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THE ROLE AND POSITION OF GROUND FORCES AIR DEFENSE UNITS IN MODERN ARMED CONFLICTS

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Abstract. This article examines the changing role and institutional position of Ground Forces air defense units in contemporary armed conflicts. Drawing on recent official publications from Uzbekistan, international defense policy documents, and open analytical research published primarily between 2024 and 2026, the study explores how aerial threats affect force protection, operational continuity, military readiness, and coordination between services. A qualitative comparative review identifies recurring themes concerning the expansion of air defense responsibilities, information exchange, personnel education, resource sustainability, and civilian protection. The findings suggest that Ground Forces air defense units should be understood not simply as specialized weapons formations but as an essential component of broader defense governance and the protection of military activity. The article proposes priorities for professional education, institutional coordination, maintenance planning, and legally informed evaluation. The findings are interpretive rather than experimentally measured.
Keywords: Ground Forces, air defense units, modern armed conflicts, military readiness, force protection, joint coordination, defense governance, operational continuity.

Annotatsiya. Ushbu maqolada zamonaviy qurolli harakatlarda quruqlikdagi qo‘shinlar havo hujumidan mudofaa bo‘linmalarining roli va tizimdagi o‘rni o‘rganiladi. O‘zbekistonning so‘nggi rasmiy materiallari hamda xalqaro tahliliy manbalar asosida havo tahdidlarining qo‘shinlarni himoya qilish, jangovar tayyorgarlik, boshqaruv va idoralararo hamkorlikka ta’siri ko‘rib chiqiladi. Sifat jihatidan qiyosiy tahlil bo‘linmalar vazifalarining kengayishi, axborot almashinuvi, kadrlar tayyorlash va resurslar barqarorligi muhimligini ko‘rsatadi. Maqolada ta’lim, muvofiqlashtirish va huquqiy talablarni hisobga olgan baholash bo‘yicha umumiy tavsiyalar beriladi.
Kalit so‘zlar: Quruqlikdagi qo‘shinlar, havo hujumidan mudofaa, zamonaviy qurolli mojarolar, jangovar tayyorgarlik, qo‘shinlarni himoya qilish, hamkorlik, boshqaruv.

Аннотация. В статье рассматриваются роль и место подразделений противовоздушной обороны сухопутных войск в современных вооружённых конфликтах. На основе современных официальных материалов Узбекистана и международных аналитических публикаций анализируется значение воздушных угроз для защиты войск, боевой готовности, управления и межведомственного взаимодействия. Качественный сравнительный анализ выделяет расширение задач подразделений, обмен информацией, подготовку кадров и устойчивость ресурсного обеспечения. Предлагаются общие рекомендации по профессиональному обучению, координации и оценке с учётом правовых требований.

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Ключевые слова: Сухопутные войска, противовоздушная оборона, современные вооружённые конфликты, боевая готовность, защита войск, взаимодействие, управление.

Introduction

The character of contemporary armed conflict has increased the importance of defending ground formations against threats from the air. Aircraft, missiles, and unmanned aircraft systems now appear alongside rapidly changing information environments, creating persistent pressure on military mobility, logistics, command functions, and the protection of personnel. Consequently, the place of Ground Forces air defense units in military organizations cannot be assessed solely by counting equipment or considering isolated engagements. Their wider significance concerns the ability of ground formations to continue assigned activities under aerial threat [1, 2].

The North Atlantic Treaty Organization's 2025 policy describes air and missile defense as a continuous and integrated responsibility across peace, crisis, and conflict. It connects surveillance, management, active defense, and passive protection within a broader architecture [1]. The official Ukrainian Ground Forces description similarly presents air defense as an integral component of protecting military units and important facilities [3]. These sources establish the relevance of the topic, although their institutional settings differ from Uzbekistan's.

In Uzbekistan, official statements in 2025 and 2026 identify modern aerial threats and air defense development among defense modernization priorities [4, 5]. The research question is therefore: what principal organizational and strategic roles do Ground Forces air defense units perform in contemporary conflicts, and what institutional implications follow from recent public evidence? The objective is to provide a source-grounded, non-operational synthesis rather than tactical instructions or claims of measured battlefield performance.

Literature Review

International literature increasingly treats ground-based air defense as a system-level capability. The 2025 North Atlantic Treaty Organization policy identifies interoperability, preparedness, and integration across functions as central considerations [1]. Its emphasis is institutional: separate capabilities must contribute to a coherent defense structure. The International Institute for Strategic Studies analysis of Ukraine, published in February 2025, emphasizes resilience under sustained attacks while noting the practical burdens associated with mixed equipment inventories, maintenance, and training [2]. Together, these sources shift attention from individual platforms toward long-term organizational capacity.

The Royal United Services Institute's 2025 examination of developments during the third year of the Russia–Ukraine war records the continuing adaptation of both parties and highlights the need for armed forces to update their understanding of changing threats [6]. The official Ukrainian Ground Forces account characterizes its air defense branch as a component supporting troops during different phases of military activity [3]. These publications differ in method and purpose: one is a field-based analytical report, whereas the other is an institutional description. Neither should be read as independent statistical proof of particular protective outcomes.

Uzbek sources provide a distinct national perspective. A 2025 official defense-sector statement explicitly recognized the growing relevance of drones, counter-drone activity, and new air defense formations [4]. An August 2025 Ministry of Defense account described training intended to strengthen personnel skills and coordinated action [7]. A December 2025 account reported joint training

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involving Ground Forces air defense personnel and border troops [8]. In June 2026, the Presidential press service discussed transformation of air defense and military aviation, including professional personnel development [5]. These publications document declared priorities and training activity; they do not provide independently audited operational effectiveness figures.

