ensuring the provision of results for future exercises INEGMA-E² will significantly contribute to a continuous improvement of exercise outcomes. In addition, it will connect experts with exercise evaluation, will create a mechanism to share knowledge and good practices and will be designed for further grow and scale up of evaluation quality.

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[1]It would be highly recommendable to include the lead evaluator already into the process of proposal compilation to enable conceptualization right from the beginning.

# About this deliverable

This deliverable identifies the main aspects to be addressed in the preparatory phase of exercise evaluation with special focus on the training needs of evaluators. Findings of preceding tasks within the INEGMA-E² project, namely development of methodology (T2.3), SOP and evaluation checklist (T2.4), user requirements collection (T3.1), setting up a demonstrator (T3.3) and developing a skill set for evaluators (T4.1) are taken into account and help to set the developed training concept on a solid basis of knowledge gathered in advance.

The report was elaborated in cooperation of DCNA, UniBW, LAUREA, BBK, and ITTI and with valuable contributions from the remaining project partners.

The authors raise no claim to completeness of the present document and encourage evaluation experts to treat it as a living document throughout the remaining duration of INEGMA-E² and beyond.

# Abbreviations and Glossary

A common glossary of terms for all INEGMA-E² deliverables, as well as a list of abbreviations, will be made available at the INEGMA-E² website.

# 1   Introduction

Civil protection exercise evaluation (EXEVAL) is highly complex and requires numerous skills of all involved players to be successful. Therefore, adequate und comprehensive training for civil protection experts to get prepared for this challenging task is highly needed. Even though the relevance of EXEVAL is constantly highlighted on various channels of the civil protection community, a standardized approach has not been realized by now. The same is true for appropriate training measures.

By referring to different sources dealing with the very specific topic of civil protection exercise evaluation, this document summarizes existing approaches and ideas to define a basic training concept for evaluators, which can be instantly followed by those responsible for upcoming exercise evaluations. Preceding deliverables within INEGMA-E² set a solid basis and provide valuable input for this document.

## 1.1   Setting the scene

By now, civil protection exercises in the context of the UCPM have been either self-evaluated by the organization leading the respective exercise project or since lately independently evaluated by other organizations chosen right for this task. Although the independent approach improved the overall effect of evaluation, so far no specific concept for the training of evaluators existed, which one could refer to when organizing the evaluation. Regarding the results of INEGMA-E² task T4.1, among civil protection experts "… there is an outstanding agreement on the need for the solid briefings of the evaluators." In addition, respondents further agree that standardized training programmes may add value in the context of preparation for EXEVAL. (Pfister et al. 2023, p.31)

Besides using the right methods for certain exercise types and circumstances, it is crucial to choose the right supporting tools (handhelds, software, etc.) and know how to operate them correctly and efficiently. In addition, behavioural aspects are particularly important, as evalution is part of the exercise but should not interfere with exercise activities. All these requirements justify a well-considered training approach.

FEMA's Emergency Management Institute (EMI) offers 76 courses related to exercise evaluation alone in 2023. Those are conducted in numerous different cities in the United States to facilitate completion for interested audience. In addition, the courses are also offered in virtual classrooms via VCT. None the less, most of these courses are limited to certain target groups (invitation only, special prerequisites, etc.).[2] The European Commission, Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG ECHO), is not providing a comparable training offer for exercise evaluation, resulting in big differences of evaluation quality between various UCPM exercises.

This document is taking a first step towards a standardized training concept to ensure constant high-level exercise evaluation in European civil protection exercises. The differences, advantages and disadvantages of a generic training and an exercise specific training will be discussed in chapter 3.

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[2] Emergency Management Institute | Course Schedules (fema.gov), visited on 20.02.2023

## 1.2 Methods

This concept was developed under consideration of expertise within the INEGMA-E² project consortium. The involved partners have extensive experience with exercise evaluation (EXEVAL) and have compiled preceding deliverables concerned with various aspects of EXEVAL, including the methodological toolset, different supporting tools to facilitate data collection and a skill-set for evaluators. In addition, special knowledge focusing on evaluation training was provided by INEGMA-Steering Committee members.

The main method used to gather knowledge from project partners was the workshop format. Due to the international setting the three workshops on the topic were conducted online via MS TEAMS. Furthermore, all partners were asked to upload papers and other relevant material on the shared folder for task 4.2. Besides building upon the preceding deliverables "development of methodology" (D2.3), "SOP and evaluation checklist" (D2.4), "user requirements collection" (D3.1), "setting up a demonstrator" (D3.3) and "developing a skill set for evaluators" (D4.1), those documents were evaluated, and relevant content integrated. Finally, desk research was completed with web research focusing on existing training concepts in the field of EXEVAL.

# 2   A training concept for exercise evaluators

Since evaluation in the context of civil protection exercises is a complex task with many different emphases, appropriate training is absolutely needed. By now, the quality and scope of the evaluation training depended on the qualification and willingness of assigned chief evaluators, how much effort to put into this task. However, to keep up with the current and future challenges imposed by climate change and other crisis developments a continuous improvement of response capacities and associated processes has to be aimed for. This will only succeed by assuring state-of-the-art evaluation, which is capable to reveal strengths and weaknesses of the existing structures and processes and allows efficient improvement of all involved resources. Sufficient training of evaluators, following a certain standard, is a fundamental condition to reach this goal.

Even though people invited to an evaluation team are usually highly experienced and well-trained in civil protection topics, they are often rookies at social scientific empirical research methods. Additionally, current digital tools and devices, which support the evaluation activity in the field are also new for many of those. Not to forget the evaluation approach itself, with all its concepts and strategies to consider. There is no need for expertise in these topics, but at least basic knowledge is necessary to perform the task successfully. By now, no common concept existed, which facilitated this training challenge for the chief evaluator, especially in the light of very limited time to accomplish it. This refers to the usual approach of conducting one respectively two workshops, each not longer than one day, associated with the respective exercise project, where evaluators get prepared for their tasks.

Looking across the ocean, the civil protection experts of the US Department of Homeland Security are a few steps ahead regarding an extensive training program for evaluators. The Homeland Security Exercise and Evaluation Program (HSEEP) consists of different steps to be taken when taking over certain roles in exercise management and evaluation. It is realized via the National Standard Exercise Curriculum (NSEC), which was "… designed to unify curricula in exercise program management, design, development, conduct, evaluation, and improvement planning across the country." The program aims for a national standardized exercise curriculum and includes courses from beginners to experienced practitioners.[3]

The following illustration shows the curriculum as a whole. Courses for evaluators can be found on level 1, 2 and 3, the latter requiring the respective preceding ones to be eligible.

