MILITARY USE OF UNMANNED AERIAL VEHICLES (UAV) BY UKRAINE – RISK ASSESSMENT OF POTENTIAL IMPACT ON THE TERRITORY OF THE REPUBLIC OF BELARUS

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Abstract

The article presents an analysis of the Ukrainian experience in using unmanned aerial vehicles (UAVs) in military operations in the context of potential impact on the territory of the Republic of Belarus and its critical infrastructure. It examines the possibility of using unmanned aerial vehicles to strike strategically important targets on Belarusian territory, including airfields, oil refineries, gas pipelines, warehouses, and other key elements of critical infrastructure. The starting point is a study of similar impacts on the Russian Federation in the context of attacks on airfields, oil refineries, gas pipelines, and warehouses. Hypothesis of this work is the statement that Ukraine may have a significant impact on the Republic of Belarus through the use of unmanned aerial vehicles (UAVs). These capabilities are largely limited by the potential risks of such impact. The article presents the results of computer modeling of military operations using unmanned aerial vehicles, which provide insights into the likelihood of such operations, allowing for the assumption and determination of both the operation's effectiveness and the potential response.

Key words: unmanned aerial vehicles, Ukraine, Republic of Belarus, Russian Federation, critical infrastructure, war.

INTRODUCTION

The Russian invasion of Ukraine in 2022 demonstrates the increasing critical importance of unmanned aerial vehicles (UAVs) as one of the leading tools of

warfare. For example, Ukraine actively uses UAVs to strike not only along the front lines but also across a significant portion of the territory of the Russian Federation. In January 2024, Ukrainian strike drones attacked the St. Petersburg oil terminal, which is located about 900 kilometers from the borders of Ukraine [BBC 2024]. Cities such as Yelabuga (1100 kilometers from the border), Yaroslavl (700 kilometers from the border), and others were also attacked.

The possibility of using this type of weaponry against the Republic of Belarus remains less studied. It is important to note that the Republic of Belarus is one of the key and leading partners in the defense sector and allies of the Russian Federation. Specifically, the Republic of Belarus provided its territory for the deployment of Russian troops after joint exercises and allowed tactical and operational actions from its territory, including conducting offensive operations, launching missile strikes on Ukraine, and carrying out reconnaissance activities, which also makes the Republic of Belarus a potential target for retaliatory attacks. This article examines the probable effectiveness of using Ukrainian unmanned aerial vehicles (UAVs) against Belarus, as well as analyzes the limitations and potential consequences of such actions, which constitutes the scientific issue of this article.

The leading hypothesis of this work is the statement that Ukraine may have a significant impact on the Republic of Belarus through the use of unmanned aerial vehicles (UAVs); however, these capabilities are largely limited by the potential risks of such impact. This hypothesis allows for the formulation of the necessary scientific questions for its verification.

- Which targets (using the example of the Russian Federation) are of the greatest interest when planning drone strikes on the territory?
- Which targets on the territory of the Republic of Belarus may represent potential interest when planning an attack?
- What geopolitical and diplomatic consequences, as well as escalation risks, could arise for Ukraine as a result of attacks on the territory of Belarus?

It should be noted that for writing this work and assessing the potential effectiveness of drone strikes on the infrastructure of the Republic of Belarus, the author conducted a computer simulation, which allowed for the evaluation of the theoretical potential impact and effectiveness of such actions, which will be presented in more detail later.

Ukrainian use of unmanned aerial vehicles in the context of attacks on the territory of the Russian Federation

The use of unmanned aerial vehicles in military operations has a history dating back to the early 2000s; however, one of the most powerful developments in UAVs

occurred in 2022 after the start of the Russian full-scale invasion of Ukraine. Initially used exclusively for surveillance, reconnaissance, and preparatory operations, UAVs have now become a fundamental aspect of planning operations, delivering direct fire strikes, as well as coordinating artillery fire and coordinating tactical groups [Bendett & Nersisyan 2024]. The Russian invasion led to a sharp increase in the use of both specialized military drones and modified civilian devices, as well as independent developments in this field, which are widely used in various combat scenarios, including urban and positional warfare, as well as the delivery of food and ammunition [AeronautMedia 2024].