The International Committee of the Red Cross contributes a necessary legal perspective. Its guidance explains that rules governing the conduct of hostilities and protection of civilians also apply to aerial warfare [9]. This literature is especially important because institutional assessments of air defense should consider legal compliance and civilian consequences alongside military readiness. The gap addressed by the present article is the limited integration, in accessible sources, of national modernization priorities, international organizational lessons, and humanitarian responsibilities into one comparative account of Ground Forces air defense.

Materials and Methods

The study employed a qualitative document-review design. Sources were selected according to four criteria: identifiable institutional authorship, relevance to Ground Forces or integrated air defense, publication or update dates suitable for examining current developments, and publicly accessible content. The reviewed material comprises Uzbek government and Ministry of Defense publications, international institutional policy, a defense research institute analysis, a field-based analytical report, and humanitarian-law guidance [1–9].

The analysis proceeded in three stages. First, documents were classified as policy, institutional reporting, analytical research, or legal guidance. Second, statements relevant to the role of Ground Forces air defense were coded into five broad categories: protection of ground activity; integration and coordination; education and adaptation; maintenance and resource continuity; and legal responsibility. Third, similarities and differences across source categories were compared to derive conceptual findings. No classified information, operational targeting data, combat simulations, interviews, or experimental trials were used.

Methodological limitations are substantial. Official reporting may emphasize institutional achievements, and conflict-specific lessons cannot automatically be generalized across national armed forces. Moreover, public reports rarely provide standardized, independently verified measures of defensive performance. Therefore, the results below describe patterns in published evidence, not quantified causal effects.

Results

The review identifies five interconnected roles. First, Ground Forces air defense units support force protection and continuity: their organizational value lies in helping military formations sustain essential functions despite aerial threats [1–3]. Second, they form a connecting element between ground formations and wider air defense institutions; shared situational understanding and compatible procedures are therefore relevant to effectiveness at the organizational level [1, 3].

Third, the literature associates contemporary air defense with continual professional adaptation. The evolving threat environment described by international researchers [6] and the emphasis on training in Uzbek official accounts [7, 8] both point to the importance of recurrent education. Fourth, resource sustainability matters: the International Institute for Strategic Studies identifies maintenance and training challenges in a diverse equipment environment [2]. Fifth, air defense activity carries legal and public-protection responsibilities that cannot be separated from professional standards [9].

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Table 1. Conceptual roles of Ground Forces air defense units identified in the reviewed literature

Role	Evidence-based interpretation	Institutional assessment focus
Protection of ground activity	Supports continuity of ground formations under aerial threat [1–3].	Continuity of essential functions
Coordination	Links ground forces with wider air defense governance [1, 3].	Inter-service communication quality
Professional adaptation	Training and institutional learning respond to changing threats [6–8].	Education and lessons-learned processes
Resource sustainability	Maintenance and mixed-system support can constrain readiness [2].	Lifecycle support and personnel capacity
Legal responsibility	Protection of civilians and lawful conduct remain relevant [9].	Compliance and accountability

The table indicates that the significance of these units is multidimensional. Their contribution is not limited to direct defensive action: it also includes organizational coordination, preparedness, support capacity, and accountable conduct. No ranking among these roles is justified by the available sources.

Discussion

The findings suggest a conceptual change in how Ground Forces air defense should be evaluated. Traditional equipment-centered descriptions remain useful but insufficient. Contemporary sources repeatedly link air defense to wider questions of operational continuity and institutional coordination [1–3]. This does not imply that any particular organizational structure is universally optimal; it means that evaluations should consider the relationship between specialist units and the formations they support.

A notable convergence appears between international research and Uzbek official reporting on the importance of learning. International analytical sources emphasize adaptation under changing conflict conditions [2, 6], while Uzbek publications describe modernization and recurring training as policy priorities [4, 5, 7, 8]. The convergence is thematic, not proof that the same procedures or outcomes apply in every country. National geography, organizational arrangements, procurement systems, and legal obligations may produce different requirements.

An additional distinction concerns the difference between readiness and observed effectiveness. Public accounts of exercises demonstrate that activities occurred, but do not by themselves establish how a unit would perform under all conflict conditions. Similarly, a policy document defines institutional aspirations rather than measured outcomes. Future academic work should therefore distinguish documentary evidence, expert interpretation, and independently validated performance

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data. At the same time, legal safeguards and civilian protection should be treated as substantive evaluation criteria rather than secondary issues [9].

Conclusion and Recommendations

Ground Forces air defense units occupy an important position in modern armed conflicts because they contribute to the protection and continuity of ground activity while connecting specialist defense functions to broader military institutions. The literature reviewed here indicates that their contemporary role encompasses coordination, personnel development, resource sustainability, and compliance with humanitarian obligations. The strongest conclusion is organizational rather than numerical: effective institutional evaluation requires a broader perspective than weapon inventories alone.

The study recommends strengthening academic and professional education on contemporary aerial threats; improving routine inter-service communication and institutional information-sharing standards; incorporating maintenance capacity and personnel sustainability into readiness reviews; systematically documenting lessons from training without overstating their results; and including legal compliance and civilian-protection considerations in education and oversight. For future research, comparative studies using transparent and ethically collected non-sensitive indicators could test these conceptual findings across different national settings.

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