

**REQUIREMENTS FOR THE ENVIRONMENTAL
PROTECTION OFFICER OF THE UKRAINIAN ARMED FORCES
IN VIEW OF NATO GUIDANCE DOCUMENTS**

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Abstract. Military impact on the environment can be defined as two components: 1) impact on the environment in time of daily activities during the training of troops and 2) impact on the environment during the combat operation. In the Armed Forces of Ukraine, to some extent, environmental security measures are implemented only during daily operations in peacetime. As for taking into account the impact of fighting on the environment in time of planning combat operations, this issue is usually not even raised in their preparation.

On the other hand, NATO member states understand that military operations can be inherently destructive to human health and the environment.

Therefore, this study was conducted to determine the educational requirements for commanders, especially for officers who provide environmental protection in the Armed Forces of Ukraine, based on NATO regulations and the experience of Allies.

The article considers how environmental issues are integrated into the military operation at each stage: planning, pre-deployment, deployment (execution and force rotation), redeployment, and post-deployment. The main tasks of environmental officers at each stage of the operation are defined.

Based on the tasks solved by officers, the requirements for their education are formed, the subjects studied by US environmental officers are considered.

Key words: environmental protection; military activity; NATO documents; environmental protection officer.

1. Introduction

Military impact on the environment can be defined as two components: 1) impact on the environment during daily activities in time of troops training and 2) impact

on the environment during combat operation. In the Armed Forces of Ukraine, to some extent, environmental safety measures are implemented only during daily activities in peacetime. As for taking into account the impact of fighting on the environment when planning combat operations, such a question is not even raised in their preparation.

Unlike Ukraine, NATO member states understand that military operations, by their very nature, may be destructive to human and environmental health. When the aim of an operation is to apply combat power to meet strategic objectives, environmental impacts will be inevitable. However, even in high-intensity combat operations, environmental protection should be considered. The goal of military environmental protection (EP) is to prevent or mitigate the adverse effects of military activities by adopting suitable practices and procedures.

Ukrainian intention to be the member of European Union and NATO, fixed in its constitution, is reflected in the military sphere too. Recently Ukraine has adopted a number of NATO standards, including those related to environmental protection (STANAG 7141 2018, STANAG 2582 2018, STANAG 2583 2017, STANAG 2510 2012, STANAG 6500 2015 and STANAG 2594 2015). The main document (STANAG 7141 2018, p. 13) announces that: “while meeting their military mission, NATO Forces should be committed to taking all reasonably achievable measures to protect the environment. To achieve this, commanders must know how NATO-led military activities affect and are affected by the environment. [...] To implement this doctrine,

NATO commanders should ensure environmental risk management is integrated into the overall planning for military activities. The risks associated with efforts to protect the environment should therefore be considered separately prior to, during and after military activities”.

The aim of this paper is to determine the requirements for commanders, and especially for officers providing environmental protection in the Ukrainian armed forces based on NATO regulatory documents. These requirements can be used in the development of training programs for cadets in military educational institutions of Ukraine.

2. Setting the task and its solution

In NATO member states, the issue of environmental protection in the armed forces is considered quite widely, for example (Environmental guidebook for military operations 2008, FM 3-100.4 2000, AR 200-1 2007 et al.). Using their methodology, we will try to determine requirements for environmental protection officer of the Ukrainian armed forces in view of modern NATO guidance documents.

Military operations present unique challenges that are not typically associated with peacetime domestic routines or training activities. Although operational requirements are paramount, the integration of environmental considerations into all aspects of operational planning, training, and execution is essential for maintaining the health and well-being of the

deployed troops and the local population. In addition, early environmental planning and continuous risk management are critical for preventing irreparable damage to sites with natural, cultural, and historic significance which degrade or complicate the overall achievement of mission objectives. Most military operations are characterized by generally recognized phases of varying duration depending on their nature, intensity, and complexity. In broad terms, these phases may be defined as planning, pre-deployment, deployment (execution and rotation of forces), redeployment, and post-deployment (Fig. 1) (Environmental guidebook for military operations, 2008).