Thus, the main types of unmanned aerial vehicles used by Ukraine for military operations can be identified. In particular, these are:

- Reconnaissance drones – for example, "Leleka-100" and "Furia", which are used exclusively for gathering information about enemy positions.

- Kamikaze drones, which strike targets by detonating their warhead, such as "RAM II", "Punisher", "Warmate", and other types of contact detonation drones.

- Modified versions of commercial DJI Mavic drones are specifically used for targeted dropping of grenades and explosives on enemy positions, as well as on equipment.

- Long-range drones such as "UJ-22 Airborne", "Bobr", "Tu-141 Strizh", and "Tu-143 Reis". The author of this work suggests naming such types of drones "strategic" due to their use in operations and their impact on objects of strategic significance, both in achieving the intended goals and in their importance for the enemy. These drones are used to attack targets deep within the Russian rear, including military airfields, oil refineries, and other strategic objects [Blakcori, Stathakis, Koutsoukos, & Kirilov 2024].

Such popularity and active use can be explained by several factors, such as versatility, ease of training for maintenance personnel and operators, economic efficiency in terms of low cost and cost-effectiveness ratio, and the parallel ability to collect important reconnaissance information. Reports from specialists show that Ukrainian forces incorporated over 140 new UAV models in the first nine months of 2023 alone, highlighting the growing significance and popularity of these systems on the battlefield [Kyivpost 2024].

Unmanned aerial vehicles are also actively used by the Armed Forces of Ukraine not only in the eastern regions of the country along the entire front line but also in the context of conducting attacks and operations on the critical infrastructure of the

Russian Federation [Molloy 2024]. Most likely, such active actions aimed at impacting the critical infrastructure of the Russian Federation stem from the worsening overall situation of ammunition shortages and growing concerns about future military support, both from the European Union and the United States (particularly due to concerns over potential limitations in military aid in the event of a new term for Donald Trump).

In this context, it can be argued that the Ukrainian command has developed a strategy aimed at shifting military actions to the territory of the Russian Federation to weaken Russia and its potential from within. This shift occurred both through direct traditional military operations by the Ukrainian forces and other engaged groups (such as the Russian Volunteer Corps) in the territory of the Kursk region, particularly the Sudzha operation. Additionally, it has involved attacks on airfields, factories, oil refineries, and gas centers of strategic importance within the Russian Federation. Furthermore, Ukraine's intelligence network has also attempted to physically eliminate military personnel involved in the full-scale invasion of Ukraine on Russian territory.

Such impact, according to the author of this work, is aimed at achieving the following goals:

- Creating a series of dilemmas for the Russian Federation's establishment.
- Creating economic losses and economic chaos.
- Disrupting logistical chains.
- Disrupting the propaganda narrative and influence within the Russian Federation.

Disruption of logistical chains occurs as a result of mass attacks on the critical infrastructure of the Russian Federation within the country, such as the Armavir radar station, which serves as the outer ring of Russia's air defense system [Mickiewicz, Kasprzycki 2021], as well as attacks on military airfields, which slow down the transfer of weapons closer to the front, and attacks on weapons storage bases, which lead to irreversible losses of weapons.

Massive attacks, which also target cities (along with conducting ground operations), lead to the disruption of the image of a strong and resilient Russia, and undermine the sense of security among the region's inhabitants. This also affects the residents' perception of the rationale behind military actions against Ukraine.

Direct impact on the energy infrastructure of the Russian Federation is also one of the objectives of these attacks. In 2024, according to the author of this work, Ukraine has attacked oil refineries and fuel storage bases in the Russian Federation

more than 83 times. Most of these attacks targeted regions bordering Ukraine. For example, such attacks led to an increase in gasoline prices not only in the region but also across the entire country. Initially (before March 2024), the attacks caused retail gasoline prices to rise by 0.08 % on the St. Petersburg commodity exchange. In turn, Reuters reports that as of the end of March 2024, about 14 % of Russia's primary oil refining capacity was knocked out due to these attacks [Reuters 2024a]. For example, Helima Croft, the managing director of the investment bank RBC Capital Markets, suggested that drone attacks on oil refineries could have a greater impact on the Russian economy than the current sanctions, which have largely bypassed the energy sector [CNN 2024].