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[3] EMI | National Standard Exercise Curriculum | HSEEP (fema.gov), visited on 21.02.2023
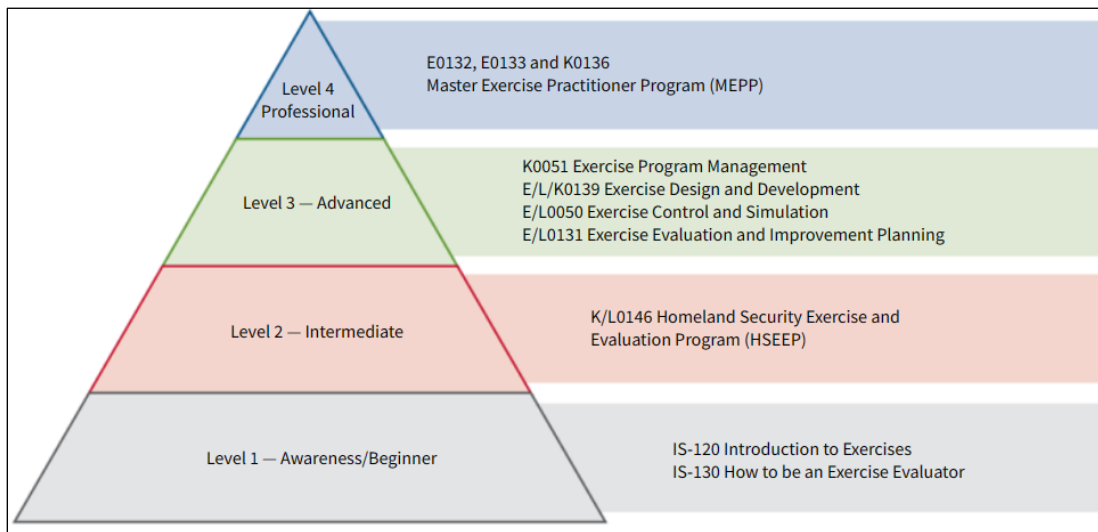
**Figure 1: NSEC Curriculum**

Interesting to mention is the broadly defined target group for the Exercise and Evaluation Program on level 2. Beside evaluators the program is also recommended to Exercise planning team leader/members, controllers and facilitators, exercise managers and others, who are involved in planning, budgeting, management, design, development, conduct and evaluation of exercises. This clearly shows an integrative system approach, which is certainly needed to guarantee a successful preparation, conduct and processing of outcomes of exercise evaluation.[4] (U.S. Department of Homeland Security, 2020)

As mentioned before, in the European Union by now no comparable program has been developed. Reasons for that are diverse and would go beyond the scope of this document. None the less, it is important to get certain standards in CP EXEVAL of the Union Civil Protection Mechanism (UCPM) going. This training concept, together with all the other efforts made in INEGMA-E², are a first step to develop standards for exercise evaluation throughout all phases and aspects of the entire evaluation process. There might be big differences between the civil protection and exercise system in the US and the EU, but the HSEEP can certainly serve as a solid basis for the development of a Union wide exercise evaluation program.

## 2.1   Process of exercise evaluation

Exercise evaluation is not a single activity accompanying the exercise conduct, it must be understood as a process starting with the application and ending with the final after-action event respectively improvement planning, as suggested by the US Department of Homeland Security (2020).

Understanding the evaluation process should be the starting point of each evaluators training. As passing through the training each evaluator needs to understand why, when and how the evaluation is prepared and conducted. An evaluation process which is properly designed allows the integration of the training for the evaluators, which is a prerequisite for successful implementation of the evaluation plan. The lead evaluator /core evaluation team should start to contribute to the design of objectives and give input to the planning team right from the beginning, as the quality of evaluation highly depends on those initial steps. If the objectives can not be operationalized later, evaluation will not be

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[4] Ibid.

able to create meaningful results. To realize continuous coordination between exercise management players and the core evaluation team, a constant exchange with them has to be cultivated and maintained until the end of the project.

In figure 2 the entire Exercise Evaluation process is displayed in alignment with the different exercise phases from left to right.[5] On the left side of the visualization the three main categories of evaluation players are stated with their specific tasks to be managed respectively activities to join during the entire exercise process, displayed in the same color to the right. The categories are "Chief Evaluator", "Core Evaluation Team" and "Evaluation Team", and the upper category is always involved somehow in the tasks of the lower one(s), but not the other way around. In the following table the roles are explained in short (U.S. Department of Homeland Security, 2020).

**Table 1: Definition of evaluation roles**

| Lead Evaluator | Expert that oversees all facets of the entire evaluation process, to include recruiting, assigning, and training of evaluator(s). He/She is responsible for the proper conduct of evaluation and compiles the evaluation report. |
|---|---|
| Core Evaluation Team | A team of experts, including the chief evaluator, which is managing the evaluation process from begin to end. To build such a team is a possible approach to share the tasks of the chief evaluator. None the less, the chief evaluator is taking the final decisions. |
| Exercise Evaluators | An individual chosen, based on their expertise in the functional areas, to observe and collect exercise data and analyze results |
| Evaluation Team | The whole team including chief evaluator, core evaluation team and exercise evaluators. |

At the bottom of figure 2 a usual approach of related deliverables is displayed, which simply follows the exercise/evaluation mechanics and proved itself to make sense over several years.

This visualization is designed to make the main milestones/tasks of the entire evaluation process visible at one glance. It is intended to support the core evaluation team, particularly the chief evaluator, to plan and manage the evaluation and keep track during the entire process. In addition, it can be used to instruct the evaluation team about the process, expected tasks and serves as basis for discussion of the general evaluation concept developed for specific exercises.

See also INEGMA-E² Deliverable 2.4 (Kivinen et al. 2022) to get an overview of the main tasks to be fulfilled during the EXEVAL process. This handbook, structured as SOP, is also supposed to help chief evaluators to plan and conduct the exercise evaluation and can be used as book of reference throughout the entire process.

In the background of figure 2 (box in light blue) "Evaluation²" (the evaluation of the entire evaluation process) is accompanying all activities of evaluators, collecting data and contributing to the overall quality management with feedback to the core evaluation team on a regular basis.