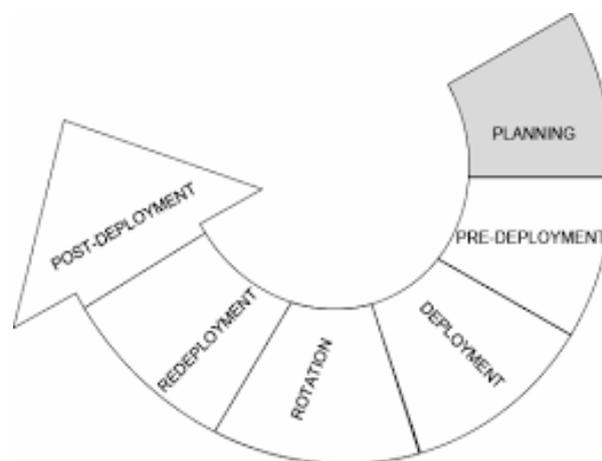


Fig. 1. Life cycle of military operations (Environmental guidebook for military operations 2008)

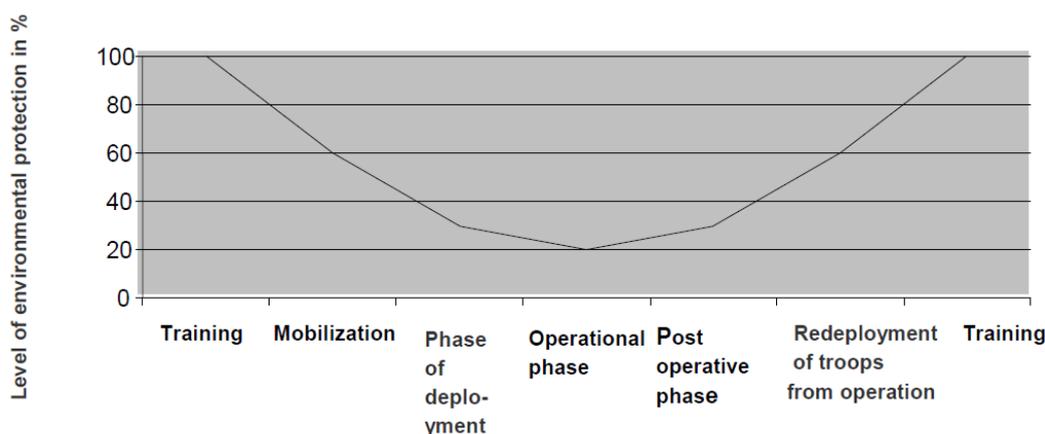


Fig. 2. The degree of environmental protection in the phases of the operation (FM 3-100.4 2000)

Environmental issues must be integrated into operational planning. The rate of inclusion of environmental considerations into operational planning will depend on the maturity of the commanders, planners and logisticians. It will, however, vary depending on the tasks performed at each stage of the operation (Komár, A., et al. 2013). In some armies, such as NATO's main strike force – US Army, this fact is

enshrined in military regulations, as we can see in Fig. 2 (FM 3-100.4 2000).

Consider the life cycle stages of military operations from the environmental protection (EP) point of view (Environmental guidebook for military operations 2008).

Operational Planning. Once the political and military decision has been made to participate in a

military operation, environmental considerations should be incorporated into each phase of the planning process. The requirement for good, reliable information early in the planning process reinforces the value of feedback on environmental issues from previous operations in the form of lessons identified or lessons learned. In addition, information may be gathered from a variety of other sources, including:

- Geographic information systems (GIS) data;
- Legal documents: applicable international agreements, environmental laws of the troops-contributing states (host states), etc.;
- Data obtained in cooperation with non-governmental organizations, governmental environmental authorities of the host countries or environmental experts, civil-military cooperation groups, etc.;
- Open source data available on the internet, in newspapers, etc.;
- Intelligence assets.

Incidents during recent operations reinforce the importance of integrating environmental considerations as early as possible in the operational planning process.

(STANAG 2583 2017) represent an environmental management system (EMS) like a systematic management approaches that enable NATO commanders to improve

environmental performance, achieve established environmental objectives and monitor conformity during a NATO military activity. This includes identifying environmental aspects pertaining to the mission and reducing adverse environmental impacts of military activities. The identification of potential environmental impacts as early as possible in the planning process will ensure the effective development of mitigation and control measures.

NATO commanders are supported by environmental officers in all aspects of an EMS. In the US Army, an environmental officer/environmental compliance coordinator is determined as an individual assigned to an organization or unit to accomplish environmental requirements on behalf of the commander, director, or supervisor. The designated person also coordinates with the supporting chain of command or base camp environmental staff for the clarification of requirements and assistance. The commander determines organizational levels and the required grade suitable for environmental officers. Environmental officers are generally required at battalion, squadron, and unit (company, battery, or platoon) level depending on the task performed by the unit (AR 200-1 2007).