A certain method of mitigating the losses associated with the Ukrainian attack on the energy infrastructure of the Russian Federation was the reorientation towards increasing the import of gasoline and petroleum products from the Republic of Belarus, which helped reduce the risk of shortages in the domestic market [Reuters 2024b]. Also, since March 2024, a ban has been imposed on the export of gasoline from the Russian Federation to all countries, including those in the Eurasian Economic Union, in order to avoid fuel shortages in the domestic market. Additionally, it is likely that a 21 % reduction in diesel fuel exports from the Russian Federation is expected [Kpler 2024]. Such decisions affect not only fuel prices but also the overall cost of goods in the country, as well as their logistics. As a result, in 2024, logistics costs increased by 16-30%, which in turn led to a rise in prices for other goods [Kommersant 2024]. Furthermore, fuel is one of the fundamental resources necessary for the continuation of military operations.

It is important to note that the actual impact and correlation of the attack and its effectiveness are extremely difficult to assess. From a practical perspective, there is an attempt to affect the energy infrastructure. For example, the economic effect of a drone attack on a production center is significantly higher than the cost of the unmanned aerial vehicle and the operation itself. On the other hand, the influence of this attack on the economic sector in terms of price changes can be qualitatively assessed (based on generalized symptoms) according to the estimates of experts and analysts, but also due to the actual increase in the cost of products.

Most likely, such attacks significantly affect the energy and economic sectors of the Russian Federation, as evidenced by the new measures in the field of security and air defense for such objects, as well as the export ban on products and the appeal to Belarusian production capacities. On the other hand, the actual collapse of the system has not been observed, which indicates the limited success of the decisions made by the Russian side.

The combination of these aspects of influence aims to "increase the cost" of the Kremlin's decisions in the context of military operations against Ukraine. The rise in public dissatisfaction in the border regions with Ukraine, the decline in the sense of security, and the impact on the economic and energy sectors directly force the Russian Federation to feel the consequences of its actions.

The infrastructure of the Republic of Belarus as potential targets for drone attacks by Ukraine

The full-scale invasion of the Russian Federation into Ukrainian territory in February 2022 also began with an active offensive from the territory of the Republic of Belarus. This choice was largely determined by the geostrategic position of the Republic of Belarus and its high political and economic dependence on Moscow. In particular, the capital of Ukraine is located about 100 kilometers from the border with the Republic of Belarus. The offensive from this direction, through the cities of Korosten and Sarny, would allow Russian forces to cut off potential retreat lines for the Armed Forces of Ukraine to the west of Kyiv, as well as cut off potential supply lines for humanitarian and military aid from Western countries to Ukraine.

The attack and the opening of the Ukrainian northern front in practice allowed Russian forces to advance towards the borders of Kyiv and secure the strategically important point–the Hostomel airfield–and also allowed them to initially engage in combat within the Kyiv area, specifically in the Obolon district. Additionally, this offensive deprived the Armed Forces of Ukraine of the ability to establish a critical defensive line along the Dnipro River.

The presence of Russian armed forces on the territory of the Republic of Belarus in early 2022 was due to joint exercises, as well as (according to official information) subsequent logistical complications, which led to an extension of their stay in the country. In this context, the author of this work would like to refer to Resolution 3314 (XXIX) of the United Nations General Assembly from December 14, 1974 [UN 1974], According to Article, the actions of a state allowing its territory, which it has made available to another state, to be used by that state for the commission of an act of aggression against a third state are considered an act of aggression. In this context, it is clear that the Republic of Belarus, along with the Russian Federation, is regarded by Ukraine as an aggressor state.