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[5] In INEGMA-E² deliverable D3.3 "Technical concept for evaluation toolset" there is also presented a model for the entire exercise evaluation process (XEP). This model has a different focus on the process.
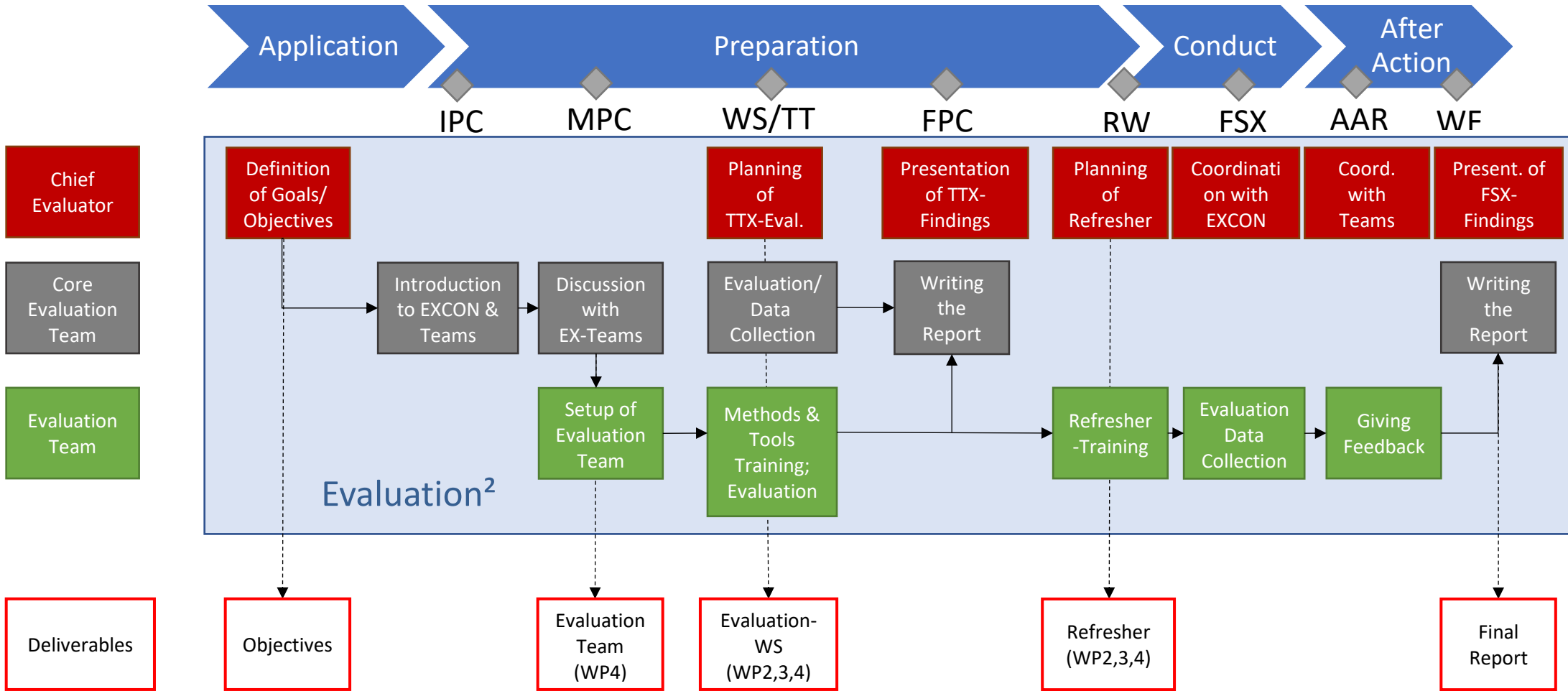
# EXERCISE EVALUATION OVERVIEW



**Figure 2: Exercise Evaluation Overview**

## Evaluation²

Another crucial aspect highlighted in figure 2 is the accompanying task of evaluating the exercise/project evaluation itself. This should be an integral part of every high-level exercise evaluation (Beerens 2021, p.41, 109). Generally, the only part of an exercise project not being evaluated is the evaluation itself, as previously this task has not been assigned at all. As the evaluation is not beyond mistakes concerning the right choice of adequate methods, the correct use of supporting tools, the best focus, the selection of evaluators and different other aspects, it should be in the interest of the chief evaluator to collect feedback from certain players throughout the entire evaluation process. To address the evaluation of evaluation (Evaluation²) he/she respectively the entire core evaluation team (if existing) has to assign external Meta-evaluators, who are focusing on certain evaluation aspects defined before the exercise evaluation starts. This can be done together during preparatory meetings or determined by the Meta-evaluators alone.

In addition, every evaluation process requires a decent amount of self-reflection to be successful. This is particularly important for long-monitoring processes like during exercise projects. To stay on track an evaluator should always keep some guiding questions in the back of his/her mind, such as "What is my impact on the project consortium / exercise participants? What can I do for not interfering with the exercise project flow? How can I assure to collect the most relevant information for quality management purposes? How is the role of the evaluator envisaged in the project and the exercise, and how is it actually perceived from the stakeholders?" According to the answers one gets throughout the exercise project, the behaviour and the methodical choices must be adapted. The same is true for the exercise evaluation. Even though a well-prepared operationalization of objectives facilitates an efficient, comprehensive, and goal-oriented evaluation, the actual task should always be accompanied by questions like "Am I still on track and focusing on the right aspects? Which additional questions could be relevant?" Not every single aspect important for a successful evaluation can be planned in the preparatory phase, so it is crucial to stay agile and flexible during the actual evaluation.

Finally, after the evaluation is completed the team of evaluators should come together to exchange their thoughts and experiences to figure out best practices and room for improvement regarding different aspects of the evaluation itself. Topics to be addressed should be the overall concept of evaluation, applied methods, supporting tools used, the general organization of the evaluation, the integration on behalf of the planning team and the overall atmosphere, meaning the quality of interpersonal exchange during the exercise. Combined with the findings of the Meta-evaluators, which should be presented and discussed together with all participating evaluators as well, the collected insights will then help to further improve evaluation efforts in future exercise projects. Thus, they hold high value for continuous upscale evaluation.

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## 2.2 Training Details

This section is focusing on all aspects, which shall be included into a substantial training of evaluators. Those are not addressed during one single event, but during the entire preparation phase of the exercise via numerous modes.

