USING TTX AS AN EDUCATIONAL TOOL IN THE FIELD OF INTEGRATED DEFENCE RESOURCE MANAGEMENT

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The article deals with specific aspects of specialized military education, for the field of integrated management of defence resources. Particularities of a suitable educational tool in the field of security culture formation are presented through a flexible, less formalized character, from a procedural point of view. It is chosen as applicability, the field of defence resources, in a broad sense, emphasizing the need to pay more attention to the specific topics of preparing the national economy and the territory for defence. The research methods chosen as appropriate for this article are documentary analysis and case study. The main objective assumed by the group of authors is to support/reiterate the applicability of table top exercise in the field of military management.

Keywords: table top exercise; education; security culture; defence resources; management;

INTRODUCTION REGARDING THE TOPICALITY OF THE PROPOSED THEME

With the outbreak of the conflict in Ukraine, the specific problems of ensuring the resources of a complex war effort have returned to the present day, concrete examples in this regard being provided by the practice of military action by both belligerent parties. Complementarily, at the NATO level too, operational concepts related to military mobility, the transition to the war economy, resilience, public goods and public policies in the field of security, the relationship between the national economic capacity and military strategic framework, force generation and regeneration, new force management models etc. have been revitalised.

The management of resources for defence thus demonstrates its actuality, necessity and usefulness, the issue of interest stated before being largely subsumed, explicitly or implicitly, under this sector of activity. By the way, changing the discussion register at the national level, it is clearly stipulated in the defence planning documents, which also constitutes an argument for considering the management of defence resources in a much more comprehensive manner, the fact that: *"Integrated management of resources for defence is also achieved by maintaining an active link with the other structures in the national defence system, public order and national security or with responsibilities/tasks regarding national defence, both for the elaboration/application of operational plans and the use of forces, as well as for the establishment of non-military and production capabilities"*. (Ministry of National Defence, 2021, pp. 41-42).

It thus becomes imperative that the future officer (who is in the stage of training at the bachelor's level) has the minimum knowledge necessary to understand some fundamentals of the problem of resource management for defence, in peacetime as well as in wartime. Of course, it is necessary to have continuity in this sense at the level of the other career courses, correlated to their specifics. Subjects such as mobilization reserves, defence industry, institutional attributions in the management of different states of national security (crisis, emergency, war etc.), defence capabilities, requisitions are necessary to be part of the knowledge baggage of any officer, at different levels of detail, corresponding to the level

and type of training completed. The human resources management, a component of the integrated management of defence resources and one of the directions of action of this sector of activity, stipulated in the same programmatic document cited above, is defined as follows: *"The management of the military educational system will follow the change of the training paradigm, by directing the resources towards the training and professional development of leaders, warfighters and specialists capable of achieving success in a constantly changing operational environment, having the professional skills necessary to carry out missions now and in the future".* (Ib., p. 44).

The role of human resources in the integrated management of resources for defence must be seen in a broad framework, through the inter-conditions that occur both at the level of the processes and at the institutional level, of the organizational structures with attributions in different functional areas, institutions that finally compete to obtain a desired state. A useful approach in this sense is the systemic one *(figure 1)* in which we find both the practical component of the human resource activity in obtaining operational capability but also the one related to the skills needed by people in organizations, obtained starting from the training process.