Therefore, it can be argued that the infrastructure of the Republic of Belarus is also a legitimate target for an attack by Ukraine. However, it is important to remember that, in the context of the Russian invasion in 2022, the Republic of Belarus initially attempted to act as a mediator in the Russia-Ukraine negotiations.

Specifically, four days after the full-scale invasion, the first round of negotiations regarding the suspension of hostilities was held in the Gomel region (Republic of Belarus). Subsequent meetings on March 3 and March 7, 2022, were held in the Belovezhskaya Pushcha (Republic of Belarus). These negotiations did not lead to significant success, and later talks were held in other countries. However, this fact can likely be interpreted as an attempt to continue the "tradition" of negotiations and agreements under the Minsk-1 and Minsk-2 formats.

It is important to note that, in fact, Ukraine has not conducted any actions similar to attacks on the infrastructure of the Russian Federation in relation to the Republic of Belarus. However, it is necessary to recall the explosion at the Belarusian Machulishchi airfield on February 26, 2023, which resulted in the damage to a long-range radar detection aircraft of the Russian Aerospace Forces, the A-50U. Notably, the responsibility for the operation to damage the A-50 aircraft was claimed by the Belarusian opposition organization BYPOL. According to the video provided by the organization, the stages of preparation for the operation, as well as footage from the unmanned aerial vehicle itself, showing the process, were visible.

The A-50U aircraft was an important component enabling the launch of "Kinzhal" missiles from the territory of the Republic of Belarus against Ukraine. Additionally, missile strikes were directly launched from Belarusian territory at Ukraine. For example, during the first 10 days of the full-scale invasion, more than 70 missile strikes were carried out from Belarus [U.S. DoD 2022]. Along the northern borders of Ukraine. However, after the damage to the aircraft, missile launches from Belarusian territory were suspended.

Over time, it was announced that one of the perpetrators of the attack was a citizen with dual citizenship of Belarus and Ukraine. According to statements made by Alexander Lukashenko, it was the Ukrainian intelligence services that were the organizers of the attack on the A-50U [VOA 2023], however, no direct evidence followed this claim. Most likely, according to Alexander Lukashenko's position, it was easier to blame the Ukrainian side rather than admit the effectiveness of opposition groups. In this context, it is also important to recall the "railway war of 2022". Towards the end of February 2022, information began to emerge about sabotage on Belarusian railway lines. These diversions directly impacted the pace and efficiency of transporting Russian personnel and weaponry across the territory of the Republic of Belarus. However, just like in the case of the A-50U aircraft sabotage, the BYPOL organization took responsibility for the coordination of these

acts. The state authorities accused Ukrainian saboteurs, but no direct evidence was provided to support this claim.

It is important to note that throughout the entire period of the full-scale aggression of the Russian Federation against Ukraine since 2022, Ukraine did not attempt to attack the infrastructure of the Republic of Belarus, unlike the infrastructure of the Russian Federation. Information about drones flying over Belarusian territory was largely provoked by the actions of Ukrainian electronic warfare systems, namely spoofing – the substitution of GPS coordinates, which changed the flight paths of the drones, including towards the Republic of Belarus, which has been frequently mentioned in media sources in 2024.

It should also be noted that a large part of the economically significant enterprises of the Republic of Belarus are located in the southern part of the country. Thus, the "Belaruskali" plant is located in the city of Soligorsk, the Mozyr Oil Refinery in the city of Mozyr, Gomel – the production of potassium fertilizers, and so on. Also, in the southern part of the country runs the "Druzhba" oil pipeline, an object that is of interest when planning an attack.

To assess the potential impact of drones on the territory of the Republic of Belarus, the author created a computer simulation. Thus, two simulations were created with unmanned aerial vehicles of the UJ-22 type, as well as Shaheed-136, as the closest analogue of Ukrainian strike drones.