Figure 3 shows a summary of the evaluators' training concept developed in task 4.2. The background ellipse in grey represents the overall integration of the evaluation team into the entire exercise management process, thus to be considered at first and guiding the participation of evaluation players throughout all exercise phases - application, planning, preparation, conduct and after-action. The blue triangle represents the next level to be considered by evaluation planners (chief evaluator / core evaluation team) right from the beginning of the action, namely organization & logistics. This includes all managerial aspects, from recruiting an adequate team of evaluators and setting up a solid communication until solving transport challenges in the field and providing adequate infrastructure. This has to be addressed in continuous communication with the evaluation team and discussed in detail during the evaluation workshop. Finally, the orange diamond in the center of the concept represents the core aspects an evaluation team needs to be trained in to get ready for EXEVAL: Evaluation Methods, Code of Conduct, Supporting Tools and After Action & Reporting. Those will mainly be addressed during the evaluation workshop right before the exercise and repeated (with an adapted program) during a refresher workshop right before a subsequent one (TTX -> CPX or FSX).

The entire concept serves as a guideline for those new to exercise evaluation management, but also to support experienced chief evaluators, who want to have a quick and simple reminder to check if all crucial aspects have been addressed in their current evaluation planning so far. As designation and mnemonic, it is abbreviated as the TRIMOB-principle (**T**ools-**R**eporting-**I**ntegration-**M**ethods-**O**rganization-**B**ehavior) of civil protection exercise evaluation.

Didactical remarks:

Regarding the didactical approach during the evaluation (respectively refresher) workshop the project consortium has agreed on a mixture between presentation and interactive workshop mode. Basic information about the exercise framework conditions and administrative information is best to be addressed in a lecture format. Other topics, like the objectives, the overall evaluation concept and the methods applied should be communicated in a more open format to get all evaluators on board. In addition, the evaluation can certainly benefit from the different competences the invited experts bring in. Some of them have longstanding experience in the field of civil protection and should get enough time to share their thought on the current design of evaluation.

Furthermore, the general teaching style should not be top down at all, as this only would give incentives for potential hierarchy issues within the team, especially if very experienced experts with high evaluation skills are in the team.
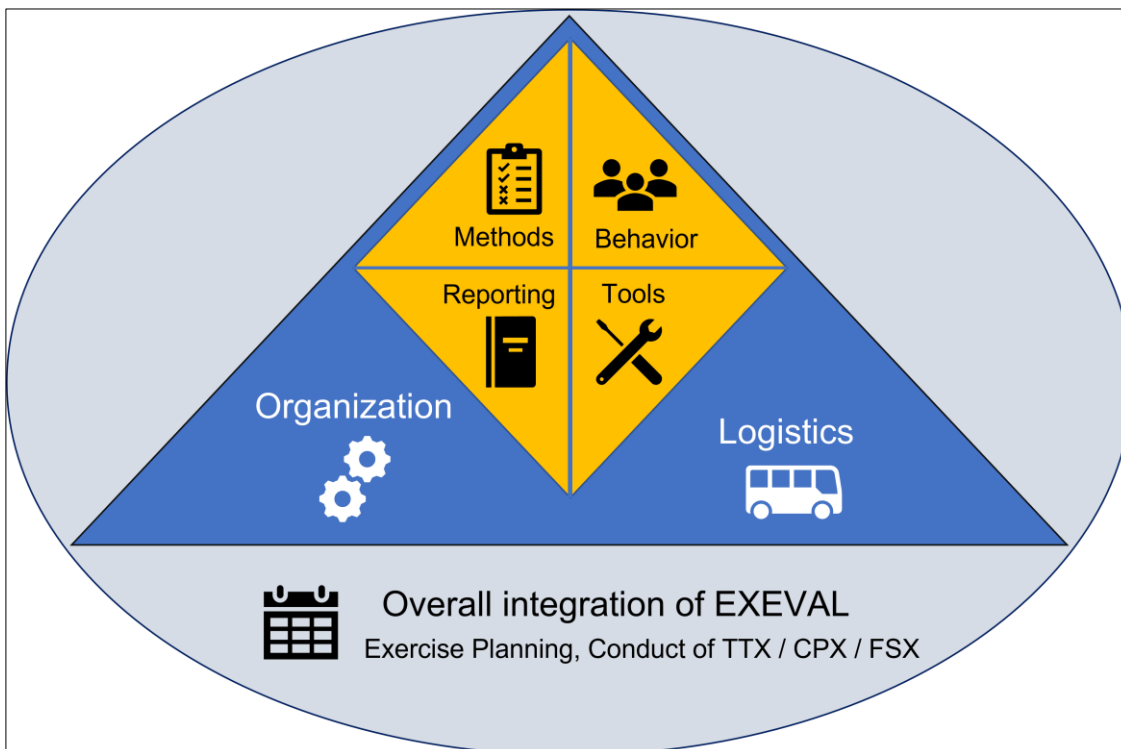
**Figure 3: EXEVAL Training Concept (TRIMOB - principle)**

On the following pages the categories included in the concept will be explained in detail.

### 2.2.1    Overall integration of exercise evaluation

The integration of the evaluation team into the overall exercise management is the basis for a successful evaluation process. Therefore, the chief evaluator should put a lot of emphasis on developing a good relationship and constant communication channels with the exercise planners right at the beginning of the action.

Referring to figure 2 on page 12 (Exercise Evaluation Overview) at every stage of the exercise management process the evalution has certain tasks to fulfil, to develop and uphold the connection to the exercise management team.

At best the chief evaluator, or preferable, the entire core evalution team (if available) is already part of the application process, where exercise objectives and goals are defined for the first time. This is the best moment to discuss which objectives can easily be operationalized and thus adequately addressed by evaluation. Together with the exercise managers, usually representing the application lead, crucial questions about what to focus during evaluation and how to realize it can be clarified. During such a process of elaborating the evaluation concept together, a good relation important for the remaining exercise process is realized. The main factor with this is shared ownership.

Latest during the Initial Planning Conference (IPC) the core evaluation team shall be introduced to the Exercise Control (EXCON) and all participating teams. By highlighting the supporting role of the evaluators towards an overall improvement of civil protection activities, potential fears can be overcome, and trust can

be initiated, vital for the cooperation later. The Main Planning Conference (MPC) is the next good opportunity to build upon previous discussions and refine the evaluation concept together with the exercise management and participating teams. At this stage of the process the remaining team members needed for the exercise evaluation should be recruited and introduced to the exercise management. In the delphi-survey concducted in task T4.1, "… there was rather strong agreement that evaluator teams shall be mixed in terms of occupational background, expertise, experience, and so on." (Pfister et al. 2023, p.31) In the second round of the survey there was even full agreement of experts about this requirement in team composition. The international pool of evaluators, developed in INEGMA-E² task T4.3 is addressing this need of finding the right experts for the evaluation team and will facilitate the matchmaking between specific exercise requirements and individual backgrounds of experts registered in the network of evaluators.

