



CERTAIN CONSIDERATIONS REGARDING ISR STRUCTURES FROM LAND FORCES IN SUPPORT OF INFORMATION OF THE JOINT FORCES GROUP

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ISR structures from Land Forces contribute through specific actions with information in support of decision makers in all phases of operations of the Joint Forces Group. The ISR capabilities specific to the Land Forces are permanently interconnected within the information architecture at a combined level.

Keywords: intelligence; reconnaissance; surveillance; Land Forces; Joint Forces Group.

Starting from the premise of the concept of "improving the capacity for rapid management of adaptation mechanisms at local, national and regional level"¹ and following the evolutionary trends of the current security environment and the trends of military endowment in the context of strengthening national resilience, our approach identifies and presents a series of actions specific to the SRI structures of the Land Forces in support of information of the Joint Forces Group.

The ISR elements of the Land Forces support the Joint Forces Group with information in ISR operations, defined as "operations performed by forces whose main mission is to collect data and information"².

By definition, the concept of ISR/Intelligence, Surveillance and Reconnaissance is "a set of information and operations capabilities that synchronize and integrate the planning and operations of all collection capabilities with the processing, exploitation and dissemination of the resulting information, in direct support of the planning, preparation and execution of operations"³. At the operational level, the approach is joint (JISR/Joint Intelligence, surveillance and reconnaissance), representing the integration of all operations and activities involving at least two participating elements⁴.

The combined approach integrates land, naval and aerial images (Land Recognized Picture/LRP, Naval Recognized Picture/NRP, Aerial Recognized Picture/ARP), and operations performed at the operational level take place in a multidimensional operational environment, characterized by mobility, maneuverability and increased flexibility of conventional and unconventional actions.

The ISR structures of the Land Forces apply the ISR principles, which, regardless of the echelon, are: centralized targeting and decentralized execution, sustainability, trust, responsiveness, sharing and accuracy⁵.

At the same time, these ensure the fulfillment of ISR – specific missions in support of the JFG, which are represented by: providing clues and warnings, informative preparation of the operational environment, organization for combat and disposition of the opponent's forces, estimation and monitoring of the situation, support of the target management process and support for force protection⁶.

In order to achieve operational success, the ISR structures of the Land Forces support the operational planning group at operational level/ GPOO to identify critical information requirements, among which the most important is national and international actors with whom they interact. Therefore, other critical information requirements are represented by establishing the essential capabilities for the execution of the operation, support for the early deployment of support forces, considerations regarding the rules of engagement,

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essential command and control elements; critical infrastructure in the assembled area of operations.

For coordination all ISR operations, synchronized information tasks, concentrate effort on the objectives established by Joint Forces Group commander, on joint level, it set up Joint Collection Management Board⁷.

By conducting specific missions, the ISR elements of the Land Forces can support the Joint Forces Group, with information about the opponent, regarding to organization, value, composition, endowment of opponents in large units / units in the joint operations area and identification of the districts and the alignments of the disposition of the armored, anti-armored technique, of the means of artillery and anti-aircraft defence and main control points.

If we analyze contemporary conflicts we can conclude that land or naval operations cannot be carried out without air support. Speed, high strike power, accuracy of air strikes give this category of forces a decisive importance in planning and executing any military actions.

Therefore, from the aerial perspective, the ISR structures of the Land Forces support the execution of the process of preparation of information of the operational environment / JIPOE with details regarding:⁸ identification of some risk factors; the organization of the opponent; probable main and secondary directions of action; probable targets that can be hit by the opponent's air means; the probable time and duration of the air action; the probable intensity of military actions on their various stages.

Analyzing the doctrinal aspects, the ISR structures of the Land Forces can contribute information about the air opponent, in support of JFG, as follows: identification of air bases, aerodromes, landing sites; the composition, nature, value and possibilities of the air opponent; the vulnerabilities and the attrition on certain moments of the operations of the opponent's aircraft; calculation of the estimated time on certain directions of action.

The unprecedented impact of the technological evolution so far but also the speed with which it develops in the future, determines us to adapt the ISR capabilities and to accelerate the endowment process with modern, state-of-the-art equipment. Therefore, we consider it essential to develop

unmanned aerial vehicle systems for ISR structures in the Land Forces.

For example, among the main unmanned aerial vehicle systems that can be used tactically we can mention UAS class I operated by a single operator, within the limits of direct radio visibility between the control station and the UAV, these are small, portable and perform missions at low altitudes below the coordination levels provided by the Air Code but also UAS class II for the operational level, which have the possibility to operate up to a radius of 200 km from the control station.