We are talking in this framework of different generations in terms of expectations and perceptions regarding security, including motivation for the military career, for which a different educational paradigm is also needed in a complicated geopolitical context. How do we achieve the educational objectives assumed by the educational plans so that the graduate can cope with this reality as best as possible? How do we approach a balance between critical thinking and standard models or procedures for action? How do we reconcile the relationship between profession and occupation? These are legitimate questions, the solution of which leads to obtaining an educational profile adapted to contemporary reality, in which the security culture itself is in an increasingly accentuated dynamic. The means of cultivating the security culture are diversifying, both as a normal trend (the development of society itself) but also under the action of some influencing factors (also promoted by the development of IT technology means). There is a need for the future graduate to be exposed to diverse training contexts, situations and subjects in which, for their solution, they can use various means, tools etc. They include *table top exercise* (TTX will be used).
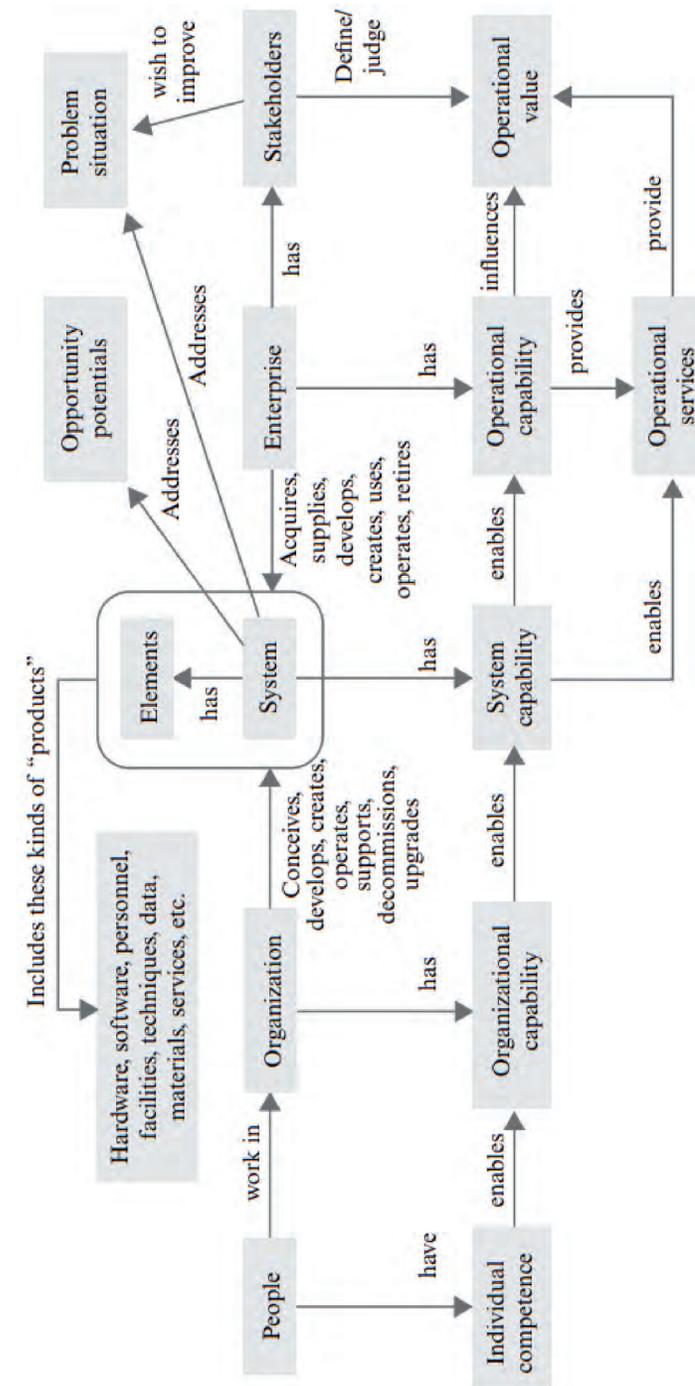

Figure 1: Conceptual model of systemic approach to human resource as activities and training
(INCOSE SHE, 2023, p. 242)

CONCEPTUAL AND PRACTICAL FOUNDATIONS OF TRAINING USING TTX

In national educational practice it can be appreciated that TTX is less used if we refer to and consider the USA as an example of good practice, where it is used for training, especially for the security of critical infrastructures (for example, Federal Emergency Management Agency/FEMA), both in the military and in the civilian environment. Remarkable approaches at the national level are recorded through the efforts of institutions such as the New Strategy Center, the Center for the Study of New Generation Warfare and the Euro-Atlantic Center for Resilience. The involvement of the latter in the organization and deployment of TTX for crisis management with urban public administrations as training target and its involvement in collaborations with both civilian and military academic environments is auspicious. Looking at the topicality of the educational method, it is noted that (Švábenský, 2024, p. 1): *"tabletop exercises are an innovative teaching method used in practice for training teams in incident response and evaluation of contingency plans. However, tabletop exercises are not yet widely established in university education"*.