The evaluation workshop (and also the refresher workshop, if more than one exercise is conducted) serves as final event before the exercise, which should be used for coordination purposes with the EXCON and also the trainers to be active[6]. Therefore, a separate slot should be planned in the agenda, which serves for clarification of final issues and open questions from all involved players.

Together a decent amount of time shall be scheduled for right after the exercise(s) to realize any final evaluation activities necessary. This is crucial as the participants will remember the most at this moment (see also Beerens 2021, p.37, 103, 107). To facilitate the process further it could be combined with the Hot-Wash Up, which is usually conducted with all trainers and the entire exercise management staff. The exact way of designing this important stage should be discussed in detail and depends on numerous aspects varying from exercise to exercise.

After the evaluation is accomplished, the findings will be compiled in an evaluation report and provided to the exercise management[7]. If a subsequent exercise (e.g., FSX) is planned the report should be finished as soon as possible, so potential issues can be addressed in the preparation phase of the upcoming exercise. In addition, the results should be presented at the corresponding Planning Conference to inform the majority of involved players. At best, after the evaluation report has been provided an After-Action-Meeting (AAM) is scheduled, which serves as a forum for all players to review the report together. There, the results and the analysis should be explained in detail, and participants should seek to reach final consensus on strengths and areas for improvement (U.S. Department of Homeland Security, 2020). Transparency should be the guiding principle, underlying the entire evaluation process.

All milestones of the exercise process are crucial milestones for the evaluation team as well. Constant cooperation and coordination between exercise management and the chief evaluator, representing the entire evaluation team, throughout the five stages is key for a high-level performance.

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[6] It is recommended to entrust trainers with certain evaluation tasks as well, as they are directly involved on the various sites.

[7] Exercise management will then decide to whom the evaluation report will be forwarded. Sharing it with all stakeholders of the exercise is recommended to extend the impact.

## 2.2.2 Organization & logistics

This aspect covers all information on an organizational level, which has to be communicated to the evaluators to enable their successful performance. The topics have to be discussed in constant exchange with the evaluators individually or in the team, depending on the certain theme. The evaluation (and refresher) workshop serves as a forum to discuss open issues in detail.

The following table lists all topics to be addressed in the preparation phase of the exercise evaluation from an organizational point of view. These shall be communicated / discussed / instructed in various ways in exchange with the evaluators, depending on the current stage of the entire process.

**Table 2: List of organizational topics**

| Mode: email / VCT-meetings / telephone<br>When: Starting with process | <ul><li>Recruiting (Terms of Reference, CVs)</li><li>Travel (location, date/time) for Eval WS / exercise(s)</li><li>Board and Lodging (booking) for Eval WS / exercise(s)</li><li>Transport on site</li><li>Non-Disclosure Agreements</li><li>Service Contracts</li><li>Plans, procedures, agreements, and other relevant documents</li><li>Infrastructure for evaluation workshop (meeting room, beamer, flipchart(s), presentation case)</li></ul> |
|---|---|
| Mode: evaluation workshop[8] | <ul><li>General information about exercise (scenario, scope, schedule)</li><li>Objectives (KPIs, specific aims, etc.)</li><li>Role definition</li><li>Responsibilities & Rights</li><li>Safety and Security Regulations</li><li>Site Specific Information</li><li>Communication infrastructure</li><li>Communication rules</li><li>General infrastructure during exercise (e.g. evaluation meeting room, beamer, flipchart(s), presentation case)</li><li>Allocation of evaluators (sites / activities)</li></ul> |

## 2.2.3 Evaluation methods

One of the most important skills needed for comprehensive and efficient evaluation is a certain knowledge about and at least basic level of expertise to use specific empirical social scientific research methods. As noted in preceding deliverables (Ruoslahti/Lonka 2022, p.9) and numerous interviews conducted as part of

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[8] All topics mentioned in this section should also be addressed in advance with preparatory material via email or VCT as soon as available and if possible but should certainly be covered in detail during the evaluation workshop. Open questions regarding those topics can be disussed in the group and clarified for the entire evaluation team.

task 2.2, a combination of different methods is the best way to collect data and produce meaningful results. This even aggravates the situation a chief evaluator is facing when compiling the agenda of a lunch-to-lunch evaluation workshop for his/her just recently recruited evaluation team, consisting of professionals with numerous different backgrounds. The people assigned to such an evaluator role in the context of civil protection exercises are usually experts and well experienced, but in disaster management related topics and not in social scientific research methodology. Thus, to instruct a diverse evaluation team in terms of their educational/professional backgrounds, in the proper use of multiple research techniques is certainly one of the major challenges in evaluation training.

The following table is listing the most relevant methods for exercise evaluation. For more details on those see the Standard Operating Procedure for Evaluators of Civil Protection Exercises – INEGMA-E² Deliverable 2.4 (Kivinen et al. 2022, p.8-10)

**Table 3: Methods for EXEVAL**

| | | General approach | |
|---|---|---|---|
| | | **Qualitative** <br><br> Results are not generalizable beyond the case and moment; Data can not be quantified; Aim: deeper undertandings of subjects – focusing on details, background information; small samples non-representative for the population; | **Quantitative** <br><br> Data collected in large representative samples (randomly chosen) to generalize statements for the population; associated with numerical analysis conducted with statistical methods; data usually shown in tabular representation and visualized in graphs or charts; |
| **Methods** | | **Observation** <br><br> Subject(s), activity and setting to be observed has to be decided in advance, as well as date and time; active method to collect data of a primary source with senses; supporting tools to record possible; | **Structured interview / Survey** <br><br> Defined by a rigorous set of questions and answer categories to make it quantifiable and thus usable for statistical analysis; Usual format: questionnaire |
| | | **Theme/Semi-structured interview** <br><br> New ideas to be brought in by interviewees; semi-structured framework of themes to be dealt with as basis – strict answer options to keep it comparable; alternatively, use of interview guideline with open answers – room for clarifying certain answers by having the option to ask again directly | |

**Ad Observation:** The observational approach is for sure the most minimally invasive method to be used during an evaluation. Therefore, it should be the method of choice for monitoring purposes with extensive duration. As not everything can be observed and recorded in general, it is important to develop a set of guiding questions before every event to be evaluated.