Table 1

Potential tasks of EP officers in OPP

NATO OPP phase			
Phase 1	Phase 2-3	Phase 4	Phase 5-6
Initial situational awareness of potential or actual crisis	Operational assessment of the strategic environment and operational estimation	Operational plan development	Execution and transition
Tasks of the EP officer			
Participate in the planning team. Develop environmental intelligence products with other subject-matter experts. Research local environmental regulations, standards and practices.	Provide ongoing EP advice and support to planning team. Identify potential environmental aspects and impacts of the mission.	Participate in reconnaissance and establish contact with host nation EP personnel. Conduct environmental impact assessments. Confirm environmental aspects and impacts. Provide mission-specific EP education and training.	Conduct environmental studies and reports. Prepare EP products. Continue to communicate and assess EP plan. Establish, review and monitor EMS. Advise and assist in hand over or closure.

To understand how the EMS is to be integrated into the NATO operations planning process (OPP), the EP officer must first clearly understand the OPP, so have a military education of the required level. The tasks of the EP officer will vary not only at each phase of the NATO OPP but also depending on the level of the organization (strategic, operational or tactical). Strong communication between the EP officers at the various levels will be important to the success of an EMS. Table 1 provides some of the potential tasks of

the EP officer during each phase at the operational level (STANAG 2583 2017).

Pre-deployment. This stage involves the troop's placement in a camp, their mobilization and training. As the Fig. 2 shows, the greatest emphasis on environmental protection and planning is given in the initial phases including pre-deployment. Preliminary surveys should be undertaken prior to troop mobilization and training to further document and assess the initial site conditions with respect to health and environmental

considerations. Site surveys should, to the extent practicable, be scientifically valid and defensible (Environmental guidebook for military operations 2008).

Organizing camp, guided by (STANAG 2582 2018), the EP officer must solve the following issues:

- Infrastructure planning. Ensure that military engineers are advised on the implementation of environmental aspects, relative to infrastructure planning, throughout all stages of an operation;

- Energy management. Optimizing the energy consumption whilst maintaining or improving mission performance;

- Water and wastewater management. Identifying potential sources of pollution generated in a mission location and taking preventive measures to ensure they do not reach the environment as wastewater without adequate treatment. Ensuring that hazardous materials (HAZMAT) are properly managed to prevent such materials from reaching wastewater systems. Ensuring effective wastewater treatment;

- Waste management. Implementing best waste management measures to proactively ensure the health and safety of NATO-led forces and to minimize adverse environmental impacts, while respecting host nation laws in accordance with NATO environmental protection policy;

- Providing advice on training forces on environmentally safe methods of operating and maintaining fuelling systems, and systems for handling environmentally hazardous substances; advising on spill response planning, providing recommendations on techniques and methods to prevent spills; developing a soil and water monitoring program that includes descriptions of the sampling locations; need analysis; keeping records of spill sites, the response and remediation that were undertaken and advising on methods for remediation of polluted soil and water;

- HAZMAT management. Taking all measures to mitigate the potential of the release of hazardous materials, including pesticides, heavy metals, ozone-depleting substances, to the environment; raising awareness in personnel of their environmental responsibilities using a wide range of media such as briefings, seminars, posters, courses, etc.

- Air pollution. Identifying potential sources of undesirable air emissions and suggesting appropriate corrective measures; monitoring air emissions caused by military operations; advising commanders on the impact of air emissions on the environment and proposing mitigating measures to reduce undesirable air emissions from military operations;

- Natural resources protection. Identifying natural resources, which if impacted by military activities, could

affect the operation; identifying natural resources that could be affected by the operation; recommending mitigating measures for natural resources protection; educating personnel on natural resources protection and monitoring effectiveness of mitigating measures;

- Cultural property protection. Providing or seeking advice on cultural property protection (CPP), including the applicability and responsibility under the 1954 Hague Convention and its two Protocols; ensuring that CPP aspects are considered during the completion of the environmental baseline study; obtaining the lists of cultural sites and repositories to be used in locating of camps, installations, infrastructure and preparation of areas for on-the-ground military activity; avoiding/minimizing damage due to mission requirements and considering the mission capability to address local concerns about cultural property and the impact the construction of bases and other installations and infrastructure will have on the area.

Another important component of pre-deployment is mobilization and training. Training land is the “classroom” for soldiers where they are taught how to fight, survive and win a battle, so a very important environmental support function is to provide training land for realistic and effective sustainable military training. Sustainability of military training areas is used to refer to the ability to continuously use these areas for realistic military training by taking into consideration environmental issues. (STANAG 2594 2015) suggest the best environmental protection practices for sustainability of military training areas.