The well-known expression among specialists "All models are wrong, but some are useful" remains relevant in this work as well. Due to the abstraction of some elements, the results will never be as precise as they could be. This is due to the system's performance. For example, the effective radar cross-section is not calculated to the exact degree, as this would require too many computational resources. However, in this context, it is necessary to conduct a basic simulation, as well as several similar ones, to obtain a broader picture of the developments. In the commercial version, the database is based on publicly available information, which, while confirmed in reality, may not always be sufficient for newer equipment.

According to the simulation, it was assumed that the Belarusian side would send a duty pair to the area (where activity had been detected) after detecting the unmanned aerial vehicle. Although this may be plausible in the case of detection near the state border, the question should be asked whether the air defense or duty pair would expect visual identification of the target if detected deep inside the country.

Since cooperation and information exchange are assumed to be absent, the Belarusian side did not receive prior warning. Therefore, the time for sending the duty pair was increased by the time for takeoff and flight to the last contact location. Also, the possibility of visual identification by patrols, civilians, or observers on the ground was not considered. Radar placement was largely based on data from 2020.

During many test simulations, the radar coverage was very good. It can be said that the coverage was somewhat weaker in the south and east of the country (as of 2020). However, given the ongoing conflict, it can be assumed that the southern part of the country was reinforced with additional radar stations and air defense systems. Reinforcement likely occurred through the increased presence of air defense units and short-range radio reconnaissance means. Also, it is worth considering the potential dilemma of the Belarusian leadership between ensuring dense coverage and distributing resources for scenarios such as drone or missile penetration from the Russian Federation. This scenario is likely quite realistic for the Belarusian side, which explains the placement of air defense units and systems near the Russian Federation border.

In most test simulations, the UJ-22 drone was detected at a depth of 90–110 km inside Belarus. Due to its large size and low speed, its chances of disappearing from the radar and going unnoticed were close to zero. It is also important to remember that the version used in the simulation was reconnaissance. The version carrying weapons would have had a greater mass and effective radar cross-section, which could have worsened the results. Most test simulations ended with rapid detection, the launching of interceptors, and the destruction of the target.

Test simulations using the Shahed-136 ended in a similar manner. Usually, the drone penetrated more than 150 km before being detected. Its higher speed and smaller radar cross-section sometimes allowed it to evade detection, but in the end, it was still shot down.

The most interesting result was obtained from the final simulation. The new flight route allowed the Shahed-136 to completely pass through the radar stations installed on the territory of the Republic of Belarus.

The start of the UJ-22 simulation occurred at 17:08:20 ZULU. The UJ-22 UAV (only the reconnaissance version without bombs is presented in the database, so this version was used; the author assumes that adding combat payload would have reduced its effectiveness).

- 17:41:38 – The drone was detected by the Bar Lock P-37 radar near the city of Mozyr and remained under surveillance for a long time. It should be noted

that these units were redeployed closer to the oil refinery to protect it from possible attacks from Ukraine.

- 17:45:00 – The standby pair of Su-30SM in Baranovichi received a Scramble signal (an emergency take-off order). This is one of the two main types of alerts used by NATO.

- 18:05:17 – The standby pair of Su-30SM identified the Shahed as an enemy target. A P-27R missile was launched a second later. Distance: 6.1 nautical miles.

- 18:05:34 – Impact (hit probability was assessed at 66 %). It is noteworthy that the standby pair required about 20 minutes to take off, search, and destroy the UAV.

The start of the Shahed-136 simulation occurred at 17:41:44 ZULU

- 19:47:12 – The drone was detected by the Antey-4000 radar system of the S-300, located near Minsk-2 airport.

- 19:50:35 – The standby pair of Su-30SM took off from the Baranovichi airfield.

- 19:53:04 – The Shahed-136 lost tracking for 29 seconds.

Four minutes later, the drone was detected again over Minsk-2 airport, and 13 seconds later (19:57:26), it crossed the city border.

Most likely, theoretically, the drone crashed into a residential building as its AGL (Above Ground Level) height was 42 m.

- 20:00:40 – Launch of the P-73M missile (hit probability 60%).

- 20:00:47 – Launch of the P-27R missile (hit probability 69%).

- Both missiles were fired by two Su-30SMs. Both missed.