As a scope, TTX has a wide area of applicability and *"is intended to generate discussion and can be used to enhance general awareness, validate plans and procedures, assess the types of systems needed to guide the prevention of, protection from, mitigation of, response to, and recovery from a defined incident as well as to facilitate conceptual understanding, identifying strengths and areas for improvement, and/or achieving changes in perceptions"* (Sukhodolia, 2018, p. 121). For educational purposes in particular, the properties regarding the facilitation of awareness of some aspects of interest of a situation from the security and defence plan, in our case, should be noted, as well as regarding the way of understanding and perception of some phenomena, processes etc. The research team coordinated by Amélie Frégeau (2020, p. 1) emphasizes for the medical field the informal character of this type of training: *"TTX is a facilitated group discussion that simulates an emergency situation in an informal, stress-free environment, sometimes using a board game format, and aims to strengthen readiness to manage a health emergency"*.

Approached as a separate category of simulation, *"TTXs are a type of relatively low-fidelity simulation involving human participants, where participants are presented with a situation or world state in each turn of play, whereby they can deliberate and test various ideas of how to best deal with the situation with minimal effort or consequence (e.g., a TTX of how to respond to a wildfire is cheaper and safer than actually starting and putting out a wildfire for training purposes)"* (Dorton et al, 2023, p. 3).

From a military perspective, similarities to wargaming and suitability to training objectives and training target characteristics are brought into focus: *"A Table-Top Exercise (TTX) is a type of wargame analysis, but with a softer name that is more widely accepted within civilian circles. It is an organizational framework that helps implement institution's capacity and capability building goals. The choice of the education and training framework depends on the training objective and trainees' characteristics"*. (NATO STRATCOM COE, 2022, p. 6).

In the dynamics of the actual development of TTX, the injections are very important, as a means to see the reactions of the participants and to evaluate the level of achievement of the objectives, based on the decisions made and the interventions produced. By injection we mean (European Commission, Joint Research Centre, Dirginčius et al., 2024, p. 9) *"a short event story used to bring an incident to the players' attention for whom it was created (and from whom a reaction is expected). In other words, it is an incident with relatively small and local consequences that demands reaction from a selected part of the participants"*.

CASE STUDY ON THE USE OF TTX IN HIGHER MILITARY EDUCATION

The case study proposed for presentation is based on the military educational reality. More precisely, within the study course, *Preparing the national economy and the territory for defence*, included in the curriculum of the Land Forces Academy, the last seminar class is allocated to an integrative seminar that takes place during the 90-minute time allocated to the respective didactic activity, with each seminar group. For two of the student groups, it was decided to carry out a mini TTX, after having been told about the particularities of the TTX exercise, during the lecture, while presenting the educational ways of preparing the population for action in security risk situations. The students were divided into groups *(figure 2)* representing different institutions with a role in security and defence management, institutions which exist, at local level, in Sibiu.

The scenario they were exposed to is set out below.