Military training can have a variety of impacts on the environment. Objectives of EP officer actions include the following:

- Protection and control of water bodies – minimizing the risks of pollution, soil erosion and flooding;

- Avoidance of noise and vibration – minimizing disturbance caused by noise and vibration;

- Protection of geology and soils – identifying, reducing, managing and mitigating the introduction of threats to the soil that can reduce soil extent, diversity or quality;

- Conservation of biodiversity and nature – seeking to protect habitats and species and promote opportunities to enhance and conserve wildlife.

Military training and exercise activities may not always be compatible with maintaining biodiversity, and the aforementioned objectives may affect the use of military training area. In these instances, mitigation should be pursued, if possible, with impact minimization as the goal. It should be noted that military preparedness must not be compromised in this process (STANAG 2594 2015).

• *Deployment.* In terms of environmental protection, the term “deployment” entails all activities during the physical execution of the mission in the area of operations (Environmental guidebook for military operations 2008). It is clear that during warfare the environmental protection officer's role is significantly narrowed. The main tasks he should solve are:

- Serve as the primary point of contact for environmental matters;
- Manage the development, evaluation (audits);
- Plan staff environment, decisions and actions through other key command and staff members, as well as other troop-contributing nations, and coordinate monitoring, evaluation, assessment, and review.

Rotation of forces and redeployment. This stage means either the end of the mission on the territory of the host country or the transfer of this territory to another NATO member country. In this case, the “closure of the territory” is considered as transferring the territory from the nation whose troops conducted the operation, back to the country on whose territory the operation took place. “Transfer of territory” refers to the transfer of property from one NATO country (group of countries) to another. At this stage, the EP officer prepares and transmits to the host party the following information (Environmental guidebook for military operations 2008):

- Disposition of hazardous materials/waste (all hazardous material should be packed according to international standards and laws in approved containers and properly disposed or transferred);
- Disposition of solid waste (all solid waste should be collected and properly disposed);
- Disposition of reusable materials (all reusable materials should be collected and turned in through supply channels for reuse or recycling where possible);
- Termination of contracted services (contracts for services related to environmental management (waste management, water treatment, wastewater collection and treatment, etc.) should be terminated, and all equipment provided by contractors removed from the site and the area cleaned of any trash and hazardous materials);
- Closing waste disposal sites (disposal sites such as soakage pits, open latrines, solid waste pits and burn pits should be shut down, cleaned out when possible, or covered and marked);
- Closing petroleum, oils and lubricants areas;
- Conducting environmental site closure process.

Post-Deployment. This stage includes archiving important documents, reviewing operational environmental management, collecting lessons learned.

Acquainted with the tasks performed by the EP officer during the preparation and conduct of a combat operation in the armies of NATO countries, the question of his education arises. As an example, we can cite the requirements for the education of a US Army EP officer (Charpentier, W., 2020; Henderson. M., et al. 2015; Commanders guide to environmental requirements, 2017). Prerequisite requirements include college courses in chemistry, biology, and physics, knowledge required in the fields of environmental economics, environmental health management, environmental law and public policy development, risk assessment and risk communication. Every officer must complete in-depth study in at least four of the following technical areas and be exposed to a majority of the following topics: air quality control (indoor and outdoor); environmental chemistry; environmental epidemiology; environmental health planning (land use, transportation, energy, urban development and resource conservation); environmental microbiology; food protection; global environmental health (including population control); housing; hazardous materials; hydrogeology; industrial hygiene; injury prevention; institutional health (including infection control and infectious waste); noise control; occupational health and safety; radiation health (ionizing and non-ionizing); recreational environmental health; soils; solid waste management; vector control; wastewater; water quality and water supply.

It is worth noting that in the US Army, 41 % of environmental security officers have a bachelor's, 48 % have a master's, 7 % have a postgraduate, and 4 % have a scientific degree.

3. Conclusion

In the modern world, the environment plays an outstanding role. The advanced countries, including NATO states, realizing this, even in the conditions of military conflicts, try to take into account and limit the impact of conflicts on the environment when preparing and conducting military operations. NATO guidance documents are designed to achieve such results. The environmental protection officer plays an important role in the preparation of the environmental component in a combat operation.

Ukraine is moving towards an army close to NATO standards. The experience gained by NATO armies in environmental protection is very important, so the position of the environmental officer should be introduced in military units. This position already requires special education. Therefore, we would like to return the normative course “Fundamentals of Ecology” to military academies and universities and organize a selective course “Environmental Security of Troops” to

train in at least some of them. Another way is to provide the necessary military training for professional environmentalists and use them in the Armed Forces of Ukraine as environmental officers.

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