

## A PERSPECTIVE ON MILITARY OPERATIONS IN THE URBAN ENVIRONMENT

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**Abstract:** *The current operational environment is increasingly complex, dynamic and unpredictable. Military actions vary in duration and intensity, but regardless of their type, they represent a major challenge to the participating forces due to the complexity of the environment and the operational context and the multitude of actors present in the area of operations. The last period also shows that military actions, contrary to the recommendations of military strategists, focus on inhabited areas and especially on urban areas that concentrate economic, political, military power and offer multiple opportunities, especially to forces in numerical and technological inferiority. The conduct of military operations in urban areas is a major challenge for all armies, regardless of their level and combat experience, and overburdens personnel beyond borders.*

**Keywords:** urban warfare, conflict, complexity, combat power

### 1. Introduction

Modern military operations are becoming increasingly complex and difficult to manage as the focus has shifted from destroying the adversary as quickly as possible to defeating his desire to fight, with minimal casualties on both sides and lower destruction of infrastructure and collateral damage. Of all the types of military operations, urban operations are the most complex, as particularly intense combat operations take place in a very restrictive environment, where forces must find optimal methods of action and, at the same time, protect the civilian population and reduce damage to urban infrastructure essential for population survival. In order for military operations in urban areas to be successful, it is necessary to understand the environment of confrontation and to adapt the mode of action to the particularities of this environment. Moreover, due to the

rapid pace of urbanization, a confrontation in the urban environment becomes inevitable, as inferior combatants will take refuge in localities as they allow them to hide among civilians, offer them some protection and eliminate the direct effects of forces and means asymmetry.

### 2. Fundamental aspects regarding the military operations carried out in the urban environment

From the analysis of the conflicts that have taken place in recent centuries, it can be seen that they are concentrated towards populated areas, and in the 21st century, it is observed that for the first time in history, the number of people living in urban areas has become higher than that of people living in rural areas, which means that the following conflicts are very likely to take place in urban areas. The advance of urbanization was quite fast, so that in 1950

less than 30% of the world's population lived in urban areas, and in 2010 over 50% of the population was concentrated in these areas. According to forecasts, the growth rate of the urban population will continue in the next period, reaching in 2050 the situation in which about 70% of the world's population will live in urban areas, the evolution of which will manifest more intensely in Africa and Asia [1]. In general, urbanization has positive effects, as it leads to the development and increase of living standards, but from a military point of view it increases the possibilities of non-state actors to impose themselves locally or regionally, taking advantage of the opportunities offered by the urban environment and of modern technology.

Military theorists, following the example of military operations in urban areas during World War II, but also after it, recommend avoiding cities due to the high complexity and high risk of military action in these conditions. However, the reality contradicts these views, as terrorist and insurgent groups, aware of their own possibilities and of the advantages that cities offer, will focus their attention on them. Lately, more and more military actions are being carried out in urban areas, because this is where the elements of leadership and economic, military and political objectives are concentrated, the effects of military actions are more intense, it is easier for the attacking forces to hide and to attack by surprise, etc. All these actions have an extremely high cost for the civilian population which is exposed to high risks, whose way of life is disrupted and which thus becomes, independently of its will in many cases, an active party to the conflict. Also in cities, in addition to the civilian population, state authorities and institutions, humanitarian organizations, terrorist or insurgent groups, we also find many criminal organizations that, for the most part, have their own agenda and pursue their own interests, independently or in collaboration with one of the parties to

the conflict, which makes actions aimed at defeating terrorist or insurgent movements and subsequently controlling the area very difficult.

Due to the interconnection of urban services and facilities, the destruction, deterioration or disruption of an element of urban infrastructure has significant effects, which are manifested in a cascade and which are extremely difficult to manage [2] even for legitimate authorities in peacetime. This becomes almost impossible in times of conflict, when resources are limited and threats are multiple and continuous.

Taking into account the characteristics of urban areas, the fact that they represent centers of gravity and key points, both due to their geographical position and political, economic, administrative functions, we can say that they will be the scene of future confrontations that can cover the full spectrum of armed confrontations, from high-intensity conflict to low-intensity armed confrontations, from counter-insurgency actions to stabilization and reconstruction actions [3]. Many times, as history has shown, the engagement of the fight in an urban area is not dictated by military reasoning, but by political decisions or even related to the symbolism of the city or the propaganda potential of such an action. Regardless of the predominant type of military action and the pace of action, human, material and other costs for the participating forces will be very high, leading to situations where available forces will be insufficient, in which case the emphasis will be on controlling key points, communication nodes, critical infrastructures, etc.