**Ad semi-structured Interviews:** Interviews are an important tool to give the exercise participants a good platform to express their opinion about certain processes during the exercise and comment directly on events. By conducting interviews (supported by an interview-guideline), the evaluator has the best chance to get important background information. A trustful relationship between the evaluator and the interviewee is key. In some situations, the guarantee to preserve one's anonymity can even raise the willingness to share crucial but delicate information. To get most out of an interview one should always record it, if not explicitly denied by the interview partner. Recording without approval is an absolute taboo!

The decision which methods to choose for a successful EXEVAL is strongly determined by the respective exercise format and its special requirements. Not all methods are reasonable in all possible exercise contexts, even though it is particularly connected to the objectives defined together with the exercise planning team. In addition, it depends on the focus of evalution, namely concentrating on the System, the Structures, or underlying Processes. (Bruns/Celikler/Jonitz 2022, p.12)

For an extensive overview and decision support regarding which methods to choose for certain exercises see the SOPs Matrix in INEGMA-E² deliverable D2.3 (Ruoslahti/Lonka 2022, p.9). The table presented there lists all options for the three main types of exercises – Tabletop Exercises, Command Post / Functional Exercises and Full-Scale Exercises – depending on the certain evaluation concept chosen (systematic, structural, processual). Based on the list the chief evaluator can decide which methods he/she wants to use and accordingly plan the training lessons for the evaluation team.

Usually, the time available for an evaluation workshop is about one day (lunch to lunch) and by reason of budgetary constraints it is conducted right before the respective exercise (e.g. to avoid additional travel costs). Regarding the sheer amount of information to be delivered during the evaluation workshop it is highly recommended to plan at least two days for such an event. This certainly will pay off later, because the evaluation team will have more time to get used to the (in many cases) new methodological concepts. To even facilitate the learning-process for the evaluators, it might be very helpful to send out information (reading material, videos, etc.) about the methods to be used via email, as soon as the team is defined.

### 2.2.4   Behavioral aspects

At the beginning of each training for evaluators the lead evaluator should always explain the specific role an evaluator has to play (see also Pfister et al. 2023, p.32). To be in this certain role can be challenging, as the main task is to assess the performance of people, organizational structures and processes, which is always associated with some kind of examination. This testing situation usually strains the relationship between exercise participants/planners and evaluators. Thus, the evaluation team has to act respectful, reluctant if necessary and with high diplomatic artifice. The following list represents the basic Code of Conduct for exercise evaluators, which should be instructed with particular emphasis:

Evaluators should be…

- Independent: It must be assured that independence of judgement is maintained. Findings and recommendations have to be presented independently.

- Non-interfering: The evaluators must not interfere with the ongoing exercise activities. Interviews or questionnaires have to be conducted in accordance with trainers / mentors of the deployed units. None the less, breaks must be respected and not to be used for constantly approaching participants. A certain level of situational awareness is highly recommended.

- Precise: Data collection, analysis and resulting evaluation reports have to be accurate, complete and reliable. Findings, conclusions shall be justified and the underlying rationale has to be explained.

- Unbiased: Evaluators shall give a balanced and unbiased presentation of strengths and weaknesses of all relevant activities observed during the exercise being evaluated.

- Transparent: The purpose of the evaluation, the criteria applied and the intended use of results has to be clearly communicated to members of the planning team and the exercise participants. The evaluation shall be designed together with the planning team and documentation has to be made available to all stakeholders eligible.

- Attentive: One of the crucial features of an evaluator should be attentiveness. Even though guided by an evaluation concept and usually by a big set of items /questions to be answered during the exercise, he/she should stay attentive for any relevant incident, which might occur outside the focus of evaluation. Most of the activities cannot be correctly evaluated without context anyway.

- Minding confidentiality: The right of exercise stakeholders to provide information in confidence shall be respected and sensitive information has to be treated confidential and its source made untraceable.

For more information on the expected behavior of evaluation staff, see INEGMA-E² deliverable 2.4 (Kivinen et al. 2022, p.11 et sqq.) and the Code of Conduct for Evaluation in the UN System (UNEG, 2008). The principles mentioned there are the fundamental set of behavioral aspects for evaluation in general, thus applicable to exercise evaluation as well.

Regardless of the actual design of evaluation, just the presence of an external evaluator makes a big difference concerning the behavior of the people involved. It is obvious that it will always do its part to motivate people doing better and focusing on crucial tasks to be dealt with, regardless of the actual consequences caused by evaluation remarks. Thus, the sheer inclusion of an independent evaluation will always have a positive impact on the success of an exercise project and the exercises addressed within. None the less, if the role is played too dominantly it can also hinder the exercise project team in performing their tasks efficiently. For that reason, a certain sensitivity for the individual characters involved in the core exercise planning team is a basic requirement for the core evaluation team respectively the chief evaluator. In general, evaluators need to have high competence in diplomatic communication. The goal should be to promote and help to develop a new failure-culture within the civil protection community. This can be achieved by

- highlighting the purpose of evaluation on all occasions (exercise planning events, coordination meetings with the exercise team, personal interaction with exercise participants) to improve the response capacities as a whole
- using modest and positive wording (e.g., failure = room for improvement)
- not focusing on certain persons, but activities and processes, especially when giving recommendations
- never getting personal and always keeping a respectful social intercourse
- getting in touch with the exercise participants whenever possible – not being just the unapproachable examiner in the background; this not only relaxes the exercise atmosphere, but based on trust also helps to get more information and better insights to exercise activities.[9]

In short, the evaluation team is advised to actively change the usual public picture of evaluation, by staying approachable and communicating its supporting role whenever possible.

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[9] See SOP for Evaluators of Civil Protection Exercises Figure 4 (Kivinen et al. 2022, p.12) for additional considerations in this context.

## 2.2.5 Supporting tools

Even though "pen and paper" has proven itself as the common choice for documentation of exercise activities in the past, especially in the context of Full-Scale Exercises, numerous supporting devices and software applications have been developed since we entered the Digital Age. As they can help a lot to collect and organize the evaluation data and enormously enhance the capacities of each evaluator, it is highly recommended to use those tools. None the less, if not well trained, those tools might be more hindering than supporting the evaluation.

INEGMA-E² has done extensive research on currently available tools, which could be used to support the entire evaluation process. For the entire listing consult INEGMA-E² Deliverable D3.1 (Ignjatovic/Bürger/Neubauer 2022, p.16) or INEGMA-E² Deliverable 2.4 (? 2022, p.13 et sqq.)