- 20:00:52 – Second launch of the P-73M.

- 20:00:53 – Second launch of the P-27R.

The P-27R missile hit the Shahed-136, destroying it over the city (see the map below).

The probability of hitting was 64 % (calculated as 80 % base probability, minus the refraction of Shahed-136 and minus the evasion angle).

It is worth noting that the P-73M missile was supposed to self-destruct, but the simulation did not account for this factor. The author assumes that the self-destruction system failed, and the missile fell within the city.

At the end of the simulation, the Shahed made its final approach towards Minsk. Before the standby pair could shoot it down, it was already over the city. In this case, air-to-air missiles failed to hit the UAV three times while it was flying at low altitude. In one of these cases, the missile flew several kilometers before detonating

at a low altitude, likely hitting a residential building. This highlights the risks associated with attempts to destroy aerial targets. In reality, falling debris can also cause significant damage. A missile that hits its target may lose its engine, but its warhead can still travel a considerable distance before hitting something. A similar incident occurred on October 1, 2024, when a piece of a downed missile fell and killed a Palestinian during an Iranian attack on Israel.

Thus, the following conclusions can be made. The results of the simulation highlight key challenges related to modern air defense and actions in the airspace in the face of increasingly advanced UAV technologies. Both the UJ-22 and the Shahed-136 demonstrate that even minor changes in procedures can lead to positive and effective results, as happened when the Shahed penetrated Minsk. The simulations also remind us of the risks of destroying drones over cities, where debris can cause significant damage.

The author also wishes to note that the theoretical effectiveness of such an impact can be considered low. Compared to the Russian Federation, the size of the Republic of Belarus is much smaller, which allows for more efficient space control. Also, the weaponry of the Republic of Belarus (compared to the Russian Federation) is not engaged in direct contact, allowing for the reallocation of resources to guard key facilities. Furthermore, according to open-source information, a successful attack is one in which about 30–35 % of the missiles reach their target [Bild 2024]. In this simulation, only 2 unmanned aerial vehicles were tested. Most likely, with an increase in the flow, there will also be a rise in efficiency, especially due to the overload of the enemy's air defense forces.

Thus, as a result of the analysis of this simulation, it can be stated that, due to the compact size of the country, as well as the significant strengthening of air defense (AD) systems, it has sufficient capabilities for effectively detecting and destroying unmanned aerial vehicles (UAVs) or, at the very least, for tracking and escorting them in airspace. However, the results of individual simulations conducted show that, under conditions of altitude changes, terrain calculations, the use of stealth technologies, and route modifications, UAVs have the potential to reach their designated targets by evading radar detection, which is also due to the reduced effectiveness of radar systems. These aspects, despite the level of airspace protection, create the possibility of UAVs breaking through the defense system.

Possible consequences and escalation risks

It is also important to recall the potential consequences and escalation risks associated with such an impact. The Republic of Belarus, due to its geographical

location and historically established diplomatic ties, represents one of the most accessible and convenient platforms for the exchange of prisoners of war between Ukraine and Russia. This is also due to the mediating role that Belarus has periodically played in the context of Russian-Ukrainian relations. Over the past few years, there have been occasional reports that prisoner exchanges between the conflicting parties have been taking place on the territory of Belarus. It is important to note that this process requires not only diplomatic preparation but also a high level of coordination between all interested parties, including representatives of Ukraine, Russia, and Belarus itself [PAP 2024].

Alexander Lukashenko himself also regularly addresses the media with proposals to potentially use Belarus as a neutral territory for the exchange of prisoners of war, as well as for potential negotiations. A potential attack on the territory of the Republic of Belarus could disrupt the established situation and deprive Ukraine and Russia of a possible platform for prisoner exchanges.

One of the results of an attack on the territory of the Republic of Belarus could be the involvement of Belarus in active combat operations. Currently, the Republic of Belarus provides significant support to the Russian Federation not only in the military sphere, including providing its territory for the stationing of Russian troops, conducting military exercises, and providing logistical and medical assistance, but also in production. However, despite this, the Belarusian army does not directly participate in combat operations on the territory of Ukraine. Such an operation could lead to an increase in Russian military presence in the Republic of Belarus, as well as a resumption of shelling from Belarus. In the worst-case scenario, it could result in an extension of the potential front line by more than a thousand kilometers.