For the regular armed forces, carrying out military actions in localities is extremely costly, both in terms of the amount of resources required, the number of soldiers involved and the potential number of military and civilian casualties. To this are added the indirect costs related to the restoration of the infrastructure and the maintenance of the essential services for the

population living in the area. Moreover, it can be seen that cities reduce the differences in military potential of combatants and partially neutralize technological advantages. However, states are working to adapt their armed forces to meet the challenges posed by the urban environment, both structurally, functionally and in terms of the weapons and means of combat used. For example, some states have developed individual weapons systems adapted to fighting in urban areas, which offer the possibility of observing and executing fire around the corner of buildings, use adapted means of communication, use drones to gather information and even hit targets, have introduced kits for tanks and combat vehicles specially designed for the urban environment, increased the use of combat helicopters to support ground actions, to introduce forces into combat, etc.

From an operational point of view, the units carrying out actions in the urban environment must have a modular, flexible, adaptable to the context structure, being organized as joint combat groups, specially trained and equipped, with a high degree of interoperability, coordinated by flexible control structures. Greater attention must also be paid to the preparation of combat units, both in terms of techniques, tactics and action procedures, and in terms of compliance with the rules of employment, the rules of international humanitarian law, but also from the perspective of understanding local cultural and religious specifics. The military must be prepared to carry out high-risk military actions, in environments of high complexity, in which combatant groups, the civilian population, humanitarian organizations, etc. intertwine. Fighting in the urban environment is the most destructive form of struggle imaginable [4] because the characteristics of cities, the complexity of systems that ensure the proper conduct of economic activities and those of the population, but also the fact that armies are not prepared for

this type of confrontation, in which the destructive effect of weapons is amplified, overloads both the army and civilians and causes considerable human and material losses, involves a high consumption of resources and offers small tactical gains with almost non-existent impact at the strategic level. Any success in the fight in the urban environment has behind it unimaginable destruction, the deep suffering of the population and significant losses among the military participating in the operation. The experience of previous confrontations in the urban environment shows that gaining full control over a city is impossible, even if it is reduced to a state of ruin due to military action. We could even say that the city itself is a real ecosystem, and any brutal intervention at its level produces cascading effects, difficult to anticipate and manage, and the damage is often irreversible.

### **3. The need to understand the confrontation environment for the success of operations in the urban environment**

The biggest challenges during military operations in urban areas are, in the opinion of experts, the complete understanding of the environment and the understanding of how to approach this complex environment [5]. Understanding the urban environment is extremely difficult to achieve due to its complexity, due to the many actors who act or carry out their daily activity in the area, due to the unique combination of economic, social, political, cultural factors, etc. which directs the development of the city and due to the dependencies and interconnections between the different systems that make up the city. No operation is similar to another in the urban environment, and the actions are differentiated in very narrow spatio-temporal horizons, being necessary an adaptation of the mode of action, of the tactical approaches and not only at short intervals of time and with some relatively low distances. A defining element in urban

operations is, in our opinion, the presence of the civilian population and the way in which it relates to ongoing actions and its own forces. Regardless of the attitude of the population, the armed forces must protect them from unnecessary suffering, ensure the minimum necessary for their survival and minimize collateral losses.

The complexity of this environment raises a number of questions for military commanders and planners, who find themselves in the situation of deciding whether to engage in military actions in the urban environment, such as: it is necessary to deploy forces in the locality or it is more appropriate to bypass it, possible enemy forces in the city can be isolated from the outside, and at what costs, what forces can be allocated to secure the city, how long it takes to occupy the city and neutralize enemy forces, what is the effort required for the long-term seizure of the city, what is the attitude of the population inside and near the city, what are the intentions and tactics used mainly by the opponent, etc.

In order to be able to carry out military actions in the urban environment, a detailed planning of the entire operation and a careful implementation of the plan is needed, taking into account the promotion of initiative, flexibility and adaptability. A first step in order to be able to carry out military actions in urban areas is to know and understand the future environment of confrontation and create a realistic operational image. Understanding the urban environment involves a continuous analysis, being necessary to identify the characteristics, dynamics of the city, but also the interconnections and interdependencies with the surrounding area [6]. Due to the complexity of the urban environment, the multitude of actors that populate it, the interdependencies between them, the analysis of the environment is very difficult to perform. Understanding this complex and dynamic operational environment involves a comprehensive approach, which must not only include the