If a chief evaluator / core evaluation team decides to use a certain tool, or even a set of tools, to facilitate the exercise evaluation activities, it certainly has to be addressed sufficiently in the training of evaluators. As some software applications need a considerable amount of time to get used to it, this must be well-conceived. To facilitate the application, information about the supporting tool used should be sent out to all evaluators as soon as decided (e.g., instruction manual, training videos, demo)

One of the tools mentioned in the list is the Observer Support Tool (OST), which was chosen by the INEGMA-E² consortium to be further developed during the project duration. Since the beginning of the project OST, having already been a reliable and capable tool for civil protection exercise observers, has been adapted to the special needs of exercise evaluators.

### 2.2.5.1 Evaluation Support Tool

This paragraph gives a short introduction to the Evaluation Support Tool (EST), which will further be developed until the end of INEGMA-E². A detailed user manual, which addresses the entire registration process, and all functions will be available by then.

In general, the EST serves as a helpful tool to organize the evaluation and collect data in a structured way, while providing state-of-the art data saving to provide the collected material for after-action analysis. It is a tool available online, therefore any device which can run browsers and can visit websites on the internet is able to use the toolset. This significantly extends the options to use different devices in the field for taking notes and answering questions prepared before the exercise. If no connection to the internet is possible, like in most remote areas, which often serve as CP exercise locations, an offline mode is also integrated. The data will be saved offline and uploaded to the server as soon as the evaluator is connected again. Thus, the EST addresses certain requirements, which are special for civil protection exercises.

Questionnaires can be imported from Excel files by an administrator of EST. After importing questions to the tool, they will show up in the system for users to answer. Users, who will see the questionnaires, should be assigned roles adequate to the respective questionnaires they want to use. When an answer is sent by a certain evaluator it is saved in a database (Elasticsearch) and can be viewed, filtered and aggregated for creation of statistics in the software tool Kibana (see http://145.239.85.42:5601)

Important steps to take when working with EST:

- Each evaluator has to register via an EST administrator to be set as user of the tool – the lead evaluator can be set as administrator in advance (if required, more administrator accounts can be created)

- With his/her account the evaluator then is able to login to the tool via http://145.239.85.42

- General questions, applicable for different exercises, can be set in the tool at any time before the exercise – the earlier the better to save time for including specific questions shortly before the exercise

- Questions should be well-considered to get useful answers / results (focus on operationalization)

- The software application Kibana for statistical analysis of the data collected needs a login with a predefined account

Regarding the registering process and the explanation how to use the tool in the field a **minimum of one hour should be scheduled** in the evaluation workshop. To further facilitate the onboarding an online-training is planned, which could be made available to the evaluation team early in the exercise process.

## 2.2.6  After-Action & Reporting

"The ability to communicate exercise evaluation results to stakeholders is crucial to the improvement planning process." (U.S. Department of Homeland Security, 2020)

Even though After-Action & Reporting mainly lies within the responsibilities of the chief evaluator, he/she is relying on valuable input from the exercise evaluators. Therefore, they shall be trained on this topic as well. The first step of the after-action phase is taken right after the exercise has ended (ENDEX), meaning the Hot-Wash-Up, where first feedback from the evaluation team is expected. Even though the results of the evaluation will be communicated in detail via the evaluation report, this first impressions on behalf of evaluation will certainly have a crucial impact on the teams and the exercise managers and will certainly be remembered. For that reason, the presentation of findings, has to be modest and diplomatic. Nevertheless, the communication should be open, but critique never direct and preferably constructive (see chapter 2.2.4). Although all evaluators should be part of this first feedback, it is recommended that the chief evaluator is taking the lead, briefed in a short meeting of the evaluation team just before the Hot-Wash-Up. The evaluators should be instructed to give a concise summary of their main findings. Language has to be clear, avoiding long explanantions about circumstances and background.

In addition, the final evaluation activities after ENDEX have to be discussed in the evaluation workshop, as usually the time schedule is very tight. All involved participants are exhausted from the challenging exercise demands and want to get some rest. Therefore, it shall be clearly defined in advance, who will be responsible for which task, which questions have to be addressed and who will be invited to this final evaluation round (entire teams, team leaders, trainers, etc.)

Usually, the final analysis of data will be conducted by the chief evaluator / core evaluation team. None the less, to fulfill this task successfully, the collected data has to be compiled in a format easily to be processed. For that reason, "time spent planning for data collection and conducting analysis supports the development of clear observations and recommendations for inclusion […]" in the final evaluation report (U.S. Department of Homeland Security, 2020). Using a digital support tool like OST will certainly help to save the data in a format, which facilitates the analysis later (e.g., search function, categories). Additionally, differences concerning data-preparation by various evaluators can be avoided.

No matter which evaluation concept and approach for data collection is chosen, the evaluators shall be clearly instructed what is expected regarding the format of their documentation. This topic should be extensively addressed in the evaluation workshop, as it will strongly define the compilation of the evaluation report. Furthermore, arising questions can be easily discussed and answered in the group.

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# 3 Wrap up & discussion

## 3.1 Training in Progress

The training concept presented in this deliverable does not break with traditions, it is building on it, streamlining existing procedures and emphasizing crucial aspects of the entire evaluation process, which decide whether an evaluation will succeed or not. This shall help the chief evaluator / core evaluation team to get the evaluation team as well prepared as possible to perform most efficiently during the exercise. Training of evaluators is not happening at a single event; it is recommended to use the entire preparation phase to provide all necessary information and share valuable content via email and video conferencing tools. Particularly the rise of VCTs as a result of the COVID-19 pandemic is very beneficial for the long-distance coordination with a group of international experts to be introduced to their service as evaluators.

Nevertheless, the personal contact during an evaluation (and refresher) workshop is also very important to develop a team spirit needed for the demanding tasks during exercise evaluation. In addition, it is a great opportunity to discuss open issues and answer final open questions. If possible, the attendance of as many members of the evaluation team at the various planning conferences is another recommended measure to strengthen the highly needed cooperation between evaluation team and exercise management. Open and transparent communication should be a constant companion to reduce scepticism and get access to all levels of the exercise management structure. A deep understanding of the exercise activities and to assess strength and weaknesses in a reliable manner is only possible when having the overall context and extensive background information.

The approach for training must be realistic and immediately implementable without a lot of investments to build up a different training structure on EU-level for now. This will guarantee to get it into practice right now. None the less, in the long run, an overall training program maintained from Commission side similar to the one in the United States should be conceptualized and realized in the next few years. The reasons for that will be discussed in the next subchapter.

## 3.2 Generic vs. exercise specific

When comparing a general evaluation training approach (generic) with the current one (exercise specific), which is focusing on short-term training during the preparation phase of respective exercises, the advantages and disadvantages become obvious.