On 08/05/2024, the residents of Sibiu were informed (at 15:31) by the Roalert system about the imminence (starting at 16:00) of a storm, with massive waterfalls and hail in some places, with the manifestation of stormy phenomena. In the city of Sibiu, the final of the Romanian football cup is being held at the municipal stadium, expected to end at 4:30 p.m. A group of foreign citizens are protesting in the Sub Arini Park area about the employer's non-compliance with the assumed contractual

clauses and the support of the totalitarian regime in power in the country of origin. A military equipment convoy is stationed near the Sibiu airport, waiting for an aircraft from Warsaw to land, in order to take over a company of Romanian soldiers who will move to Cincu starting at 5:00 p.m. As a result of the prolonged drought and the high temperatures recorded during this period, the vegetation is dry and the effectives of the ISU (the General Inspectorate for Emergency Situations), the county hospital and the Sibiu garrison, ensure water supply and medical assistance in the main areas of the city and in the neighbouring areas of Şelimbăr*,* Şura Mică*, Poplaca. The water levels of the Gura Râului dam are at the lower limit, as deficiencies (interruptions) in the supply of water to the water operator have been announced. The county prefect called the meeting of the committee for emergency situations at 4:00 p.m.*
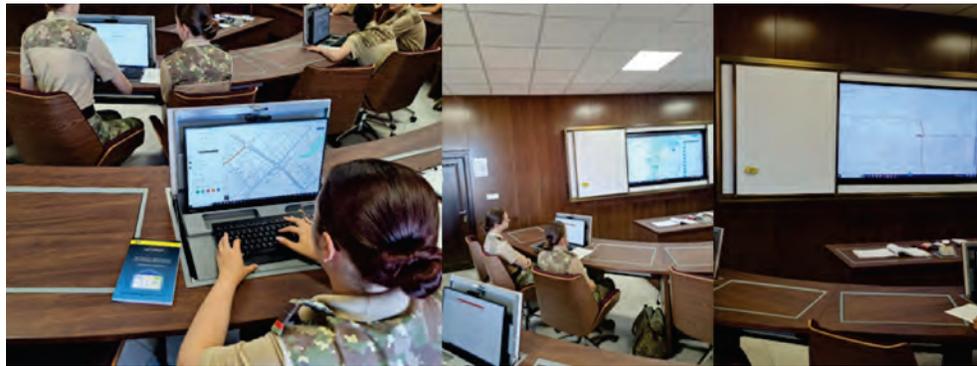

Figure 2: Images from the mini TTX exercise

The list of incidents that were played included:

1. *At 4:05 p.m., possibly due to the failure of some electrical transformers, an interruption of the electricity supply is observed in the area of the streets Revoluției, Dumbrăvii, Mihai Viteazu.*

2. *At the end of the football match, altercations started between a group of supporters and a group of demonstrators in the area of Hotel Sport. A gas pipeline in the area is heavily damaged.*

3. *The movement of the military convoy (approximately 12 technical vehicles accompanied by a military-police vehicle) from the airport begins (17.15). Groups of supporters blocked the roundabout near Ibis hotel.*

4. *The mayor of the commune of Poplaca, considering the damage caused by the storm, requests (19.00) the supply of essential products.*

As a procedure, after each incident, the working groups had 10 minutes to assess the situation and 10 minutes (all groups) to intervene and present a decision regarding the created situation. During the 10 minutes of analysis, they discussed and a member of the team prepared and shared on a PowerPoint presentation, the main ideas for discussion identified. As can be seen in *figure 2*, to identify the possible implications that different actions would have (and implicitly with the need for decision-making reaction), the cadet groups playing the role of security, defence, public order and national security institutions had the possibility of analysis using software like *Google Maps*, which also facilitates the creation of an overview of the area in question. In the preparation of the activities, prior to the TTX, the students were told that the area played would be the city of Sibiu and neighbouring areas. They were also asked, after establishing the group responsibilities (the institutions played), to document themselves regarding the powers and mode of action in the respective institutions.