opponent's forces and military capabilities in a given area [7], but also other factors that are more difficult to quantify in some situations. Military planners have a number of methods of analysis at their disposal that can help them in this endeavour. Thus, at strategic and operational level, for the knowledge and understanding of the urban environment can be used the analysis algorithm known in the military field as PMESII-PT. Using this algorithm, a series of variables will be analyzed that together can provide a complete picture of the complexity of the area. Aspects related to the political, military, economic, social, informational field, aspects related to infrastructure, but also to the physical environment and time / weather will be analyzed. The analysis of these variables can give relevant information about the characteristics of the urban area and can shape the future military operation, by projecting in front of the planners the future operational environment, with the constraints and opportunities offered by it. The analysis of these variables can be complemented by the use of the ASCOPE analysis framework, which also brings to the fore the civilian population, by trying to understand the aspects related to areas, structures, capabilities, organizations, people and events. Lowering to an inferior level, during military operations in urban areas, tactical commanders will make an analysis of mission-specific factors, known as METT-TC, such as: mission, enemy, terrain, weather, available forces, time available to carry out the mission, as well as considerations about civilians. With all these tools of analysis, the forces that are put in the situation to carry out military actions in urban areas will face a high degree of uncertainty, given that they will have to fight in an extremely complex, changing environment, in which the possibility of distinguishing between combatants and non-combatants is almost non-existent, as is the possibility of establishing clear demarcation lines

between the parties to the conflict. Military actions in the urban environment will force the military to change its way of thinking and acting, because it must approach the city as a complex system and not as an isolated entity, and for the actions to take place with relative success it is need for structural and action adaptation, as well as the use of equipment and weapon systems adapted to the concrete situation, in which weapons with high range and high destructive power are no longer as desirable as in a classic action, being desirable equipments and systems that allow limited, precise engagement of the adversary and limiting collateral damage and loss. During the urban struggle there are no universally valid approaches, military actions requiring high flexibility and forces capable of adapting their mode of action very quickly because in the urban environment one can move very quickly from actions carried out in industrial areas, to actions carried out in areas that host hazardous substances or to actions in areas containing heritage objects or other infrastructures protected by humanitarian law, and actions may be carried out simultaneously or successively in heavily populated areas. Essential for carrying out actions in the urban environment is maintaining the tempo of action, exerting continuous pressure on the opponent, exploiting local success and developing the capacity to carry out decentralized actions, relatively independent, in small groups, with clear objectives but under unitary leadership and coordination.

Fighting in urban areas is difficult to manage due to the fact that threats are difficult to identify due to the complexity of forces and of the environment. Own forces will face a variety of potential threats, such as conventional military forces, paramilitary forces, insurgents, terrorist groups, organized crime groups, neighbourhood gangs, drug traffickers and petty criminals, and so on [8], which act independently or even in a coordinated way

and which are difficult to identify due to the lack of uniforms, distinctive signs, etc.

#### **4. Conclusions**

What is certain is that due to the complexity of the environment, the difficulty of military operations and the challenges that the military must face, they will avoid as much as possible to carry out military actions in urban areas. However, the military does not always have the opportunity to choose the place and manner in which military engagement will take place, the mission being dictated by the actions of the opponent, strategic needs and other external factors. Therefore, in the future, any military confrontation will take place, at least partially, in the urban environment, and consequently, the military must be technologically but also actionally prepared to intervene in a complex, dynamic and unpredictable environment. The training of the military must allow them to successfully carry out military actions in urban areas, the structure of the forces must be flexible, adaptable, so that the military can act in small groups, with relative action and decision-making autonomy, command and control must be adapted to be able to coordinate small groups carrying out complex and simultaneous actions in multiple areas and in different plans / environments, and the equipment must offer a high degree of protection, ability to engage the opponent at short distances, communication and orientation possibilities, and distinction between own forces, enemies and civilians. In order to cope with new situations caused by the possibility of military action in urban areas or even in mega cities, with a population of millions (sometimes as much as the population of an entire country), the armed forces must prepare in advance and to focus their efforts in several directions, such as: the development of a doctrine adapted to the actions carried out in the urban environment, which exploits the full potential of the armed forces and which

directs their training and endowment, the identification of new forms of organization, allowing rapid adaptation to the specific requirements of urban combat and which is different from the classical organization, the training of all staff to be able to face the challenges and the intensification of the exercises carried out in environments as close as possible to reality, in advanced training centers that can replicate cities or parts of them, the introduction of new types of equipment, new technologies, to increase the ability of soldiers to engage the

opponent, to keep in touch with other members of their own forces, maintain situational awareness and manage a high flow of information, and increase the level of individual and collective protection. In addition, at the level of commanders, but also at the level of fighters, training is needed to focus on developing adaptability, developing creative thinking and critical analysis, in order to be able to make decisions and act in situations characterized by uncertainty, complexity, under the pressure of time.

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