Additionally, escalation risks may include possible retaliatory actions against Ukrainian critical infrastructure, which has also been under massive attack for the past three years. Undoubtedly, Belarus' military potential must be considered in the context of its deep cooperation with the Russian Federation and within the framework of the defense of the Union State of Belarus and Russia. A precedent for such an attack would allow the Russian Federation to escalate to a higher qualitative and quantitative level of attacks on Ukrainian territory, which would significantly negatively impact Ukraine's military and energy potential.

The political situation as of the second half of 2024 also necessitates attention to the potential reaction from the European Union and the United States to such an attack. For example, Western countries may find themselves in a more complicated

political and diplomatic situation than they are today. Such actions go against the trend of attempting to end the conflict. Therefore, the result of such actions could lead to increased pressure on Ukraine from Western partners due to fears of escalation. It is quite evident that Western countries are trying to avoid and limit actions and decisions that could expand the combat zone or increase the intensity of the conflict. This could also lead to a distancing from Ukraine's actions and, as a consequence, a reduction in direct support, such as by limiting arms supplies.

Thus, it can be definitively stated that a potential attack carries large-scale cumulative risks and consequences not only for the Republic of Belarus itself but also for the countries engaged in the military conflict, as well as for the overall situation in the region.

It is important to note that in recent years, the Republic of Belarus has not actively participated in military actions against Ukraine. At the same time, Belarus has firmly maintained a partnership-oriented position toward the Russian Federation. The Belarusian armed forces have not been directly involved in military operations, which has allowed the country to maintain an initial façade of non-participation in the war, relative stability within its borders, and the avoidance of direct military engagement.

Evidently, this combination of factors has played a significant role in Ukraine's strategic planning. The absence of a serious threat from Belarus has enabled the redistribution of Ukrainian armed forces to more critical and relevant front-line sectors. Conversely, the potential direct involvement of Belarus (at a kinetic level) could not only significantly escalate the situation on the international stage but also force the Ukrainian command to redeploy troops for the defense of the capital, which, in turn, could result in a shortage of forces in other equally important strategic areas.

Thus, the lack of active military involvement by Belarus in recent years has played a crucial role in shaping the current operational situation for Ukraine. At the same time, a potential attack poses significant consequences in the military, political, energy, and economic spheres.

CONCLUSION

In the context of the development of unmanned aerial vehicles (UAVs), as well as the experience of conducting warfare and attempts to shift hostilities onto the enemy's territory, it can be argued that the use of Ukrainian UAVs against the Republic of Belarus is technically and tactically possible, but it carries significant

risks. It is important to note that since the start of the full-scale invasion, Ukraine has not conducted attacks on the infrastructure of the Republic of Belarus. This is most likely due to the expected reaction and the increase in the front line, meaning that achieving the objective of disrupting production and energy centers could result in consequences that would completely outweigh any gains.

In this regard, it can be argued that potential strikes could cause significant damage to Belarus's military infrastructure, but at the same time provoke escalation of the conflict and diplomatic consequences. The need to balance military effectiveness and geopolitical risks makes this issue extremely complex and requires further study. Future research could focus on detailed modeling of probable attack scenarios, analyzing the effectiveness of Belarus's air defense, and studying the international consequences of such actions.

Ukraine's future strategy in employing UAVs will depend on the shifting balance of power in the region and the response of the international community. However, the tendency towards attempts to halt the conflict reduces the likelihood of such an operation being carried out on the territory of the Republic of Belarus to a minimum. It can also be assumed that the risks from both Ukraine and Belarus have led to an unspoken agreement not to engage in such attacks. Furthermore, it is worth recalling that, according to the results of the simulation, the effectiveness of such an operation with the launch of a single UAV can also be assessed as low.

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