These, through communication systems, can achieve a BLOS (beyond line of sight) or LOS (line of sight) connection and can be limited in terms of direct visibility between the UAV antenna and the GCS (ground control station) or can be achieved by means of a re-translation relay. The data obtained are complex, with dynamic images and can be transmitted in almost real time to the maneuvering structures by OSRVT (one system remote video terminal) and ROVER (remotely operated video enhanced receiver)⁹.

According to some military specialists in the field, there are several directions for the development of future systems. unmanned aircraft, as follows: will be heavily armed and will have a very powerful endurance; they can be fed from the air; will implement "Stealth" technology; will ensure the interoperability of the systems; will have extra stratosphere travel capabilities (over 50 km); there will be platforms from which many systems can take off.¹⁰

ISR structures in the Land Forces can support the Joint Forces Group through maritime / river space surveillance missions. The success of surveillance by observation is closely linked to the existence of networks of interconnected observation posts, high-performance communications and satellite links, observation equipment with digital technology, training of staff in the organization, composition and actions of the maritime and river opponent.

We consider that ISR structures must perform the observation continuously, through a judicious organization and distribution of the elements, in a unitary conception, having the possibility to transmit data and information in a timely manner. Through maritime surveillance, the following are performed: systematic observation of the opponent's

ships, identification of the main naval platforms; identifying and warning of possible attacks.

We also believe that ISR structures in the Land Forces can support JFG by collecting data and information from open sources (OSINT), which can be focused on both the intentions and mode of action of opponents and potential opponents. Through open sources, ISR structures can contribute to supporting missions at the operational level identifying clues and early warning and contribution with information to the targeting (identifying, locating, prioritizing, hitting targets)¹¹.

The information obtained by intercepting data transmitted in cyberspace, other than those obtained from open sources, are CYBERINT (Cyber intelligence) operations and are represented by "intrusive or non-intrusive activities carried out to collect data and information necessary for the operational preparation of cyberspace"¹².

Intrusive activities are the exploitation of the opponent's and private networks, while non-intrusive actions are the exploitation of information from their own and public networks.

Therefore, we can say that ISR structures of the Land Forces through the Cyber intelligence structures, can support the Joint Forces Group by participating in the informative preparation of the operational environment of the cyberspace.

Conclusions

ISR structures in the Land Forces support the operational level, in fact certifying the "system of systems", a multiple network that should be interconnected, in our opinion, at all hierarchical levels, respecting the principle of "operating on the same map"¹³, ensuring the accessibility of all beneficiaries through the use of access and network security policies, compliance with the level of access to classified information, as well as the principle "need to know"¹⁴.

By interconnecting all the sensors in the network, the ISR structures in the Land Forces can merge the data and information, thus adding useful details to improve the common operational image/COP of the battlefield.

The unpredictable operational environment of the future will be defined by the existence of numerically reduced maneuvering structures, such as assembled weapons, flexible and easily

adaptable for the execution of a diverse spectrum of missions, with the support of high technology and high precision depth.

Therefore, we believe that in the future the process of gathering, centralizing, processing and disseminating information by ISR structures in the Land Forces in support of the Joint Forces Group will be an essential condition in the execution of joint operations, and the development of ISR equipment and systems must be a continuous, flexible and efficient process, adapted to the ever-changing operational requirements.

NOTES:

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2 *** I.A-1.5, *Joint Doctrine for Intelligence, Surveillance and Reconnaissance*, Bucharest, 2017, p. 9.

3 *** SMFT-20, *Manual for the use of ISR elements in the Land Forces*, Bucharest, p. 1.

4 *** AJP-3.3 *Allied Joint Doctrine for Air and Space Operations*, p. 15.

5 *** I.A-1.5, *Joint Doctrine for Intelligence, Surveillance and Reconnaissance*, Bucharest, 2017, p. 17.

6 *Ibidem*, p. 10.

7 *Ibidem*, p. 43.

8 *** FA-1.2, *Doctrine on air and ground-based missile defence*, Bucharest, 2020, p. 32.

9 *** SMap-2, *Military manual for the use of unmanned aircraft systems (UAS) in the Romanian Army*, Bucharest, 2021, p. 9.

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11 *** I.A.-1.7 *Doctrine for open source information*, Bucharest, 2020, p. 16.

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