Accompanying training is already established and it is easier to operate as no fixed course system has to be maintained. In addition, it is not associated with a certain institution, so numerous different organizations and institutional entities are able to take over this task. On the negative side, accompanying training is not standardized so far, various responsible institutions make it inconsistent, and its quality is highly dependant on the respective chief evaluator conducting it.

General training on the other side has many advantages. It could be organized in a module structure to better address the certain backgrounds of experts chosen for exercise evaluation. Not all experts have the same needs to be trained on certain topics, as some might have long-lasting experience with exercise evaluation and others might be experts on the methods applied. (Pfister et al., 2023)

Other already existing training concepts in Europe, applied on a national level (like in the Netherlands) suggest laying the emphases on the five important steps to be addressed during the EXEVAL process: they provide courses on introduction to evaluation – data collection – data analysis – reporting – follow-up

Prospective evaluators then can decide which course to take according to their needs for further training. Experts on the respective fields are then invited by the responsible institution to conduct the specific course. This ensures high quality and a certain continuity in the process.

On the downside, it is seen as a possible knock-out criterion for potential evaluators, as those without this certain training might not be eligible to serve as an evaluator, as the delphi study conducted in task 4.1 revealed (see Pfister et al., 2023). To estimate the impact further investigation of the experience the department of Homeland Security had with their system so far will be a reasonable next step to take. One possible approach would certainly be, to organize it as a soft criterion – good to have but not demanded – or to define it as a necessary requirement just for prospective chief evaluators.

One solution for a future training concept for evaluators could be a combination of both concepts (generic and exercise specific): Addressing general tasks in courses about basics of EXEVAL, data collection, analysis reporting, tools and follow-up (respectively improvement planning), but also keeping specific preparatory workshops during the preparation phase of exercises to get trained on the very specific evaluation requirements, addressing certain aspects mentioned above as far as needed. "Thus, training for evaluators must be able to keep the balance between flexible adaptation to the cornerstones of specific exercises and some general requirements that hold for each setting." (Pfister et al. 2023, p.31)

## 3.3   Final remarks

The relevance of exercise evaluation is constantly highlighted in various papers, reports, discussions and at conferences concerned with the topic of civil protection. Nevertheless, by now not enough budget is calculated for this crucial service, resulting in a low budget for training as well.

Perhaps it is also connected to a certain continuous underlying aversion towards evaluation, as a result of its negative connotation dealing with assessment and critique. As long as the benefits of evaluation do not become obvious by establishing a general evaluation program, which enables valid comparison between several consecutive exercises and thus makes effects of EXEVAL recommendations clearly visible, evaluation will play a secondary role.

In general, the mindset about evaluation needs to be changed. It should be seen as support for all civil protection stakeholders to improve their skills, their processes, and structures, so the whole European civil protection system is better prepared for upcoming challenges. This requires a failure culture, which does not feel sorry about revealed gaps, but is thankful to have learned about it, for avoiding it the next time. The concept "learning from openly communicated mistakes" should become a natural part of civil protection exercises and should be acknowledged by all involved stakeholders – from first responder organizations to public authorities. The civil protection community will have to put this constantly on the agenda to make it real!

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# 5  Annex

## 5.1  Possible agenda for evaluation workshop

**DAY 1**

| Time | Content | Mode |
|---|---|---|
| Until 12:00 | Arrival of participants - administration | |
| 12:00 – 13:00 | Lunch | |
| 13:00 – 13:45 | Introduction into the exercise project „XY" | Welcome by project-lead & presentation |
| 13:45 – 14.30 | DBX/TTX program | Presentation (exercise organizers) |
| 14:00 – 15:00 | Evaluation of disaster management exercises – basics & possible approaches | Presentation and discussion |
| 15:00 – 15:20 | Coffee break | |
| 15:20 – 15:45 | Defined goals of the evaluation in "XY" | Presentation (Lead Evaluator) |
| 15:45 – 17:45 | Definition of focal points of DBX and FSX evaluation | Moderated discussion |
| 17:45 – 18:30 | Organizational aspects of evaluation activity (DBX & FSX) | Presentation and discussion |
| 18:30 | Dinner | |
| 20:00 | Come together | |

**DAY 2**

| Time | Content | Mode |
|---|---|---|
| 8:00 – 10:00 | **Adjustment of evaluation methodology (DBX)** | **Working Groups** |
| 10:00 – 10:20 | Coffee break | |
| 10:20 – 12:30 | Development/Discussion of evaluation documentation (DBX) | Working Groups |

| 12:30 – 13:30 | Lunch | |
| --- | --- | --- |
| 13:30 – 15:00 | Adjustment of evaluation methodology (FSX) | Working Groups |
| 15:00 – 15:20 | Coffee break | |
| 15:20 – 17:00 | Development of evaluation documentation (FSX) | Working Groups |
| 17:00 – 18.30 | Finalization of DBX evaluation procedure | Moderated discussion |
| 18:30 | Dinner | |
| 20:00 | Come together / Final preparation for DBX evaluation | |

## 5.2 Evaluation preparation checklist (Self reflection; Organization & Logistics)

**Basic questions for evaluators to recapitulate during the exercise project:**

> ➢ What is my impact on the project consortium / exercise participants?
>
> ➢ What can I do for not interfering with the exercise project flow?
>
> ➢ How can I assure to collect the most relevant information for quality management purposes?
>
> ➢ How is the role of the evaluator envisaged in the project and the exercise, and how is it actually perceived from the stakeholders?

**Checklist for Organization and Logistics:**

**During preparation phase:**
- ☐ Recruiting (Terms of Reference, CVs)
- ☐ Travel (location, date/time) for Eval WS / exercise(s)
- ☐ Board and Lodging (booking) for Eval WS / exercise(s)
- ☐ Transport on site
- ☐ Non-Disclosure Agreements
- ☐ Service Contracts
- ☐ Plans, procedures, agreements, and other relevant documents

**During Evaluation Workshop:**
- ☐ General information about exercise (scenario, scope, schedule)
- ☐ Objectives (KPIs, specific aims, etc.)
- ☐ Role definition
- ☐ Responsibilities & Rights
- ☐ Safety and Security Regulations
- ☐ Site Specific Information
- ☐ Communication infrastructure
- ☐ Communication rules
- ☐ General infrastructure during exercise (e.g. evaluation meeting room, beamer, flipchart(s), presentation case)
- ☐ Allocation of evaluators (sites / activities)