The main observations noted by the coordinating teacher and students following the exercise were:

- the cadets' feedback was positive, being the first time (the first iteration) when they were exposed to such a training method, a fact ascertained during the deployment through their involvement and cooperation between teams and within the team;
- a classic hall (with a horizontal layout) is needed, the hall in which it took place being a mini-amphitheatre (with a semi-circular, tiered arrangement of tables), which obstructed group discussions and interaction with the other teams;
- certain operational sequences within the exercise exceed the level of knowledge possessed by the cadets, which can be remedied by more appropriate elaboration of the scenario and incidents or combining the teams, with officers participating in career courses organized in the same institution;
- a larger amount of time is required for deployment;
- for a more adequate immersion in the scenario, more audio-video means can be involved (e.g., reports, news etc.);
- being played with two groups, separately, it was possible to make comparative assessments regarding the interventions, team spirit, relevance of the proposed solutions etc.;
- there is also the option of conducting a TTX in parallel with other types of training exercises, with divided training objectives, conceptually subsumed

under a framework objective (it can be connected with training through virtual or constructive simulation);

- such a format can be replicated, adapted to the level of intellectual maturity of the students, both for groups of master's students from military academies and within the summer schools of military academies, or even in a military-civilian format with representatives of local public and private institutions, clearly correlated with the assumed training objectives;
- useful for training in a multinational framework is the POSEIDON/ Platform-based Operational System Events and Injects Distribution Online platform *(figure 3)* developed at the EU/Joint Research Center level for the management of training exercises, suitable for Erasmus type partnerships with military or civilian universities from Europe.
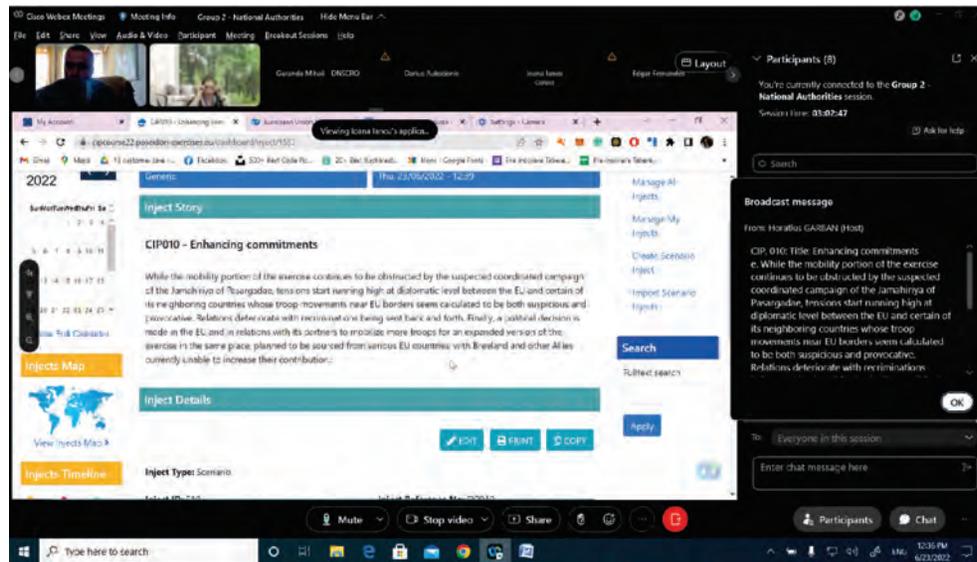

Figure 3: Use of the POSEIDON platform for TTX in the field of critical infrastructure protection
(generated during participation in an exercise)

CONCLUSIONS

The proposed educational tool is applicable in the field of integrated management of resources for defence, in the sense and context of those exposed, with differentiations, depending on the training target. Compared to other, much more formalized formats, it stimulates critical thinking. It is also suitable to use in the educational field to encourage teamwork, interaction and harmonization of ideas, especially useful for complex fields such as defence resources. Regardless

of how it is regulated at the international level (national guard, territorial forces etc.), the effort to augment the forces, means and processes specific to security and defence as well as the role of these types of structures in the management of crisis situations is increasingly important. In this sense, considering the decision-making specifics (the need for collaborative action) and the resources involved, it appears useful to replicate such situations, at levels appropriate to the training objectives, in the educational processes specific to military education, the tool presented having a flexible margin of applicability.

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